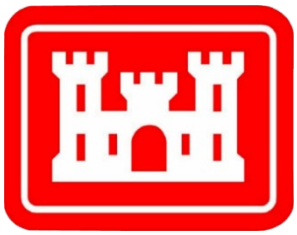
# Final
# First Semi-Annual 2024 Groundwater and Soil Vapor Monitoring Report

## FORMER TITAN 1-A MISSILE FACILITY,

## LINCOLN, CALIFORNIA

### FORMERLY USED DEFENSE SITE (FUDS) HAZARDOUS, TOXIC AND RADIOACTIVE WASTE (HTRW) PROJECT No. J09CA1108-01



Prepared for:
U.S. Army Corps of Engineers,
Sacramento District

Prepared under:
Contract No. W91238-21-D-0008
Task Order W9123823F0044

January 2025

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# Acronyms and Abbreviations

| | |
|---|---|
| ≥ | greater than or equal to |
| < | less than |
| % | percent |
| ± | plus, or minus |
| 2024S1 | First Semi-Annual 2024 Groundwater and Soil Vapor Monitoring Report |
| amsl | above mean sea level |
| bgs | below ground surface |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| COPC | contaminants of potential concern |
| DCE | dichloroethene (cis-1,2-dichloroethene) |
| DO | dissolved oxygen |
| DoD | Department of Defense |
| DPT | direct-push technology |
| EC | electrical conductivity |
| EW | extraction well |
| ft | foot/feet |
| FUDS | Formerly Used Defense Sites |
| HSA | hollow-stem auger |
| HTRW | hazardous, toxic and radioactive waste |
| IDW | Investigation-Derived Waste |
| µg/L | micrograms per liter |
| LOD | limit of detection |
| µg/$m^3$ | micrograms per cubic meter |
| mg/L | milligrams per liter |
| mv | millivolt(s) |
| MW | monitoring well |
| ND | non-detect |
| NTU | nephelometric turbidity unit |
| ORP | oxidation-reduction potential |
| Parsons | Parsons Federal Solutions, Inc. |
| pH | potential of hydrogen |
| PSL | project screening level |
| PVC | polyvinyl chloride |
| QC | Quality Control |
| RPD | Relative percent differences |
| Site | Former Titan 1-A Missile Facility |
| SOP | Standard Operating Procedure |

| | |
|---|---|
| SV | soil vapor probe |
| TCE | trichloroethene |
| UFP-QAPP | Uniform Federal Policy Quality Assurance Project Plan |
| U.S. | United States |
| USACE | U.S. Army Corps of Engineers |
| USEPA | United States Environmental Protection Agency |
| VOC | volatile organic compound |

# 1.0 Introduction

On behalf of the United States Army Corps of Engineers (USACE), Sacramento District, Parsons Federal Solutions has prepared this First Semi-Annual 2024 (2024S1) Groundwater and Soil Vapor Monitoring Report for Hazardous, Toxic, and Radioactive Waste (HTRW; Project 01) at the former Titan 1-A Missile Facility (i.e., the Site; **Figure 1**) Formerly Used Defense Site (FUDS) property number J09CA1108. Work was performed under Contract W91238-21-D-0008 according to the *Work Plan / Uniform Federal Policy - Quality Assurance Project Plan* (UFP-QAPP) (Parsons 2024a).

USACE is the Department of Defense's (DoD) executing agent for environmental restoration at FUDS, under the Defense Environmental Restoration Program, and is addressing HTRW releases at the properties affected by contaminants that were released at the former Titan 1-A Missile Facility (**Figure 2**). This HTRW project is being conducted as part of a Remedial Investigation/Feasibility Study and is regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and the Superfund Amendments and Reauthorization Act of 1986 (42 United States Code 9601 et seq.), and applicable State requirements.

This report documents the installation and development of 5 groundwater monitoring wells, the collection of groundwater samples from 33 groundwater monitoring wells, the installation of 10 soil vapor monitoring probes, and the collection of soil vapor samples from 31 soil vapor monitoring probes.

A summary of analysis and detections in groundwater is included in **Table ES-1** below.

**Table ES-1. Summary Statistics for Groundwater Detections and Screening Level Exceedances**

| Groundwater Compounds | Count of Samples Analyzed (excluding duplicates) | Count of Analyte Detections[1] | Count of Analyte Detections Greater than the Screening Level[1] |
|---|---|---|---|
| 1,1-Dichloroethene (1,1-DCE) | 33 | 0 | 0 |
| 1,4-Dichlororobenzene (1,4-DCB) | 33 | 0 | 0 |
| Benzene | 33 | 0 | 0 |
| Cis-1,2-Dichloroethene (DCE) | 33 | 24 | 1 |
| Ethylbenzene | 33 | 0 | 0 |
| M,p-Xylene | 33 | 0 | 0 |
| O-Xylene | 33 | 0 | 0 |
| Toluene | 33 | 0 | 0 |
| Trans-1,2-DCE | 33 | 8 | 0 |

**Table ES-1. Summary Statistics for Groundwater Detections and Screening Level Exceedances**

| Groundwater Compounds | Count of Samples Analyzed (excluding duplicates) | Count of Analyte Detections[1] | Count of Analyte Detections Greater than the Screening Level[1] |
|---|---|---|---|
| TCE | 33 | 26 | 23 |
| VC | 33 | 1 | 1 |

[1] Considers both primary and duplicate analysis, but only counts the higher detection.

A summary of analysis and detections in soil vapor is included in Table ES-2 below.

**Table ES-2. Summary Statistics for Soil Vapor Detections and Screening Level Exceedances**

| Soil Vapor Compounds | Count of Samples Analyzed (excluding duplicates) | Count of Analyte Detections[1] | Count of Analyte Detections Greater than the Screening Level[1] |
|---|---|---|---|
| 1,1-DCE | 31 | 0 | 0 |
| 1,4-DCB | 31 | 0 | 0 |
| Benzene | 31 | 13 | 6 |
| Cis-1,2-DCE | 31 | 2 | 0 |
| Ethylbenzene | 31 | 13 | 0 |
| M,p-Xylene | 31 | 24 | 0 |
| O-Xylene | 31 | 15 | 0 |
| Toluene | 31 | 20 | 0 |
| Trans-1,2-DCE | 31 | 0 | 0 |
| TCE | 31 | 21 | 14 |
| VC | 31 | 0 | 0 |

[1] Considers both primary and duplicate analysis, but only counts the higher detection.

## 1.1 Purpose and Objectives

The purpose of this report is to present the data and results of semi-annual groundwater and soil vapor sampling; the installation and development of new monitoring wells; and the installation of new soil vapor probes. This report includes the following:

1. Investigation Activities
   - Groundwater Monitoring Well Installation and Development
   - Groundwater Sampling
   - Soil Vapor Probe Installation
   - Soil Vapor Sampling
   - Investigation-Derived Waste (IDW) Generation and Sampling
2. Investigation Results
   - Groundwater Elevations and Gradients
   - Groundwater Quality Parameters
   - Groundwater Analytical Results
   - Soil Vapor Analytical Results
   - IDW Analytical Results and Management
3. Data Validation and Quality Control Assessment
   - Data Quality Statement
   - Deviations from the UFP-QAPP
4. Summary
5. Data Tables
6. Figures
7. Appendices

The objective of semi-annual groundwater sampling is to further delineate contaminants in the vicinity of the former Titan 1-A missile facility. The resulting data will be used to determine whether further delineation is necessary.

TCE and its daughter products were selected as contaminants of potential concern (COPCs) in the Continuing RI (Brown and Caldwell 2004). The Continuing RI summarized investigations completed prior to and during the Continuing RI and concluded that TCE and its daughter products (primarily cis-1,2-DCE) are the DoD-related COPCs that should be addressed under the FUDS program. Additional contaminants, including metals and PAHs were identified, but were not related to past DoD use and were, therefore, not identified as COPCs.

Low concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) were also detected as part of the Continuing RI. The response to comments on the Continuing RI (see appendix of the Continuing RI for the responses to comments) and a subsequent underground storage tank (UST) investigation (Brown and Caldwell 2005) ruled out the former missile facility as the source of the BTEX, and suggested that Placer County's gasoline storage tanks may have been the potential source (Brown and Caldwell 2004). Although the former missile facility was ruled out as a source, BTEX was carried forward as COPCs in the 2007 FS and in subsequent investigations. 1,4-Dichlorobenzene was selected as a COPC as it was used by the DoD is a toilet deodorizer and wastewater containing 1,4-

dichlorobenzene was discharged by the DoD to the to the septic system leach field adjacent to the Placer County Corporation Yard (URS 2001). Based on these findings, and in accordance with the UFP-QAPP, the following COPCs have been retained as the basis for groundwater and soil vapor delineation parameters:

- 1,1-Dichlorethene
- 1,4-Dichlorobenzene
- Benzene
- cis-1,2-Dicholorethene
- Ethylbenzene
- m,p-Xylenes
- o-Xylene
- trans-1,2 Dichloroethane
- Trichloroethene
- Vinyl chloride

## 1.2 Report Organization

This report is organized as follows:

- Section 2 presents a summary of investigation activities
- Section 3 presents the results of the investigation; i.e., groundwater elevations, gradients, and the analytical results for groundwater, soil vapor, and IDW
- Section 4 presents a summary of data validation and deviations from the *Work Plan / Uniform Federal Policy - Quality Assurance Project Plan* (Parsons 2024a)
- Section 5 provides a summary of activities and findings
- Section 6 presents the reference list

# 2.0 2024S1 Investigation Activities

A nesting bird survey was performed five days before commencing intrusive work. On the first day of intrusive activities, field personnel attended an environmental awareness training. All intrusive activities at the Site were overseen by a biological monitor with stop work authority. Biological monitoring reports are provided in **Appendix G**.

## 2.1 Groundwater Monitoring Well Installation and Development

Following the UFP-QAPP (Parsons 2024a), five groundwater monitoring wells (MW-61, MW-62, MW-63, MW-64 and MW-66) were installed between May 21st and May 28th, 2024, at the former Titan 1-A Missile Facility. The locations of the monitoring wells are shown in **Figure 3**.

MW-65 was planned to be installed on the parcel to the south of MW-64. However, that parcel is a conservation easement area. Pursuant to the easement, construction activity within the easement must be reviewed and approved by the Wildlife Heritage Foundation. By the time of field work, installation of MW-65 had not been approved by the Wildlife Heritage Foundation. Therefore, MW-65 was not installed.

All borings were installed with a Geoprobe direct-push technology/hollow-stem auger (DPT/HSA) drill rig using 8-inch diameter augers. Boring depths ranged from 28 to 30 feet bgs. All borings were continuously logged (**Appendix A**) by a geologist, who also oversaw well construction (see construction diagrams in **Appendix B** and well construction details in **Table 1**). Each monitoring well comprises a surface completion composed of neat cement with protective bollards, as necessary, a 2-inch diameter polyvinyl chloride (PVC) casing, a 10 ft long 2-inch diameter 0.02 inch slot PVC screen, #3 Sand well-screen filter pack (from approximately 2 feet above the top of screen to the bottom of screen), a 2 foot bentonite seal (composed of hydrated bentonite chips) above the filter pack, and neat cement grout slurry mix from the ground surface to the top of seal. A Placer County grout inspector was called for onsite inspections. The monitoring wells were completed as stick-ups with 8-inch outer diameter protective casings. Monitoring wells were developed (**Appendix C**) at least 24 hours after installation on May 28th and May 30th, 2024 via bailing, surging, and pumping. Development continued until the water was clear and free of fines, the turbidity was less than 10 nephelometric turbidity units (NTUs), or water quality parameters had stabilized; i.e., 3 consecutive readings were within stabilization criteria, as defined in Field Standard Operating Procedure (SOP) 02 in the UFP-QAPP (Parsons 2024a).

After installation and development, all wells were surveyed by R.E.Y. Engineers, Inc., a licensed California professional land surveyor. The survey results are provided in **Appendix D**.

## 2.2 Groundwater Sampling

During the 2024S1 monitoring event, depth to groundwater was measured from the surveyed measuring point on the north side of monitoring wells, using a Solinst water level meter at the existing monitoring wells on May 28th and from the newly installed monitoring wells (MW-61, MW-62, MW-63, MW-64 and MW-66) on June 3rd, 2024 (**Figure 3**). Following UFP-QAPP Section 18.6 (Parsons 2024a), depth to water was measured in monitoring wells MW-18, MW-31, MW-32, MW-33, and MW-34, but

groundwater samples were not collected from these wells. Groundwater samples were collected from the 5 newly installed wells, as well as 28 existing monitoring wells.

Groundwater samples were collected in general accordance with SOP 02 in the UFP-QAPP (Parsons 2024a). Water quality parameters were measured using a calibrated YSI ProDSS multiparameter water quality meter equipped with a flow-through cell, and recorded on sampling forms to verify stability (i.e. to ensure that formation groundwater at the screened interval was sampled). Once stability was achieved, groundwater samples were collected via bladder pump using low flow sampling methods between May 28th and June 3rd, 2024. For MW-58, there was insufficient volume to collect a sample using low flow methods and the sample was collected using a bailer. Groundwater sampling forms and calibration forms are presented in **Appendix E**.

A total of 37 groundwater samples, including 4 duplicate samples, were collected and handled in accordance with the UFP-QAPP Worksheets 26 and 27. Samples were shipped under chain of custody to EMAX Laboratories, Inc. at 3051 Fujita Street in Torrance, California. Shipping documentation, including the chain of custody, is included in the laboratory reports in **Appendix H**. Samples analyzed by U.S. Environmental Protection Agency (USEPA) Method 8260C for the following analytes:

- Benzene
- 1,4-Dichlorobenzene
- 1,1-Dichloroethene
- cis-1,2-Dichloroethene
- trans-1,2-Dichloroethene
- Ethylbenzene
- Toluene
- Trichloroethene
- Vinyl chloride
- m/p-Xylenes
- o-Xylene

EMAX Laboratories is a DoD ELAP accredited laboratory. EMAX Laboratories' accreditation is included in the UFP-QAPP Appendix G (Parsons 2024a).

## 2.3 Soil Vapor Probe Installation

Ten soil vapor probes (SV-27 though SV-35, with two probes at SV-32) were installed between May 29th and June 3rd, 2024. Five soil vapor probes were co-located with the wells installed in **Section 2.1**; i.e., MW-61/SV-27, MW-62/SV-28, MW-63/SV-29, MW-64/SV-30, and MW-66/SV-35. The locations of the probes are shown in **Figure 4**. Probes were installed to depths range from 5.0 to 11 feet below ground surface (ft bgs).

Soil vapor probes wells were installed using a Geoprobe DPT rig. Once the total depth was reached, new, disposable, 1/8-inch or 1/4-inch outside diameter Teflon tubing, fitted with a filter at the bottom to prevent particulate infiltration, was extended to the target depth and fitted with a soil vapor probe

tip with a 1-inch screen at the end. A 12-inch sand filter pack was placed in the boring, with the soil vapor probe placed midway through the filter pack sand. Following the installation of the sand pack, dry granular bentonite was emplaced between the sand pack and the hydrated bentonite grout to prevent infiltration of the hydrated bentonite or bentonite grout into the sand pack. The borehole was grouted to the surface in approximately 6-inch lifts with hydrated bentonite. A valve was fitted to the aboveground end of the tubing and was kept closed prior to purging and sampling. Following installation, soil vapor probes were finished with a lockable, aboveground stick-up casing . The stick-up was protected by up to four yellow bollards set in concrete, as necessary.

All borings were continuously logged (**Appendix A**) by a geologist, who also oversaw soil vapor probe construction (see construction diagrams in **Appendix B** and soil vapor probe construction details in **Table 2**).

## 2.4 Soil Vapor Sampling

Soil vapor samples were collected in SUMMA canisters from each probe (**Figure 4,**) following Field SOP 05 (Parsons 2024a). Soil vapor sampling forms are presented in **Appendix E**. Prior to purging or sampling, a shut-in test was performed to verify the integrity of the above-ground sampling system by assembling the entire above-ground sampling apparatus downstream from the top of the probe tubing. The system was evacuated to a vacuum of about 100 inches of water using the purge pump, and the vacuum gauge was observed for at least one minute to confirm that there was no observable loss of vacuum Prior to collecting soil vapor samples, a helium leak test was performed to verify the integrity of each probe by placing a shroud over the soil vapor probe and filling the shroud with approximately 10% by volume of helium. Helium was then measured in the sampling train using a hand-held helium meter. If helium was present at less than 5% of the concentration in the shroud, then the probe was considered to have passed the leak test and soil vapor samples were collected. Samples were collected following these procedures at 31 locations.

A total of 35 soil vapor samples including 4 duplicate samples, were collected and handled in accordance with UFP-QAPP worksheets 26 and 27. Samples were transported under chain of custody to Eurofins Air Toxics, LLC at 180 Blue Ravine Road, Suite B in Folsom, California. Shipping documentation, including the chain of custody, is included in the laboratory reports in **Appendix H**. Samples analyzed by USEPA Method TO-15 for the following analytes:

- Benzene
- 1,4-Dichlorobenzene
- 1,1-Dichloroethene
- cis-1,2-Dichloroethene
- trans-1,2-Dichloroethene
- Ethylbenzene
- Toluene
- Trichloroethene
- Vinyl chloride

- m/p-Xylenes
- o-Xylene

Eurofins Air Toxics is a DoD ELAP accredited laboratory. Eurofins Air Toxics' accreditation is included in the UFP-QAPP Appendix G (Parsons 2024a).

## 2.5 Investigation-Derived Waste Generation and Sampling

Soils, water, and sampling related debris was generated over the course of the investigation and managed as IDW. IDW was temporarily staged in 55-gallon drums within the Placer County Corporation Yard.

Samples were collected from each drum and composited into one sample. Solid and liquid IDW samples were sent to EMAX Laboratories, Inc. at 3051 Fujita Street in Torrance, California for analysis for:

- Volatile organic compounds (VOCs) via USEPA Method SW8260C
- Total metals via USEPA Method SW6010C/7470A/7471B
- Toxicity Characteristic Leaching Procedure and/or Soluble Threshold Limit Concentration for the above, if necessary

The IDW drums are currently staged in the Placer County Corporation Yard. The IDW drums will be disposed of during the next sampling event, currently scheduled for December 2024.

Field notes are presented in **Appendix F**.

# 3.0 2024S1 Investigation Results

## 3.1 Groundwater Elevations and Gradients

Groundwater elevation measurements were taken from each of the 38 monitoring wells, with groundwater elevations ranging from 175.51 to 210.39 feet above mean sea level (amsl), or 2.64 to 25.31 ft bgs (**Table 3**). The elevation measurements were used to calculate the direction and gradient of groundwater flow (**Figure 5**). Groundwater generally flows to the west-southwest across the site.

Hydraulic gradient was calculated using wells MW-30 to MW-16 (northern portion of Site) and MW-51 to MW-63 (southern portion of Site; **Figure 5**). Hydraulic gradient ranges from 0.021 ft/ft in the northern portion of the Site, to 0.012 ft/ft in the eastern portion of the Site.

## 3.2 Groundwater Quality Parameters

Groundwater quality parameters were measured and recorded during well development and purging. Parameters were measured at each monitoring well: a) during development to ensure that each well was properly installed and is appropriately interacting with the intended aquifer(s) and, b) that each sample was collected from groundwater that is representative of the aquifer (and not stagnant water in the well). Groundwater quality parameters measured include temperature, electrical conductivity (EC), dissolved oxygen (DO), pH, oxidation-reduction potential (ORP), and turbidity. A well was considered to be developed when either a) the turbidity was less than 10 NTUs, or b) three consecutive readings for temperature, pH, and conductivity were within 10% (i.e., had stabilized). Well development forms are presented in **Appendix C**.

Prior to sampling, each monitoring well was purged until water quality measurements stabilized to ensure that the groundwater samples would be collected from the groundwater in the screened interval of the aquifer. For sampling, groundwater quality was considered stable when three consecutive readings of each parameter met the following criteria: pH (±0.2 units), EC (±3%), ORP (±20 millivolts [mv]), DO (±10% or ±0.2 mg/L, whichever is greater), and turbidity (±10% or ±1 NTU). Groundwater sampling forms document the groundwater quality parameters measured during sampling and are presented in **Appendix E**. Water quality parameters measured to be representative of the aquifer after stabilization are presented in **Table 4**. For MW-58, there was insufficient volume to collect a sample using low flow methods and the sample was collected using a bailer, concentrations shown in **Table 4** are representative of the sample collected.

## 3.3 Groundwater Analytical Results

During the 2024S1 groundwater monitoring event, groundwater samples were collected at 33 wells between May 28th and June 3rd, 2024. The groundwater analytical results were compared to the screening levels presented in **Table 5a**. Analytical results are presented in **Table 6a**, and the analytical laboratory reports are provided in **Appendix H**.

1,4-Dichlorobenzene, benzene, ethylbenzene, m,p-xylenes, o-xylene and toluene were non-detect in all 33 wells. The remaining analytes were detected as follows:

- 1,1-Dichoroethene
  - Detected above the screening level (6.0 µg/L): no wells
  - Detected below the screening level (6.0 µg/L): one well (MW-43)
- cis-1,2-Dichoroethene
  - Detected above the screening level (6.0 µg/L): one well (EW-1)
  - Detected below the screening level (6.0 µg/L): 20 wells
- trans-1,2-Dichoroethene
  - Detected above the screening level (10 µg/L): no wells
  - Detected below the screening level (10 µg/L): 7 wells
- Trichloroethene
  - Detected above the screening level (5 µg/L): 17 wells
  - Detected below the screening level (5 µg/L): 6 wells.
- Vinyl chloride
  - Detected above the screening level (0.50 µg/L): no wells
  - Detected below the screening level (0.50 µg/L): one well (MW-45)

**Figure 6** shows the detected concentrations of trichloroethene (TCE) and cis-1,2-dichloroethene (DCE) in groundwater in the vicinity of the former Titan 1-A missile facility. TCE isoconcentration contours are also shown on **Figure 6**. The TCE isoconcentration contours shown are interpolations predicted using state-of-the-practice mathematical models. The approximated concentration contours are only intended to provide a rough visualization of the approximated concentration boundaries.

## 3.4 Soil Vapor Analytical Results

During the 2024S1 soil vapor monitoring event, soil vapor samples were collected from 31 soil vapor probes (locations shown on **Figure 4**) between May 28th and June 6th, 2024. The soil vapor analytical results were compared to the screening levels presented in **Table 5b**. Analytical results are presented in **Table 6b**, and the analytical laboratory reports are provided in **Appendix H**. The TCE and benzene analytical results are shown on **Figure 7** and **Figure 8**, respectively.

1,1-Dichloroethene, 1,4-dichlorobenzene (DCB), trans-1,2-DCE, and VC were non-detect in all soil vapor probes. The remaining analytes were detected as follows:

- Benzene:
  - Detected above the screening level (12 µg/m$^3$): 5 soil vapor probes
  - Detected below the screening level (12 µg/m$^3$): 6 soil vapor probes
- cis-1,2-Dichoroethene:
  - Detected above the screening level (1,400 µg/m$^3$): no soil vapor probes

  - Detected below the screening level (1,400 µg/m³): 2 soil vapor probes
- Ethylbenzene
  - Detected above the screening level (37 µg/m³): no soil vapor probes
  - Detected below the screening level (37 µg/m³): 11 soil vapor probes
- m,p-Xylene
  - Detected above the screening level (3,500 µg/m³): no soil vapor probes
  - Detected below the screening level (3,500 µg/m³): 20 soil vapor probes
- o-Xylene
  - Detected above the screening level (3,500 µg/m³): no soil vapor probes
  - Detected below the screening level (3,500 µg/m³): 12 soil vapor probes
- Toluene
  - Detected above the screening level (170,000 µg/m³): no soil vapor probes
  - Detected below the screening level (170,000 µg/m³): 15 soil vapor probes
- Trichloroethene
  - Detected above the screening level (16 µg/m³): 12 soil vapor probes
  - Detected below the screening level (16 µg/m³): 7 soil vapor probes

In SV-32 (located near the center of the northern plume area defined by the isoconcentration contours on **Figure 7**), soil vapor was sampled at 5.0 and 9.0 ft bgs to evaluate whether the source of TCE in soil vapor was the result of TCE in groundwater or from a shallower source. Trichloroethene was detected at much higher concentrations in the shallow sample (SV-32A, 2,900 µg/m³) than in the deep sample (SV-32B, 9.2 µg/m³), indicating that the source of TCE is unlikely to be groundwater in this area.

**Figure 7** shows the extent of TCE[1] and **Figure 8** shows the extent of benzene in soil vapor in the vicinity of the Titan 1-A missile facility. The isoconcentration contours shown are interpolations predicted using state-of-the-practice mathematical models. The approximated concentration contours are only intended to provide a rough visualization of the approximated concentration boundaries. Benzene isoconcentration contours for soil vapor are not shown given the limited data present and, given the large degree of uncertainty, need further corroboration before modeling (predicting) spatial concentrations.

[1] Note that the extent of the TCE soil vapor plume shown in Figure 7 is misleading as the soil vapor probes were installed at different depths but the results are combined in Figure 7 to develop a single set of contours; i.e., some probes are right above groundwater and some are separated from groundwater by a clay layer or approximately 10 feet or soil. This is discussed in more detail in the Remedial Investigation (Parsons 2024b).

## 3.5 IDW Results and Management

Throughout the investigation, waste was created from a) installing and developing monitoring wells in May 2024, b) installing soil vapor probes in May 2024, and c) sampling monitoring wells in May/June 2024. Waste was created as both solid (soil cuttings) and liquid (development and purge water). In total, ten (10) drums of soil cuttings and seven (7) drums of development/purge water were created.

Based on the analytical results (see **Appendix H**), all of the IDW is non-hazardous. The IDW drums are currently staged in the Placer County Corporation Yard. The IDW drums will be disposed of during the next sampling event, currently scheduled for December 2024. A waste disposal facility has not yet been contracted.

The IDW tracking log is presented in **Appendix J**.

# 4.0 Data Validation and Quality Control Assessment

## 4.1 Data Validation

As part of the quality control procedures, a) 100% of the IDW data was subject to a Stage 1 data review and b) 100 percent of the project data was subject to a Stage 2B data review and 10 percent of the data was subject to a Stage 4 data review to verify data are of known quality and are compliant with the criteria in the UFP-QAPP (Parsons 2024a).

During the 2024S1 monitoring event, four groundwater duplicates and four soil vapor duplicates were collected. Relative percent differences (RPD) were within Quality Control (QC) limits for all sets of duplicates. Four trip blanks were collected and analyzed for volatile organic compounds (VOCs). All trip blanks had detections for toluene, but the associated sample results were non-detects for toluene; therefore, data quality was not impacted, and results were not qualified. One equipment blank and one rinsate blank were collected and analyzed for VOCs and results were non-detect for all target analytes.

Data validation reports for the 2024S1 sampling event are provided in **Appendix I**. All data are considered acceptable and suitable for use.

## 4.2 Data Usability Assessment

As noted in **Section 4.1**, all of the data validated are suitable for their intended use. No systematic accuracy or precision biases were identified, and no sample results were rejected. Sample results that were qualified as estimated are usable for project decisions. Decisions based on results close to the limit of detection (LOD) should be made with a degree of caution.

The LODs were below the Project Screening Levels (PSLs) from the UFP-QAPP for all analytes in all samples, except as shown below in **Table 7**.

### Table 7. Summary of Non-Detects with LODs Greater than PSLs

| Matrix | Analyte | units | PSL | #NDs | Range LODs | #NDs>PSL |
|---|---|---|---|---|---|---|
| GW | Vinyl chloride | µg/L | 0.019 | 36 | 0.3-0.3 | 36 |
| SV | Benzene | µg/m$^3$ | 12 | 22 | 2.8-17 | 3 |
| SV | Vinyl chloride | µg/m$^3$ | 5.6 | 35 | 2.2-14 | 4 |

**Definitions:**
GW: groundwater
SV: soil vapor
LOD: limit of detection
PSL: project screening level
ND: non-detect

In soil vapor, the non-detects for benzene and vinyl chloride with LODs above the project screening levels were in SV-1, SV-22, and SV-24. In these soil vapor probes, TCE was detected at above 6,000 µg/m$^3$ requiring dilutions that resulted in the elevated LODs; i.e., it is not possible to detected benzene and vinyl chloride at the project screening level in these probes. The LOD for vinyl chloride in soil vapor was also elevated in SV-29. In groundwater, the LOD for vinyl chloride was above the project screening level in all non-detects.

## 4.3 Deviations from the Quality Assurance Project Plan

The sample taken from MW-58 was a grab sample as no water could be purged by a bladder pump. Therefore, water quality parameters were not allowed to stabilize and a grab sample was collected using a bailer. Data from MW-58 may not be representative of steady state conditions and should be evaluated with caution.

MW-65 was not installed, as described in Section 2.1.

SV-11, SV-12, and SV-21 were not sampled. Soil vapor probes SV-11 and SV-12 were unable to be sampled as water was purged from the sample lines for an extended period. A soil vapor sample was attempted at SV-21, but soil vapor was unable to be drawn due to high vacuum.

# 5.0 Summary

During the 2024S1 monitoring event, five monitoring wells were installed (MW-61, MW-62, MW-63, MW-64 and MW-66). MW-65 was not installed due to lack of approval by the by the Wildlife Heritage Foundation.

Groundwater elevation measurements were taken from each of the 38 monitoring wells, with groundwater elevations ranging from 175.51 to 210.39 feet amsl, or 2.64 to 25.31 ft bgs. Groundwater generally flows to the west-southwest across the site (**Figure 5**).

Groundwater samples were collected from 33 wells between May 21st and June 3rd, 2024. 1,4-Dichlorobenzene, benzene, ethylbenzene, m,p-xylenes, o-xylene and toluene were non-detect in all 33 wells. Of the detected analytes, only cis-1,2-DCE and TCE were detected above screening levels, with cis-1,2-DCE detected above the screening level of 6.0 µg/L in 1 well (EW-1) at 11 µg/L and TCE detected above the screening level of 0.49 µg/L in 17 wells between 2.0 and 320 µg/L (**Figure 6**).

During the 2024S1 monitoring event, ten soil vapor probes were installed (SV-27 though SV-35, with two probes at SV-32). Soil vapor samples were collected from 31 soil vapor probes between May 28th and June 6th, 2024. Soil vapor probes SV-11, SV-12, and SV-21 could not be sampled. 1,1-Dichloroethene, 1,4-DCB, trans-1,2-DCE, and VC were non-detect in all soil vapor probes. Of the detected analytes, only benzene and TCE were detected above screening levels, with benzene detected above the screening level of 12 µg/m$^3$ in 5 soil vapor probes between 13 and 86 µg/m$^3$ (**Figure 8**) and TCE detected above the screening level of 16 µg/m$^3$ in 12 soil vapor probes between 23 and 7,200 µg/m$^3$ (**Figure 7**[2]). In SV-32, soil vapor was sampled at 5.0 and 9.0 ft bgs to evaluate whether the source of TCE in soil vapor was the result of TCE in groundwater or from a shallower source. TCE was detected at much higher concentrations in the shallow sample (SV-32A, 2,900 µg/m$^3$) than in the deep sample (SV-32B, 9.2 µg/m$^3$), indicating that the source of TCE is unlikely to be groundwater in this area.

All IDW is non-hazardous and will be disposed of during the next sampling event, currently scheduled for December 2024.

During this sampling event, the following deviations from the UFP-QAPP were noted:

- The sample taken from MW-58 was a grab sample as no water could be purged by a bladder pump.
- MW-65 was not installed, as described in **Section 2.1**.
- SV-11, SV-12, and SV-21 were not sampled.

[2] Note that the extent of the TCE soil vapor plume shown in Figure 7 is misleading as the soil vapor probes were installed at different depths but the results are combined in Figure 7 to develop a single set of contours; i.e., some probes are right above groundwater and some are separated from groundwater by a clay layer or approximately 10 feet or soil. This is discussed in more detail in the Remedial Investigation (Parsons 2024b).

# 6.0 References

Brown and Caldwell, 2004. *Continuing Remedial Investigation Report, Titan 1-A Missile Facility*, Lincoln, California. Prepared for the U.S. Army Corps of Engineers. March.

Brown and Caldwell. 2005. Titan 1-A Missile Facility, Technical Memorandum for Underground Storage Tank Investigation.

Parsons. 2024a. Work Plan / Uniform Federal Policy – Quality Assurance Project Plan for Semi-annual Groundwater and Soil Vapor Sampling at Former Titan 1-A Missile Facility, Lincoln, California. April 2024.

Parsons. 2024b. Remedial Investigation Report for Former Titan 1-A Missile Facility, Lincoln, California. Draft Final. June.

URS. 2001. Focused Remedial Investigation Report, Titan 1-A Missile Facility, Lincoln, California. Draft Final. December.

# Tables

## Table 1. Monitoring Well Construction Details and Survey Data

| Well ID | Installation Date | Coordinates [1,2,3] | | Top of Casing Elevation [3,4] (ft amsl) | Ground Surface Elevation [3,4] (ft amsl) | Height of Stick up [5] (ft) | Total Depth of Casing [6,7] (ft bgs) | Top of Screen [6,7] (ft bgs) | Bottom of Screen [6,7] (ft bgs) | Borehole Diameter [6,7] (inches) | Casing Diameter [6,7,8] (inches) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Northing | Easting | | | | | | | | |
| EW-1 | 2000-10-17 | 2082720.77 | 6770624.93 | 210.94 | 209.3 | 1.61 | 25.0 | 15 | 24.5 | 10.0 | 4.0 |
| MW-11 | 1998-10-06 | 2083034.03 | 6770616.72 | 211.19 | 208.9 | 2.33 | 23.0 | 12.5 | 22.5 | 10.0 | 4.0 |
| MW-16 | 1998-10-09 | 2083047.93 | 6770567.87 | 212.78 | 210.3 | 2.43 | 26.5 | 11 | 26 | 10.0 | 4.0 |
| MW-17 | 1998-10-09 | 2082965.77 | 6770624.27 | 210.25 | 207.3 | 2.95 | 20.0 | 9.5 | 19.5 | 10.0 | 4.0 |
| MW-18 | 2000-10-18 | 2083703.57 | 6770862.91 | 219.94 | 217.4 | 2.58 | 22.5 | 12 | 21.5 | 8.0 | 2.0 |
| MW-19 | 2000-10-16 | 2081938.12 | 6769849.74 | 186.96 | 184.1 | 2.83 | 25.0 | 14 | 24.5 | 8.0 | 2.0 |
| MW-22 | 2000-10-19 | 2082413.25 | 6770443.66 | 201.07 | 199.5 | 1.61 | 28.5 | 8.5 | 28 | 8.0 | 2.0 |
| MW-29 | 2002-09-04 | 2082870.99 | 6770828.89 | 219.44 | 217.2 | 2.25 | 35.0 | 20 | 35 | 8.0 | 2.0 |
| MW-30 | 2002-08-27 | 2082801.32 | 6771284.78 | 238.18 | 235.7 | 2.51 | 45.0 | 29.5 | 44.5 | 8.0 | 2.0 |
| MW-31 | 2002-08-29 | 2083615.16 | 6771262.83 | 224.80 | 222.3 | 2.53 | 25.0 | 15 | 25 | 8.0 | 2.0 |
| MW-32 | 2002-08-29 | 2083934.98 | 6771250.80 | 215.60 | 213.1 | 2.51 | 35.0 | 20 | 35 | 8.0 | 2.0 |
| MW-33 | 2002-08-30 | 2084115.48 | 6770622.90 | 212.94 | 210.4 | 2.52 | 35.0 | 20 | 35 | 8.0 | 2.0 |
| MW-34 | 2002-09-03 | 2083585.09 | 6770479.02 | 214.43 | 212.4 | 2.08 | 25.0 | 10 | 25 | 8.0 | 2.0 |
| MW-35 | 2004-11 | 2082893.83 | 6770678.97 | 212.54 | 210.1 | 2.43 | 19.0 | 9.0 | 19.0 | Unknown | 2.0 |
| MW-42 | 2019-11-25 | 2082105.45 | 6770300.41 | 203.56 | 201.4 | 2.21 | 32.5 | 22 | 32 | 8.0 | 2.0 |
| MW-43 | 2020-07-20 | 2082251.83 | 6770160.59 | 193.63 | 190.8 | 2.82 | 25.0 | 10 | 20 | 8.0 | 2.0 |
| MW-44 | 2019-12-05 | 2082298.57 | 6769890.09 | 196.39 | 193.4 | 2.96 | 35.0 | 20 | 30 | 8.0 | 2.0 |
| MW-45 | 2019-11-26 | 2082498.44 | 6770397.46 | 207.01 | 204.8 | 2.18 | 35.0 | 20 | 30 | 8.0 | 2.0 |
| MW-46 | 2019-02-05 | 2082553.20 | 6770091.26 | 209.22 | 206.4 | 2.78 | 40.0 | 25 | 35 | 8.0 | 2.0 |
| MW-47 | 2019-12-04 | 2082598.64 | 6769889.50 | 204.82 | 202.0 | 2.83 | 40.0 | 25 | 35 | 8.0 | 2.0 |
| MW-48 | 2020-07-15 | 2082664.59 | 6770761.49 | 216.15 | 213.4 | 2.72 | 35.0 | 20 | 30 | 8.0 | 2.0 |
| MW-49 | 2020-07-17 | 2082756.33 | 6770384.31 | 204.50 | 201.8 | 2.69 | 35.0 | 20 | 30 | 8.0 | 2.0 |
| MW-50 | 2019-12-03 | 2082868.32 | 6770111.43 | 212.74 | 210.1 | 2.69 | 40.0 | 25 | 35 | 8.0 | 2.0 |
| MW-51 | 2020-07-16 | 2082890.51 | 6770482.80 | 206.67 | 204.1 | 2.61 | 35.0 | 20 | 30 | 8.0 | 2.0 |
| MW-52 | 2019-12-03 | 2083095.56 | 6770195.24 | 216.58 | 213.8 | 2.77 | 45.0 | 30 | 40 | 8.0 | 2.0 |
| MW-53 | 2019-11-27 | 2083386.53 | 6770213.12 | 211.17 | 208.4 | 2.75 | 35.0 | 20 | 30 | 8.0 | 2.0 |
| MW-54 | 2020-07-21 | 2081777.28 | 6769905.72 | 185.53 | 182.9 | 2.64 | 22.5 | 12 | 22 | 8.0 | 2.0 |
| MW-55 | 2020-07-22 | 2081845.40 | 6770183.84 | 191.84 | 189.3 | 2.51 | 25.0 | 10 | 20 | 8.0 | 2.0 |
| MW-56 | 2020-07-15 | 2082558.46 | 6770638.40 | 209.05 | 206.7 | 2.32 | 35.0 | 20 | 30 | 8.0 | 2.0 |
| MW-57 | 2019-12-06 | 2083192.35 | 6771016.96 | 228.20 | 225.3 | 2.92 | 40.0 | 25 | 35 | 8.0 | 2.0 |
| MW-58 | 2019-12-04 | 2083279.87 | 6770511.84 | 218.82 | 216.2 | 2.59 | 30.0 | 15 | 25 | 8.0 | 2.0 |
| MW-59 | 2019-12-06 | 2082202.52 | 6769648.43 | 188.87 | 186.3 | 2.60 | 30.0 | 15 | 25 | 8.0 | 2.0 |
| MW-60 | 2019-12-02 | 2083159.24 | 6769901.20 | 211.38 | 208.8 | 2.59 | 35.5 | 20.5 | 30.5 | 8.0 | 2.0 |
| MW-61 | 2024-05-22 | 2082936.667 | 6769617.604 | 203.00 | 200.54 | 2.46 | 22.1 | 19.6 | 29.6 | 8.0 | 2.0 |
| MW-62 | 2024-05-23 | 2082675.260 | 6769635.196 | 201.10 | 198.32 | 2.78 | 22.1 | 19.6 | 29.6 | 8.0 | 2.0 |
| MW-63 | 2024-05-24 | 2082338.897 | 6769522.856 | 192.16 | 189.81 | 2.35 | 20.5 | 18 | 28 | 8.0 | 2.0 |
| MW-64 | 2024-05-28 | 2082069.374 | 6769485.786 | 189.98 | 187.56 | 2.42 | 20.5 | 20 | 30 | 8.0 | 2.0 |
| MW-66 | 2024-05-21 | 2083409.738 | 6770179.280 | 210.36 | 207.79 | 2.57 | 20.5 | 20 | 30 | 8.0 | 2.0 |

**Notes**:
1 - California State Plane, Zone 2, feet
2 - For wells installed prior to 2024, taken from Table 1 in Ahtna. 2023. Supplemental Remedial Investigation and Feasibility Study Report, Beale Air Force Base (AFB), Former Titan 1-A Missile Facility, Placer County, Lincoln, California, FUDS Project J09CA1108-01. Draft.
3 - For wells installed in 2024, see the survey in Appendix D.
4 - For wells installed prior to 2024, taken from unpublished surveys performed by Mid Coast Engineers on 12/17/2019 and 8/10/2020.
5 - Calculated as [top of casing] - [ground surface elevation].
6 - For wells installed prior to 2024, taken from the boring logs presented in Ahtna. 2023.
7 - For MW-35, value taken from Table 3-2 in Brown and Caldwell. 2006. 2006 Annual Groundwater Monitoring Report. Final.
8 - For EW-1, the well construction diagram states that the casing diameter is both 2 and 4 inches. However, the sampling sheets from recent groundwater monitoring events indicate that the casing diameter is 4 inches.

**Definitions:**
amsl - above mean sea level bgs - below ground surface ft - feet

## Table 2. Soil Vapor Probe Construction Details and Survey Data

| Probe ID | Installation Date | Coordinates [1,2,3] | | Ground Surface Elevation [3,4,5] (ft amsl) | Probe Depth [6] (ft bgs) | Total Depth [6,7] (ft bgs) | Boring Diameter [6] (inches) | Tubing Diameter [6] (inches) |
|---|---|---|---|---|---|---|---|---|
| | | Northing | Easting | | | | | |
| SV-1 | 11/25/2019 | 2083382.83 | 6770204.96 | 208.38 | 14.0 | 14.5 | 3.25 | 3/16 |
| SV-2 | 11/26/2019 | 2083282.66 | 6770508.34 | 216.35 | 10.5 | 11.0 | 3.25 | 3/16 |
| SV-3 | 7/15/2020 | 2082842.30 | 6769857.29 | 204.35 | 9.3 | 9.7 | 3.25 | 3/16 |
| SV-4 | 7/22/2020 | 2082755.10 | 6770389.46 | 201.83 | 4.5 | 5.0 | 3.25 | 3/16 |
| SV-5b | 7/16/2020 | 2082694.40 | 6770622.52 | 209.35 | 4.5 | 5.0 | 3.25 | 3/16 |
| SV-6 | 7/15/2020 | 2082668.20 | 6770756.38 | 213.39 | 4.5 | 5.0 | 3.25 | 3/16 |
| SV-7 | 7/16/2020 | 2082570.67 | 6771002.92 | 220.91 | 4.5 | 5.0 | 3.25 | 3/16 |
| SV-8 | 7/16/2020 | 2082276.43 | 6770589.49 | 206.84 | 4.5 | 5.0 | 3.25 | 3/16 |
| SV-9b | 7/21/2020 | 2082497.91 | 6770401.48 | 204.92 | 5.8 | 6.2 | 3.25 | 3/16 |
| SV-10 | 11/26/2019 | 2082556.71 | 6770093.12 | 206.44 | 10.5 | 11.0 | 3.25 | 3/16 |
| SV-11 | 11/26/2019 | 2082303.22 | 6769890.08 | 193.55 | 9.0 | 9.0 | 3.25 | 3/16 |
| SV-12 | 7/17/2020 | 2082255.97 | 6770155.75 | 190.48 | 4.5 | 5.0 | 3.25 | 3/16 |
| SV-15b | 7/16/2020 | 2082202.28 | 6769653.90 | 186.28 | 2.5 | 3.0 | 3.25 | 3/16 |
| SV-16 | 7/15/2020 | 2082563.26 | 6770645.75 | 207.20 | 9.0 | 9.5 | 3.25 | 3/16 |
| SV-17b | 7/16/2020 | 2083161.31 | 6769904.79 | 208.93 | 4.5 | 10.0 | 3.25 | 3/16 |
| SV-18 | 7/15/2020 | 2083703.57 | 6770862.91 | 216.56 | 4.5 | 5.0 | 3.25 | 3/16 |
| SV-19 | 7/14/2020 | 2083040.16 | 6770390.89 | 214.21 | 9.5 | 10.0 | 3.25 | 3/16 |
| SV-20 | 7/14/2020 | 2083310.27 | 6770045.58 | 207.37 | 9.5 | 10.0 | 3.25 | 3/16 |
| SV-21 | 7/14/2020 | 2083432.90 | 6770342.52 | 210.53 | 9.5 | 10.0 | 3.25 | 3/16 |
| SV-22 | 10/19/2022 | 2083352.92 | 6770135.05 | 208.00 | 9.5 | 10.0 | 3.25 | 1/4 |
| SV-23 | 10/19/2022 | 2083461.75 | 6770332.72 | 209.86 | 9.5 | 10.0 | 3.25 | 1/4 |
| SV-24 | 10/19/2022 | 2083316.62 | 6770248.55 | 209.49 | 8.75 | 10.0 | 3.25 | 1/4 |
| SV-25 | 10/19/2022 | 2083191.23 | 6770304.30 | 212.06 | 8.5 | 10.0 | 3.25 | 1/4 |
| SV-26 | 10/19/2022 | 2083377.59 | 6770192.42 | 208.42 | 5.0 | 6.0 | 3.25 | 1/4 |
| SV-27 | 5/31/2024 | 2082940.72 | 6769617.88 | 200.47 | 10.5 | 11.0 | 2.25 | 1/4 |
| SV-28 | 5/31/2024 | 2082679.88 | 6769635.45 | 198.32 | 11.0 | 11.5 | 2.25 | 1/4 |
| SV-29 | 5/29/2024 | 2082343.61 | 6769523.46 | 190.05 | 8.0 | 8.5 | 2.25 | 1/4 |
| SV-30 | 5/29/2024 | 2082074.36 | 6769485.30 | 187.55 | 7.5 | 8.0 | 2.25 | 1/4 |
| SV-31 | 5/30/2024 | 2083125.87 | 6770095.79 | 211.47 | 9.5 | 10.0 | 2.25 | 1/4 |
| SV-32a | 5/30/2024 | 2083279.48 | 6770210.72 | 213.56 | 5.0 | 5.5 | 2.25 | 1/4 |
| SV-32b | 5/30/2024 | 2083279.48 | 6770210.72 | 213.56 | 9.5 | 10.0 | 2.25 | 1/4 |
| SV-33 | 5/20/2024 | 2083482.00 | 6770145.89 | 207.84 | 9.5 | 10.0 | 2.25 | 1/4 |
| SV-34 | 6/3/2024 | 2083382.34 | 6770056.42 | 207.96 | 9.5 | 10.0 | 2.25 | 1/4 |
| SV-35 | 6/3/2024 | 2083413.92 | 6770177.86 | 207.54 | 9.5 | 10.0 | 2.25 | 1/4 |

**Notes:**

1 - California State Plane, Zone 2, feet

2 - For probes installed prior to 2024, taken from location data provided by USACE. 2023.

3 - For probes installed in 2024, see the survey in Appendix D.

4 - For probes installed prior to 2024, taken from unpublished surveys performed by Mid Coast Engineers on 12/17/2019 and 8/10/2020.

5 - For SV-22 through SV-26, taken from the boring logs as presented in Ahtna. 2023.

6 - For probes installed before 2024, from the boring logs in Ahtna. 2023.

7 - Reported as the bottom of the sand filter pack.

**Definitions:**

amsl - above mean sea level

bgs - below ground surface

ft - feet

## Table 3. Groundwater Elevations

| Well ID | Date | Time | TOC Elevation (ft amsl) | Depth to Water (ft below TOC) | Groundwater Elevation [1] (ft amsl) | Ground Surface Elevation (ft amsl) | Depth to Water (ft bgs) | Total Depth (ft bgs) |
|---|---|---|---|---|---|---|---|---|
| EW-1 | 5/28/2024 | 10:22 | 210.94 | 18.05 | 192.89 | 209.33 | 16.44 | 26.57 |
| MW-11 | 5/28/2024 | 10:10 | 211.19 | 15.27 | 195.92 | 208.86 | 12.94 | 25.21 |
| MW-16 | 5/28/2024 | 9:56 | 212.78 | 19.30 | 193.48 | 210.35 | 16.87 | 28.13 |
| MW-17 | 5/28/2024 | 10:12 | 210.25 | 14.14 | 196.11 | 207.30 | 11.19 | 22.45 |
| MW-18 | 5/28/2024 | 8:49 | 219.94 | 13.79 | 206.15 | 217.36 | 11.21 | 24.88 |
| MW-19 | 5/28/2024 | 11:31 | 186.96 | 6.93 | 180.03 | 184.13 | 4.10 | 27.44 |
| MW-22 | 5/28/2024 | 11:12 | 201.07 | 10.52 | 190.55 | 199.46 | 8.91 | 30.13 |
| MW-29 | 5/28/2024 | 9:45 | 219.44 | 17.59 | 201.85 | 217.19 | 15.34 | 36.98 |
| MW-30 | 5/28/2024 | 9:51 | 238.18 | 27.79 | 210.39 | 235.70 | 25.31 | 44.84 |
| MW-31 | 5/28/2024 | 8:34 | 224.80 | 16.47 | 208.33 | 222.27 | 13.94 | 27.07 |
| MW-32 | 5/28/2024 | 8:29 | 215.60 | 10.95 | 204.65 | 213.09 | 8.44 | 36.78 |
| MW-33 | 5/28/2024 | 8:42 | 212.94 | 12.87 | 200.07 | 210.42 | 10.35 | 37.34 |
| MW-34 | 5/28/2024 | 8:54 | 214.43 | 16.50 | 197.93 | 212.35 | 14.42 | 26.93 |
| MW-35 | 5/28/2024 | 10:16 | 212.54 | 17.70 | 194.84 | 210.11 | 15.27 | 20.00 |
| MW-42 | 5/28/2024 | 11:20 | 203.56 | 15.30 | 188.26 | 201.35 | 13.09 | 35.00 |
| MW-43 | 5/28/2024 | 11:17 | 193.63 | 5.87 | 187.76 | 190.81 | 3.05 | 27.87 |
| MW-44 | 5/28/2024 | 9:28 | 196.39 | 12.85 | 183.54 | 193.43 | 9.89 | 37.47 |
| MW-45 | 5/28/2024 | 11:10 | 207.01 | 16.61 | 190.40 | 204.83 | 14.43 | 36.54 |
| MW-46 | 5/28/2024 | 9:23 | 209.22 | 22.22 | 187.00 | 206.44 | 19.44 | 42.21 |
| MW-47 | 5/28/2024 | 9:35 | 204.82 | 18.53 | 186.29 | 201.99 | 15.70 | 42.35 |
| MW-48 | 5/28/2024 | 10:24 | 216.15 | 18.05 | 198.10 | 213.43 | 15.33 | 26.57 |
| MW-49 | 5/28/2024 | 10:04 | 204.50 | 13.30 | 191.20 | 201.81 | 10.61 | 37.24 |
| MW-50 | 5/28/2024 | 9:18 | 212.74 | 22.96 | 189.78 | 210.05 | 20.27 | 41.84 |
| MW-51 | 5/28/2024 | 10:01 | 206.67 | 14.29 | 192.38 | 204.06 | 11.68 | 37.76 |
| MW-52 | 5/28/2024 | 9:14 | 216.58 | 26.30 | 190.28 | 213.81 | 23.53 | 47.51 |
| MW-53 | 5/28/2024 | 9:10 | 211.17 | 20.75 | 190.42 | 208.42 | 18.00 | 36.64 |
| MW-54 | 5/28/2024 | 11:28 | 185.53 | 5.28 | 180.25 | 182.89 | 2.64 | 24.94 |
| MW-55 | 5/28/2024 | 11:24 | 191.84 | 6.77 | 185.07 | 189.33 | 4.26 | 27.52 |

## Table 3. Groundwater Elevations

| Well ID | Date | Time | TOC Elevation (ft amsl) | Depth to Water (ft below TOC) | Groundwater Elevation [1] (ft amsl) | Ground Surface Elevation (ft amsl) | Depth to Water (ft bgs) | Total Depth (ft bgs) |
|---|---|---|---|---|---|---|---|---|
| MW-56 | 5/28/2024 | 10:27 | 209.05 | 21.57 | 187.48 | 206.73 | 19.25 | 37.62 |
| MW-57 | 5/28/2024 | 8:08 | 228.20 | 20.42 | 207.78 | 225.28 | 17.50 | 42.22 |
| MW-58 | 5/28/2024 | 9:02 | 218.82 | 23.60 | 195.22 | 216.23 | 21.01 | 25.03 |
| MW-59 | 5/28/2024 | 9:31 | 188.87 | 10.66 | 178.21 | 186.27 | 8.06 | 31.91 |
| MW-60 | 5/28/2024 | 9:39 | 211.38 | 22.63 | 188.75 | 208.79 | 20.04 | 37.40 |
| MW-61 | 6/3/2024 | 12:05 | 203.00 | 17.50 | 185.50 | 200.54 | 15.04 | 32.65 |
| MW-62 | 6/3/2024 | 11:05 | 201.10 | 17.62 | 183.48 | 198.32 | 14.84 | 32.66 |
| MW-63 | 6/3/2024 | 9:25 | 192.16 | 14.22 | 177.94 | 189.81 | 11.87 | 30.11 |
| MW-64 | 6/3/2024 | 8:05 | 189.98 | 14.47 | 175.51 | 187.56 | 12.05 | 32.04 |
| MW-66 | 6/3/2024 | 14:02 | 210.36 | 19.99 | 190.37 | 207.79 | 17.43 | 32.64 |

**Notes:**
1 - Calculated as [top of casing elevation] - [depth to water]

**Definitions:**
amsl - above mean sea level
bgs - below ground surface
ft - feet
TOC - top of casing

## Table 4. Water Quality Parameters

| Well ID | Date | Time | Temp. (°C) | pH (pH Units) | EC (mS/cm) | Turbidity (NTU) | DO (mg/L) | ORP (mv) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| EW-1 | 5/28/2024 | 8:19 | 18.6 | 7.35 | 652 | 4 | 4.92 | 122.2 | |
| MW-11 | 5/28/2024 | 9:22 | 21.7 | 6.98 | 791 | 18.8 | 0.80 | 97.5 | |
| MW-16 | 5/28/2024 | 10:30 | 21.2 | 7.04 | 793 | 19.9 | 4.62 | 98.0 | |
| MW-17 | 5/28/2024 | 8:24 | 17.9 | 6.90 | 759 | 18.7 | 4.89 | 180.0 | |
| MW-19 | 5/28/2024 | 12:00 | 20.6 | 7.41 | 440.3 | 4 | 0.91 | 109.9 | |
| MW-22 | 5/28/2024 | 14:40 | 23.0 | 7.31 | 459.3 | 33 | 4.00 | 101.6 | |
| MW-29 | 5/28/2024 | 13:11 | 23.7 | 7.22 | 925 | 28 | 3.43 | 143.4 | |
| MW-30 | 5/28/2024 | 14:16 | 26.1 | 6.79 | 910 | 116 | 3.31 | 148.2 | |
| MW-35 | 5/28/2024 | 14:30 | 24.0 | 6.77 | 987 | 77.5 | 2.02 | -112.0 | |
| MW-42 | 5/28/2024 | 12:47 | 20.0 | 7.34 | 430.2 | 15 | 4.19 | 93.8 | |
| MW-43 | 5/28/2024 | 13:26 | 20.5 | 7.17 | 231.9 | 20 | 0.47 | 61.2 | |
| MW-44 | 5/28/2024 | 9:33 | 19.9 | 7.01 | 525 | 33.2 | 2.21 | 124.0 | |
| MW-45 | 5/28/2024 | 14:56 | 21.3 | 7.47 | 484 | 18 | 3.60 | 80.6 | |
| MW-46 | 5/28/2024 | 11:39 | 22.3 | 7.11 | 614 | 23.3 | 3.93 | 132.0 | |
| MW-47 | 5/28/2024 | 10:42 | 20.4 | 6.99 | 564 | 62.9 | 4.68 | 148.0 | |
| MW-48 | 5/28/2024 | 8:55 | 20.1 | 7.92 | 387.1 | 36 | 1.75 | 79.0 | |
| MW-49 | 5/28/2024 | 12:19 | 22.8 | 7.16 | 580 | 80.7 | 5.20 | 149.0 | |
| MW-50 | 5/28/2024 | 13:04 | 21.6 | 7.10 | 715 | 254 | 3.90 | 131.0 | |
| MW-51 | 5/28/2024 | 13:38 | 26.1 | 7.14 | 786 | 89.7 | 4.64 | 119.8 | |
| MW-52 | 5/28/2024 | 14:09 | 22.7 | 6.91 | 805 | 168 | 2.03 | 126.0 | |
| MW-53 | 5/28/2024 | 12:01 | 22.1 | 7.50 | 560 | 220 | 1.34 | 64.1 | |
| MW-54 | 5/28/2024 | 12:03 | 18.1 | 7.95 | 486 | 6 | 0.46 | -121.7 | |
| MW-55 | 5/28/2024 | 12:52 | 24.2 | 8.76 | 467 | 25 | 0.76 | 20.1 | |
| MW-56 | 5/28/2024 | 9:36 | 20.3 | 7.47 | 550 | 32 | 5.28 | 96.5 | |
| MW-57 | 5/28/2024 | 15:15 | 25.1 | 7.48 | 456 | 230 | 3.33 | 100.2 | |
| MW-58 | 5/28/2024 | 11:05 | 23.2 | 7.05 | 1040 | 210 | 3.18 | -48.2 | Grab |
| MW-59 | 5/28/2024 | 8:28 | 19.2 | 6.69 | 668 | 52.4 | 0.75 | 140 | |
| MW-60 | 5/28/2024 | 15:16 | 21.4 | 6.82 | 1095 | 179 | 3.06 | 147 | |
| MW-61 | 6/3/2024 | 13:08 | 21.4 | 7.28 | 647 | 82.8 | 2.39 | 49.3 | |
| MW-62 | 6/3/2024 | 11:36 | 19.9 | 7.30 | 1086 | 81.9 | 1.62 | 110.3 | |
| MW-63 | 6/3/2024 | 10:24 | 19.0 | 7.27 | 746 | 163 | 2.30 | 99.8 | |
| MW-64 | 6/3/2024 | 8:51 | 19.6 | 7.97 | 534 | 380 | 0.50 | -332.8 | |
| MW-66 | 6/3/2024 | 14:54 | 21.0 | 7.12 | 685 | >1000 | 4.57 | 124.9 | |

**Definitions:**

amsl - above mean sea level
bgs - below ground surface
btoc - below top of casing
DO - dissolved oxygen
EC - electrical conductivity
mS/cm - milliSiemens per centimeter
NTU - Nephelometric Turbidity Units
ORP - oxidation-reduction potential

## Table 5a. Project Screening Levels (Groundwater)

| Analyte | CAS Number | Units | USEPA RSL | DTSC-SL | CA MCL | PSL[1] | PSL Reference |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | µg/L | 280 | 130 | 6.0 | 6.0 | CA MCL |
| 1,4-Dichlorobenzene | 106-46-7 | µg/L | 0.48 | - | 5.0 | 5.0 | USEPA RSL |
| Benzene | 71-43-2 | µg/L | 0.46 | 0.15 | 1.0 | 1.0 | USEPA RSL |
| cis-1,2-Dichloroethene | 156-59-2 | µg/L | 25 | 12 | 6.0 | 6.0 | CA MCL |
| Ethylbenzene | 100-41-4 | µg/L | 1.5 | - | 300 | 300 | USEPA RSL |
| m,p-Xylene | 179601-23-1 | µg/L | 190 | - | 1,750 | 1,750 | USEPA RSL |
| o-Xylene | 95-47-6 | µg/L | 190 | - | 1,750 | 1,750 | USEPA RSL |
| Toluene | 108-88-3 | µg/L | 1,100 | 410 | 150 | 150 | CA MCL |
| trans-1,2-Dichloroethene | 156-60-5 | µg/L | 68 | 110 | 10 | 10 | CA MCL |
| Trichloroethene | 79-01-6 | µg/L | 0.49 | - | 5.0 | 5.0 | USEPA RSL |
| Vinyl chloride | 75-01-4 | µg/L | 0.019 | 0.0098 | 0.50 | 0.50 | USEPA RSL |

**Notes:**

1 - The PSL is the USEPA RSL. If there is no USEPA RSL, the DTSC-SL is used. If the CA MCL is lower than the selected value, the CA MCL is used instead.

**Definitions:**

CA MCL - California Maximum Contaminant Level.
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/MCLsandPHGs.html.
Accessed 26 July 2024

DTSC-SL = California Department of Toxic Substances Control May 2022 tapwater screening levels.

PSL - Project Screening Level

USEPA RSL = USEPA May 2024 tapwater Regional Screening Level. Target HQ = 1.

## Table 5b. Project Screening Levels (Soil Vapor)

| Analyte | CAS Number | Units | USEPA VISL | DTSC-SL[1] | PSL[2] | PSL Reference |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | µg/m$^3$ | 7,000 | 2,433 | 7,000 | USEPA VISL |
| 1,4-Dichlorobenzene | 106-46-7 | µg/m$^3$ | 8.5 | - | 8.5 | USEPA VISL |
| Benzene | 71-43-2 | µg/m$^3$ | 12 | 3.2 | 12 | USEPA VISL |
| cis-1,2-Dichloroethene | 156-59-2 | µg/m$^3$ | 1,400 | 277 | 1,400 | USEPA VISL |
| Ethylbenzene | 100-41-4 | µg/m$^3$ | 37 | - | 37 | USEPA VISL |
| m,p-Xylene | 108-38-3 | µg/m$^3$ | 3,500 | - | 3,500 | USEPA VISL |
| o-Xylene | 95-47-6 | µg/m$^3$ | 3,500 | - | 3,500 | USEPA VISL |
| Toluene | 108-88-3 | µg/m$^3$ | 170,000 | 10,000 | 170,000 | USEPA VISL |
| trans-1,2-Dichloroethene | 156-60-5 | µg/m$^3$ | 1,400 | 2,767 | 1,400 | USEPA VISL |
| Trichloroethene | 79-01-6 | µg/m$^3$ | 16 | - | 16 | USEPA VISL |
| Vinyl chloride | 75-01-4 | µg/m$^3$ | 5.6 | 0.32 | 5.6 | USEPA VISL |

**Notes:**

1 - DTSC-SLs have been divided by default USEPA (2015) attenuation factor of 0.03, which is equivalent to the method used to derive USEPA VISLs.

2 - The PSL is the USEPA VISL. If no USEPA RSL is abailable, the DTSC-SL is used.

**Definitions:**

DTSC-SL = California Department of Toxic Substances Control May 2022 residential air screening levels

PSL - Project Screening Level

USEPA VISL = USEPA residential sub-slab soil gas vapor intrusion screening level (target HQ = 1). Calculated 28 December 2023.

**References:**

USEPA (U.S. Environmental Protection Agency). 2015. OSWER technical guide for assessing and mitigating the vapor intrusion pathway from subsurface vaporsources to indoor air. OSWER Publication 9200.2-154.

## Table 6a. Groundwater Analytical Results

| Sample Location | | | Groundwater Screening Level[1] | EW-1 | MW-11 | MW-16 | MW-16 | MW-17 | MW-19 | MW-22 | MW-29 | MW-30 | MW-30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Collection Date | | | | 05/29/2024 | 05/30/2024 | 05/30/2024 | 05/30/2024 | 05/30/2024 | 05/28/2024 | 05/28/2024 | 05/30/2024 | 05/30/2024 | 05/30/2024 |
| Sample Depth (ft bgs) | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sample Type | | | | N | N | N | FD | N | N | N | N | N | FD |
| Analyte | Method | Units | | T1AMF-EW001-MAY24 | T1AMF-MW011-MAY24 | T1AMF-MW016-MAY24 | T1AMF-MW016-MAY24_FD | T1AMF-MW017-MAY24 | T1AMF-MW019-MAY24 | T1AMF-MW022-MAY24 | T1AMF-MW029-MAY24 | T1AMF-MW030-MAY24 | T1AMF-MW030-MAY24_FD |
| 1,1-Dichloroethene | SW8260C | µg/L | 6.0 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,4-Dichlorobenzene | SW8260C | µg/L | 0.48 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Benzene | SW8260C | µg/L | 0.46 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| cis-1,2-Dichloroethene | SW8260C | µg/L | 6.0 | **11** | 0.62 J | 0.60 J | 0.63 J | 0.19 J | 0.31 J | 0.97 J | 1.3 | 0.20 U | 0.20 U |
| Ethylbenzene | SW8260C | µg/L | 1.5 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| m,p-Xylene | SW8260C | µg/L | 190 | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| o-Xylene | SW8260C | µg/L | 190 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Toluene | SW8260C | µg/L | 150 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| trans-1,2-Dichloroethene | SW8260C | µg/L | 10 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Trichloroethene (TCE) | SW8260C | µg/L | 0.49 | **320** | **5.4** | **2.9** | **2.8** | **3.9** | 0.35 J | **43** | **33** | 0.20 U | 0.20 U |
| Vinyl chloride | SW8260C | µg/L | 0.019 | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U |

**Definitions:**
bgs - below ground surface
ft - feet
µg/L - micrograms per liter

**Qualifiers:**
J - estimated
U - non-detect at the indicated limit of detection

**Sample types:**
N - Normal, or parent sample
FD - Field duplicate

**Notes:**
1 - see Table 5a for derivation of screening levels
Results in **bold** exceed the screening level
Results in grey are non-detect

## Table 6a. Groundwater Analytical Results

| Sample Location | | | Groundwater Screening Level[1] | MW-35 | MW-35 | MW-42 | MW-43 | MW-44 | MW-45 | MW-46 | MW-47 | MW-48 | MW-49 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Collection Date | | | | 05/31/2024 | 05/31/2024 | 05/28/2024 | 05/28/2024 | 05/29/2024 | 05/28/2024 | 05/29/2024 | 05/29/2024 | 05/29/2024 | 05/30/2024 |
| Sample Depth (ft bgs) | | | | 0 | 0 | 0 | 10 - 20 | 0 | 20 - 30 | 0 | 0 | 20 - 30 | 20 - 30 |
| Sample Type | | | | N | FD | N | N | N | N | N | N | N | N |
| Analyte | Method | Units | | T1AMF-MW035_MAY24 | T1AMF-MW035_MAY24_FD | T1AMF-MW042-MAY24 | T1AMF-MW043-MAY24 | T1AMF-MW044-MAY24 | T1AMF-MW045-MAY24 | T1AMF-MW046-MAY24 | T1AMF-MW047-MAY24 | T1AMF-MW048-MAY24 | T1AMF-MW049-MAY24 |
| 1,1-Dichloroethene | SW8260C | µg/L | 6.0 | 0.20 U | 0.20 U | 0.20 U | 0.13 J | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,4-Dichlorobenzene | SW8260C | µg/L | 0.48 | 0.20 U | 0.20 U | 0.20 U | 0.2 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Benzene | SW8260C | µg/L | 0.46 | 0.20 U | 0.20 U | 0.20 U | 0.2 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| cis-1,2-Dichloroethene | SW8260C | µg/L | 6.0 | 1.3 | 1.3 | 1.0 | 1.4 | 2.1 | 5.7 | 2.6 | 1.0 | 0.20 U | 1.1 |
| Ethylbenzene | SW8260C | µg/L | 1.5 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| m,p-Xylene | SW8260C | µg/L | 190 | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| o-Xylene | SW8260C | µg/L | 190 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Toluene | SW8260C | µg/L | 150 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| trans-1,2-Dichloroethene | SW8260C | µg/L | 10 | 0.20 U | 0.20 U | 0.20 U | 0.14 J | 0.23 J | 0.34 J | 0.18 J | 0.30 J | 0.20 U | 0.20 U |
| Trichloroethene (TCE) | SW8260C | µg/L | 0.49 | **6.2** | **6.0** | **46** | **26** | **46** | **220** | **120** | **20** | 0.20 U | **71** |
| Vinyl chloride | SW8260C | µg/L | 0.019 | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | **0.12 J** | 0.30 U | 0.30 U | 0.30 U | 0.30 U |

**Definitions:**
bgs - below ground surface
ft - feet
µg/L - micrograms per liter

**Qualifiers:**
J - estimated
U - non-detect at the indicated limit of detection

**Sample types:**
N - Normal, or parent sample
FD - Field duplicate

**Notes:**
1 - see Table 5a for derivation of screening levels
Results in **bold** exceed the screening level

Results in grey are non-detect

## Table 6a. Groundwater Analytical Results

| Sample Location | | | Groundwater Screening Level[1] | MW-50 | MW-51 | MW-52 | MW-52 | MW-53 | MW-54 | MW-55 | MW-56 | MW-57 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Collection Date | | | | 05/29/2024 | 05/31/2024 | 05/29/2024 | 05/29/2024 | 05/31/2024 | 05/28/2024 | 05/28/2024 | 05/29/2024 | 05/30/2024 |
| Sample Depth (ft bgs) | | | | 0 | 20 - 30 | 0 | 0 | 0 | 12 - 22 | 10 - 20 | 20 - 30 | 0 |
| Sample Type | | | | N | N | N | FD | N | N | N | N | N |
| Analyte | Method | Units | | T1AMF-MW050-MAY24 | T1AMF-MW051_MAY24 | T1AMF-MW052-MAY24 | T1AMF-MW052-MAY24_FD | T1AMF-MW053_MAY24 | T1AMF-MW054-MAY24 | T1AMF-MW055-MAY24 | T1AMF-MW056-MAY24 | T1AMF-MW057-MAY24 |
| 1,1-Dichloroethene | SW8260C | µg/L | 6.0 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,4-Dichlorobenzene | SW8260C | µg/L | 0.48 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Benzene | SW8260C | µg/L | 0.46 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| cis-1,2-Dichloroethene | SW8260C | µg/L | 6.0 | 0.56 J | 0.11 J | 0.42 J | 0.37 J | 0.20 U | 0.70 J | 0.20 U | 0.20 J | 0.20 U |
| Ethylbenzene | SW8260C | µg/L | 1.5 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| m,p-Xylene | SW8260C | µg/L | 190 | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| o-Xylene | SW8260C | µg/L | 190 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Toluene | SW8260C | µg/L | 150 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| trans-1,2-Dichloroethene | SW8260C | µg/L | 10 | 0.14 J | 0.20 U | 0.31 J | 0.34 J | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Trichloroethene (TCE) | SW8260C | µg/L | 0.49 | **14** | **9.3** | **5.0** | **5.3** | 0.20 U | 0.35 J | 0.20 U | **13** | 0.20 U |
| Vinyl chloride | SW8260C | µg/L | 0.019 | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U |

**Definitions:**
bgs - below ground surface
ft - feet
µg/L - micrograms per liter

**Qualifiers:**
J - estimated
U - non-detect at the indicated limit of detection

**Sample types:**
N - Normal, or parent sample
FD - Field duplicate

**Notes:**
1 - see Table 5a for derivation of screening levels
Results in **bold** exceed the screening level

Results in grey are non-detect

## Table 6a. Groundwater Analytical Results

| Sample Location | | | Groundwater Screening Level[1] | MW-58 | MW-59 | MW-60 | MW-61 | MW-62 | MW-63 | MW-64 | MW-66 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Collection Date | | | | 05/31/2024 | 05/29/2024 | 05/29/2024 | 06/03/2024 | 06/03/2024 | 06/03/2024 | 06/03/2024 | 06/03/2024 |
| Sample Depth (ft bgs) | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sample Type | | | | N | N | N | N | N | N | N | N |
| Analyte | Method | Units | | T1AMF-MW058_MAY24 | T1AMF-MW059-MAY24 | T1AMF-MW060-MAY24 | T1AMF-MW061_JUN24 | T1AMF-MW062_JUN24 | T1AMF-MW063_JUN24 | T1AMF-MW064_JUN24 | T1AMF-MW066_JUN24 |
| 1,1-Dichloroethene | SW8260C | µg/L | 6.0 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| 1,4-Dichlorobenzene | SW8260C | µg/L | 0.48 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Benzene | SW8260C | µg/L | 0.46 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| cis-1,2-Dichloroethene | SW8260C | µg/L | 6.0 | 0.20 U | 0.29 J | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Ethylbenzene | SW8260C | µg/L | 1.5 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| m,p-Xylene | SW8260C | µg/L | 190 | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| o-Xylene | SW8260C | µg/L | 190 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Toluene | SW8260C | µg/L | 150 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| trans-1,2-Dichloroethene | SW8260C | µg/L | 10 | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Trichloroethene (TCE) | SW8260C | µg/L | 0.49 | 0.11 J | **7.0** | **2.0** | 0.20 U | 0.20 U | 0.20 U | 0.20 U | 0.20 U |
| Vinyl chloride | SW8260C | µg/L | 0.019 | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 0.30 U |

**Definitions:**
bgs - below ground surface
ft - feet
µg/L - micrograms per liter

**Qualifiers:**
J - estimated
U - non-detect at the indicated limit of detection

**Sample types:**
N - Normal, or parent sample
FD - Field duplicate

**Notes:**
1 - see Table 5a for derivation of screening levels
Results in **bold** exceed the screening level

Results in grey are non-detect

## Table 6b. Soil Vapor Analytical Results

| Sample Location | | | Soil Vapor Screening Level[1] | SV-1 | SV-2 | SV-3 | SV-4 | SV-5B | SV-6 | SV-7 | SV-8 | SV-9B | SV-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Collection Date | | | | 05/28/2024 | 05/31/2024 | 06/03/2024 | 05/30/2024 | 05/30/2024 | 05/30/2024 | 05/30/2024 | 05/30/2024 | 06/06/2024 | 06/03/2024 |
| Sample Depth (ft bgs) | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sample Type | | | | N | N | N | N | N | N | N | N | N | N |
| Analyte | Method | Units | | T1AMF-SV001_May24 | T1AMF-SV002_May24 | T1AMF-SV003_JUN24 | T1AMF-SV004_May24 | T1AMF-SV005B_May24 | T1AMF-SV006_May24 | T1AMF-SV007_May24 | T1AMF-SV008_May24 | T1AMF-SV009B_JUN24 | T1AMF-SV010_JUN24 |
| 1,1-Dichloroethene | TO-15 | µg/m$^3$ | 7,000 | 17 U | 4.1 U | 4.0 U | 4.2 U | 4.5 U | 4.1 U | 3.9 U | 4.2 U | 4.1 U | 3.5 U |
| 1,4-Dichlorobenzene | TO-15 | µg/m$^3$ | 8.5 | 25 U | 6.2 U | 6.1 U | 6.4 U | 6.8 U | 6.2 U | 6.0 U | 6.4 U | 6.2 U | 5.3 U |
| Benzene | TO-15 | µg/m$^3$ | 12 | 14 U | 3.3 U | 3.2 U | 3.4 U | 3.6 U | 3.3 U | 3.2 U | 3.4 U | 3.3 U | 2.8 U |
| cis-1,2-Dichloroethene | TO-15 | µg/m$^3$ | 1,400 | 4.7 J | 4.1 U | 4.0 U | 4.2 U | 4.5 U | 4.1 U | 3.9 U | 4.2 U | 4.1 U | 3.5 U |
| Ethylbenzene | TO-15 | µg/m$^3$ | 37 | 18 U | 4.4 U | 4.4 U | 4.6 U | 4.9 U | 4.5 U | 4.3 U | 4.6 U | 4.5 U | 3.8 U |
| m,p-Xylene | TO-15 | µg/m$^3$ | 3,500 | 18 U | 4.4 U | 1.4 J | 1.2 J | 1.9 J | 4.5 U | 4.3 U | 3.3 J | 4.5 U | 1.2 J |
| o-Xylene | TO-15 | µg/m$^3$ | 3,500 | 18 U | 4.4 U | 4.4 U | 4.6 U | 4.9 U | 4.5 U | 4.3 U | 1.9 J | 4.5 U | 3.8 U |
| Toluene | TO-15 | µg/m$^3$ | 170,000 | 16 U | 3.9 U | 1.5 J | 4.0 U | 4.2 U | 3.9 U | 3.7 U | 2.1 J | 3.9 U | 1.0 J |
| trans-1,2-Dichloroethene | TO-15 | µg/m$^3$ | 1,400 | 17 U | 4.1 U | 4.0 U | 4.2 U | 4.5 U | 4.1 U | 3.9 U | 4.2 U | 4.1 U | 3.5 U |
| Trichloroethene (TCE) | TO-15 | µg/m$^3$ | 16 | **6,000** | 2.3 J | 5.4 U | 3.2 J | **110** | 2.8 J | 5.3 U | 5.8 U | 11 | 4.7 U |
| Vinyl chloride | TO-15 | µg/m$^3$ | 5.6 | 11 U | 2.6 U | 2.6 U | 2.7 U | 2.9 U | 2.6 U | 2.5 U | 2.7 U | 2.6 U | 2.2 U |

**Definitions:**

bgs - below ground surface

ft - feet

µg/m$^3$ - micrograms per cubic meter

**Qualifiers:**

J - estimated

U - non-detect at the indicated limit of detection

**Sample types:**

N - normal, or parent sample

FD - field duplicate

**Notes:**

1 - see Table 5b for derivation of screening levels

Results in **bold** exceed the screening level

Results in grey are non-detect

## Table 6b. Soil Vapor Analytical Results

| Sample Location | | | Soil Vapor Screening Level[1] | SV-15B | SV-16 | SV-17B | SV-18 | SV-19 | SV-20 | SV-22 | SV-23 | SV-23 | SV-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Collection Date | | | | 05/31/2024 | 05/30/2024 | 05/29/2024 | 05/28/2024 | 05/31/2024 | 05/29/2024 | 05/29/2024 | 05/29/2024 | 05/29/2024 | 05/29/2024 |
| Sample Depth (ft bgs) | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sample Type | | | | N | N | N | N | N | N | N | N | FD | N |
| Analyte | Method | Units | | T1AMF-SV015B_May24 | T1AMF-SV016_May24 | T1AMF-SV017B_May24 | T1AMF-SV018_May24 | T1AMF-SV019_May24 | T1AMF-SV020_May24 | T1AMF-SV022_May24 | T1AMF-SV023_May24 | T1AMF-SV023_May24_FD | T1AMF-SV024_May24 |
| 1,1-Dichloroethene | TO-15 | µg/m$^3$ | 7,000 | 3.8 U | 4.2 U | 4.8 U | 3.8 U | 4.0 U | 6.2 U | 21 U | 3.9 U | 3.6 U | 18 U |
| 1,4-Dichlorobenzene | TO-15 | µg/m$^3$ | 8.5 | 5.8 U | 6.3 U | 7.3 U | 5.7 U | 6.1 U | 9.4 U | 32 U | 5.9 U | 5.4 U | 27 U |
| Benzene | TO-15 | µg/m$^3$ | 12 | 3.1 U | 3.4 U | 3.9 U | 3.0 U | 3.2 U | 3.7 J | 17 U | 3.1 U | 2.9 U | 14 U |
| cis-1,2-Dichloroethene | TO-15 | µg/m$^3$ | 1,400 | 3.8 U | 4.2 U | 4.8 U | 3.8 U | 4.0 U | 6.2 U | 30 | 3.9 U | 3.6 U | 18 U |
| Ethylbenzene | TO-15 | µg/m$^3$ | 37 | 4.2 U | 4.6 U | 5.3 U | 4.1 U | 4.4 U | 2.1 J | 23 U | 4.3 U | 1.2 J | 20 U |
| m,p-Xylene | TO-15 | µg/m$^3$ | 3,500 | 4.2 U | 4.6 U | 5.3 U | 4.1 U | 0.87 J | 3.5 J | 23 U | 3.1 J | 3.7 J | 20 U |
| o-Xylene | TO-15 | µg/m$^3$ | 3,500 | 4.2 U | 4.6 U | 5.3 U | 4.1 U | 4.4 U | 6.8 U | 23 U | 1.3 J | 1.8 J | 20 U |
| Toluene | TO-15 | µg/m$^3$ | 170,000 | 3.6 U | 4.0 U | 4.6 U | 3.6 U | 3.8 U | 5.9 J | 20 U | 3.0 J | 4.1 J | 17 U |
| trans-1,2-Dichloroethene | TO-15 | µg/m$^3$ | 1,400 | 3.8 U | 4.2 U | 4.8 U | 3.8 U | 4.0 U | 6.2 U | 21 U | 3.9 U | 3.6 U | 18 U |
| Trichloroethene (TCE) | TO-15 | µg/m$^3$ | 16 | 5.2 U | **140** | **23** | 5.1 U | 4.8 J | **390** | **7,200** | 5.3 U | 4.8 U | **6,300** |
| Vinyl chloride | TO-15 | µg/m$^3$ | 5.6 | 2.4 U | 2.7 U | 3.1 U | 2.4 U | 2.6 U | 4.0 U | 14 U | 2.5 U | 2.3 U | 12 U |

**Definitions:**

bgs - below ground surface

ft - feet

µg/m$^3$ - micrograms per cubic meter

**Qualifiers:**

J - estimated

U - non-detect at the indicated limit of detection

**Sample types:**

N - normal, or parent sample

FD - field duplicate

**Notes:**

1 - see Table 5b for derivation of screening levels

Results in **bold** exceed the screening level

Results in grey are non-detect

## Table 6b. Soil Vapor Analytical Results

| Sample Location | | | Soil Vapor Screening Level[1] | SV-25 | SV-26 | SV-26 | SV-27 | SV-28 | SV-28 | SV-29 | SV-30 | SV-31 | SV-32A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Collection Date | | | | 05/31/2024 | 05/29/2024 | 05/29/2024 | 06/03/2024 | 06/03/2024 | 06/03/2024 | 06/03/2024 | 06/03/2024 | 06/03/2024 | 06/06/2024 |
| Sample Depth (ft bgs) | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sample Type | | | | N | N | FD | N | N | FD | N | N | N | N |
| Analyte | Method | Units | | T1AMF-SV025_May24 | T1AMF-SV026_May24 | T1AMF-SV026_May24_FD | T1AMF-SV027_JUN24 | T1AMF-SV028_JUN24 | T1AMF-SV028_JUN24_FD | T1AMF-SV029_JUN24 | T1AMF-SV030_JUN24 | T1AMF-SV031_JUN24 | T1AMF-SV032A_JUN24 |
| 1,1-Dichloroethene | TO-15 | µg/m$^3$ | 7,000 | 4.1 U | 4.0 U | 4.5 U | 6.0 U | 3.8 U | 4.0 U | 12 U | 3.7 U | 5.8 U | 8.4 U |
| 1,4-Dichlorobenzene | TO-15 | µg/m$^3$ | 8.5 | 6.2 U | 6.1 U | 6.8 U | 9.1 U | 5.8 U | 6.1 U | 17 U | 5.6 U | 8.8 U | 13 U |
| Benzene | TO-15 | µg/m$^3$ | 12 | 3.3 U | 3.2 U | 3.6 U | 7.4 | **86** | **84** | **53** | 9.4 | **14** | 3.5 J |
| cis-1,2-Dichloroethene | TO-15 | µg/m$^3$ | 1,400 | 4.1 U | 4.0 U | 4.5 U | 6.0 U | 3.8 U | 4.0 U | 12 U | 3.7 U | 5.8 U | 8.4 U |
| Ethylbenzene | TO-15 | µg/m$^3$ | 37 | 4.5 U | 4.4 U | 4.9 U | 3.0 J | 12 | 11 | 9.2 J | 6.0 | 3.6 J | 9.3 U |
| m,p-Xylene | TO-15 | µg/m$^3$ | 3,500 | 0.98 J | 3.0 J | 1.9 J | 7.9 J | 19 | 21 | 24 J | 11 | 8.9 J | 4.0 J |
| o-Xylene | TO-15 | µg/m$^3$ | 3,500 | 4.5 U | 1.2 J | 4.9 U | 3.2 J | 5.4 | 5.2 | 8.4 J | 4.2 J | 3.8 J | 9.3 U |
| Toluene | TO-15 | µg/m$^3$ | 170,000 | 3.9 U | 1.7 J | 1.3 J | 23 | 27 | 28 | 74 | 37 | 32 | 12 J |
| trans-1,2-Dichloroethene | TO-15 | µg/m$^3$ | 1,400 | 4.1 U | 4.0 U | 4.5 U | 6.0 U | 3.8 U | 4.0 U | 12 U | 3.7 U | 5.8 U | 8.4 U |
| Trichloroethene (TCE) | TO-15 | µg/m$^3$ | 16 | 2.2 J | **1,100** | **1,000** | 8.2 U | 5.2 U | 5.5 U | 16 U | 5.0 U | 7.8 U | **2,900** |
| Vinyl chloride | TO-15 | µg/m$^3$ | 5.6 | 2.6 U | 2.6 U | 2.9 U | 3.9 U | 2.5 U | 2.6 U | 7.4 U | 2.4 U | 3.7 U | 5.4 U |

**Definitions:**

bgs - below ground surface

ft - feet

µg/m$^3$ - micrograms per cubic meter

**Qualifiers:**

J - estimated

U - non-detect at the indicated limit of detection

**Sample types:**

N - normal, or parent sample

FD - field duplicate

**Notes:**

1 - see Table 5b for derivation of screening levels

Results in **bold** exceed the screening level

Results in grey are non-detect

## Table 6b. Soil Vapor Analytical Results

| Sample Location | | | Soil Vapor Screening Level[1] | SV-32B | SV-33 | SV-34 | SV-35 | SV-35 |
|---|---|---|---|---|---|---|---|---|
| Sample Collection Date | | | | 06/06/2024 | 05/28/2024 | 06/06/2024 | 06/06/2024 | 06/06/2024 |
| Sample Depth (ft bgs) | | | | 0 | 0 | 0 | 0 | 0 |
| Sample Type | | | | N | N | N | N | FD |
| Analyte | Method | Units | | T1AMF-SV032B_JUN24 | T1AMF-SV033_May24 | T1AMF-SV034_JUN24 | T1AMF-SV035_JUN24 | T1AMF-SV035_JUN24_FD |
| 1,1-Dichloroethene | TO-15 | µg/m$^3$ | 7,000 | 3.9 U | 4.2 U | 4.2 U | 3.7 U | 3.8 U |
| 1,4-Dichlorobenzene | TO-15 | µg/m$^3$ | 8.5 | 5.9 U | 6.4 U | 6.4 U | 5.7 U | 5.8 U |
| Benzene | TO-15 | µg/m$^3$ | 12 | 8.1 | **13** | **18** | 8.6 | 9.3 |
| cis-1,2-Dichloroethene | TO-15 | µg/m$^3$ | 1,400 | 3.9 U | 4.2 U | 4.2 U | 3.7 U | 3.8 U |
| Ethylbenzene | TO-15 | µg/m$^3$ | 37 | 3.3 J | 11 | 7.9 | 4.5 J | 4.7 |
| m,p-Xylene | TO-15 | µg/m$^3$ | 3,500 | 8.0 J | 36 | 27 | 12 | 13 |
| o-Xylene | TO-15 | µg/m$^3$ | 3,500 | 3.2 J | 12 | 17 | 5.3 | 5.7 |
| Toluene | TO-15 | µg/m$^3$ | 170,000 | 18 | 89 | 52 | 24 | 27 |
| trans-1,2-Dichloroethene | TO-15 | µg/m$^3$ | 1,400 | 3.9 U | 4.2 U | 4.2 U | 3.7 U | 3.8 U |
| Trichloroethene (TCE) | TO-15 | µg/m$^3$ | 16 | 9.2 | **68** | **44** | **1,500** | **1,500** |
| Vinyl chloride | TO-15 | µg/m$^3$ | 5.6 | 2.5 U | 2.7 U | 2.7 U | 2.4 U | 2.5 U |

**Definitions:**

bgs - below ground surface

ft - feet

µg/m$^3$ - micrograms per cubic meter

**Qualifiers:**

J - estimated

U - non-detect at the indicated limit of detection

**Sample types:**

N - normal, or parent sample

FD - field duplicate

**Notes:**

1 - see Table 5b for derivation of screening levels

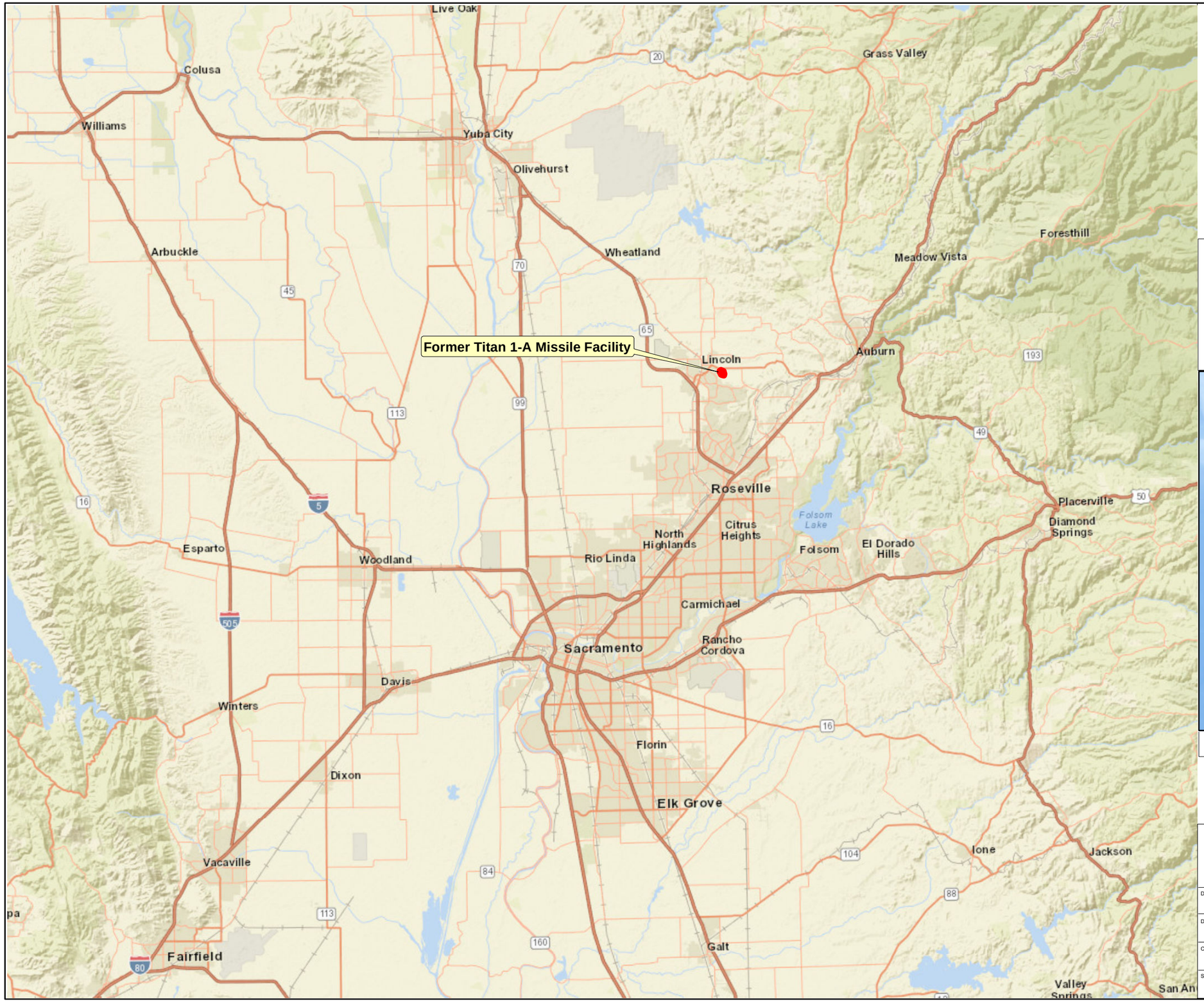
Results in **bold** exceed the screening level

Results in grey are non-detect

# Figures

Figure 1

# General Site Location
# Former Titan 1-A Missile Facility
# Lincoln, California
# FUDS Property No. J09CA1108




## Legend

Former Titan 1-A Missile Facility / FUDS Boundary




Site Location in California

5 2.5 0 5 Miles

N W E S

| | |
|---|---|
| PARSONS | U.S. Army Corps of Engineers Sacramento District |

| | | |
|---|---|---|
| DESIGNED BY: BT | General Site Location | |
| DRAWN BY: BT | | |
| CHECKED BY: MR | PROJECT TYPE: HTRW | PROJECT NUMBER: 100306.0044.110251.09000 |
| SUBMITTED BY: CR | PROJECT: J09CA1108-01 | PAGE NUMBER: |
| | DATE: January 2024 | |

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Figure 2

# Site Setting
# Former Titan 1-A Missile Facility
# Lincoln, California
# FUDS Property No. J09CA1108

193
Overland Ln
Snapdragon Pl
Oak Tree Ln
Orchid Ln
Periwinkle Ln
Chicory Ct
Lilac Ln
Valerian Ln
Daylily Ln
Belladonna Ln
Sun City Blvd
Snapdragon Ln

## Legend

Former Titan 1-A Missile Facility / FUDS Boundary




Site Location in California

300 150 0 300 Feet

N W E S

| | |
|---|---|
| PARSONS | U.S. Army Corps of Engineers Sacramento District |

| | | |
|---|---|---|
| DESIGNED BY: BT | Site Setting | |
| DRAWN BY: BT | | |
| CHECKED BY: MR | PROJECT TYPE: HTRW | PROJECT NUMBER: 100306.0044.110251.09000 |
| SUBMITTED BY: CR | PROJECT: J09CA1108-01 | PAGE NUMBER: |
| | DATE: April 2024 | |

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Figure 3

# Groundwater Well Locations
# Former Titan 1-A Missile Facility
# Lincoln, California
# FUDS Property No. J09CA1108




## Legend

- Extraction Well
- Monitoring Well
- Fence
- Parcel Boundary
- Former Titan 1-A Missile Facility / FUDS Boundary
- Ephemeral/Seasonal Streams and Surface Water Bodies
- Ephemeral stream




Site Location in California

300 150 0 300 Feet

N W E S

| | |
|---|---|
| PARSONS | U.S. Army Corps of Engineers Sacramento District |

| | | |
|---|---|---|
| DESIGNED BY: BT | Groundwater Well Locations | |
| DRAWN BY: BT | | |
| CHECKED BY: MR | PROJECT TYPE: HTRW | PROJECT NUMBER: 100306.0044.110251.01000 |
| SUBMITTED BY: CR | PROJECT: J09CA1108-01 | PAGE NUMBER: |
| | DATE: June 2024 | |

FILE: X:\gis\Other_sites\Maps\Titan1A\UFP-QAPP

Figure 4

# Soil Vapor Probe Locations
# Former Titan 1-A Missile Facility
# Lincoln, California
# FUDS Property No. J09CA1108




## Legend

- Soil Vapor Probe
- Fence
- Parcel Boundary
- Former Titan 1-A Missile Facility / FUDS Boundary
- Ephemeral/Seasonal Streams and Surface Water Bodies
- Ephemeral stream




Site Location in California

300 150 0 300 Feet

N W E S

| | |
|---|---|
| PARSONS | U.S. Army Corps of Engineers<br>Sacramento District |

| | | |
|---|---|---|
| DESIGNED BY: BT | Soil Vapor Probe Locations | |
| DRAWN BY: BT | | |
| CHECKED BY: MR | PROJECT TYPE: HTRW | PROJECT NUMBER: 100306.0044.110251.01000 |
| SUBMITTED BY: CR | PROJECT: J09CA1108-01 | PAGE NUMBER: |
| | DATE: June 2024 | |

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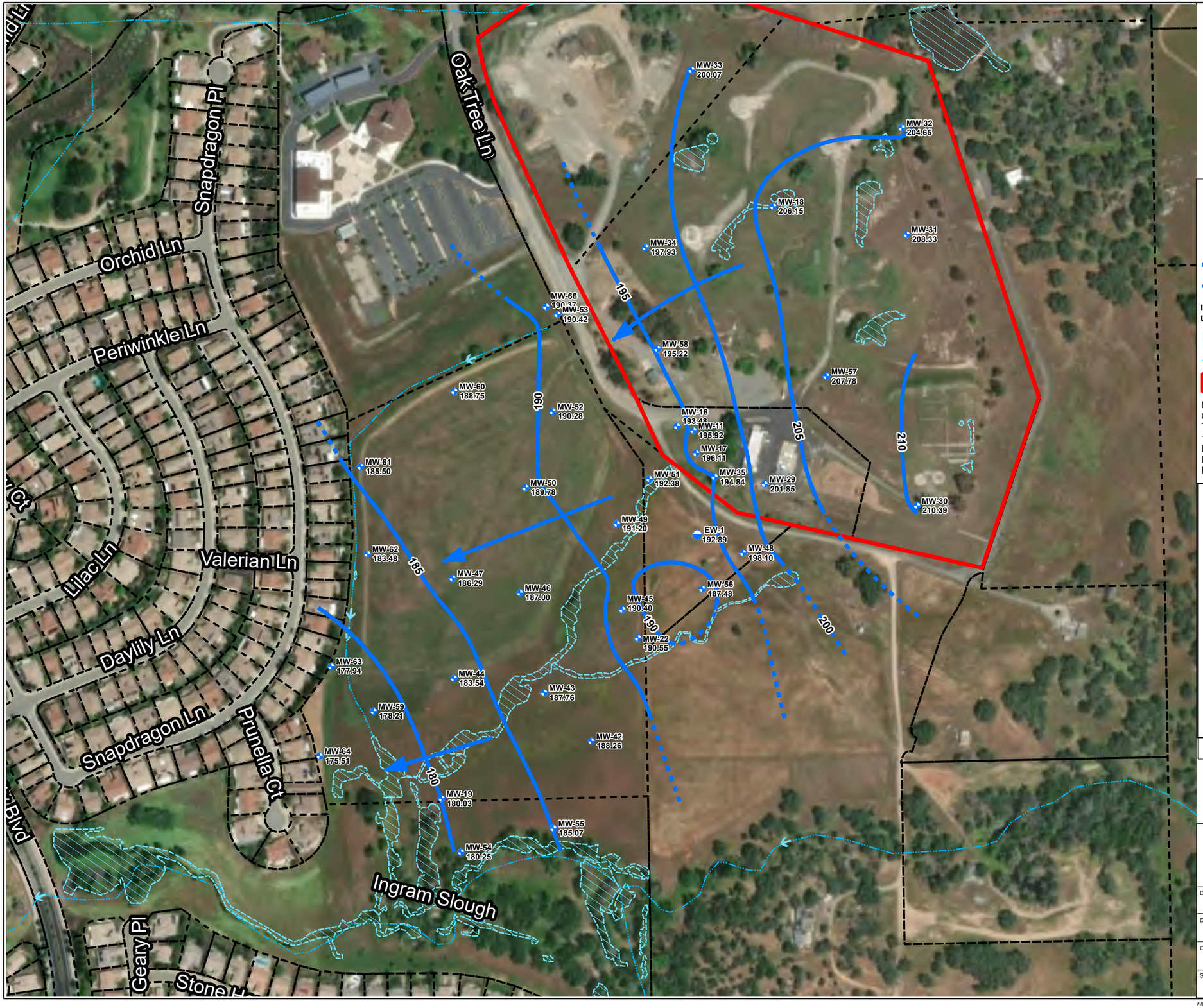
Figure 5

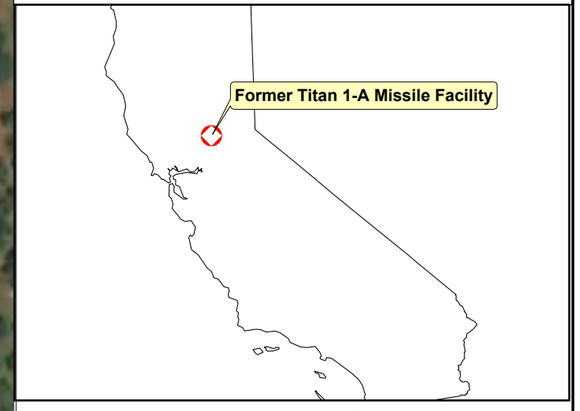
# Groundwater Elevations and Contours
# 1st Semi-Annual Sampling Event 2024
# Former Titan 1-A Missile Facility
# Lincoln, California
# FUDS Property No. J09CA1108




## Legend

- Extraction Well
- Monitoring Well
- Ground water Elevation Contour (feet above mean sea level), dashed where estimated
- Direction of Groundwater Flow
- Parcel Boundary
- Ephemeral/Seasonal Streams and Surface Water Bodies
- Ephemeral stream
- Former Titan 1-A Missile Facility / FUDS Boundary

Note:
Groundwater Elevations are in feet above mean sea level.
The groundwater elevation contours and groundwater flow directions are from:
1st Semi-Annual Sampling Event 2024.
Beale Air Force Base (AFB) Former Titan 1-A Missile Facility, Formerly Used Defense Site (FUDS), Placer County, Lincoln, California
FUDS Project J09CA1108-01.




Site Location in California

300 150 0 300 Feet

N W E S

| | |
|---|---|
| PARSONS | U.S. Army Corps of Engineers Sacramento District |

| | | |
|---|---|---|
| DESIGNED BY: BT | Groundwater Elevations and Contours 1st Semi-Annual Sampling Event 2024 | |
| DRAWN BY: BT | | |
| CHECKED BY: MR | PROJECT TYPE: HTRW | PROJECT NUMBER: 100306.0044.110251.01000 |
| SUBMITTED BY: CR | PROJECT: J09CA1108-01 | PAGE NUMBER: |
| | DATE: January 2025 | |

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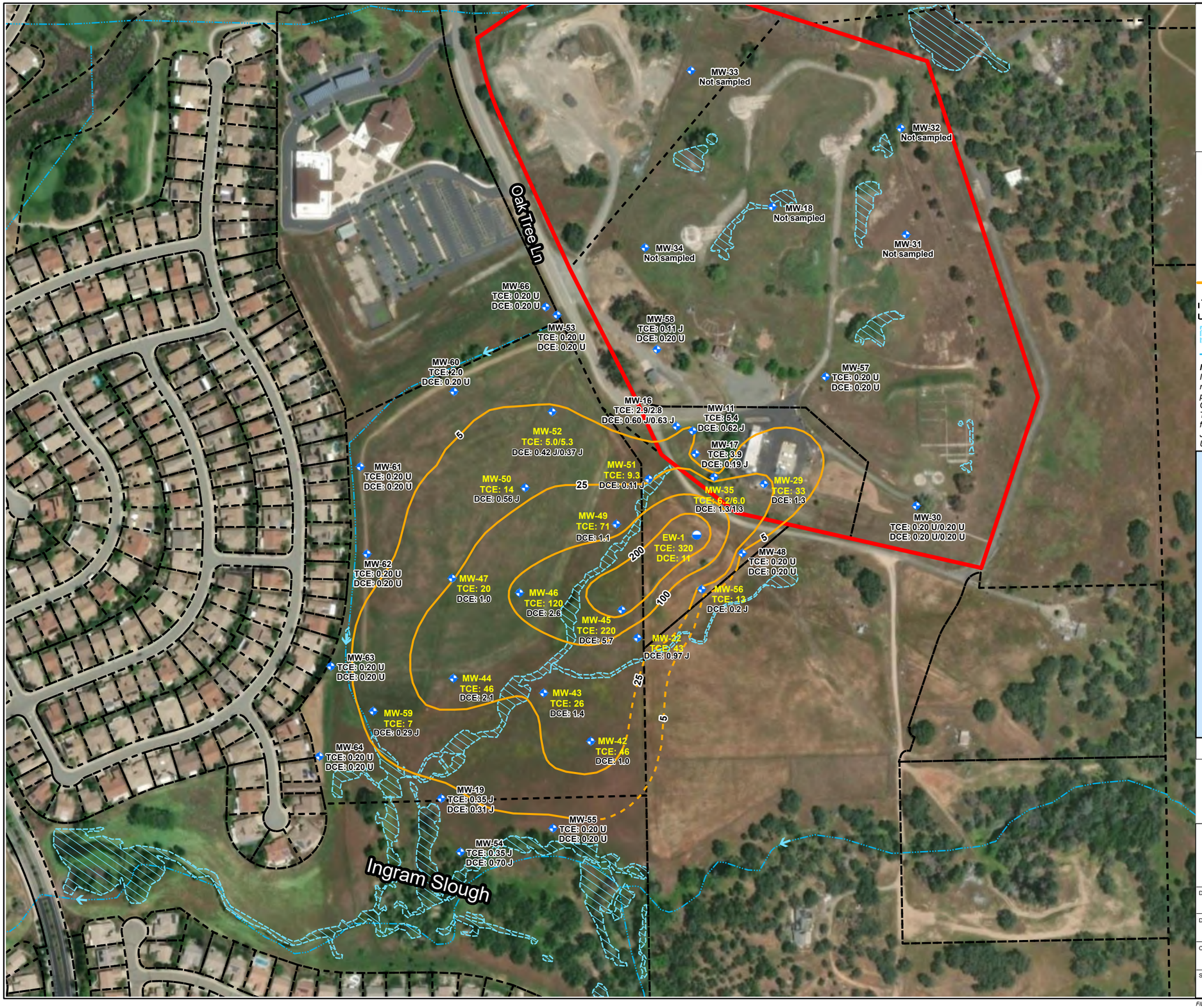
Figure 6

# Trichloroethene and cis-1,2-Dichloroethene in Groundwater, 1st Semi-Annual Sampling Event 2024 Former Titan 1-A Missile Facility Lincoln, California FUDS Property No. J09CA1108



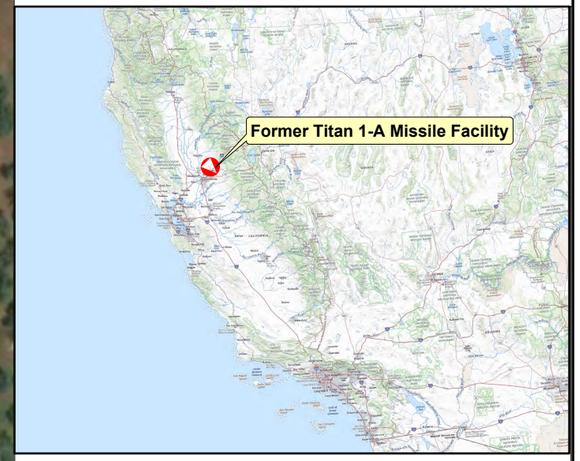

## Legend

- Extraction well
- Monitoring Well

Trichloroethene (TCE) and cis-1,2-dichloroethene (DCE) concentrations shown below the extraction/monitoring well ID in µg/L. Results greater than the California Maximum Contaminant Level for TCE (5 ug/L) or cis-1-2-DCE (6 ug/L) are shown in yellow.

- TCE Isoconcentration line (µg/L), dashed where inferred
- Parcel Boundary
- Ephemeral/Seasonal Streams and Surface Water Bodies
- Ephemeral stream

***Note:***
*Isoconcentration contours are interpolations predicted using state-of-the-practice mathematical models — they are modeled (approximated) concentration contours and are only intended to provide a rough visualization of the approximated concentration boundaries.*
*Contours are dashed where inferred.*
*The concentrations provided as #/# are the normal sample result followed by the field duplicate result.*
*J = Estimated value*
*U = not detected at the indicated Limit of Detection*




Site Location in California

300 150 0 300 Feet

N W E S

| | |
|---|---|
| PARSONS | U.S. Army Corps of Engineers Sacramento District |

| | | | |
|---|---|---|---|
| DESIGNED BY: BT | Trichloroethene and cis-1,2-Dichloroethene in Groundwater, 1st Semi-Annual Sampling Event 2024 | | |
| DRAWN BY: BT | | | |
| CHECKED BY: MR | PROJECT TYPE: HTRW | PROJECT NUMBER: 100306.0044.110251.09000 | |
| SUBMITTED BY: CR | PROJECT: J09CA1108-01 | PAGE NUMBER: | |
| | DATE: November 2024 | | |

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Figure 7

# Trichloroethene in Soil Vapor, 1st Semi-Annual Sampling Event 2024 Former Titan 1-A Missile Facility Lincoln, California FUDS Property No. J09CA1108

## Legend

- Soil Vapor Probe. Trichloroethene concentration shown below soil vapor probe ID in µg/m$^3$. Results greater than the vapor intrusion screening level of 16 µg/m$^3$ are shown in yellow.
- TCE Isoconcentration line (µg/m$^3$), dashed where inferred
- Parcel Boundary
- Ephemeral/Seasonal Streams and Surface Water Bodies
- Ephemeral stream
- Former Titan 1-A Missile Facility / FUDS Boundary

***Note:***
*Isoconcentration contours are interpolations predicted using state-of-the-practice mathematical models — they are modeled (approximated) concentration contours and are only intended to provide a rough visualization of the approximated concentration boundaries. A dashed contour is drawn to show the inferred TCE concentrations.*
*The concentrations provided as #/# are the normal sample result followed by the field duplicate result.*
*J = Estimated value*
*U = not detected at the indicated Limit of Detection*




Site Location in California

300 150 0 300 Feet

N W E S

| | |
|---|---|
| PARSONS | U.S. Army Corps of Engineers Sacramento District |

| | |
|---|---|
| DESIGNED BY: BT | **Trichloroethene in Soil Vapor, 1st Semi-Annual Sampling Event 2024** |
| DRAWN BY: BT | |
| CHECKED BY: MR | PROJECT TYPE: HTRW — PROJECT NUMBER: 100306.0044.110251.01000 |
| SUBMITTED BY: CR | PROJECT: J09CA1108-01 — PAGE NUMBER: — DATE: November 2024 |

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Figure 8

# Benzene in Soil Vapor, 1st Semi-Annual Sampling Event 2024 Former Titan 1-A Missile Facility Lincoln, California FUDS Property No. J09CA1108

## Legend

- Soil Vapor Probe. Benzene concentration shown below soil vapor probe in µg/m$^3$. Results greater than the intrusion screening level of 12 µg/m$^3$ are shown in yellow.
- Parcel Boundary
- Ephemeral/Seasonal Streams and Surface Water Bodies
- Ephemeral stream
- Former Titan 1-A Missile Facility / FUDS Boundary

***Note:***
*The concentrations provided as #/# are the normal sample result followed by the field duplicate result.*
*J = Estimated value*
*U = not detected at the indicated Limit of Detection*




Site Location in California

Feet
300 150 0 300

N W E S

PARSONS

U.S. Army Corps of Engineers Sacramento District

| | |
|---|---|
| DESIGNED BY: BT | **Benzene in Soil Vapor, 1st Semi-Annual Sampling Event 2024** |
| DRAWN BY: BT | |
| CHECKED BY: MR | PROJECT TYPE: HTRW — PROJECT NUMBER: 100306.0044.110251.01000 |
| SUBMITTED BY: CR | PROJECT: J09CA1108-01 — PAGE NUMBER: — DATE: August 2024 |

FILE: X:\gis\Other_sites\Maps\Titan1A\UFP-QAPP

# Appendix A – Boring Logs

PARSONS

Project Name: Titan 1-A

Ground Elev:_____ TOC Elev:_____ (Datum:_____)

Northing:_____ Easting_____

Date/Time Started : 5/22/24 / 0940
Date/Time Completed : 5/22/24 / 1430
Drilling Firm : Cascade
Drill Rig (make/model) : Geoprobe
Drilling Method : DPT / HSA
Sampling Method : DPT 22 liner

Geologist : A. Pimentel
Project Manager : Carrie Ross
Project Number :

**Boring ID: MW-61**

Page 1 of 2

Ground Surface : Grass
Weather & Temp : Sunny / 75°F

PID Model : mini PAE 3000
Calibration Date : 5/22/24 Bump test
Calibration Gas : Isobutylene 100ppm

Water Levels (feet below ground surface)
▼ Static: 15.4' bgs (down borehole)
▽ During Drilling: 25'

Static water level measured after well installation but before development

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0 | @0' 10YR 3/3 Dark brown, hard, moist, grass roots fines 90%, very fine to fine sands 10% | OL | | | | | |
| 1 | | | | | | | |
| 2 | @1.5' 10YR 3/3 Dark brown, fines 70%, very fine to fine sand 20%, angular gravel to cobble 10% sandy clay | CL | | 43/48 | | 0.2 | 1030 |
| 3 | | | | | | | |
| 4 | @3.5' as above, color change 2.5Y 4/4 olive brown | | | | | 0.1 | 1035 |
| 5 | @5.25' 2.5YR 3/4 Dark reddish brown, mica present fines 15%, fine to coarse sand 85%, poorly graded sand with clay. | SP-SC | | | | 0.5 | 1100 |
| 6 | | | | 60/60 | | | |
| 7 | @6.5' 2.5YR 4/4 reddish brown, moist, firm, high plasticity, fines 95%, very fine sand 5%, clay | CL | | | | | |
| 8 | as above | | | | | | |
| 9 | | | | | | 0.6 | 1110 |
| 10 | @9.5' 10YR 4/6 Dark yellowish brown, medium plasticity firm moist, fines 75%, very fine to fine sand 15% clay with sand | | | | | | |
| 11 | | | | 60/48 | | | |
| 12 | @11.5' as above, color change 2.5Y 4/4 olive brown<br>@12' as above, presence of iron oxidation 12'-13' | | | | | | |
| 13 | | | | | | 0.0 | 1125 |
| 14 | @14' 2.5Y 4/4 olive brown fines 65%, fine to coarse sand 35% moist | | | 60/24 | | | |
| 15 ▼ | @14.5' 2.5Y 4/4 poorly graded fine to coarse sand 90% fines 10%, moist poorly graded sand with clay | SP-SC | | | | | |
| 16 | @16' 10YR 4/6 Dark yellowish brown, medium plasticity firm, fines 75%, very fine to fine sand 15% clay with sand | CL | | 60/36 | | 0.0 | 1145 |
| 17 | | | | | | | |
| 18 | @17.5' as above, firm, color change 2.5Y 4/4 olive brown | | | | | 0.7 | 1155 |
| 19 | @ as above | | | 45/24 | | | |
| 20 | | | | | | | |

Well ID: MW-61
Well Depth: 30 ft

Surface Completion: Stovepipe 2.5 PVC ags

grout 16'-0'

Bentonite seal 18'-16'

2" blank sch.40 PVC

#3 sand filter pack

8" auger

GROUT: 0 to 16 feet SEAL: 16 to 18 feet FILTER PACK: 18 to 30 feet
PVC Riser: 0 to 20 feet PVC Screen: 19.6 to 29.6 feet PVC Stickup (ags): 2.5'

GROUT: Neat cement SEAL: Bentonite chips FILTER PACK: #3 sand
PVC Riser: Sch 40 2" blank PVC Screen: Sch. 40 2" slotted Slot Size: 0.02" End CapLength: 4"

03-03-2011 \\Caoak01fs01\dupont$\Project Files\Oakley\Site Plans_HASP_SOPs_QAPPs_WMP\SOPs\SOP forms\Oakley Boring Log Template.bor

PARSONS

Project Name: _____

Ground Elev: _____ TOC Elev: _____ (Datum: _____)

Northing: _____ Easting _____

Date/Time Started : _____ / _____

Date/Time Completed : _____ / _____

Drilling Firm : _____

Drill Rig (make/model) : see page 1

Drilling Method : _____

Sampling Method : _____

Geologist : _____

Project Manager : see page 1

Project Number : _____

**Boring ID: MW-61**

Page 2 of 2

Ground Surface : _____

Weather & Temp : see page 1

PID Model : _____

Calibration Date : _____

Calibration Gas : see page 1

Water Levels (feet below ground surface)

▼ Static: _____

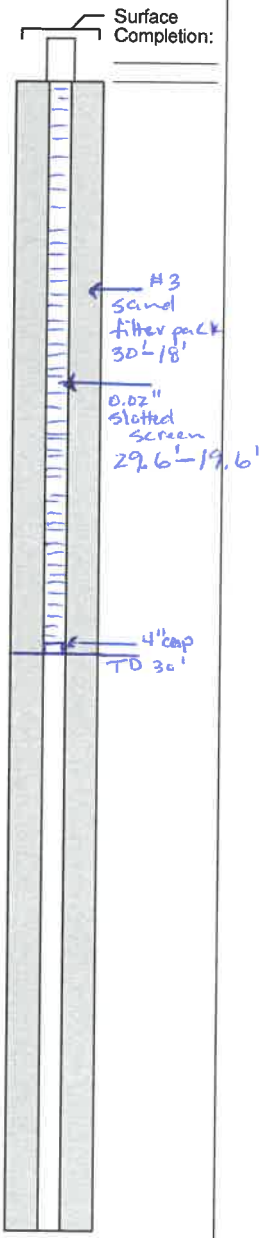
▽ During Drilling: _____

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 20 | as above | | | | | | |
| 21 | @21' Decomposed granite, moist, loose, coarse sand 95% fines 5%, well graded sand | SW | | 34/24 | | 0.8 | 1300 |
| 22 | | | | | | | |
| 23 | @22.5' 2.5Y 4/4 olive brown, medium plasticity, moist, fines 75%, very fine to fine sand 15% clay with sand | CL | | 37/24 | | | |
| 24 | | | | | | 0.0 | 1310 |
| ▽25 | @25' Decomposed granite, wet, loose, coarse sand 95% fines 5%, well graded sand | SW | | 60/36 | | | |
| 26 | | | | | | | |
| 27 | @26.5' 2.5Y 4/4 olive brown, med. plast. fines 75%, very fine to fine sand 15% clay with sand | CL | | | | | |
| 28 | @27.5' color change GLEY 4/5GY Dark greenish gray as above | | | 46/24 | | 0.3 | 1315 |
| 29 | @5 above. | | | 19/12 | | | |
| 30 | * Boring terminated @ 30' bgs | | | | | | |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 0 | | | | | | | |

Well ID: MW-61

Well Depth: 30 ft

Surface Completion: _____




GROUT: 0 to 16 feet SEAL: 16 to 18 feet FILTER PACK: 18 to 30 feet

PVC Riser: 0 to 20 feet PVC Screen: 29.6 to 19.6 feet PVC Stickup (ags): 2.5'

GROUT: Neat Cement SEAL: Bentonite Chips FILTER PACK: #3 sand

PVC Riser: 2.5' PVC Screen: SCH 40 Slot Size: 0.02" End CapLength: 4"

2"

03-03-2011 \\Caoak01fs01\dupont$\Project Files\Oakley\Site Plans_HASP_SOPs_QAPPs_WMP\SOPs\SOP forms\Oakley Boring Log Template.bor

PARSONS

Project Name: Titan 1-A

Ground Elev: ____ TOC Elev: ____ (Datum: ____)

Northing: ____ Easting: ____

Date/Time Started : 5/23/24 / 0915
Date/Time Completed : 5/23/24 / 1450
Drilling Firm : Cascade
Drill Rig (make/model) : Geoprobe
Drilling Method : DPT / HSA
Sampling Method : DPT 22 liner

Geologist : A. Amentel
Project Manager : Carrie Doss
Project Number :

**Boring ID: MW-62**

Page 1 of 2

Ground Surface : Grass
Weather & Temp : Sunny / 65 °F

PID Model : miniRAE
Calibration Date : 5/23/24 Bump test
Calibration Gas : Isobutylene 100ppm

Water Levels (feet below ground surface)
▼ Static: 16.26' bgs
▽ During Drilling: 24.5'

Static water level measured after well installation but before development

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0–2 | 0' 2.5 Y 4/3 Olive brown, moist, firm, low to medium plasticity, roots, fines 70%, very fine to fine sand 30% sandy clay. | CL | | | | 0.3 | 0912 |
| 3–4 | @3' 10YR 4/6 Dark yellowish brown, moist, fines 25% very fine to fine sand 75% clayey sand | SC | | 40/48 | | 0.3 | 0915 |
| 5–6 | as above | | | | | | |
| 7–8 | @8' 10YR 4/4 Dark yellowish brown, hard, moist, fines 80%, very fine to fine sand 20% ~~sandy~~ clay | CL | | 31/60 | | 0.0 | 0930 |
| 9 | @9' 3" thick section of quartz gravel: angular ¼" tol" | | | | | | |
| 10–11 | @10' 7.5YR 3/2 Dark brown, ~~hard~~ dense, fines 20% fine to coarse sand 70%, subrounded to rounded gravel 10%, moist, mica present, poorly graded sand with clay | SP-SC | | | | | |
| 12–13 | @12.75' 7.5YR 2.5/2 Very dark brown, firm, moist, very fine to fine sand 15%, fines 85%, clay with sand mica present | CL | | 48/60 | | 0.9 | 0945 |
| 14 | @14' 3" thick section of quartz gravel, angular ¼" tol" | | | | | | |
| 15–16 | @15' 10YR 4/6 Dark yellowish brown, mica present fines 40%, very fine to fine sand 60% | SP-SC | SP-SC | 60/48 | | 0.3 | 1000 |
| 17 | as above | | | | | | |
| 18–19 | as above | | | 60/36 | | | |
| 20 | | | | | | | |

Well ID: MW-62
Well Depth: 30 ft

Surface Completion: Stove pipe

grout 16'-0'

sch.40 2" blank PVC

Bentonite seal 18'-16'

#3 Sand 30'-18'

8" HSA

GROUT: 0 to 16 feet SEAL: 16 to 18 feet FILTER PACK: 18 to 30 feet
PVC Riser: 2.5 to 0 feet PVC Screen: 29.6 to 19.6 feet PVC Stickup (ags): 2.5

GROUT: Neat Cement SEAL: Bentonite Chips FILTER PACK: #3 sand
PVC Riser: 2" sch.40 PVC Screen: 2" sch.40 Slot Size: 0.02" End CapLength: 4"

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PARSONS

Project Name: _____

Ground Elev: ____ TOC Elev: ____ (Datum: ____)

Northing: _____ Easting _____

Date/Time Started : ____ / ____

Date/Time Completed : ____ / ____

Drilling Firm : _____

Drill Rig (make/model) : see page 1

Drilling Method : _____

Sampling Method : _____

Geologist : _____

Project Manager : see page 1

Project Number : _____

**Boring ID: MW-62**

Page 2 of 2

Ground Surface : _____

Weather & Temp : see page 1

PID Model : _____

Calibration Date : see page 1

Calibration Gas : _____

Water Levels (feet below ground surface)

Static: _____

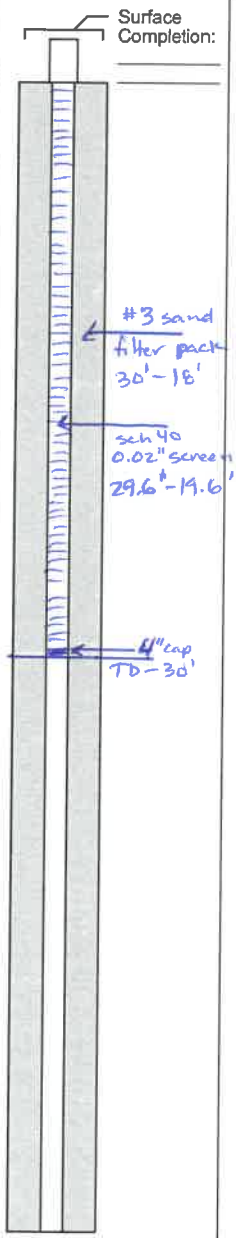
During Drilling: _____

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 20 | | | | 60/36 | | | |
| 21 | as above | | | | | | |
| 22 | | | | | | 0.9 | 1045 |
| 23 | | | | 50/36 | | | |
| 24 | as above | | | | | | |
| ▽24 | Wet | | | | | | |
| 25 | | | | 50/36 | | | |
| 26 | @ 25.75' GLEY 4/5GY Dark greenish gray, ~~orange~~, moist, fines 20%, fine to coarse sand 80% (decomposed granite) | SP-SC | | | | 0.8 | 1100 |
| 27 | | | | | | | |
| 28 | @ 28' as above, wet | | | | | 3.4 | 1110 |
| 29 | | | | 56/48 | | | |
| 30 | as above | | | | | | |
| 1 | * Boring terminated @ 30' bgs | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 0 | | | | | | | |

Well ID: MW-62

Well Depth: 30 ft

Surface Completion: _____




GROUT: 0 to 16 feet SEAL: 16 to 18 feet FILTER PACK: 18 to 30 feet

PVC Riser: 2.5 to 0 feet PVC Screen: 29.6 to 19.6 feet PVC Stickup (ags): 2.5'

GROUT: Neat Cement SEAL: bentonite chips FILTER PACK: #3 sand

PVC Riser: sch 40 2" PVC Screen: sch 40 2" Slot Size: 0.02" End CapLength: 4"

03-03-2011 \\Cacak01fs01\dupont$\Project Files\Oakley\Site Plans_HASP_SOPs_QAPPs_WMP\SOPs\SOP forms\Oakley Boring Log Template.bor

PARSONS

Project Name: Titan I-A

Ground Elev:____ TOC Elev:____ (Datum:____)

Northing:____ Easting____

| | |
|---|---|
| Date/Time Started | 5/24/24 / 0900 |
| Date/Time Completed | 5/24/24 / 1450 |
| Drilling Firm | Cascade |
| Drill Rig (make/model) | Geoprobe |
| Drilling Method | DPT / HSA |
| Sampling Method | DT 22 liner |
| Geologist | A. Pimentel |
| Project Manager | Carrie Ross |
| Project Number | |

**Boring ID:** MW-63

Page 1 of 2

| | |
|---|---|
| Ground Surface | Grass |
| Weather & Temp | Sunny / 64°F |
| PID Model | mini RAE 3000 |
| Calibration Date | bump test 5/24/24 |
| Calibration Gas | Isobutylene 100ppm |

Water Levels (feet below ground surface)

▼ Static: 16.54' bgs

▽ During Drilling: 17.5'

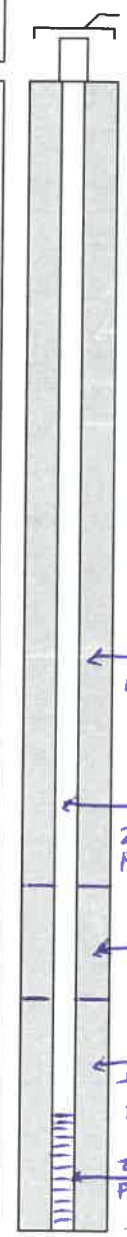
Static water level measured after well installation but before development

Well ID: MW-63

Well Depth: 30 ft

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0–1 | 0' 2.5Y 4/3 Olive brown, roots, dry, very fine to fine sand ~35%, fines ~55%; angular gravel 1/8" to 1/4" ~10% Sandy clay with gravel | CL | | | | | |
| 2 | | | | | | 0.0 | 1000 |
| 3 | | | | 20/48 | | | |
| 4 | as above | | | | | 0.0 | 1008 |
| 5 | | | | | | | |
| 6–7 | @6.5' 2.5Y 4/3 olive brown, dry, loose, poorly graded fine to coarse sand ~75%; fines ~15%; gravel ~10% Clayey sand | SC | | | | | |
| 7–8 | @7' 5YR 3/2 Dark reddish brown, moist, medium plasticity very fine to fine sand ~20%, fines ~80%, trace gravel sandy clay | CL | | 39/60 | | 0.0 | 1015 |
| 9 | ↓ increasing sand | | | | | | |
| 10 | | | | | | 0.3 | 1025 |
| 11 | as above, sand ~25%, fines ~75% | | | 51/48 | | | |
| 12 | | | | | | | |
| 13 | as above, sand ~35%, fines ~65% | | | | | 0.0 | 1040 |
| 14 | | | | 42/12 | | | |
| 15 | as above | | | 26/12 | | | |
| 16 | | | | | | 0.0 | 1045 |
| 17 | as above @17.5 5YR 3/2 Dark reddish brown, coarse sand ~90% fines 10%, ~3" thickness of layer, wet | SP-SM | | 52/36 | | | |
| 18 | as @17' | CL | | | | | |
| 19 | @18.75 GLEY 1 2.5/5GY moist, medium plasticity, very fine to fine sand ~35%, fines ~65%, sandy clay | | | 44/24 | | 0.2 | 1055 |
| 20 | | | | | | | |

Surface Completion:



Grout 14'-0'

Blank 2" sch40 PVC 18"-0'

Bentonite seal 16'-14'

#3 sand filter pack 28'-16'

2" sch40 PVC 0.02" slotted 28"-18"

GROUT: 0 to 14 feet SEAL: 14 to 16 feet FILTER PACK: 16 to 28 feet

PVC Riser: 0 to 18 feet PVC Screen: 18 to 28 feet PVC Stickup (ags): 2.5

GROUT: Neat Cement SEAL: Bentonite Chips FILTER PACK: #3 sand

PVC Riser: 2" sch40 PVC Screen: 2" sch40 Slot Size: 0.02" End CapLength: 4"

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PARSONS

Project Name: Tikun 1-A

Ground Elev:____ TOC Elev:____ (Datum:____)

Northing:____ Easting____

Date/Time Started : ____ / ____

Date/Time Completed : ____ / ____

Drilling Firm : ____

Drill Rig (make/model) : see page 1

Drilling Method : ____

Sampling Method : ____

Geologist : ____

Project Manager : see page 1

Project Number : ____

**Boring ID: MW-63**

Page 2 of 2

Ground Surface : ____

Weather & Temp : see page 1

PID Model : ____

Calibration Date : see page 1

Calibration Gas : ____

Water Levels (feet below ground surface)

Static:____

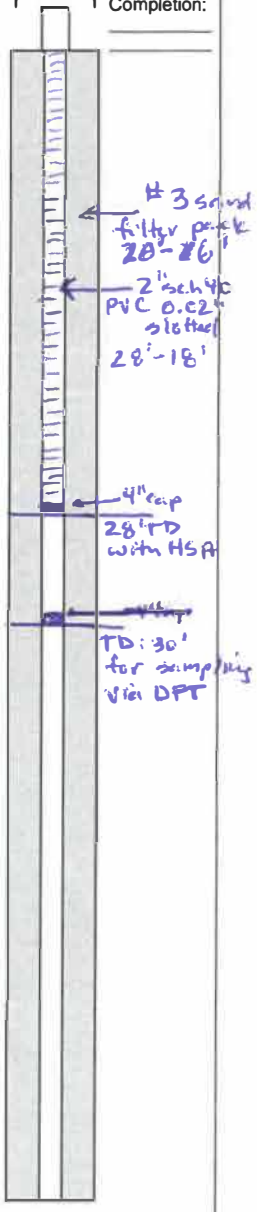
During Drilling: ____

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 20 | | | | | | | |
| 21 | as above | | | 54/30 | | 0.2 | 1100 |
| 22 | | | | | | | |
| 23 | @22.5' Decomposed granite, moist, loose, coarse sand ~95% fines 5%, well graded sand | SW | | | | | |
| 24 | @24' 5YR 3/2 Dark reddish brown, very hard dry very fine sand ~10%, fines 90% | CL | | 56/30 | | 0.0 | 1115 |
| 25 | | | | | | | |
| 26 | @25.5' Decomposed granite, moist, loose, coarse sand ~95%, fines 5%, well graded sand | SW | | 60/30 | | 0.0 | 1120 |
| 27 | | | | | | | |
| 28 | as above | | | | | | |
| 29 | @29' | CL | | 29/30 | | 0.0 | 1122 |
| 30 | * Boring terminated @ 30' bgs via DPT | | | | | | |
| 1 | HSA total depth 28' bgs | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 0 | | | | | | | |

Well ID: MW-63

Well Depth: 30 ft

Surface Completion: ____




GROUT: 0 to 14 feet SEAL: 14 to 16 feet FILTER PACK: 16 to 28 feet

PVC Riser: 0 to 18 feet PVC Screen: 18 to 28 feet PVC Stickup (ags): 2.5

GROUT: Neat Cement SEAL: Bentonite Chips FILTER PACK: #3 Sand

PVC Riser: 2" sch40 PVC Screen: 2" sch40 Slot Size: 0.02" End CapLength: 4"

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PARSONS

Project Name: Titan 1-A

Ground Elev:_____ TOC Elev:_____ (Datum:_____)

Northing:_____ Easting_____

Date/Time Started : 5/28/24 / 0930
Date/Time Completed : 5/28/24 / 1440
Drilling Firm : Cascade
Drill Rig (make/model) : Geoprobe
Drilling Method : DPT / HSA
Sampling Method : DT22 Liner

Geologist : A. Pimentel
Project Manager : Carrie Ross
Project Number :

**Boring ID: MW-64**

Page 1 of 2

Ground Surface : Grass
Weather & Temp : Sunny / 70°F

PID Model : miniRAE 3000
Calibration Date : Bump test 5/28/24
Calibration Gas : Isobutylene 100 ppm

Water Levels (feet below ground surface)
▼ Static: 12.83' bgs
▽ During Drilling: 19.5'

Static water level measured after well installation but before development

Well ID: MW64
Well Depth: 30 ft
Surface Completion: Stovepipe

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0 | 0' 2.5Y 3/3 Dark olive brown, roots, dry, firm, very fine sand ~10%, fines 90%, trace gravel clay with sand | CL | | | | 0.0 | 1050 |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | as above, very fine to fine sand ~15%, fines ~85% | | | 45/48 | | | |
| 4 | @4.25' as above, color change 5Y 3/1 Very dark gray, moist | | | | | | |
| 5 | | | | | | 0.1 | 1055 |
| 6 | @5.5' 2.5Y 4/3 Olive brown, moist, very fine to fine sand ~75%, fines 25%, trace angular to subrounded gravel clayey sand | SC | | | | | |
| 7 | | | | 58/60 | | | |
| 8 | @8' 5Y 3/1 Very dark gray, moist, very fine to fine sand ~15%, fines ~85% clay with sand | CL | | | | | |
| 9 | | | | | | | |
| 10 | as above | | | | | 0.0 | 1110 |
| 11 | @10.25' 1/2 to 1' gravel (Quartz / Plagioclase) | | | | | | |
| 12 | @11' 5Y 3/2 Dark olive gray, moist, very fine to fine sand ~75%, fines ~25% clayey sand | SC | | | | | |
| 13 | | | | 48/60 | | | |
| 14 | @14.5' as above, color change 2.5Y 4/3 olive brown, moist | | | | | | |
| 15 | @15.5' 2.5Y 4/3 olive brown, poorly graded fine to coarse sand 95%, fines ~5% poorly graded sand | SP | | | | 0.2 | 1115 |
| 16 | @16' 5Y 3/2 Dark olive brown, moist, very fine to fine sand ~75%, fines ~25% clayey sand | SC | | 44/48 | | | |
| 17 | | | | | | | |
| 18 | as above | | | | | | |
| 19 | | | | 60/48 | | 0.0 | 1130 |
| 20 | as above, wet | | | | | | |

Grout 16'-0'
2" sch 40 PVC blank 20'-0'
Bentonite seal 18'-16'
#3 sand filter pack 30'-18'

GROUT: 0 to 16 feet SEAL: 16 to 18 feet FILTER PACK: 18 to 30 feet
PVC Riser: 6 to 20 feet PVC Screen: 20 to 30 feet PVC Stickup (ags): 2.5'

GROUT: Neat Cement SEAL: Bentonite Chips FILTER PACK: #3 sand
PVC Riser: 2" sch 40 PVC Screen: 2" sch 40 Slot Size: 0.02" End CapLength: [illegible] 4"

03-03-2011 \\Cacak01fs01\dupont$\Project Files\Oakley\Site Plans_HASP_SOPs_QAPPs_WMP\SOPs\SOP forms\Oakley Boring Log Template.bor

PARSONS

Project Name: Titan 1-A

Ground Elev:_____ TOC Elev:_____ (Datum:_____)

Northing:_____ Easting_____

Date/Time Started : _____ / _____

Date/Time Completed : _____ / _____

Drilling Firm : _____

Drill Rig (make/model) : See page 1

Drilling Method : _____

Sampling Method : _____

Geologist : _____

Project Manager : See page 1

Project Number : _____

**Boring ID: MW-64**

Page 2 of 2

Ground Surface : See page 1

Weather & Temp : _____

PID Model : _____

Calibration Date : See page 1

Calibration Gas : _____

Water Levels (feet below ground surface)

▼ Static:_____

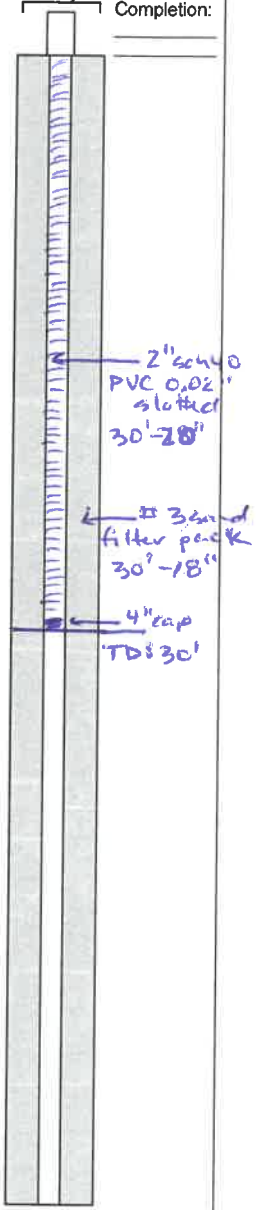
▽ During Drilling: _____

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 20 | | | | | | | |
| 21 | as above | | | 60/48 | | 0.1 | 1145 |
| 22 | | | | | | | |
| 23 | @22.5' Decomposed granite, moist, loose, coarse sand ~95%, fines~5%, well graded sand | SW | | | | | |
| 24 | | | | 46/48 | | 0.2 | 1200 |
| 25 | as above<br>@25' | | | | | | |
| 26 | as above, dry | | | | | | |
| 27 | @ 26.5' as above, moist | | | | | 0.0 | 1230 |
| 28 | | | | 49/48 | | | |
| 29 | as above | | | | | | |
| 30 | | | | | | | |
| 1 | * Boring terminated @ 30' bgs | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 0 | | | | | | | |

Well ID: MW-64

Well Depth: 30 ft

Surface Completion: _____




GROUT: 0 to 16 feet SEAL: 16 to 18 feet FILTER PACK: 18 to 30 feet

PVC Riser: 0 to 20 feet PVC Screen: 20 to 30 feet PVC Stickup (ags): 2.5'

GROUT: Neat Cement SEAL: Bentonite Chips FILTER PACK: #3 sand

PVC Riser: 2" sch 40 PVC Screen: 2" sch 40 Slot Size: 0.20" End CapLength: 4"

03-03-2011 \\Caoak01fs01\duponts\Project Files\Oakley\Site Plans_HASP_SOPs_QAPPs_WMP\SOPs\SOP forms\Oakley Boring Log Template.bor

PARSONS

Project Name: Titan 1-A

Ground Elev: ____ TOC Elev: ____ (Datum: ____)

Northing: ____ Easting: ____

Date/Time Started : 5/21/24 / 0800
Date/Time Completed : 5/21/24 / 1645
Drilling Firm : Cascade
Drill Rig (make/model) : Geoprobe
Drilling Method : DPT / HSA
Sampling Method : DT 22 Liner

Geologist : A. Pimentel
Project Manager : Carrie Ross
Project Number :

**Boring ID: MW-66**

Page 1 of 2

Ground Surface : Grass
Weather & Temp : Sunny / 63°F

PID Model : MINI RAE 3000
Calibration Date : Bump test 5/21/24
Calibration Gas : Isobutylene 100ppm

Water Levels (feet below ground surface)
Static: 18.05' bgs
During Drilling: 25.5'

Static water level measured after well installation but before development

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0 | 0' 10YR 4/2 Dark grayish brown; low plasticity, white mineral deposits; trace gravel ½" in size, very fine sand ~30% fines ~70% | ML/MH | | | | | |
| 1 | | | | | | | |
| 2 | @1.5' 5YR 3/3 Dark reddish brown, moist, very fine to fine sand 80%, fines 20% silty sand | SM | | 38/48 | | 0.0 | 0829 |
| 3 | @3' as above, color change 10YR 5/4 yellowish brown trace gravel | | | | | | |
| 4 | @4' 10YR 4/4 weak red, moist, fine to coarse sand 75% fines ~25%, clayey sand | SC | | | | | |
| 5 | | | | | | | |
| 6 | as above, trace white mineral | | | 60/48 | | | |
| 7 | @7' 7.5YR 3/3 very dark brown, very fine to fine sand ~90% fines ~10% poorly graded sand with clay | SP-SC | | | | 0.0 | 0900 |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | @9.75' as above, color change 5Y 4/2 olive gray | | | 60/36 | | 3.3 | 1030 |
| 11 | @11' as above, with iron oxidation | | | | | | |
| 12 | | | | | | | |
| 13 | as above | | | 60/36 | | | |
| 14 | @14' 10Y 3/4 Dark olive, fine to coarse sand 80%, fines ~15%, ½" gravel (ortho rocks) angular ~5%, iron staining clayey sand. | SC | | | | | |
| 15 | | | | | | | |
| 16 | | | | 60/36 | | | |
| 17 | as above | | | | | | |
| 18 ▼ | | | | | | | |
| 19 | as above | | | 48/36 | | | |
| 20 | | | | | | | |

Well ID: MW-66
Well Depth: 30 ft
Surface Completion: Stovepipe

Grout 16'-0'
2" sch 40 PVC blank 20'-0'
Bentonite seal 18'-16'
#3 Sand filter pack 30'-18'

Split Spoon 2' diameter 2.5"

GROUT: ____ to ____ feet SEAL: ____ to ____ feet FILTER PACK: ____ to ____ feet
PVC Riser: ____ to ____ feet PVC Screen: ____ to ____ feet PVC Stickup (ags): ____

GROUT: ____ SEAL: ____ FILTER PACK: ____
PVC Riser: ____ PVC Screen: ____ Slot Size: ____ End CapLength: ____

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PARSONS

Project Name: Titan 1-A

Ground Elev:____ TOC Elev:____ (Datum:____)

Northing:____ Easting____

Date/Time Started : ____ / ____

Date/Time Completed : ____ / ____

Drilling Firm : See page 1

Drill Rig (make/model) : ____

Drilling Method : ____

Sampling Method : ____

Geologist : See page 1

Project Manager : ____

Project Number : ____

**Boring ID: MW-66**

Page 2 of 2

Ground Surface : ____

Weather & Temp : See page 1

PID Model : ____

Calibration Date : See page 1

Calibration Gas : ____

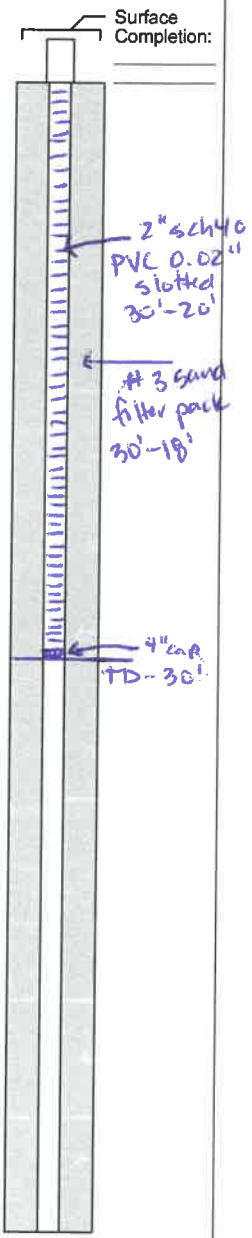
Water Levels (feet below ground surface)

▼ Static:____

▽ During Drilling: ____

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 20 | | | | | | | |
| 21 | 20'-25' no recovery due to obstruction | | | | | 1.2 cuttings | 1257 |
| 22 | | | | | | | |
| 23 | | | | | | | |
| 24 | | | | | | | |
| 25 ▽ | @25' 10Y 3/4 Dark olive, wet, gravel=30%, coarse sand=15%, fines=5%, (Decomposed granite) gravel 2½" to 1" | GP-GC | 20 31 30 32 | 14/24 | | | |
| 26 | | | | | | | |
| 27 | @27.25' 2.5Y 6/6 Olive yellow, very fine sand 10%, fines 90% moist, medium to high plasticity | | | 6/12 | | | |
| 28 | @28.5' GLEY 1 5/10GY greenish gray, as above | CH | 20 26 50 | 10/18 | | 2.2 | 1507 |
| 29 | -@29.5' split spoon refusal | | | | | | |
| 30 | * Boring terminated @ 30' bgs with HSA | | | | | | |
| 1 | Sampling terminated @ 29.5' bgs | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 0 | | | | | | | |

Well ID: MW-66
Well Depth: 30 ft
Surface Completion:




GROUT: 0 to 16 feet SEAL: 16 to 18 feet FILTER PACK: 18 to 30 feet
PVC Riser: 0 to 20 feet PVC Screen: 20 to 30 feet PVC Stickup (ags): 2.5'

GROUT: Neat cement SEAL: Bentonite Chips FILTER PACK: #3 sand
PVC Riser: 2" sch 40 PVC Screen: 2" sch 40 Slot Size: 0.02" End CapLength: 4"

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PARSONS

Project Name: Titan 1 - A

Ground Elev:_____ TOC Elev:_____ (Datum:_____)

Northing:_____ Easting_____

Date/Time Started : 5/31/24 1300
Date/Time Completed : 5/31/24 1405
Drilling Firm : Cascade
Drill Rig (make/model) : Geoprobe
Drilling Method : DPT
Sampling Method : DT 22 Liner

Geologist : A. Pimentel
Project Manager : Carrie Poss
Project Number :

**Boring ID: SV-27**

Page 1 of 1

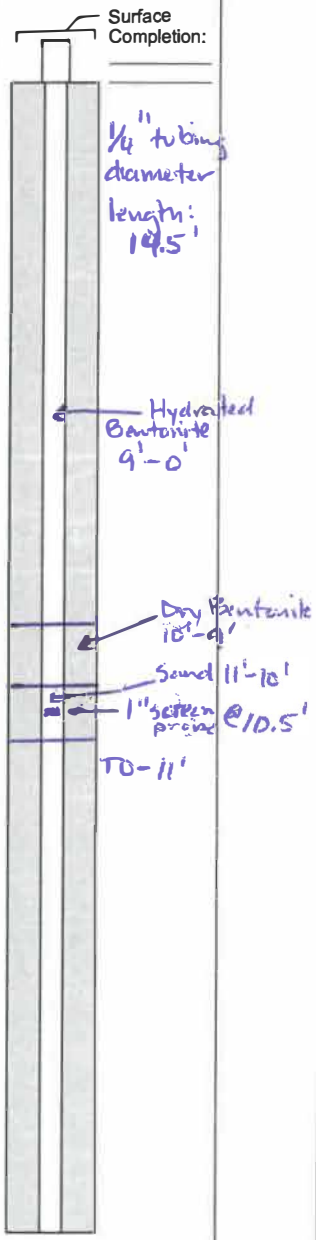
Ground Surface : Grass
Weather & Temp : Sunny | 90°F

PID Model : miniRAE 3000
Calibration Date : Bump test 5/31/24
Calibration Gas : Isobutylene 100ppm

Water Levels (feet below ground surface)
▼ Static:_____
▽ During Drilling: _____

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0–1 | @0' 10YR 3/3 Dark brown, hard, moist, grass roots fines 90%, very fine to fine sand 10% | OL | | 16/24 | | 0.2 | 1310 |
| 1–2 | @1.5' 10YR 3/3 Dark brown, fines 70%, very fine to fine sand 20%, angular gravel to cobble 10% sandy clay | CL | | | | | |
| 2–3 | | | | | | | |
| 3–4 | @3.5' as above, color change 2.5Y 4/4 olive brown | | | | | 0.0 | 1315 |
| 4–5 | | | | 34/48 | | | |
| 5–6 | @5.25' 2.5YR 3/4 Dark reddish brown, mica present fines 15%, fine to coarse sand 85%, poorly graded sand with clay. | SP-SC | | | | | |
| 6–7 | @6.5' 2.5YR 4/4 reddish brown, moist, firm, high plasticity, fines 95%, very fine sand 5%, clay | CL | | | | | |
| 7–8 | | | | | | 0.4 | 1330 |
| 8–9 | as above | | | 60/60 | | | |
| 9–10 | @9.5' 10YR 4/6 Dark yellowish brown, medium plasticity firm moist, fines 75%, very fine to fine sand 15% clay with sand | | | | | | |
| 10–11 | | | | | | | |
| 11–12 | * Boring terminated @ 11.0' bgs | | | | | | |
| 12–13 | | | | | | | |
| 13–14 | | | | | | | |
| 14–15 | | | | | | | |
| 15–16 | | | | | | | |
| 16–17 | | | | | | | |
| 17–18 | | | | | | | |
| 18–19 | | | | | | | |
| 19–20 | | | | | | | |

Well ID: SV-27
Well Depth: 11 ft
Surface Completion:




Boring Diameter : 2.25'
Water level @ MW-61 14.8' bgs @1235 on 5/31/24

GROUT:_____ to _____ feet SEAL:_____ to _____ feet FILTER PACK:_____ to _____ feet
PVC Riser:_____ to _____ feet PVC Screen:_____ to _____ feet PVC Stickup (ags):_____

GROUT:_____ SEAL: Bentonite Crumble FILTER PACK:_____
PVC Riser:_____ PVC Screen:_____ Slot Size:_____ End CapLength:_____

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PARSONS

Project Name: Titan 1-A

Ground Elev:____ TOC Elev:____ (Datum:____)

Northing:____ Easting____

Date/Time Started : 5/31/24 / 0900
Date/Time Completed : 5/31/24 / 0956
Drilling Firm : Cascade Cascade
Drill Rig (make/model) : Geoprobe
Drilling Method : DPT
Sampling Method : DT 22 Liner

Geologist : A. Pimentel
Project Manager : Carrie Ross
Project Number :

**Boring ID: SV-28**

Page 1 of 1

Ground Surface : Grass
Weather & Temp : Sunny | 70°F

PID Model : mini RAE 3000
Calibration Date : 5/31/24 Bump test
Calibration Gas : Isobutylene 100ppm

Water Levels (feet below ground surface)
▼ Static:____
▽ During Drilling: ____

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0–1 | 0' 2.5 Y 4/3 Olive brown, moist, firm, low to medium plasticity, roots, fines 70%, very fine to fine sand 30% sandy clay. | CL | | 16/24 | | 0.2 | 0915 |
| 2–4 | @ 3' 10YR 4/6 Dark yellowish brown, moist, fines 25% very fine to fine sand 75% clayey sand | SC | | | | 0.1 | 0920 |
| 5–6 | as above | | | 51/60 | | | |
| 7–8 | @ 8' 10YR 4/4 Dark yellowish brown, hard, moist, fines 80%, very fine to fine sand 20% sandy clay | CL | | | | 0.0 | 0930 |
| 9 | @ 9' 3" thick section of quartz gravel: angular ¼" to 1" | | | 48/54 | | | |
| 10–11 | @ 10' 7.5YR 3/2 Dark brown, ~~hard~~ dense, fines 20% fine to coarse sand 70%, subrounded to rounded gravel 10%, moist, mica present, poorly graded sand with clay | SP-SC | | | | | |
| 12 | * Boring terminated @ 11.5' bgs | | | | | | |
| 13–0 | | | | | | | |

Well ID: SV-28
Well Depth: 11.5 ft
Surface Completion: Stovepipe
¼" tubing diameter
length: 14.5'
Hydrated Bentonite 9.5'-0'
Dry Bentonite 10.5'-9.5'
Sand 11.5'-10.5'
1" screen probe @ 11'
TD-11.5'

Boring diameter: 2.25'
Water level @ MW-62 15' bgs @ 0845 on 5/31/24

GROUT:____ to ____ feet SEAL:____ to ____ feet FILTER PACK:____ to ____ feet
PVC Riser:____ to ____ feet PVC Screen:____ to ____ feet PVC Stickup (ags):____

GROUT:____ SEAL:____ FILTER PACK:____
PVC Riser:____ PVC Screen:____ Slot Size:____ End CapLength:____

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PARSONS

Project Name: Titan 1-A

Ground Elev:_____ TOC Elev:_____ (Datum:_____)

Northing:_____ Easting_____

Date/Time Started : 5/20/24 1300
Date/Time Completed : 5/29/24 1415
Drilling Firm : Cascade
Drill Rig (make/model) : Geoprobe
Drilling Method : DPT
Sampling Method : DT22 Liner

Geologist : A. Pimentel
Project Manager : Carrie Ross
Project Number :

**Boring ID: SV-29**

Page 1 of 1

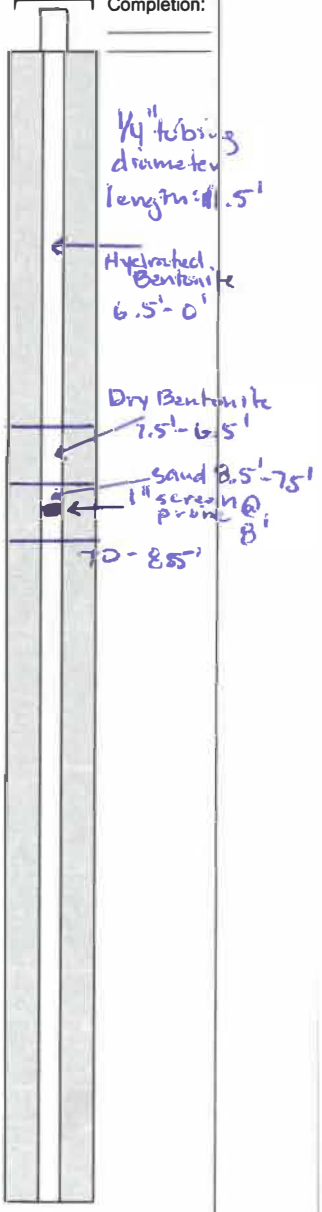
Ground Surface : Grass
Weather & Temp : Sunny / 84°F

PID Model : miniRAE 3000
Calibration Date : Bump test 5
Calibration Gas : Isobutylene 100ppm

Water Levels (feet below ground surface)
▼ Static:_____
▽ During Drilling: _____

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0–1 | 0' 2.5Y 4/3 Olive brown, roots, dry, very fine to fine sand ~35%, fines ~55%, angular gravel ⅛" to ¼" ~10% sandy clay with gravel | CL | | | | | |
| 1–2 | | | | | | 0.0 | 1315 |
| 2–3 | | | | 35/60 | | | |
| 3–4 | | | | | | | |
| 4–5 | @5 above | | | | | | |
| 5–6 | | | | | | | |
| 6–7 | @6.5' 2.5Y 4/3 olive brown, dry, loose, poorly graded fine to coarse sand ~75%, fines ~15%, gravel ~10%, Clayey Sand | SC | | | | 0.0 | 1325 |
| 7–8 | @7' 5YR 3/2 Dark reddish brown, moist, medium plasticity, very fine to fine sand ~20%, fines ~60%, trace gravel sandy clay | CL | | 33/42 | | | |
| 8–9 | * Boring terminated @ 8.5' bgs | | | | | | |
| 9–0 | | | | | | | |
| 0–1 | | | | | | | |
| 1–2 | | | | | | | |
| 2–3 | | | | | | | |
| 3–4 | | | | | | | |
| 4–5 | | | | | | | |
| 5–6 | | | | | | | |
| 6–7 | | | | | | | |
| 7–8 | | | | | | | |
| 8–9 | | | | | | | |
| 9–0 | | | | | | | |

Well ID: SV-29
Well Depth: 8.5 ft
Surface Completion:




Boring Diameter: 2.25"
Water level @ MW-63 12.5' bgs @1245 on 5/29/24

GROUT:_____ to _____ feet SEAL:_____ to _____ feet FILTER PACK:_____ to _____ feet
PVC Riser:_____ to _____ feet PVC Screen:_____ to _____ feet PVC Stickup (ags):_____

GROUT:_____ SEAL: Bentonite Crumble FILTER PACK:_____
PVC Riser:_____ PVC Screen:_____ Slot Size:_____ End CapLength:_____

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PARSONS

Project Name: Titan 1-A

Ground Elev:_____ TOC Elev:_____ (Datum:_____)

Northing:_____ Easting_____

Date/Time Started : 5/24/24 / 0925
Date/Time Completed : 5/24/24 / 1130
Drilling Firm : Cascade
Drill Rig (make/model) : Geoprobe
Drilling Method : DPT
Sampling Method : DT 22 Liner

Geologist : A. Pimentel
Project Manager : Carrie Ross
Project Number :

**Boring ID: SV-30**

Page 1 of 1

Ground Surface : Grass
Weather & Temp : Sunny / 64°F

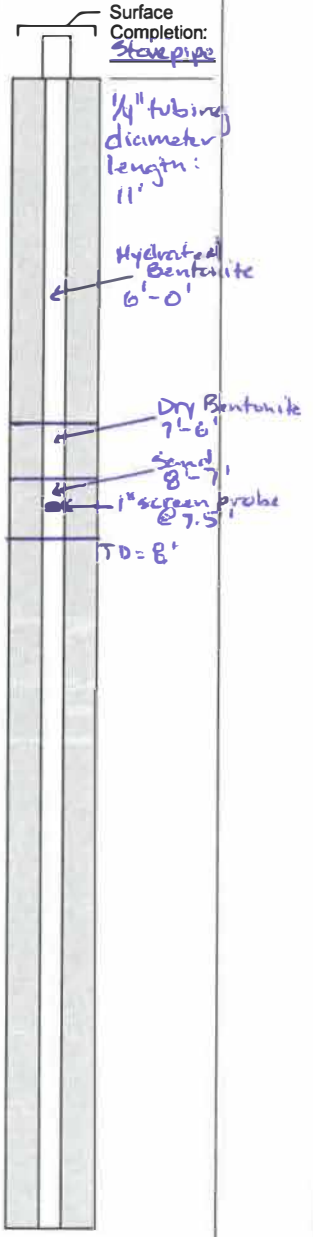
PID Model : mini RAE 3000
Calibration Date : 5/24/24 Bump Test
Calibration Gas : Isobutylene 100ppm

Water Levels (feet below ground surface)
Static:_____
During Drilling:_____

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0–1 | 0' 2.5Y 3/3 Dark olive brown, roots, dry, firm, very fine sand ~10%, fines 90%, trace gravel clay with sand | CL | | | | | |
| 1–2 | | | | | | | |
| 2–3 | as above, very fine to fine sand ~15%, fines ~85% | | | 28/48 | | 0.0 | 0940 |
| 3–4 | | | | | | | |
| 4–5 | @4.25' as above, color change 5Y 3/1 Very dark gray, moist | | | | | | |
| 5–6 | @5.5' 2.5Y 4/3 Olive brown, moist, very fine to fine sand ~75%, fines 25%, trace angular to subrounded gravel clayey sand | SC | | 36/48 | | 0.2 | 0950 |
| 6–7 | | | | | | | |
| 7–8 | | | | | | | |
| 8–9 | * Boring terminated @ 8' bgs | | | | | | |
| 9–10 | | | | | | | |
| 10–11 | | | | | | | |
| 11–12 | | | | | | | |
| 12–13 | | | | | | | |
| 13–14 | | | | | | | |
| 14–15 | | | | | | | |
| 15–16 | | | | | | | |
| 16–17 | | | | | | | |
| 17–18 | | | | | | | |
| 18–19 | | | | | | | |
| 19–20 | | | | | | | |

Well ID: SV-30
Well Depth: 8 ft

Surface Completion: Stovepipe




Boring Diameter: 2.25'
Water level @ MW-64 11.5' bgs @ 0900 on 5/29/24

GROUT:_____ to _____ feet SEAL:_____ to _____ feet FILTER PACK:_____ to _____ feet
PVC Riser:_____ to _____ feet PVC Screen:_____ to _____ feet PVC Stickup (ags):_____

GROUT:_____ SEAL:_____ FILTER PACK:_____
PVC Riser:_____ PVC Screen:_____ Slot Size:_____ End CapLength:_____

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PARSONS

Project Name: Titan 1-A

Ground Elev:____ TOC Elev:____ (Datum:____)

Northing:____ Easting____

Date/Time Started : 5/30/24 / 0915
Date/Time Completed : 5/30/24 / 1018
Drilling Firm : Cascade
Drill Rig (make/model) : Geoprobe
Drilling Method : DPT
Sampling Method : DT22 Liner

Geologist : A. Pimentel
Project Manager : Lavrie Ross
Project Number :

**Boring ID: SV-31**

Page 1 of 1

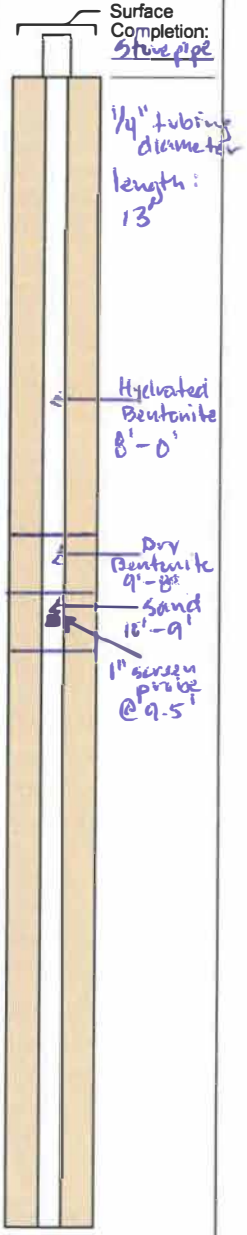
Ground Surface : Grass
Weather & Temp : Sunny | 76°F

PID Model : mini RAE 3000
Calibration Date : 5/30/24 Bump Test
Calibration Gas : Isobutylene 100ppm

Water Levels (feet below ground surface)
▼ Static:
▽ During Drilling:

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0 | @0' 2.5Y 4/3 Olive brown, roots, medium plasticity, very fine to fine sand ~10%, fines ~90% | | | | | | |
| 1 | @0.75' quartz gravel angular 1/4" to 1" in size | CL | | 14/24 | | 5.2 | 0945 |
| 2 | @1' 2.5Y 5/3 light olive brown, med. plasticity, very fine to fine sand ~10%, fines ~90% | | | | | | |
| 3 | @2' orthoclase gravel angular 1/4" to 1" in size | | | | | | |
| 4 | @2.5' 2.5Y 5/4 light olive brown, moist, mica, fine to coarse sand poorly graded ~75%, fines ~5% | SL | | | | | |
| 5 | @4.5' 7.5YR 3/4 Dark brown, moist, firm, high plasticity, very fine sand ~10%, fines ~90%, trace gravel | CL | | 36/60 | | 3.9 | 0955 |
| 6 | @6.5' 7.5YR 4/4 brown, moist, medium to low plasticity | | | | | | |
| 7 | very fine to fine sand ~75%, fines ~15% | SL | | | | | |
| 8 | @8' as above, color change 10YR 3/4 Dark yellowish brown, iron oxidation present | | | 60/36 | | | |
| 9 | as above | | | | | 2.1 | 1005 |
| 10 | | | | | | | |
| 1 | * Boring terminated @ 10' bgs | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 0 | | | | | | | |

Well ID: SV-31
Well Depth: 10 ft
Surface Completion: Stovepipe




Boring Diameter: 2.25'

Water was not encountered.

GROUT:____ to ____ feet SEAL:____ to ____ feet FILTER PACK:____ to ____ feet
PVC Riser:____ to ____ feet PVC Screen:____ to ____ feet PVC Stickup (ags):____

GROUT:____ SEAL:____ FILTER PACK:____
PVC Riser:____ PVC Screen:____ Slot Size:____ End CapLength:____

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PARSONS

Project Name: Titan 1 - A

Ground Elev:____ TOC Elev:____ (Datum: ____)

Northing:____ Easting____

Date/Time Started : 5/30/24 1300
Date/Time Completed : 5/30/24 / 1425
Drilling Firm : Cascade
Drill Rig (make/model) : Geoprobe
Drilling Method : DPT
Sampling Method : DT22 Liner

Geologist : A. Pimentel
Project Manager : Carrie Russ
Project Number :

**Boring ID: SV-32a,b**

Page 1 of 1

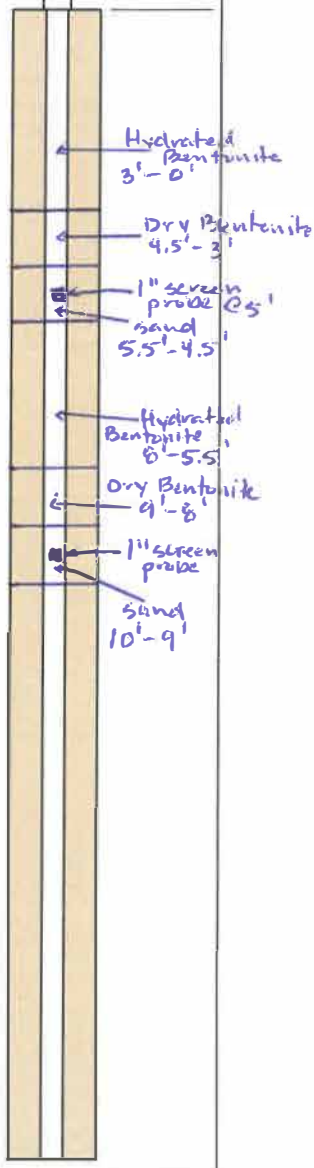
Ground Surface : Grass
Weather & Temp : Sunny / 88°F

PID Model : miniRAE 3000
Calibration Date : 5/30/24 Bump Test
Calibration Gas : Isobutylene 100ppm

Water Levels (feet below ground surface)
▼ Static:
▽ During Drilling:

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0 | @0' 2.5Y 4/3 olive brown, dry, roots, very fine to fine sand ~20%, fines ~80%, clay with sand | CL | | 23/24 | | | |
| 1 | @1.5' 2.5Y 5/4 light olive brown, medium to high plasticity, fine to coarse sand ~60%, fines 30%, angular gravel ~10% | SC | | | | | |
| 2 | @2.25' 10YR 4/3 brown, as above | | | | | | |
| 3 | @3.25' 10YR 3/1 very dark gray, dry, medium plasticity hard, mica, fine to coarse sand ~70%, fines ~20%, gravel clayey sand with gravel | | | 4c/48 | | | |
| 4 | | | | | | | |
| 5 | @5' 7.5YR 3/3 Dark brown, moist, medium plasticity very fine to fine sand ~75%, fines ~25% clayey sand | CL | | | | | |
| 6 | @6.75' 2.5Y 5/4 light olive brown, medium to high plasticity dry, hard, very fine to fine sand ~40%, fines ~60% | | | | | | |
| 7 | @8' as above, color change 2.5Y 4/4 olive brown, moist | | | 60/48 | | | |
| 8 | @ as above | | | | | | |
| 9 | | | | | | | |
| 10 | * Boring terminated @ 10' bgs. | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |

Well ID: SV-32a,b
Well Depth: 10 ft
Surface Completion: Stovepipe




1/4" tubing diameter
a length: 14' b length: 9'
Water not encountered.

GROUT:____ to ____ feet SEAL:____ to ____ feet FILTER PACK:____ to ____ feet
PVC Riser:____ to ____ feet PVC Screen:____ to ____ feet PVC Stickup (ags):____

GROUT:____ SEAL:____ FILTER PACK:____
PVC Riser:____ PVC Screen:____ Slot Size:____ End CapLength:____

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PARSONS

Project Name: Titan 1-A

Ground Elev:_____ TOC Elev:_____ (Datum:_____)

Northing:_____ Easting_____

| | |
|---|---|
| Date/Time Started | : 5/20/24 / 1310 |
| Date/Time Completed | : 5/20/24 / 1430 |
| Drilling Firm | : Cascade |
| Drill Rig (make/model) | : Geoprobe |
| Drilling Method | : DPT |
| Sampling Method | : DT 22 Liner |
| Geologist | : A. Pimentel |
| Project Manager | : Carrie Ross |
| Project Number | : |

**Boring ID:** SV-33

Page 1 of 1

| | |
|---|---|
| Ground Surface | : Grass |
| Weather & Temp | : Sunny 180°F |
| PID Model | : miniRAE 3000 |
| Calibration Date | : 5/17/24 |
| Calibration Gas | : Isobutylene 100ppm |

Water Levels (feet below ground surface)

▼ Static:_____

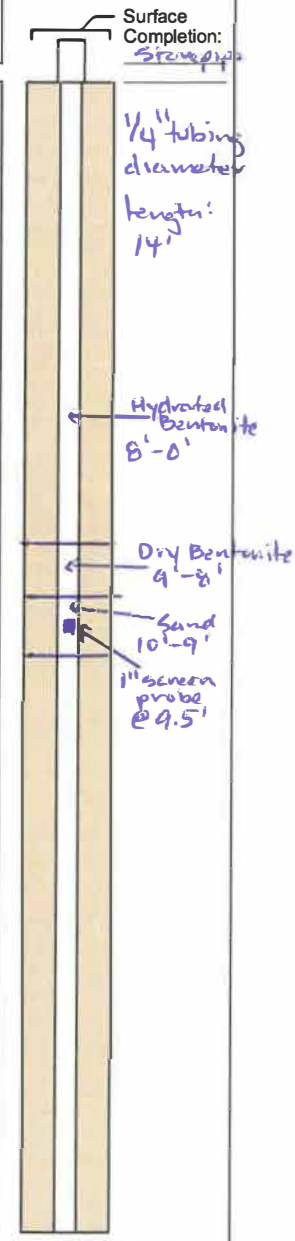
▽ During Drilling:_____

Well ID: SV-33

Well Depth: 10 ft

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0–1 | 2.5Y 4/3 olive brown, dry, roots, very fine to fine sand ~20%, fines ~80% ~~[illegible]~~ | CL | | HA | | | |
| 2–3 | @2' 10YR 3/6 Dark yellowish brown, low plasticity, dry, fine to coarse sand ~75%, fines ~10%, gravel ~15%, poorly graded sand with gravel | SP | | 19/36 | | 0.0 | 1315 |
| 4–5 | @4' 10YR 2/2 ~~Dark reddish~~ Very dark brown, medium to high plasticity, moist, very fine to fine sand ~15%, fines ~85% | CL | | | | | |
| 6–7 | @5.5' 10YR 3/4 Dark yellow brown, moist, very fine to fine sand ~80%, fines ~20%, poorly graded sand with clay | SP-SM | | 60/60 | | 0.0 | 1320 |
| 8 | as above | | | | | | |
| 9–10 | as above | | | | | | |
| 1–2 | * Boring terminated @ 10' bgs | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 0 | | | | | | | |

Surface Completion: Stonepipe




Water not encountered.

GROUT:_____ to _____ feet SEAL:_____ to _____ feet FILTER PACK:_____ to _____ feet

PVC Riser:_____ to _____ feet PVC Screen:_____ to _____ feet PVC Stickup (ags):_____

GROUT:_____ SEAL:_____ FILTER PACK:_____

PVC Riser:_____ PVC Screen:_____ Slot Size:_____ End CapLength:_____

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PARSONS

Project Name: Titan 1-A

Ground Elev:_____ TOC Elev:_____ (Datum:_____)

Northing:_____ Easting_____

Date/Time Started : 6/3/24 / 0840
Date/Time Completed : 6/3/24 / 0945
Drilling Firm : Cascade
Drill Rig (make/model) : Geoprobe
Drilling Method : DPT
Sampling Method : DT 22 Liner

Geologist : A. Pimentel
Project Manager : Carrie Poss
Project Number :

**Boring ID: SV-34**

Page 1 of 1

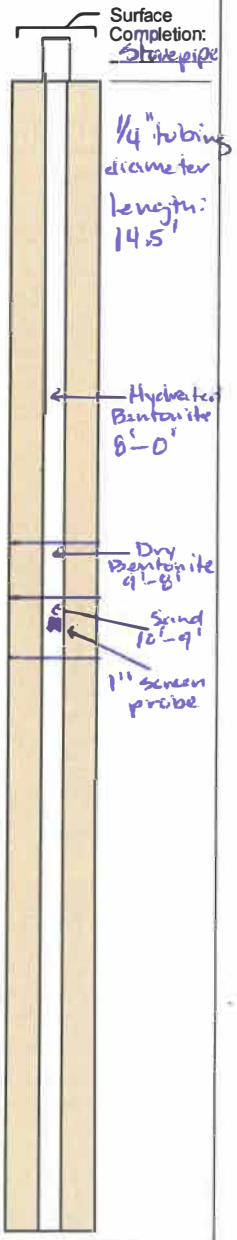
Ground Surface : Grass
Weather & Temp : Cloudy | 70°F

PID Model : miniRAE 3000
Calibration Date : 6/3/24 (Bump Test)
Calibration Gas : Isobutylene 100ppm

Water Levels (feet below ground surface)
Static:_____
During Drilling:_____

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0 | @0' 5YR 3/3 Dark reddish brown, dry, medium plasticity, very fine to fine sand ~10%, fines ~90%, trace gravel | CL | | 23/24 | | 0.2 | 0855 |
| 1 | | | | | | | |
| 2 | @2.5' as above, very fine to fine sand 20%, fines ~75%, subrounded gravel | | | | | | |
| 3 | | | | | | | |
| 4 | @4' Decomposed granite, fine to coarse sand ~80%, fines ~15%, gravel ~5% | SC | | 42/48 | | 0.1 | 0855 |
| 5 | @5.25' 2.5Y 4/3 Olive brown, hard, dry, medium to high plasticity, very fine to fine sand 25%, fines ~75% | CL | | | | | |
| 6 | @6' Decomposed granite, fine to coarse sand ~80%, fines ~15%, gravel ~5%, iron oxidation | SC | | | | | |
| 7 | @7.25' 2.5Y 4/3 Olive brown, hard dry, medium to high plasticity, very fine to fine sand ~25%, fines ~75% iron oxidation | | | | | 0.3 | 0910 |
| 8 | @8' 10YR 5/6 yellowish brown, dry, iron oxidation very fine to fine sand 30%, fines ~70% | CL | | 56/48 | | | |
| 9 | as above | | | | | | |
| 10 | | | | | | | |
| 1 | | | | | | | |
| 2 | * Boring terminated @ 10' bgs | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 0 | | | | | | | |

Well ID: SV-34
Well Depth: 10 ft
Surface Completion: Stovepipe




Water not encountered.

GROUT:_____ to _____ feet SEAL:_____ to _____ feet FILTER PACK:_____ to _____ feet
PVC Riser:_____ to _____ feet PVC Screen:_____ to _____ feet PVC Stickup (ags):_____

GROUT:_____ SEAL:_____ FILTER PACK:_____
PVC Riser:_____ PVC Screen:_____ Slot Size:_____ End CapLength:_____

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PARSONS

Project Name: Titan 1-A

Ground Elev:_____ TOC Elev:_____ (Datum:_____)

Northing:_____ Easting_____

Date/Time Started : 6/3/24 1105
Date/Time Completed : 6/3/24 / 1210
Drilling Firm : Cascade
Drill Rig (make/model) : Geoprobe
Drilling Method : DPT
Sampling Method : DT22 Liner

Geologist : A. Pimentel
Project Manager : Carrie Ross
Project Number :

**Boring ID: SV-35**

Page 1 of 1

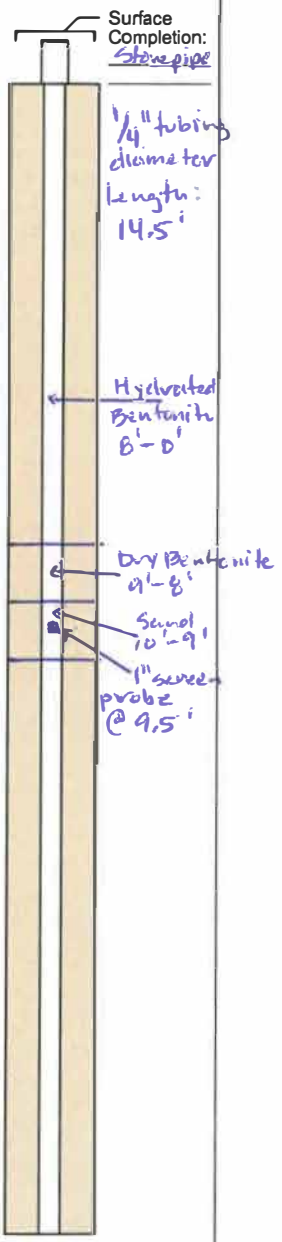
Ground Surface : Grass
Weather & Temp : Cloudy / 75°F

PID Model : miniRAE 3000
Calibration Date : 6/3/24 pump Test
Calibration Gas : Isobutylene 100ppm

Water Levels (feet below ground surface)
▼ Static:_____
▽ During Drilling:_____

| Depth in feet | Lithologic Description | USCS | Blow Count | Rec. (in) / Driven (in) | Analytical Sample | PID Reading (ppm) | Time |
|---|---|---|---|---|---|---|---|
| 0 | 0' 10YR 4/2 Dark grayish brown; low plasticity, white mineral deposits; trace gravel ½" in size, very fine sand ~30% fines ~70% | ML/MH | | 18/24 | | 0.0 | 1115 |
| 2 | @ 1.5' 5YR 3/3 Dark reddish brown, moist, very fine to fine sand 80%, fines 20% silty sand | SM | | | | | |
| 3 | @ 3' as above, color change 10YR 5/4 yellowish brown trace gravel | | | | | | |
| 4 | @ 4' 10YR 4/4 weak red, moist, fine to coarse sand 75% fines 25%, clayey sand | SC | | 38/48 | | 0.0 | 1130 |
| 5 | as above, trace white mineral | | | | | | |
| 7 | @ 7' 7.5YR 3/3 very dark brown, very fine to fine sand ~90%, fines ~10% poorly graded sand with clay | SP-SC | | 52/48 | | 2.6 | 1140 |
| 9 | @ 9.75' as above, color change 5Y 4/2 olive gray | | | | | | |
| 10 | * Boring terminated @ 10' bgs | | | | | | |

Well ID: SV-35
Well Depth: 10 ft
Surface Completion: Stovepipe




Water not encountered.

GROUT:_____ to _____ feet SEAL:_____ to _____ feet FILTER PACK:_____ to _____ feet
PVC Riser:_____ to _____ feet PVC Screen:_____ to _____ feet PVC Stickup (ags):_____

GROUT:_____ SEAL:_____ FILTER PACK:_____
PVC Riser:_____ PVC Screen:_____ Slot Size:_____ End CapLength:_____

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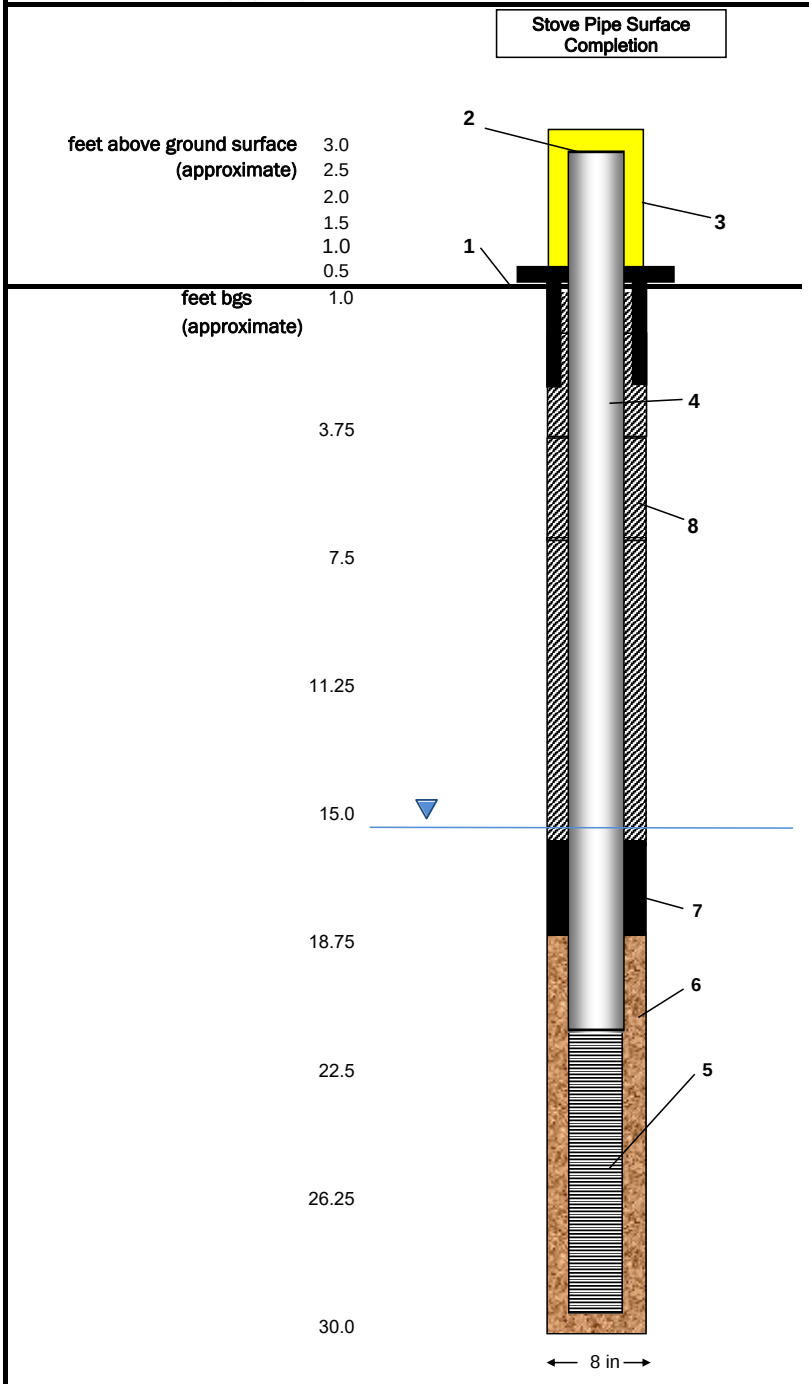
# Appendix B – Monitoring Well and Soil Vapor Probe Construction Diagrams

| CONTRACTOR | WELL NUMBER | Date |
|---|---|---|
| Parsons | MW-61 | 5/22/24 |

# Groundwater Monitoring Well Completion Data Record

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: AA. Sanchez
DRILLING METHOD / EQUIPMENT: DPT/HSA
HELPERS: AC. Moreno
WATER LEVEL: 15.4 ft bgs (static) START: 5/22/24 END: 5/22/24
GEOLOGIST: AA.Pimentel




1- Ground elevation at well : 200.54 feet

2- Measuring point elevation : top of the casing - north side

3- Surface completion casing :
- a) type / diameter: Monument - 8 inch OD
- b) type of sealant: Neat cement
- c) protective bollards: Yes

4- Well casing :
- a) type / diameter: Schedule 40 PVC / 2 inch ID
- b) height above ground: 2.5 feet
- c) length below ground: 19.6 feet
- d) well centralizers: None

5- Well screen :
- a) type / diameter: Schedule 40 PVC / 2 inch ID
- b) slot size: 0.02 inch
- c) top screen (feet bgs): 19.6 feet
- d) bottom screen (feet bgs): 29.6 feet

6- Well screen filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 18 feet
- c) bottom filter pack (feet bgs): 30 feet

7- Bentonite seal :
- a) method of placement: Poured from surface
- b) type: Betonite chips (hydrated)
- c) top seal (feet bgs): 16 feet
- d) bottom seal (feet bgs): 18 feet

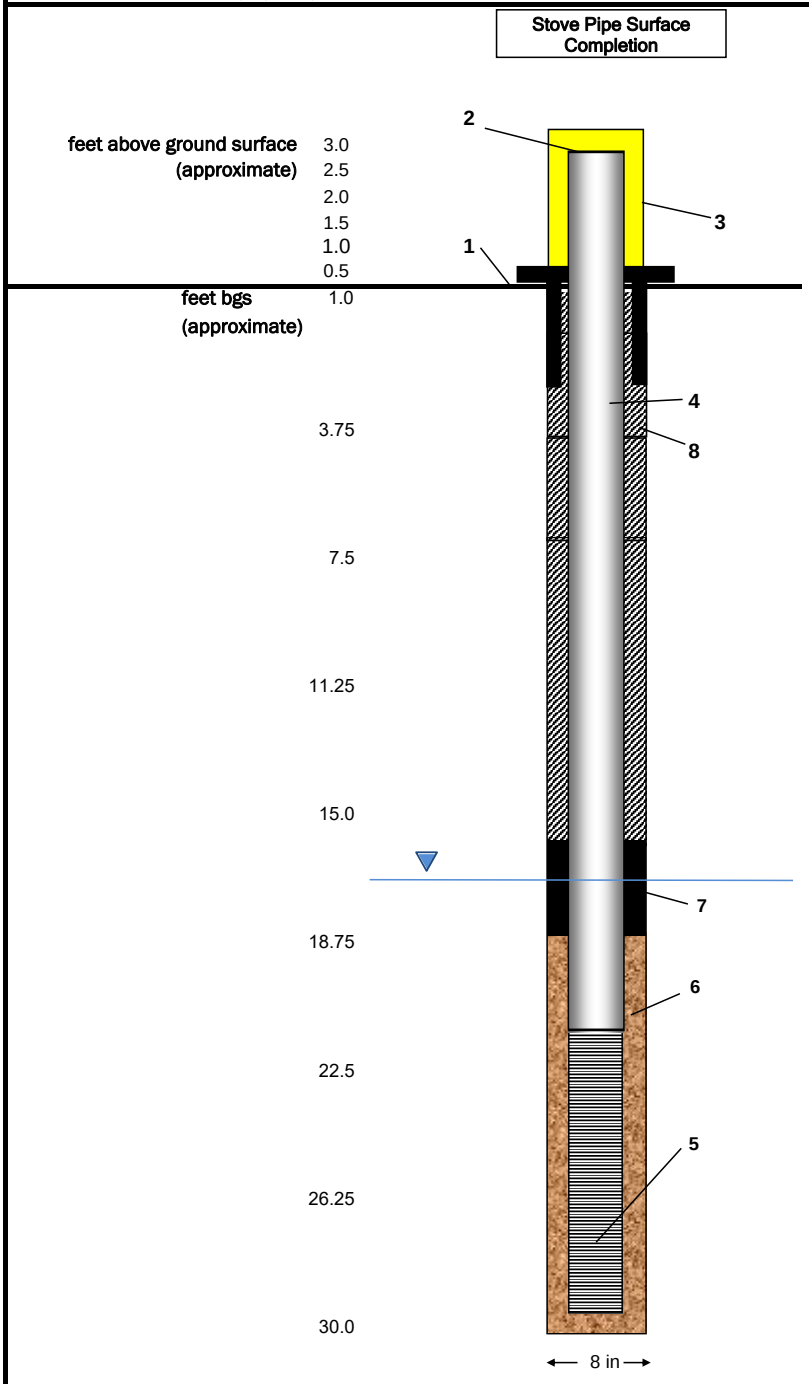
8- Grout :
- a) type: Neat cement
- b) grout mix: Grout slurry mix
- c) method of placement: Gravity Fed
- d) top grout (feet bgs): 0 feet
- e) bottom grout (feet bgs): 16 feet

9- Borehole diameter: 8 inches

| CONTRACTOR | WELL NUMBER | Date |
|---|---|---|
| Parsons | MW-62 | 5/23/24 |

# Groundwater Monitoring Well Completion Data Record

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: AA. Sanchez
DRILLING METHOD / EQUIPMENT: DPT/HSA
HELPERS: AC. Moreno
WATER LEVEL: 16.26 ft bgs (static) START: 5/23/24 END: 5/23/24
GEOLOGIST: AA.Pimentel




1- Ground elevation at well : 198.32 feet

2- Measuring point elevation : top of the casing - north side

3- Surface completion casing :
- a) type / diameter: Monument - 8 inch OD
- b) type of sealant: Neat cement
- c) protective bollards: Yes

4- Well casing :
- a) type / diameter: Schedule 40 PVC / 2 inch ID
- b) height above ground: 2.5 feet
- c) length below ground: 19.6 feet
- d) well centralizers: None

5- Well screen :
- a) type / diameter: Schedule 40 PVC / 2 inch ID
- b) slot size: 0.02 inch
- c) top screen (feet bgs): 19.6 feet
- d) bottom screen (feet bgs): 29.6 feet

6- Well screen filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 18 feet
- c) bottom filter pack (feet bgs): 30 feet

7- Bentonite seal :
- a) method of placement: Poured from surface
- b) type: Betonite chips (hydrated)
- c) top seal (feet bgs): 16 feet
- d) bottom seal (feet bgs): 18 feet

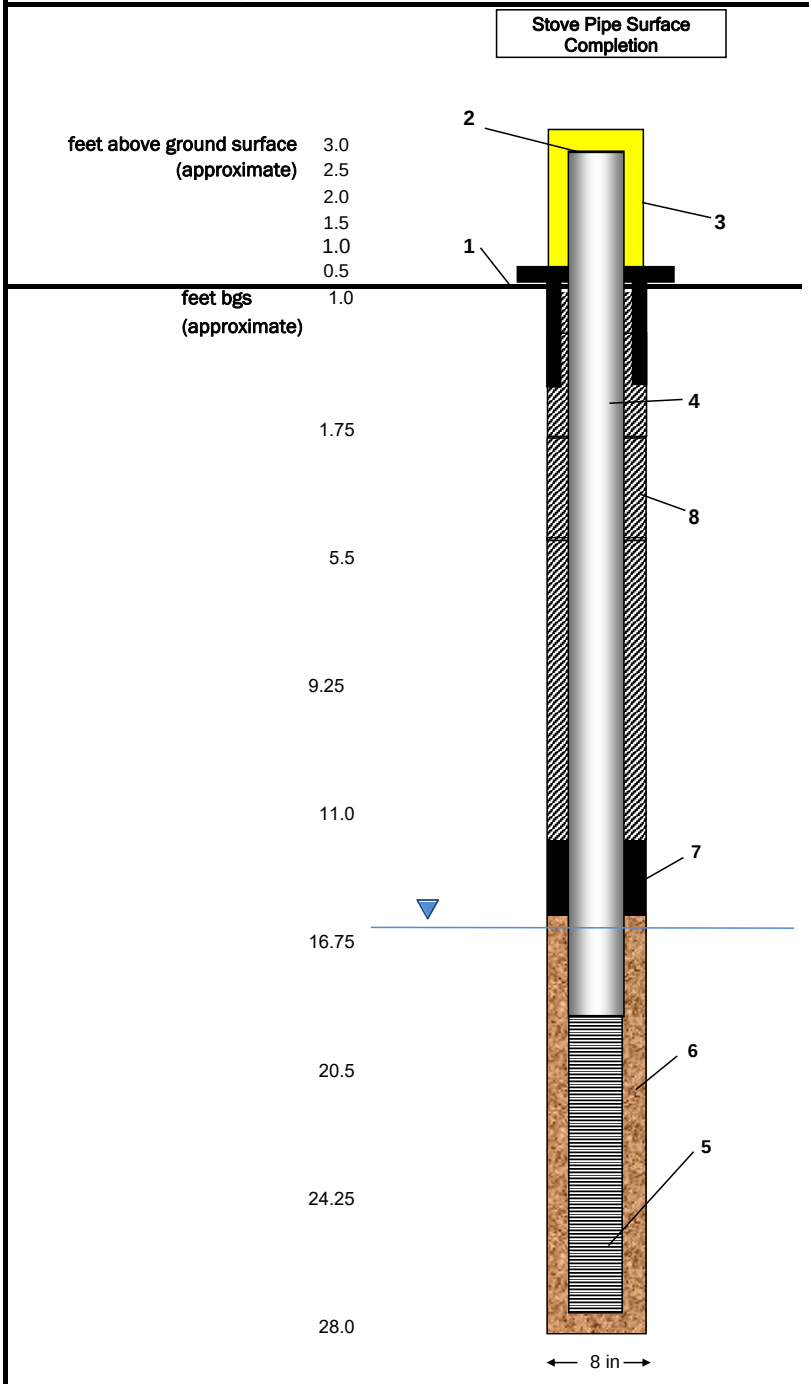
8- Grout :
- a) type: Neat cement
- b) grout mix: Grout slurry mix
- c) method of placement: Gravity Fed
- d) top grout (feet bgs): 0 feet
- e) bottom grout (feet bgs): 16 feet

9- Borehole diameter: 8 inches

| CONTRACTOR | WELL NUMBER | Date |
|---|---|---|
| Parsons | MW-63 | 5/24/24 |

# Groundwater Monitoring Well Completion Data Record

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: AA. Sanchez
DRILLING METHOD / EQUIPMENT: DPT/HSA
HELPERS: AC. Moreno
WATER LEVEL: 16.54 ft bgs (static) START: 5/24/24 END: 5/24/24
GEOLOGIST: AA.Pimentel




1- Ground elevation at well : 189.81 feet

2- Measuring point elevation : top of the casing - north side

3- Surface completion casing :
- a) type / diameter: Monument - 8 inch OD
- b) type of sealant: Neat cement
- c) protective bollards: Yes

4- Well casing :
- a) type / diameter: Schedule 40 PVC / 2 inch ID
- b) height above ground: 2.5 feet
- c) length below ground: 18 feet
- d) well centralizers: None

5- Well screen :
- a) type / diameter: Schedule 40 PVC / 2 inch ID
- b) slot size: 0.02 inch
- c) top screen (feet bgs): 18 feet
- d) bottom screen (feet bgs): 28 feet

6- Well screen filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 16 feet
- c) bottom filter pack (feet bgs): 28 feet

7- Bentonite seal :
- a) method of placement: Poured from surface
- b) type: Betonite chips (hydrated)
- c) top seal (feet bgs): 14 feet
- d) bottom seal (feet bgs): 16 feet

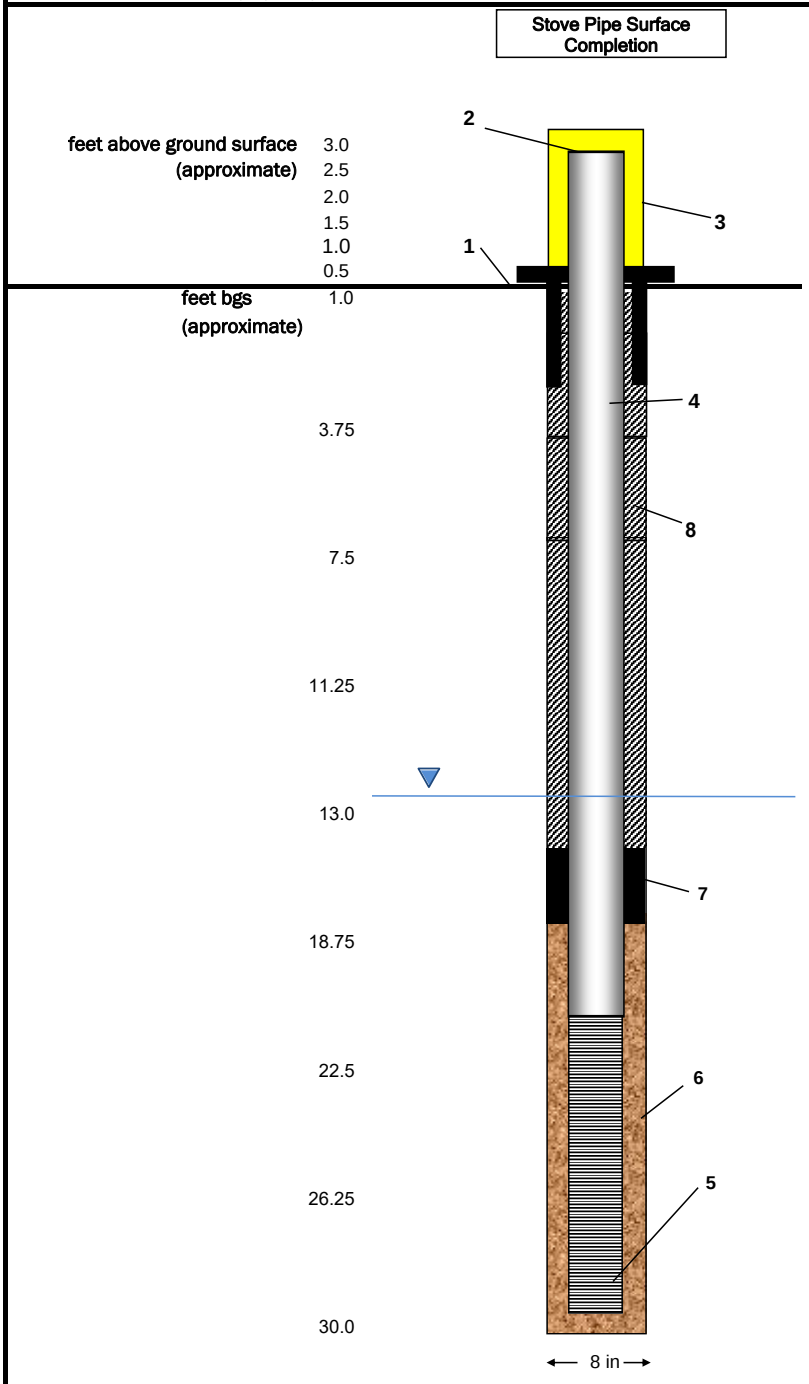
8- Grout :
- a) type: Neat cement
- b) grout mix: Grout slurry mix
- c) method of placement: Gravity Fed
- d) top grout (feet bgs): 0 feet
- e) bottom grout (feet bgs): 14 feet

9- Borehole diameter: 8 inches

| CONTRACTOR | WELL NUMBER | Date |
|---|---|---|
| Parsons | MW-64 | 5/28/24 |

# Groundwater Monitoring Well Completion Data Record

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: AA. Sanchez
DRILLING METHOD / EQUIPMENT: DPT/HSA
HELPERS: AC. Moreno
WATER LEVEL: 12.83 ft bgs (static) START: 5/28/24 END: 5/28/24
GEOLOGIST: AA.Pimentel




1- Ground elevation at well : 187.56 feet

2- Measuring point elevation : top of the casing - north side

3- Surface completion casing :
- a) type / diameter: Monument - 8 inch OD
- b) type of sealant: Neat cement
- c) protective bollards: Yes

4- Well casing :
- a) type / diameter: Schedule 40 PVC / 2 inch ID
- b) height above ground: 2.5 feet
- c) length below ground: 18 feet
- d) well centralizers: None

5- Well screen :
- a) type / diameter: Schedule 40 PVC / 2 inch ID
- b) slot size: 0.02 inch
- c) top screen (feet bgs): 20 feet
- d) bottom screen (feet bgs): 30 feet

6- Well screen filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 18 feet
- c) bottom filter pack (feet bgs): 30 feet

7- Bentonite seal :
- a) method of placement: Poured from surface
- b) type: Betonite chips (hydrated)
- c) top seal (feet bgs): 16 feet
- d) bottom seal (feet bgs): 18 feet

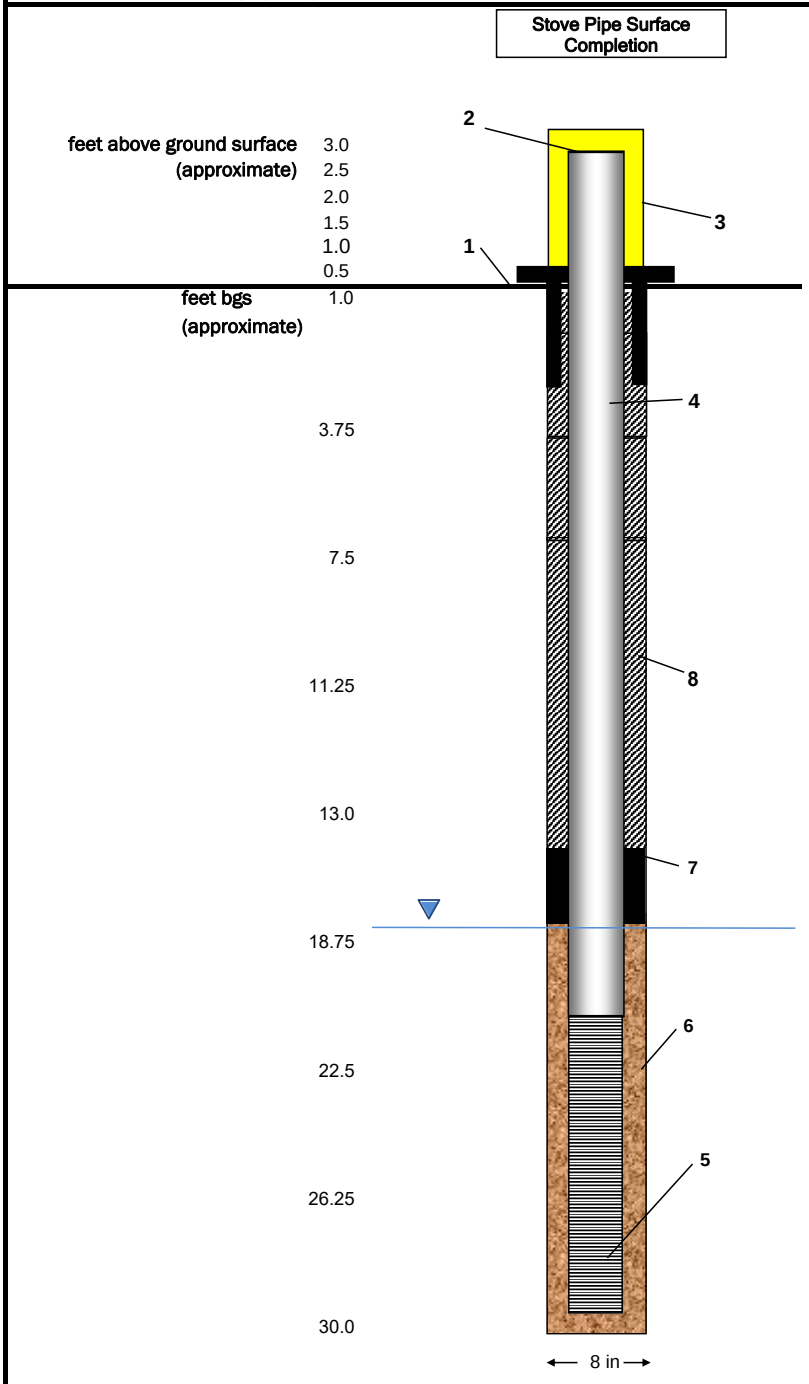
8- Grout :
- a) type: Neat cement
- b) grout mix: Grout slurry mix
- c) method of placement: Gravity Fed
- d) top grout (feet bgs): 0 feet
- e) bottom grout (feet bgs): 16 feet

9- Borehole diameter: 8 inches

| CONTRACTOR | WELL NUMBER | Date |
|---|---|---|
| Parsons | MW-66 | 5/21/24 |

# Groundwater Monitoring Well Completion Data Record

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: AA. Sanchez
DRILLING METHOD / EQUIPMENT: DPT/HSA
HELPERS: AC. Moreno
WATER LEVEL: 18.05 ft bgs (static) START: 5/21/24 END: 5/21/24
GEOLOGIST: AA.Pimentel




1- Ground elevation at well : 207.79 feet

2- Measuring point elevation : top of the casing - north side

3- Surface completion casing :
- a) type / diameter: Monument - 8 inch OD
- b) type of sealant: Neat cement
- c) protective bollards: Yes

4- Well casing :
- a) type / diameter: Schedule 40 PVC / 2 inch ID
- b) height above ground: 2.5 feet
- c) length below ground: 20 feet
- d) well centralizers: None

5- Well screen :
- a) type / diameter: Schedule 40 PVC / 2 inch ID
- b) slot size: 0.02 inch
- c) top screen (feet bgs): 20 feet
- d) bottom screen (feet bgs): 30 feet

6- Well screen filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 18 feet
- c) bottom filter pack (feet bgs): 30 feet

7- Bentonite seal :
- a) method of placement: Poured from surface
- b) type: Betonite chips (hydrated)
- c) top seal (feet bgs): 16 feet
- d) bottom seal (feet bgs): 18 feet

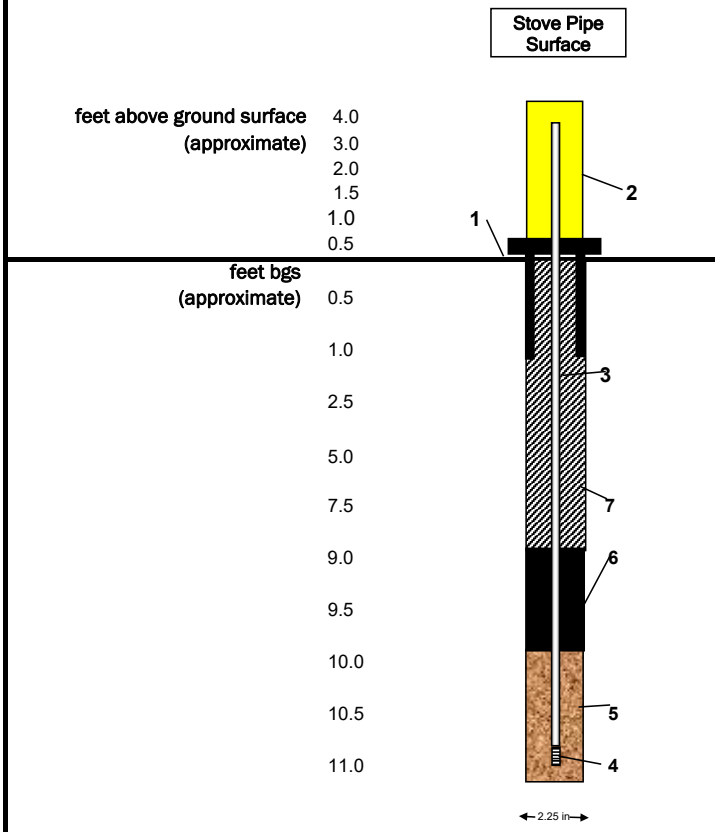
8- Grout :
- a) type: Neat cement
- b) grout mix: Grout slurry mix
- c) method of placement: Gravity Fed
- d) top grout (feet bgs): 0 feet
- e) bottom grout (feet bgs): 16 feet

9- Borehole diameter: 8 inches

| CONTRACTOR | SOIL VAPOR PROBE NUMBER | Date |
|---|---|---|
| Parsons | SV-27 | 5/31/24 |

# Soil Vapor Probe
## COMPLETION DATA RECORD

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: A. Sanchez
DRILLING METHOD / EQUIPMENT: DPT
HELPERS: C. Moreno
GEOLOGIST: A. Pimentel




DRAWING NOT TO SCALE
Below ground has been vertically exaggerated to provide room for details

1- Ground elevation at probe : 200.47 feet

2- Surface completion casing :
- a) type / diameter: Monument - 6 inch ID
- b) type of sealant: Bentonite Crumble (hydrated) / Grout
- c) protective bollards: Yes

3- Probe tubing :
- a) type / diameter: Teflon Tubing- 0.25 inch OD
- b) height above ground: 4 feet
- c) length below ground: 10.5 feet

4- Probe screen :
- a) type / length: ESP Stainless Steel Soil Vapor Implant / 1 inch

5- Probe filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 10 feet
- c) bottom filter pack (feet bgs): 11 feet

6- Dry Bentonite :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble
- c) top seal (feet bgs): 9 feet
- d) bottom seal (feet bgs): 10 feet

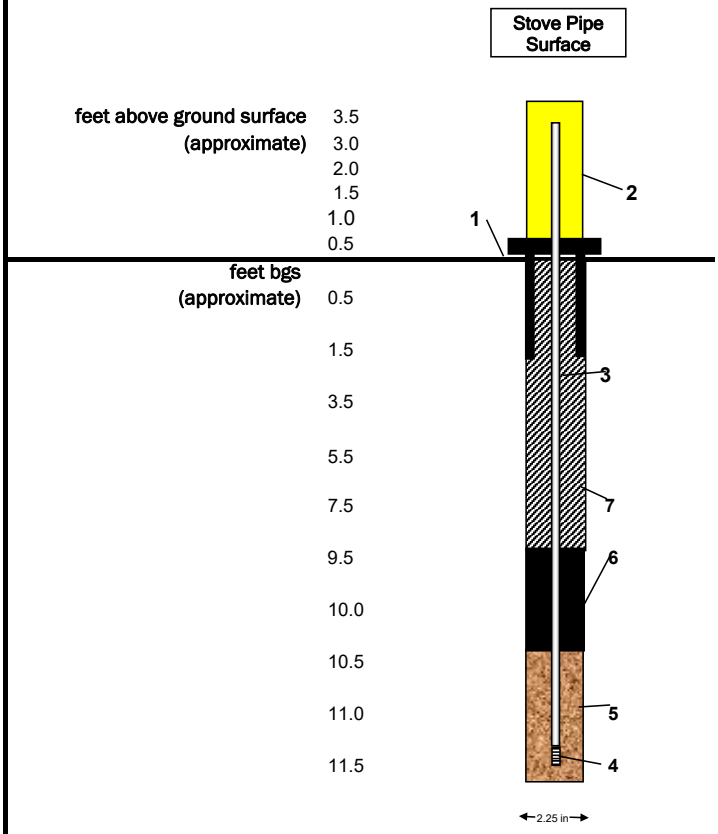
7- Bentonite grout :
- a) method of placement: Gravity feed
- b) type: 0 feet
- c) top seal (feet bgs): 9 feet
- d) bottom seal (feet bgs): Bentonite Crumble (hydrated)

8- Borehole diameter: 2.25 inch

| CONTRACTOR | SOIL VAPOR PROBE NUMBER | Date |
|---|---|---|
| Parsons | SV-28 | 5/31/24 |

# Soil Vapor Probe
## COMPLETION DATA RECORD

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: A. Sanchez
DRILLING METHOD / EQUIPMENT: DPT
HELPERS: C. Moreno
GEOLOGIST: A. Pimentel




DRAWING NOT TO SCALE
Below ground has been vertically exaggerated to provide room for details

1- Ground elevation at probe : 198.32 feet

2- Surface completion casing :
- a) type / diameter: Monument - 6 inch ID
- b) type of sealant: Bentonite Crumble (hydrated) / Grout
- c) protective bollards: Yes

3- Probe tubing :
- a) type / diameter: Teflon Tubing- 0.25 inch OD
- b) height above ground: 3.5 feet
- c) length below ground: 11 feet

4- Probe screen :
- a) type / length: ESP Stainless Steel Soil Vapor Implant / 1 inch

5- Probe filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 10.5 feet
- c) bottom filter pack (feet bgs): 11.5 feet

6- Dry Bentonite :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble
- c) top seal (feet bgs): 9.5 feet
- d) bottom seal (feet bgs): 10.5 feet

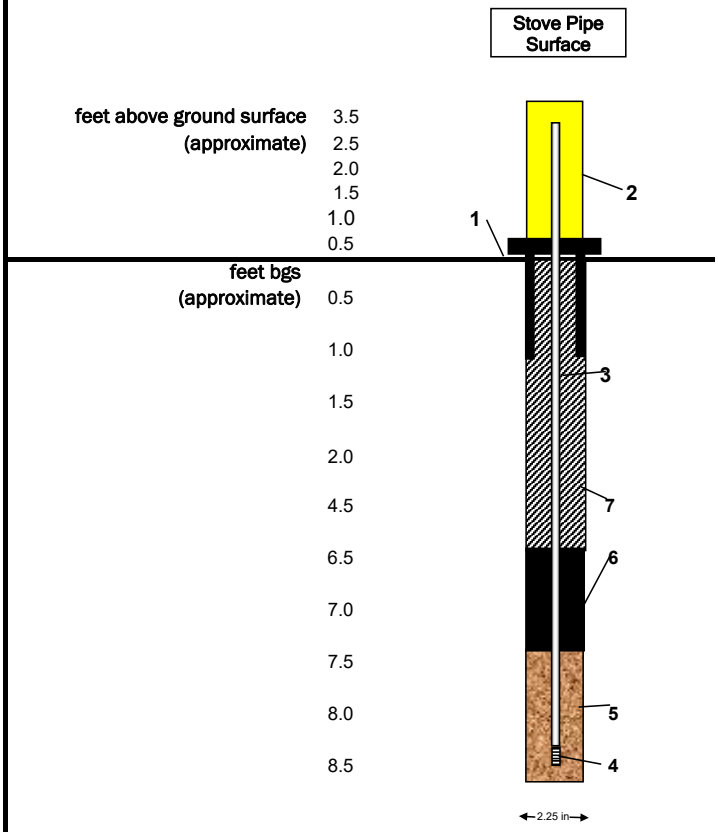
7- Bentonite grout :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble (hydrated)
- c) top seal (feet bgs): 0 feet
- d) bottom seal (feet bgs): 9.5 feet

8- Borehole diameter: 2.25 inch

| CONTRACTOR | SOIL VAPOR PROBE NUMBER | Date |
|---|---|---|
| Parsons | SV-29 | 5/29/24 |

# Soil Vapor Probe
## COMPLETION DATA RECORD

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: A. Sanchez
DRILLING METHOD / EQUIPMENT: DPT
HELPERS: C. Moreno
GEOLOGIST: A. Pimentel




DRAWING NOT TO SCALE
Below ground has been vertically exaggerated to provide room for details

1- Ground elevation at probe : 190.05 feet

2- Surface completion casing :
- a) type / diameter: Monument - 6 inch ID
- b) type of sealant: Bentonite Crumble (hydrated) / Grout
- c) protective bollards: Yes

3- Probe tubing :
- a) type / diameter: Teflon Tubing- 0.25 inch OD
- b) height above ground: 3.5 feet
- c) length below ground: 8 feet

4- Probe screen :
- a) type / length: ESP Stainless Steel Soil Vapor Implant / 1 inch

5- Probe filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 7.5 feet
- c) bottom filter pack (feet bgs): 8.5 feet

6- Dry Bentonite :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble
- c) top seal (feet bgs): 6.5 feet
- d) bottom seal (feet bgs): 7.5 feet

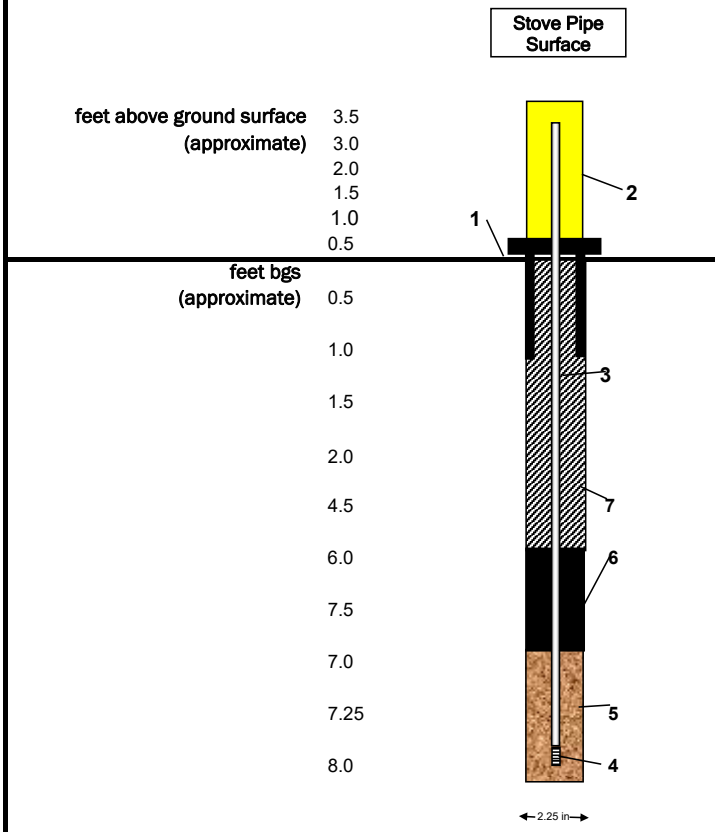
7- Bentonite grout :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble (hydrated)
- c) top seal (feet bgs): 0 feet
- d) bottom seal (feet bgs): 6.5 feet

8- Borehole diameter: 2.25 inch

| CONTRACTOR | SOIL VAPOR PROBE NUMBER | Date |
|---|---|---|
| Parsons | SV-30 | 5/29/24 |

# Soil Vapor Probe
## COMPLETION DATA RECORD

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: A. Sanchez
DRILLING METHOD / EQUIPMENT: DPT
HELPERS: C. Moreno
GEOLOGIST: A. Pimentel




DRAWING NOT TO SCALE
Below ground has been vertically exaggerated to provide room for details

1- Ground elevation at probe : 187.55 feet

2- Surface completion casing :
- a) type / diameter: Monument - 6 inch ID
- b) type of sealant: Bentonite Crumble (hydrated) / Grout
- c) protective bollards: Yes

3- Probe tubing :
- a) type / diameter: Teflon Tubing- 0.25 inch OD
- b) height above ground: 3.5 feet
- c) length below ground: 7.5 feet

4- Probe screen :
- a) type / length: ESP Stainless Steel Soil Vapor Implant / 1 inch

5- Probe filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 7 feet
- c) bottom filter pack (feet bgs): 8 feet

6- Dry Bentonite :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble
- c) top seal (feet bgs): 6 feet
- d) bottom seal (feet bgs): 7 feet

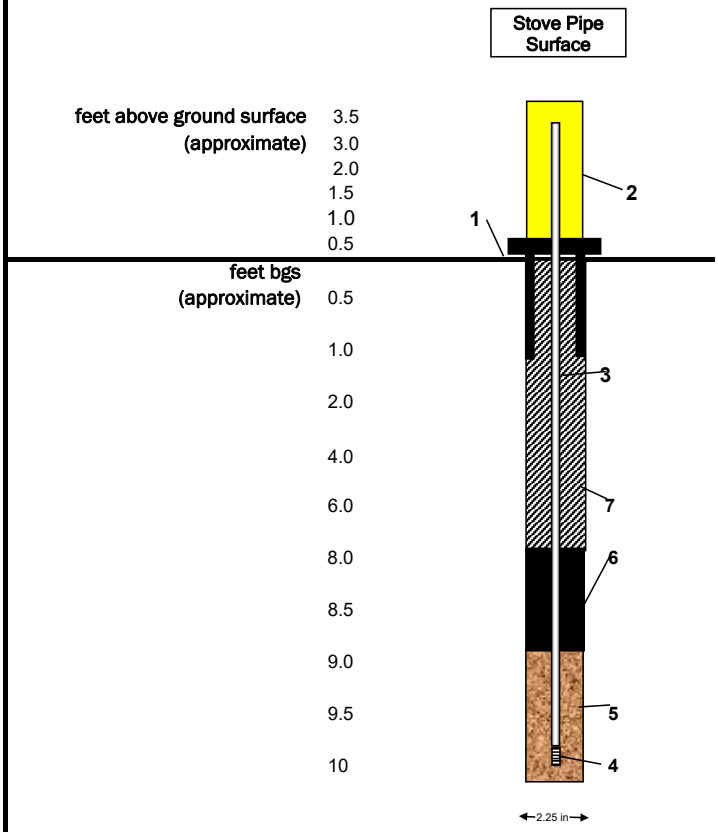
7- Bentonite grout :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble (hydrated)
- c) top seal (feet bgs): 0 feet
- d) bottom seal (feet bgs): 6 feet

8- Borehole diameter: 2.25 inch

| CONTRACTOR | SOIL VAPOR PROBE NUMBER | Date |
|---|---|---|
| Parsons | SV-31 | 5/30/24 |

# Soil Vapor Probe
## COMPLETION DATA RECORD

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: A. Sanchez
DRILLING METHOD / EQUIPMENT: DPT
HELPERS: C. Moreno
GEOLOGIST: A. Pimentel




DRAWING NOT TO SCALE
Below ground has been vertically exaggerated to provide room for details

1- Ground elevation at probe : 211.47 feet

2- Surface completion casing :
- a) type / diameter: Monument - 6 inch ID
- b) type of sealant: Bentonite Crumble (hydrated) / Grout
- c) protective bollards: Yes

3- Probe tubing :
- a) type / diameter: Teflon Tubing- 0.25 inch OD
- b) height above ground: 3.5 feet
- c) length below ground: 9.5 feet

4- Probe screen :
- a) type / length: ESP Stainless Steel Soil Vapor Implant / 1 inch

5- Probe filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 9 feet
- c) bottom filter pack (feet bgs): 10 feet

6- Dry Bentonite :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble
- c) top seal (feet bgs): 8 feet
- d) bottom seal (feet bgs): 9 feet

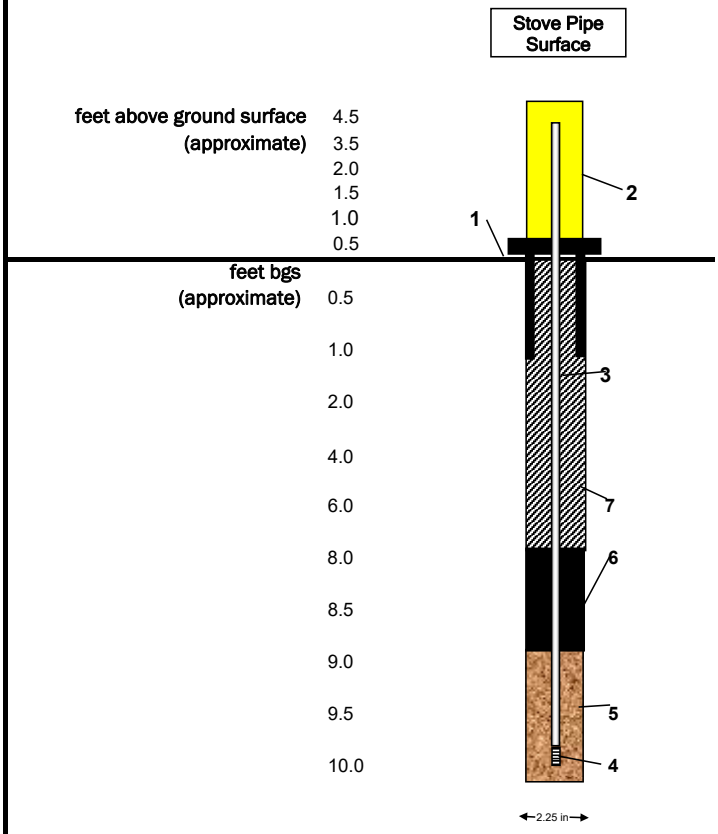
7- Bentonite grout :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble (hydrated)
- c) top seal (feet bgs): 0 feet
- d) bottom seal (feet bgs): 8 feet

8- Borehole diameter: 2.25 inch

| CONTRACTOR | SOIL VAPOR PROBE NUMBER | Date |
|---|---|---|
| Parsons | SV-32 a,b | 5/30/24 |

# Soil Vapor Probe
## COMPLETION DATA RECORD

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: A. Sanchez
DRILLING METHOD / EQUIPMENT: DPT
HELPERS: C. Moreno
GEOLOGIST: A. Pimentel




DRAWING NOT TO SCALE
Below ground has been vertically exaggerated to provide room for details

1- Ground elevation at probe : 213.56 feet

2- Surface completion casing :
- a) type / diameter: Monument - 6 inch ID
- b) type of sealant: Bentonite Crumble (hydrated) / Grout
- c) protective bollards: Yes

3- Probe tubing :
- a) type / diameter: Teflon Tubing- 0.25 inch OD
- b) height above ground: a- 4 feet, b- 4.5 feet
- c) length below ground: a- 5 feet, b- 9.5 feet

4- Probe screen :
- a) type / length: ESP Stainless Steel Soil Vapor Implant / 1 inch

5- Probe filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): a- 4.5 feet, b- 9 feet
- c) bottom filter pack (feet bgs): a- 5.5 feet, b- 10 feet

6- Dry Bentonite :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble
- c) top seal (feet bgs): a- 3 feet, b- 8 feet
- d) bottom seal (feet bgs): a- 4.5 feet, b- 9 feet

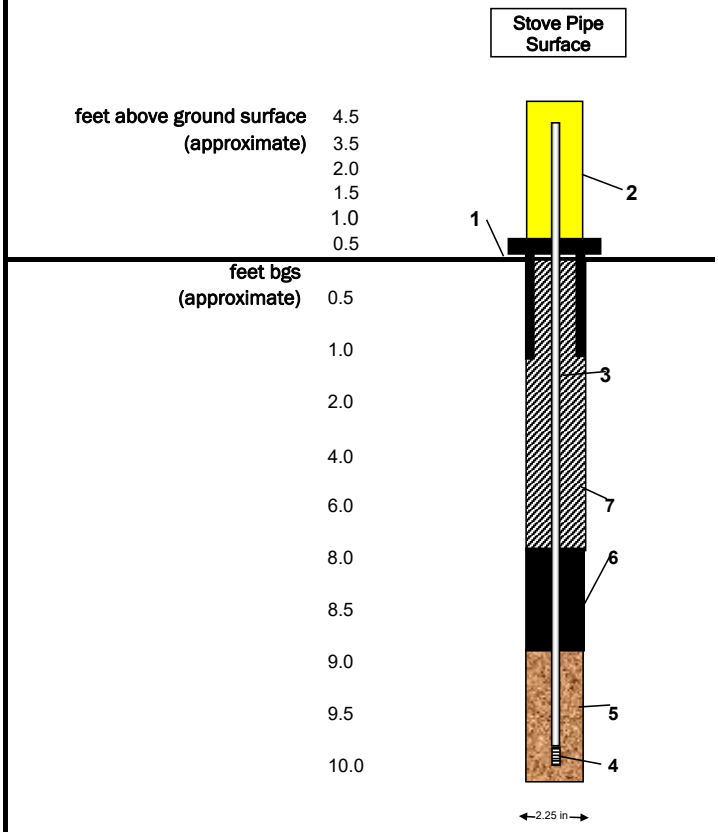
7- Bentonite grout :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble (hydrated)
- c) top seal (feet bgs): a- 0 feet, b- 5.5 feet
- d) bottom seal (feet bgs): a- 3 feet, b- 8 feet

8- Borehole diameter: 2.25 inch

| CONTRACTOR | SOIL VAPOR PROBE NUMBER | Date |
|---|---|---|
| Parsons | SV-33 | 5/20/24 |

# Soil Vapor Probe
## COMPLETION DATA RECORD

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: A. Sanchez
DRILLING METHOD / EQUIPMENT: DPT
HELPERS: C. Moreno
GEOLOGIST: A. Pimentel




DRAWING NOT TO SCALE
Below ground has been vertically exaggerated to provide room for details

1- Ground elevation at probe : 207.84 feet

2- Surface completion casing :
- a) type / diameter: Monument - 6 inch ID
- b) type of sealant: Bentonite Crumble (hydrated) / Grout
- c) protective bollards: Yes

3- Probe tubing :
- a) type / diameter: Teflon Tubing- 0.25 inch OD
- b) height above ground: 4.5 feet
- c) length below ground: 9.5 feet

4- Probe screen :
- a) type / length: ESP Stainless Steel Soil Vapor Implant / 1 inch

5- Probe filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 9 feet
- c) bottom filter pack (feet bgs): 10 feet

6- Dry Bentonite :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble
- c) top seal (feet bgs): 8 feet
- d) bottom seal (feet bgs): 9 feet

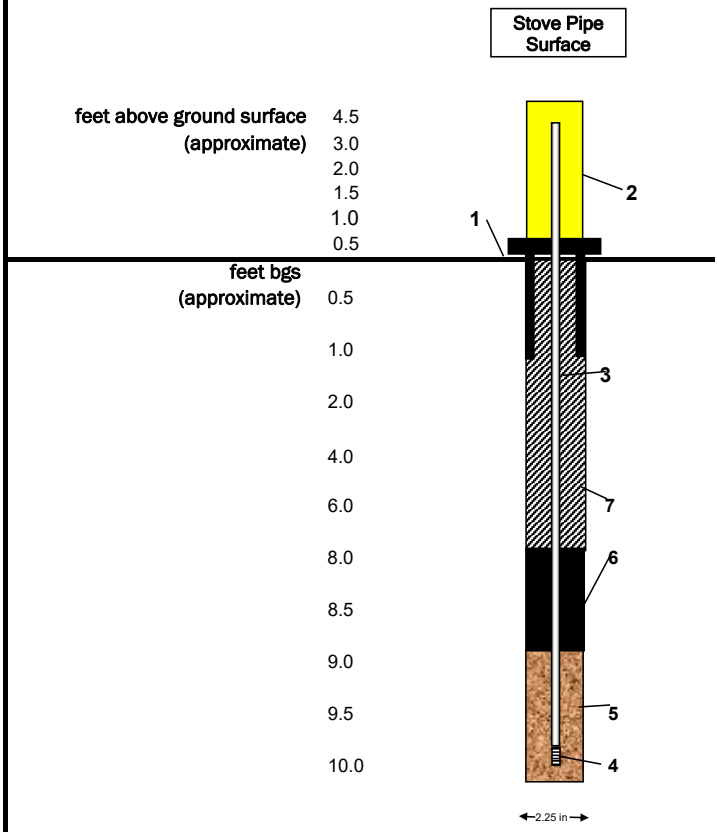
7- Bentonite grout :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble (hydrated)
- c) top seal (feet bgs): 0 feet
- d) bottom seal (feet bgs): 8 feet

8- Borehole diameter: 2.25 inch

| CONTRACTOR | SOIL VAPOR PROBE NUMBER | Date |
|---|---|---|
| Parsons | SV-34 | 6/3/24 |

# Soil Vapor Probe
## COMPLETION DATA RECORD

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: A. Sanchez
DRILLING METHOD / EQUIPMENT: DPT
HELPERS: C. Moreno
GEOLOGIST: A. Pimentel




DRAWING NOT TO SCALE
Below ground has been vertically exaggerated to provide room for details

1- Ground elevation at probe : 207.96 feet

2- Surface completion casing :
- a) type / diameter: Monument - 6 inch OD
- b) type of sealant: Bentonite Crumble (hydrated) / Grout
- c) protective bollards: Yes

3- Probe tubing :
- a) type / diameter: Teflon Tubing- 0.25 inch OD
- b) height above ground: 4.5 feet
- c) length below ground: 9.5 feet

4- Probe screen :
- a) type / length: ESP Stainless Steel Soil Vapor Implant / 1 inch

5- Probe filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 9 feet
- c) bottom filter pack (feet bgs): 10 feet

6- Dry Bentonite :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble
- c) top seal (feet bgs): 8 feet
- d) bottom seal (feet bgs): 9 feet

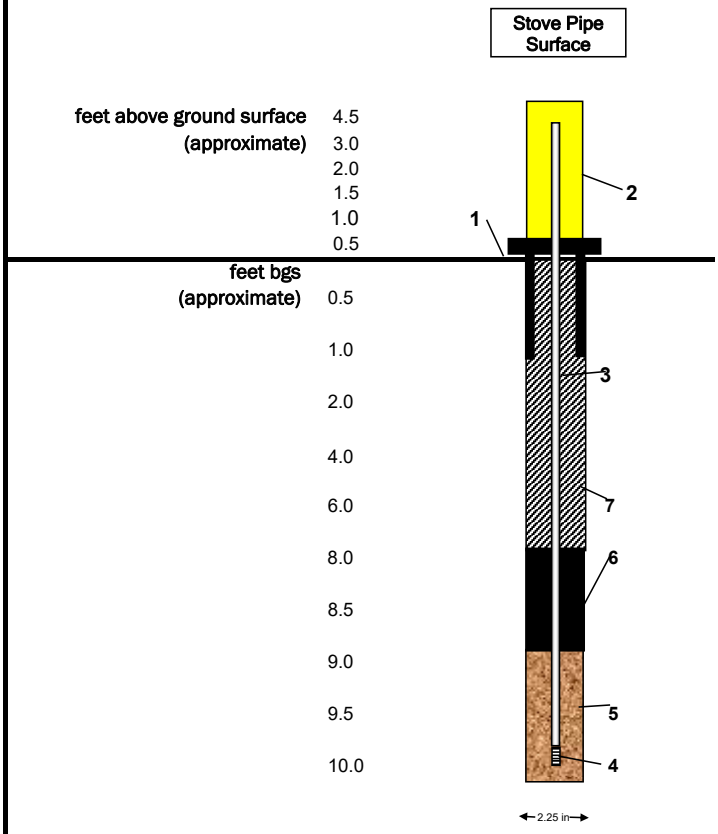
7- Bentonite grout :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble (hydrated)
- c) top seal (feet bgs): 0 feet
- d) bottom seal (feet bgs): 8 feet

8- Borehole diameter: 2.25 inch

| CONTRACTOR | SOIL VAPOR PROBE NUMBER | Date |
|---|---|---|
| Parsons | SV-35 | 6/3/24 |

# Soil Vapor Probe
## COMPLETION DATA RECORD

PROJECT : Semi-Annual Groundwater & Soil Vapor Sampling at Former Titan 1-A Missile Facility
LOCATION: Lincoln, California
DRILLING SUBCONTRACTOR: Cascade
DRILLER: A. Sanchez
DRILLING METHOD / EQUIPMENT: DPT
HELPERS: C. Moreno
GEOLOGIST: A. Pimentel




DRAWING NOT TO SCALE
Below ground has been vertically exaggerated to provide room for details

1- Ground elevation at probe : 207.54 feet

2- Surface completion casing :
- a) type / diameter: Monument - 6 inch OD
- b) type of sealant: Bentonite Crumble (hydrated) / Grout
- c) protective bollards: Yes

3- Probe tubing :
- a) type / diameter: Teflon Tubing- 0.25 inch OD
- b) height above ground: 4.5 feet
- c) length below ground: 9.5 feet

4- Probe screen :
- a) type / length: ESP Stainless Steel Soil Vapor Implant / 1 inch

5- Probe filter pack :
- a) type: #3 Sand
- b) top filter pack (feet bgs): 9 feet
- c) bottom filter pack (feet bgs): 10 feet

6- Dry Bentonite :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble
- c) top seal (feet bgs): 8 feet
- d) bottom seal (feet bgs): 9 feet

7- Bentonite grout :
- a) method of placement: Gravity feed
- b) type: Bentonite Crumble (hydrated)
- c) top seal (feet bgs): 0 feet
- d) bottom seal (feet bgs): 8 feet

8- Borehole diameter: 2.25 inch

# Appendix C – Well Development Forms, 2024S1

CASCADE

# Development/Purge Record

T.O.C - Top of Casing
VOLUME: GAL. per LIN./FT.

2 IN. = 0.17
3 IN. = 0.38
4 IN. = 0.66
6 IN. = 1.5
8 IN. = 2.51

Date: 5/28/2024 Project # 107-24-1074
Site: Lincoln Ca Well I.D. # MW-61

Water Level T.O.C 17.3 Ft
Total Depth 32.9 Ft.

Set Up: 11:30 Well Dia. 2 In.
Water Column (Height) Ft.
Casing Volume Gal.

| Time | Gal Purged | Temp | Ph | Orp | Con | Ntu | DTW | Do |
|---|---|---|---|---|---|---|---|---|
| 11:30 | 3 | Bail | | | | | | |
| 11:45 | | Surge well | | | | | | |
| 12:00 | 10 | Bail 7 gal | | | | | | |
| 12:40 | 10 | Start pumping well | | | | | 18.81 | |
| 12:50 | 15 | 21.25 | 6.76 | -76 | 0.5 | 1000 | 23.55 | 3.15 |
| 13:00 | 20 | 21.1 | 6.63 | -56 | 0.511 | 843 | 23.98 | 2.66 |
| 13:10 | 25 | 21.15 | 6.55 | -50 | 0.486 | 326 | 23.82 | 2.44 |
| 13:20 | 30 | 21.14 | 6.55 | -49 | 0.481 | 195 | 23.84 | 2.41 |
| 13:30 | 35 | 21.22 | 6.48 | -26 | 0.495 | 22.7 | 23.84 | 2.49 |
| 13:35 | | 21.16 | 6.48 | -23 | 0.496 | 6.8 | 23.85 | 2.51 |
| 13:40 | 40 | 21.19 | 6.48 | -26 | 0.495 | 7 | 23.85 | 2.54 |
| | | | | | | | | |
| | | | | | | | | |
| | Well Complete | | | | | | | |
| | | | | | | | | |
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Comments:

Data Collected By:

CASCADE

# Development/Purge Record

T.O.C - Top of Casing
VOLUME: GAL. per LIN./FT.

2 IN. = 0.17
3 IN. = 0.38
4 IN. = 0.66
6 IN. = 1.5
8 IN. = 2.51

Date: 5/28/2024 Project # 107-24-1074
Site: Lincoln Ca Well I.D. # MW-62

Water Level T.O.C 17.32 Ft
Total Depth 32.9 Ft.

Set Up: 14:30 Well Dia. 2 In.
Water Column (Height) Ft.
Casing Volume Gal.

| Time | Gal Purged | Temp | Ph | Orp | Con | Ntu | DTW | Do |
|---|---|---|---|---|---|---|---|---|
| 14:20 | 4 | Bail 4 gal | | | | | | |
| 14:30 | | Surge well | | | | | | |
| 14:45 | | Bail 6 gal | | | | | | |
| 5/29/24 at 8:05 | 10 | Start pumping welll | | | | | 16.9 | |
| 8:15 | 15 | 20.1 | 7.51 | 45 | 0.901 | 1000 | 22.95 | 2.43 |
| 8:25 | 20 | 20.01 | 6.92 | 6.91 | 0.957 | 1000 | 23.4 | 2.55 |
| 8:35 | 25 | 19.99 | 6.85 | 107 | 0.965 | 913 | 23.49 | 2.36 |
| 8:45 | 30 | 20.04 | 6.79 | 99 | 0.955 | 1000 | 23.99 | 1.89 |
| 8:55 | 35 | 20.08 | 6.77 | 91 | 9.15 | 928 | 24.35 | 1.71 |
| 9:05 | 40 | 20.1 | 6.78 | 92 | 0.914 | 875 | 24.35 | 1.7 |
| 9:15 | 45 | 20.1 | 6.78 | 90 | 9.11 | 568 | 24.54 | 1.81 |
| 9:25 | 50 | 20.17 | 6.81 | 90 | 0.912 | 457 | 24.65 | 2.04 |
| 9:35 | 52.5 | 20.4 | 6.83 | 90 | 0.927 | 301 | 24.5 | 192 |
| 9:45 | 55 | 20.28 | 6.82 | 91 | 0.906 | 266 | 24.31 | 199 |
| 9:55 | 57.5 | 20.38 | 6.85 | 89 | 0.934 | 187 | 23.75 | 2.6 |
| 10:05 | 60 | 20.36 | 6.85 | 89 | 0.933 | 102 | 23.7 | 2.54 |
| 10:15 | 62.5 | 20.3 | 6.86 | 83 | 0.924 | 34.1 | 23.65 | 2.06 |
| 10:25 | 65 | 20.31 | 6.85 | 83 | 0.924 | 7.1 | 23.65 | 2.07 |
| 10:35 | 67.5 | 20.32 | 6.85 | 82 | 0.924 | 7.2 | 23.65 | 2.08 |
| | Well Complete | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Comments: 9:25 lower pump rate to .25 gpm

Data Collected By:

CASCADE

# Development/Purge Record

T.O.C - Top of Casing
VOLUME: GAL. per LIN./FT.

2 IN. = 0.17
3 IN. = 0.38
4 IN. = 0.66
6 IN. = 1.5
8 IN. = 2.51

Date: 5/30/2024 Project # 107-24-1074
Site: Lincoln Ca Well I.D. # MW-63

Water Level T.O.C 13.88 Ft
Total Depth 30.4 Ft.

Set Up: 8:00 Well Dia. 2 In.
Water Column (Height) Ft.
Casing Volume Gal.

| Time | Gal Purged | Temp | Ph | Orp | Con | Ntu | DTW | Do |
|---|---|---|---|---|---|---|---|---|
| 8:40 | 1 | Bail 1 gal | | | | | | |
| 8:50 | | Surge well | | | | | | |
| 9:05 | 7 | Bail 6gal | | | | | | |
| 9:25 | 7 | Start pumping well | | | | | 22.97 | |
| 9:35 | 9.5 | 20.97 | 6.39 | -53 | 0.478 | 1000 | 23.9 | 3.33 |
| 9:45 | 12 | 22.05 | 6.46 | -108 | 0.432 | 1000 | 22.5 | 1.28 |
| 9:55 | 14.5 | 21.49 | 6.46 | -163 | 0.435 | 1000 | 22.36 | 1.11 |
| 10:15 | 19.5 | 21.07 | 6.59 | 3 | 0.539 | 174 | 22.8 | 4.58 |
| 10:35 | 24.5 | 21.43 | 6.63 | -29 | 0.508 | 101 | 22.81 | 3.59 |
| 10:45 | 27 | 21.76 | 6.62 | -53 | 0.488 | 13.7 | 22.79 | 3.15 |
| 10:55 | 29.5 | 21.7 | 6.62 | -55 | 0.479 | 6.3 | 22.77 | 3.12 |
| 11:05 | 32 | 21.8 | 6.61 | -57 | 0.477 | 6.6 | 22.74 | 3.11 |
| | | | | | | | | |
| | | | | | | | | |
| | Well complete | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |

Comments: Pump at .25 gpm

Data Collected By:

CASCADE

# Development/Purge Record

T.O.C - Top of Casing
VOLUME: GAL. per LIN./FT.

2 IN. = 0.17
3 IN. = 0.38
4 IN. = 0.66
6 IN. = 1.5
8 IN. = 2.51

Date: 5/30/2024 Project # 107-24-1074
Site: Lincoln Ca Well I.D. # MW-64

Water Level T.O.C 14.19 Ft
Total Depth 31.7 Ft.

Set Up: 11:30 Well Dia. 2 In.
Water Column (Height) Ft.
Casing Volume Gal.

| Time | Gal Purged | Temp | Ph | Orp | Con | Ntu | DTW | Do |
|---|---|---|---|---|---|---|---|---|
| 11:45 | | Bail 2gal | | | | | | |
| 11:55 | | Surge well | | | | | | |
| 12:10 | | Bail 2gal | | | | | | |
| 12:30 | 4 | Start pumping well | | | | | 14.4 | |
| 12:40 | 9 | 20.53 | 7.05 | -254 | 0.469 | 343 | 16.99 | 0.75 |
| 12:50 | 14 | 20.54 | 6.97 | -259 | 0.461 | 206 | 16.99 | 0.68 |
| 13:00 | 19 | 20.52 | 6.97 | -260 | 0.461 | 180 | 16.99 | 0.47 |
| 13:00 | 24 | 20.53 | 6.91 | -262 | 0.457 | 67.3 | 16.99 | 0.84 |
| 13:10 | 29 | 20.53 | 6.9 | -262 | 0.455 | 50.1 | 16.99 | 0.67 |
| 13:20 | 34 | 20.55 | 6.86 | -264 | 0.454 | 19.2 | 16.99 | 0.52 |
| 13:30 | 39 | 20.57 | 6.86 | -265 | 0.455 | 8.7 | 16.99 | 0.61 |
| 13:40 | 44 | 20.58 | 6.87 | -266 | 0.457 | 7.9 | 16.99 | 0.62 |
| 13:45 | 49 | 20.6 | 6.87 | -267 | 0.455 | 7.1 | 16.99 | 0.62 |
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| | Well complete | | | | | | | |
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Comments:

Data Collected By:

T.O.C. - Top of Casing
VOLUME: GAL. PER LIN./FT.
2 IN.=0.17 6 IN.=1.5
3 IN.=0.38 8 IN.=2.51
4 IN.=0.66

# CASCADE DRILLING

## Development / Purge Record

Date 5-28-24 Project # 107-24-1074 Parsons Site Lincoln CA

Well I.D. # MW-66 Water Level T.O.C. 20.03 Ft. Total Depth 32.96 Ft.

Set Up 8:30 Well Dia. 2 In. Water Column Height _____ Ft. Casing Volume _____ Gal.

| TIME | GAL. PURGED | TEMP | COND. X | pH | TURB. | T.D. DO | DTW | OTHER ORP |
|---|---|---|---|---|---|---|---|---|
| 8:40 | 4 | Bail | 4 Gal | | | | | |
| 8:60 | | Surge | Well | | | | | |
| 9:05 | 8 | Bail | 4 Gal | | | | | |
| 9:35 | | Start | Pumping | Well | | | 20.11 | |
| 9:45 | 13 | 20.78 | .589 | 6.38 | 265 | 6.94 | 23.46 | 41 |
| 9:55 | 18 | 20.79 | .588 | 6.35 | 166 | 3.17 | 23.45 | 40 |
| 10:05 | 23 | 20.82 | .587 | 6.35 | 226 | 2.99 | 23.46 | 47 |
| 10:15 | 28 | 20.82 | .586 | 6.37 | 143 | 2.92 | 23.46 | 54 |
| 10:25 | 33 | 20.90 | .585 | 6.38 | 17.3 | 2.92 | 23.46 | 59 |
| 10:30 | — | 20.90 | .585 | 6.39 | 8.6 | 2.92 | 23.46 | 59 |
| 10:35 | 38 | 20.90 | .585 | 6.39 | 7.9 | 2.93 | 23.46 | 58 |
| 10:40 | — | 20.90 | .586 | 6.39 | 6.7 | 2.93 | 23.46 | 59 |
| Hose | | | | | | | | |
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| | | | | | | | | |
| | | | Well Complete | | | | | |

Comments: _____

Data Collected By: Chad Ackley

# Appendix D – Survey Data

R.E.Y. ENGINEERS, INC.
CIVIL ENGINEERING | LAND SURVEYING | REMOTE SENSING

June 19, 2024

Parsons
Carrie M. Ross, PE, PMP
999 18th St. Suite 1555N
Denver, CO 80202
(303) 349-8292 cell

**RE: 401 Oak Tree Lane, Lincoln CA – Monitoring Well Survey - *Revised***

Dear Carrie,

Following is a statement regarding methods and accuracies for the Survey work completed by R.E.Y. field personnel on June 6, 2024. Please do not hesitate to contact me if you have any questions.

**Surveyor's Statement**

Survey Control was taken from the City of Lincoln Survey Control Survey filed for record in Book 23 of Survey at page 155 of the Placer County Records. Specifically Point No. 109, which is a Found 3" Brass Disk in a Monument Box stamped "City of Lincoln No. 109 GPS Control", which is behind the weather station at the project site, was used for horizontal and vertical control. The City of Lincoln Control Network is expressed in California State Plane NAD 83, Zone II grid coordinates with NAVD88 elevations.

Temporary control points were established on site and levels were run from No. 109 to this control. All well locations and ground shots were tied from this control using a Trimble 3" total station instrument in good adjustment.

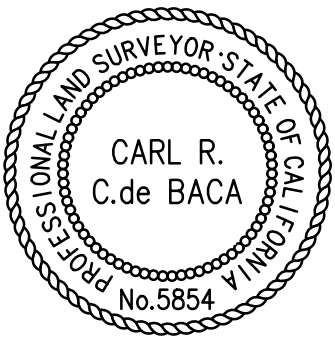
All well casing locations were taken on the top of the PVC casing on the north side of the well. All ground shots were taken on the natural ground, NOT the concrete base of the well casing, as directed on site by Parson representatives.

This report provides the location information in both California State Plane NAD83 Zone II US Survey Feet and WGS84 Latitude and Longitude. The Elevations listed are NAVD88 as taken from the aforementioned Point No. 109. The vertical accuracy of this survey for the well casing points is hereby stated as ±0.01'. Of course, a ground point, which has vegetation, hardness or softness of surface and repeatability of horizontal location to take into account, will carry a somewhat lesser accuracy. For the purposes of this report we are certifying a vertical accuracy of ±0.05' for the ground shots.

See attached sheet two for reported horizontal and vertical information for the well site data collected on June 6, 2024.

Carl C.de Baca 6/19/24

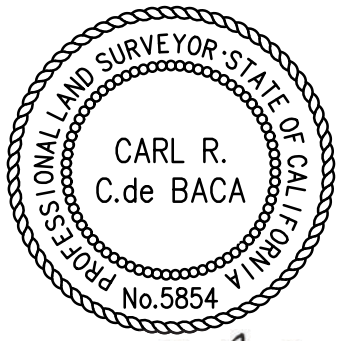
Carl R. C.de Baca CA PLS 5854 Date



401 Oak Tree Lane, Lincoln, CA. Monitoring Well Survey Results June, 2024 *Revised 6/19/24*

| POINT ID | WELL ID | DESCRIPTION | TOP OF PVC IN CASING ELEV NORTH SIDE | GROUND ELEV NORTH SIDE OF WELL | ELEVATION (MISCELLANEOUS) | NAD83 ZONE II NORTHING | NAD83 ZONE II EASTING | WGS 84 LATITUDE | WGS84 LONGITUDE |
|---|---|---|---|---|---|---|---|---|---|
| 6025 | MW-35 | GS N.SIDE MW-35 | | 209.99 | | 2082894.168 | 6770678.766 | 38.8793122 | -121.2657570 |
| 6011 | MW-61 | GS N.SIDE MW-61 | | 200.54 | | 2082937.695 | 6769617.612 | 38.8794552 | -121.2694834 |
| 6012 | MW-61 | N.SIDE MW-61 CASING | 203.00 | | | 2082936.667 | 6769617.604 | 38.8794524 | -121.2694835 |
| 6013 | MW-62 | N.SIDE MW-62 CASING | 201.101 | | | 2082675.260 | 6769635.196 | 38.8787342 | -121.2694291 |
| 6015 | MW-62 | GS N.SIDE MW-62 | | 198.32 | | 2082676.301 | 6769635.197 | 38.8787371 | -121.2694290 |
| 6016 | MW-63 | GS N.SIDE MW-63 | | 189.81 | | 2082339.775 | 6769523.143 | 38.8778155 | -121.2698321 |
| 6018 | MW-63 | N.SIDE MW-63 CASING | 192.161 | | | 2082338.897 | 6769522.856 | 38.8778131 | -121.2698332 |
| 6019 | MW-64 | N.SIDE MW-64 CASING | 189.977 | | | 2082069.374 | 6769485.786 | 38.8770739 | -121.2699710 |
| 6021 | MW-64 | GS N.SIDE MW-64 | | 187.56 | | 2082070.396 | 6769485.807 | 38.8770767 | -121.2699709 |
| 6005 | MW-66 | GS N.SIDE MW-66 | | 207.79 | | 2083410.910 | 6770179.149 | 38.8807421 | -121.2674975 |
| 6006 | MW-66 | N.SIDE MW-66 CASING | 210.355 | | | 2083409.738 | 6770179.280 | 38.8807389 | -121.2674970 |
| 6010 | SV-27 | GS N.SIDE SV-27 | | 200.47 | | 2082940.720 | 6769617.883 | 38.8794635 | -121.2694824 |
| 6014 | SV-28 | GS N.SIDE SV-28 | | 198.32 | | 2082679.884 | 6769635.450 | 38.8787469 | -121.2694280 |
| 6017 | SV-29 | GS N.SIDE SV-29 | | 190.05 | | 2082343.609 | 6769523.459 | 38.8778260 | -121.2698309 |
| 6020 | SV-30 | GS N.SIDE SV-30 | | 187.55 | | 2082074.356 | 6769485.299 | 38.8770876 | -121.2699726 |
| 6003 | SV-31 | GS N.SIDE SV-31 | | 211.47 | | 2083125.869 | 6770095.790 | 38.8799613 | -121.2677983 |
| 6002 | SV-32 | GS N.SIDE SV-32 | | 213.56 | | 2083279.475 | 6770210.724 | 38.8803805 | -121.2673903 |
| 6007 | SV-33 | GS N.SIDE SV-33 | | 207.84 | | 2083482.004 | 6770145.886 | 38.8809380 | -121.2676123 |
| 6008 | SV-34 | GS N.SIDE SV-34 | | 207.96 | | 2083382.342 | 6770056.418 | 38.8806664 | -121.2679294 |
| 6004 | SV-35 | GS N.SIDE SV-35 (see note) | | 207.54 | | 2083413.917 | 6770177.863 | 38.8807504 | -121.2675019 |
| 6022 | | EOWATER-2'+-DEEP POND | | | 178.35 | 2081884.060 | 6769786.787 | 38.8765584 | -121.2689189 |
| 6023 | | EOWATER-1.5'+-DEEP CREEK | | | 180.40 | 2081730.711 | 6769937.551 | 38.8761340 | -121.2683937 |

Note: "SV35" written on top of casing lid - "SV33" etched in concreted base




6/24/24

Carl C. de Baca

# Appendix E – Groundwater and Soil Vapor Sampling Forms, 2024S1

**EQUIPCO** RENTALS

## RAE SYSTEMS MiniRAE 3000 PID CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: FM

DATE: 5/17/24

### INSTRUMENT INFORMATION

RENTAL ID#: RAE3000.13 SERIAL NUMBER: 592-911160 LAMP: ☑ 10.6eV ☐ 11.8eV

### CALIBRATION INFORMATION

CALIBRATION GAS 1:
☑ Isobutylene 100 ppm, in air
☐ Hexane _____ ppm, in air

RESPONSE TO GAS 1:
☑ 100 ppm ±2%

LOT#: 285253

ZERO AIR RESPONSE:
☑ 000.0ppm

LOT#: 285253

**THANK YOU FOR RENTING FROM EQUIPCO**

This instrument has been thoroughly tested by a factory certified service technician before delivery to you. If you have any questions or difficulties please call us immediately and request technical support.

**1-888-234-5678**

# EQUIPMENT CALIBRATION LOG

| Equipment Type | Serial Number | Date | Calibration Time | Calibration Gas | Zero Air | Calibration Gas Reading | Calibrated By | Comments |
|---|---|---|---|---|---|---|---|---|
| miniRAE 3000 | | 5/20/24 | | Isobutylene 100ppm | 0.0 | — | ~~A.Pimentel~~ | Calibration from Equipco |
| ↓ | | 5/21/24 | 0 | ~~94.3~~ | 0.0 | 94.3 | A Pimentel | |
| | | 5/22/24 | 0720 | ~~95.0~~ | 0.0 | 95.8 | AP | |
| | | 5/23/24 | 0715 | ~~94.9~~ | 0.0 | 94.9 | AP | |
| | | 5/24/24 | 0730 | ↓ | 0.0 | 96.5 | AP | |
| | | 5/28/24 | 0650 | | 0.0 | 93.8 | AP | |
| | | 5/29/24 | 0730 | | 0.0 | 95.3 | AP | |
| | | 5/30/24 | 0927 | | 0.0 | 103.4 | AP | |
| | | 5/31/24 | 0745 | | 0.0 | 102.8 | AP | |
| | | 6/1/24 | 0758 | | 0.0 | 101.7 | AP | |
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# WELL GAUGING DATA

Project # 240528 ~~CS-180~~ SC-1 Date 5-28-24 Client Parsons

Site Titan Missile

| Well ID | Well Size (in.) | Time Gauged | Sheen / Odor | Depth to Immiscible Liquid (ft.) | Thickness of Immiscible Liquid (ft.) | Volume of Immiscibles Removed (ml) | Depth to water (ft.) | Depth to well bottom (ft.) | Survey Point: TOB or TOC |
|---|---|---|---|---|---|---|---|---|---|
| MW-32 | 2 | 0829 | | | | | 10.95 | 36.78 | TOC |
| MW-31 | 2 | 0834 | | | | | 16.47 | 27.07 | TOC |
| MW-33 | 2 | 0842 | | | | | 12.87 | 37.34 | TOC |
| MW-18 | 2 | 0849 | | | | | 13.79 | 24.88 | TOC |
| MW-34 | 2 | 0854 | | | | | 16.50 | 26.93 | TOC |
| MW-58 | 2 | 0902 | | | | | ~~Dry~~ 23.60 | 25.03 | TOC |
| MW-53 | 2 | 0910 | | | | | 20.75 | 36.64 | TOC |
| MW-52 | 2 | 0914 | | | | | 26.30 | 47.51 | TOC |
| MW-50 | 2 | 0918 | | | | | 22.96 | 41.84 | TOC |
| MW-46 | 2 | 0923 | | | | | 22.22 | 42.21 | TOC |
| MW-44 | 2 | 0928 | | | | | 12.85 | 37.47 | TOC |
| MW-59 | 2 | 0931 | | | | | 10.66 | 31.91 | TOC |
| MW-47 | 2 | 0935 | | | | | 18.53 | 42.35 | TOC |
| MW-60 | 2 | 0939 | | | | | 22.63 | 37.40 | TOC |
| MW-29 | 2 | 0945 | | | | | 17.59 | 36.98 | TOC |
| MW-30 | 2 | 0951 | | | | | 27.79 | 44.84 | TOC |
| MW-57 | 2 | 0808 | | | | | 20.42 | 42.22 | TOC |

(EH) ~~Dry?~~

# WELL GAUGING DATA

Project # 240508sc-1 Date 5-28-24 Client Parsons

Site Titan Missile

| Well ID | Well Size (in.) | Time Gauged | Sheen / Odor | Depth to Immiscible Liquid (ft.) | Thickness of Immiscible Liquid (ft.) | Volume of Immiscibles Removed (ml) | Depth to water (ft.) | Depth to well bottom (ft.) | Survey Point: TOB or TOC |
|---|---|---|---|---|---|---|---|---|---|
| MW-16 | 4 | 0956 | | | | | 19.30 | 28.13 | TOC |
| MW-51 | 2 | 1001 | | | | | 14.29 | 37.76 | TOC |
| MW-49 | 2 | 1004 | | | | | 13.30 | 37.24 | TOC |
| MW-11 | 4 | 1010 | | | | | 15.27 | 25.21 | TOC |
| MW-17 | 4 | 1012 | | | | | 14.14 | 22.45 | TOC (EH) |
| MW-35 | 2 | 1016 | | | | | 17.70 | 20.00 | TOC ~~Perf~~ |
| EW-1 | 4 | 1022 | | | | | 18.05 | 26.57 | TOB |
| MW-48 | 2 | 1024 | | | | | 21.57 | 37.62 | TOC |
| MW-56 | 2 | 1027 | | | | | 17.15 | 37.45 | TOC |
| MW-45 | 2 | 1110 | | | | | 16.61 | 36.54 | TOC |
| MW-22 | 2 | 1112 | | | | | 10.52 | 30.13 | TOC |
| MW-43 | 2 | 1117 | | | | | 5.87 | 27.87 | TOC |
| MW-42 | 2 | 1120 | | | | | 15.30 | 35.00 | TOC |
| MW-55 | 2 | 1124 | | | | | 6.77 | 27.52 | TOC |
| MW-54 | 2 | 1128 | | | | | 5.28 | 24.94 | TOC |
| MW-19 | 2 | 1131 | | | | | 6.93 | 27.44 | TOC |
| | | | | | | | | | |

# WELL GAUGING DATA

Project # 240528SC-1 Date 6-3-24 Client Parsons

Site Titan Missile

| Well ID | Well Size (in.) | Time Gauged | Sheen / Odor | Depth to Immiscible Liquid (ft.) | Thickness of Immiscible Liquid (ft.) | Volume of Immiscibles Removed (ml) | Depth to water (ft.) | Depth to well bottom (ft.) | Survey Point: TOB or TOC |
|---|---|---|---|---|---|---|---|---|---|
| MW-64 | 2 | 0805 | | | | | 14.47 | 32.04 | TOC |
| MW-63 | 2 | 0925 | | | | | 14.22 | 30.11 | TOC |
| MW-62 | 2 | 1105 | | | | | 17.62 | 32.66 | TOC |
| MW-61 | 2 | 1205 | | | | | 17.50 | 32.65 | TOC |
| MW-66 | 2 | 1420 | | | | | 19.99 | 32.64 | TOC |
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# LOW FLOW WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528 SC-1 ~~-100~~ | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-11 | Well Diameter (in.): 2 3 (4) 6 8 ____ |
| Total Well Depth (ft.): 25.21 | Depth to Water (ft.): 15.27 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: * Dedicated Tubing | New Tubing | Other

Start Purge Time: 0901 Flow Rate: 200 mL/min Pump Depth: 20'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0904 | 21.6 | 7.03 | 793 | 21.1 | clear | 1.16 | 119 | 600 | 15.39 |
| 0907 | 21.3 | 7.00 | 791 | 17.9 | | 0.96 | 115 | 1200 | 15.38 |
| 0910 | 21.5 | 6.98 | 791 | 18.6 | | 0.90 | 112 | 1800 | 15.45 |
| 0913 | 21.7 | 6.98 | 792 | 18.4 | | 0.85 | 107 | 2400 | 15.52 |
| 0916 | 21.7 | 6.98 | 792 | 17.7 | | 0.82 | 104 | 3000 | 15.58 |
| 0919 | 21.6 | 6.98 | 792 | 17.3 | | 0.79 | 100 | 3600 | 15.65 |
| 0922 | 21.7 | 6.98 | 791 | 18.8 | ↓ | 0.80 | 97.5 | 4200 | 15.68 |
| | | | | | | | | | |
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Did well dewater? Yes (No) Amount actually evacuated: 4200

Sampling Time: 0927 Sampling Date: 5-30-24

Sample I.D.: TIAMF-MW011_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

SC-1

| | |
|---|---|
| Project #: 240528~~CS-TBD~~ | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-16 | Well Diameter (in.): 2 3 (4) 6 8 ___ |
| Total Well Depth (ft.): 25.21 | Depth to Water (ft.): 19.30 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | * Bladder Pump
Sampling Method: * Dedicated Tubing | New Tubing | Other ___

Start Purge Time: 1000 Flow Rate: 200 mL/min Pump Depth: 23'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or (µS/cm)) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1003 | 21.3 | 7.02 | 795 | 20.3 | clear | 3.80 | 106 | 600 | 19.39 |
| 1006 | 21.1 | 6.99 | 794 | 19.2 | | 3.86 | 109 | 1200 | 19.41 |
| 1009 | 21.2 | 6.99 | 794 | 18.7 | | 3.88 | 111 | 1800 | 19.46 |
| 1012 | 20.9 | 7.00 | 794 | 18.9 | | 4.05 | 113 | 2400 | 19.53 |
| 1015 | 21.2 | 7.01 | 794 | 19.9 | | 4.11 | 113 | 3000 | 19.56 |
| 1018 | 21.0 | 7.01 | 793 | 18.5 | | 4.20 | 110 | 3600 | 19.57 |
| 1021 | 21.3 | 7.02 | 793 | 19.6 | | 4.32 | 108 | 4200 | 19.59 |
| 1024 | 21.1 | 7.03 | 793 | 19.6 | | 4.56 | 108 | 4800 | 19.61 |
| 1027 | 21.2 | 7.03 | 793 | 19.7 | | 4.61 | 102 | 5400 | 19.62 |
| 1030 | 21.2 | 7.04 | 793 | 19.9 | | 4.62 | 98 | 6000 | 19.64 |
| | | | | | | | | | |
| | | | | | | | | | |

Did well dewater? Yes (No) Amount actually evacuated: 6000

Sampling Time: 1035 Sampling Date: 5-30-24

Sample I.D.: TIAMF-MW016_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.: TIAMF-MW016_MAY24_FI

# LOW FLOW WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528~~65~~ SC-1 ~~180~~ | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-17 | Well Diameter (in.): 2 3 (4) 6 8 ____ |
| Total Well Depth (ft.): 22.45 | Depth to Water (ft.): 14.14 |
| Depth to Free Product: --- | Thickness of Free Product (feet): --- |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: Dedicated Tubing | * New Tubing | Other

Start Purge Time: 0803 Flow Rate: 200 ml/min Pump Depth: 20'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0806 | 17.8 | 6.86 | 759 | 19.2 | clear | ~~140~~ (EH) 5.03 | 190 | 600 | 14.25 |
| 0809 | 17.8 | 6.86 | 759 | 18.0 | | 4.99 | 189 | 1200 | 14.31 |
| 0812 | 17.8 | 6.88 | 759 | 18.6 | | 4.95 | 187 | 1800 | 14.37 |
| 0815 | 17.7 | 6.89 | 758 | 17.7 | | 4.92 | 186 | 2400 | 14.41 |
| 0818 | 17.9 | 6.89 | 758 | 18.2 | | 4.89 | 183 | 3000 | 14.44 |
| 0821 | 17.9 | 6.90 | 758 | 18.4 | | 4.89 | 181 | 3600 | 14.49 |
| 0824 | 17.9 | 6.90 | 759 | 18.7 | | 4.89 | 180 | 4200 | 14.51 |
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Did well dewater? Yes (No) Amount actually evacuated: 4200

Sampling Time: 0829 Sampling Date: 5-30-24

Sample I.D.: TIAMF-MW017_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528SC-1 | Client: Parsons |
| Sampler: SC | Gauging Date: 5/28/24 |
| Well I.D.: MW-19 | Well Diameter (in.): (2) 3 4 6 8 |
| Total Well Depth (ft.): 27.44 | Depth to Water (ft.): 6.93 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro Plus |

Purge Method: 2" Grundfos Pump (C3) ~~Peristaltic Pump~~ Bladder Pump
Sampling Method: (Dedicated Tubing) New Tubing Other

Start Purge Time: 1139 Flow Rate: 200mL/min Pump Depth: ~~25~~ 22

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1142 | 22.2 | 7.72 | 536 | 5 | Clear | 2.06 | 170.4 | 600 | 6.83 |
| 1145 | 20.3 | 7.52 | 522 | 4 | " | 1.42 | 145.3 | 1200 | 6.83 |
| 1148 | 20.0 | 7.50 | 512 | 4 | " | 1.26 | 133.0 | 1800 | 6.83 |
| 1151 | 20.3 | 7.48 | 436.8 | 4 | " | 0.99 | 119.7 | 2400 | 6.83 |
| 1154 | 20.6 | 7.34 | 439.5 | 4 | " | 0.94 | 112.2 | 3000 | 6.83 |
| 1157 | 20.7 | 7.40 | 440.5 | 4 | " | 0.92 | 110.1 | 3600 | 6.83 |
| 1200 | 20.6 | 7.41 | 440.3 | 4 | " | 0.91 | 109.9 | 4200 | 6.83 |
| | | | | | | | | | |
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Did well dewater? Yes (No) Amount actually evacuated: 4200mL

Sampling Time: 1205 Sampling Date: 5/28/24

Sample I.D.: TI AMF-MW019_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:



TB-1_MAY24

# LOW FLOW WELL MONITORING DATA SHEET

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|---|---|
| Project #: 240528SC1 | Client: Parsons |
| Sampler: SC | Gauging Date: 5/28/24 |
| Well I.D.: MW-22 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 30.13 | Depth to Water (ft.): 10.52 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro Plus |

Purge Method: 2" Grundfos Pump — Peristaltic Pump — ~~Bladder Pump~~
Sampling Method: ~~Dedicated Tubing~~ — New Tubing — Other

Start Purge Time: 1430 Flow Rate: 200 mL/min Pump Depth: 15'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1433 | 23.3 | 7.35 | 455.8 | 38 | Clear | 3.81 | 96.8 | 600 | 10.78 |
| 1436 | 23.4 | 7.31 | 460.5 | 34 | | 3.81 | 99.7 | 1200 | 10.78 |
| 1439 | 23.1 | 7.31 | 458.7 | 35 | | 3.94 | 100.1 | 1800 | 10.78 |
| 1442 | 23.1 | 7.31 | 456.7 | 36 | | 3.97 | 100.9 | 2400 | 10.78 |
| 1445 | 23.1 | 7.30 | 456.7 | 34 | | 3.92 | 100.9 | 3000 | 10.78 |
| 1448 | 23.0 | 7.31 | 454.3 | 33 | | 4.00 | 101.6 | 3600 | 10.81 |
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Did well dewater? Yes (No) — Amount actually evacuated: 3.6 L

Sampling Time: 1453 — Sampling Date: 5/28/24

Sample I.D.: TIAMS-MW22_MAY 24 — Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D — Other:

Equipment Blank I.D.: EB-1_@MW22 time ~~1430~~ 1425 — Duplicate I.D.:



AB-1 = MAY 24 @ 1425

# LOW FLOW WELL MONITORING DATA SHEET

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|---|---|
| Project #: 240528 ~~GS-100~~ GC-1 | Client: Parsons |
| Sampler: CH | Gauging Date: 5-28-24 |
| Well I.D.: MW-29 | Well Diameter (in.): (2) 3 4 6 8 |
| Total Well Depth (ft.): 36.98 | Depth to Water (ft.): 17.59 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump

Sampling Method: *Dedicated Tubing | New Tubing | Other

Start Purge Time: 1256 | Flow Rate: 200 mL/min | Pump Depth: 27'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or *µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1259 | 24.1 | 7.24 | 930 | 56.2 | clear | 3.52 | 150.2 | 600 | 17.99 |
| 1302 | 23.3 | 7.23 | 926 | 33.2 | " | 3.46 | 147.8 | 1200 | 18.32 |
| 1305 | 23.3 | 7.22 | 923 | 30.1 | " | 3.44 | 146.1 | 1800 | 18.49 |
| 1308 | 23.6 | 7.22 | 926 | 31.1 | " | 3.49 | 144.6 | 2400 | 18.63 |
| 1311 | 23.7 | 7.22 | 925 | 28.0 | " | 3.43 | 143.4 | 3000 | 18.65 |
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Did well dewater? Yes (No) | Amount actually evacuated: 3000

Sampling Time: 1316 | Sampling Date: 5-30-24

Sample I.D.: TIAMF - MW029_MAY24 | Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D | Other:

Equipment Blank I.D.: @ Time | Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

SC-1

| | |
|---|---|
| Project #: 240528~~65~~ 180 | Client: Parsons |
| Sampler: ETI | Gauging Date: 5-28-24 |
| Well I.D.: MW-30 | Well Diameter (in.): (2) 3 4 6 8 |
| Total Well Depth (ft.): 44.84 | Depth to Water (ft.): 27.79 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: *Dedicated Tubing | New Tubing | Other

Start Purge Time: 1355 Flow Rate: 200 mL/min Pump Depth: 40'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or *µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1358 | 25.3 | 6.80 | 903 | 207 | slightly white turbidity | 3.93 | 124.5 | 600 | 28.13 |
| 1401 | 25.6 | 6.78 | 902 | 227 | | 3.70 | 137.5 | 1200 | 28.16 |
| 1404 | 26.4 | 6.78 | 906 | 224 | | 3.49 | 143.6 | 1800 | 28.26 |
| 1407 | 26.0 | 6.79 | 907 | 186 | | 3.47 | 146.4 | 2400 | 28.37 |
| 1410 | 26.0 | 6.79 | 910 | 145 | | 3.41 | 147.6 | 3000 | 28.40 |
| 1413 | 26.0 | 6.79 | 907 | 127 | | 3.34 | 147.9 | 3600 | 28.47 |
| 1416 | 26.1 | 6.79 | 910 | 116 | | 3.31 | 148.2 | 4200 | 28.48 |
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Did well dewater? Yes (No) Amount actually evacuated: 4200

Sampling Time: 1421 Sampling Date: 5-30-24

Sample I.D.: TIAMF-MW030_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.: TIAMF-MW030_MAY24_FI

@ 1426

# LOW FLOW WELL MONITORING DATA SHEET

SG-1

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|---|---|
| Project #: 240528 ~~GS-1~~ | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-35 | Well Diameter (in.): (2) 3 4 6 8 |
| Total Well Depth (ft.): 20.00 | Depth to Water (ft.): 17.70 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | * Bladder Pump
Sampling Method: Dedicated Tubing | * New Tubing | Other

Start Purge Time: 0825 Flow Rate: 100 mL/min Pump Depth: 19.5'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or *µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0828 | 18.8 | 6.41 | 973 | 56.3 | odor, | 0.91 | -110.6 | 300 | 18.13 |
| 0831 | 17.9 | 6.39 | 1058 | 39.3 | grey | 0.66 | -113.8 | 600 | water meter mt top of bladder pum |
| 0834 | 17.8 | 6.37 | 1078 | 28.4 | " | 0.61 | -112.7 | 900 | water level below top of pump |
| 0837 | 18.0 | 6.39 | 1082 | 33.3 | " | 0.65 | -114.1 | 1200 | " |
| 0840 | 18.2 | 6.28 | 1081 | 29.1 | " | 0.77 | -103.8 | 1500 | " |
| 0842 | * well dewatered @ ~ | | | | 1.7 L | | | | |
| 1430 | 24.0 | 6.77 | 987 | 77.5 | | 2.02 | -112.0 | Grab | 17.97 |
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Did well dewater? (Yes) No — Amount actually evacuated: 1500

Sampling Time: 1435 — Sampling Date: 5-31-24

Sample I.D.: TIAMF-MW035_MAY24 — Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D — Other:

Equipment Blank I.D.: @ Time — Duplicate I.D.: TIAMF-MW035_MAY24_FD

@1440

# LOW FLOW WELL MONITORING DATA SHEET

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|---|---|
| Project #: 240528x-1 | Client: (CB) Kleinfelder Parsons |
| Sampler: SC | Gauging Date: 5/28/24 |
| Well I.D.: MW-11C | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 3500 | Depth to Water (ft.): 15.30 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro Plus |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | (Bladder Pump)
Sampling Method: (Dedicated Tubing) | New Tubing | Other
Start Purge Time: 1229 Flow Rate: 200 mL/min Pump Depth: 29'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or (µS/cm)) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or (mL)) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1252 | 20.8 | 7.50 | 430.1 | 17 | Clear | 4.34 | 91.5 | 600 | 15.67 |
| 1255 | 20.2 | 7.47 | 431.1 | 15 | | 4.33 | 94.4 | 1200 | 15.71 |
| 1258 | 20.1 | 7.43 | 431.7 | 16 | | 4.25 | 95.0 | 1800 | 15.72 |
| 1301 | 20.0 | 7.39 | 431.7 | 15 | | 4.26 | 96.9 | 2400 | 15.72 |
| 1304 | 20.1 | 7.36 | 431.5 | 15 | | 4.13 | 94.2 | 3000 | 15.72 |
| 1307 | 20.0 | 7.34 | 430.7 | 15 | | 4.19 | 93.8 | 3600 | 15.72 |
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Did well dewater? Yes (No) Amount actually evacuated: 3.6L
Sampling Time: 1252 Sampling Date: 5/28/24
Sample I.D.: TIAMF - MW042 - MM24 Laboratory:
Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:
Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

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|---|---|
| Project #: 240528SC-1 | Client: Parsons |
| Sampler: SC | Gauging Date: 5/28/24 |
| Well I.D.: MW-03 | Well Diameter (in.): 2 3 4 6 8 |
| Total Well Depth (ft.): 27.87 | Depth to Water (ft.): 5.87 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: PVC Grade | Flow Cell Type: YSI Pro Plus |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other

Start Purge Time: 1305 Flow Rate: 200 mL/min Pump Depth: 17.5

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL.) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1311 | 20.8 | 7.36 | 232.5 | 37 | Clear | 0.71 | 79.2 | 600 | 5.70 |
| 1314 | 20.6 | 7.29 | 232.8 | 22 | | 0.52 | 72.0 | 1200 | 5.75 |
| 1317 | 20.6 | 7.21 | 232.5 | 20 | | 0.49 | 69.7 | 1800 | 5.74 |
| 1320 | 20.5 | 7.18 | 232.0 | 20 | | 0.48 | 66.4 | 2400 | 5.75 |
| 1323 | 20.4 | 7.17 | 233.2 | 21 | | 0.49 | 62.4 | 3000 | 5.75 |
| 1326 | 20.5 | 7.17 | 231.9 | 20 | | 0.47 | 61.2 | 3600 | 5.75 |
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Did well dewater? Yes No Amount actually evacuated: 3.6 L

Sampling Time: 1331 Sampling Date: 5/28/24

Sample I.D.: TIME-MW03-MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240508SC-1 | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-44 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 37.47 | Depth to Water (ft.): 12.85 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: * Dedicated Tubing | New Tubing | Other ___

Start Purge Time: 0915 Flow Rate: 200 mL/min Pump Depth: 25'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0918 | 19.9 | 7.04 | 524 | 19.8 | clear | 2.45 | 120 | 600 | 13.33 |
| 0921 | 20.0 | 7.02 | 524 | 11.0 | " | 2.38 | 122 | 1200 | 13.35 |
| 0924 | 20.0 | 7.01 | 525 | 72.8 | " | 2.30 | 124 | 1800 | 13.29 |
| 0927 | 19.9 | 7.01 | 525 | 49.8 | " | 2.24 | 124 | 2400 | 13.29 |
| 0930 | 20.0 | 7.01 | 525 | 39.3 | " | 2.23 | 124 | 3000 | 13.33 |
| 0933 | 19.9 | 7.01 | 525 | 33.2 | " | 2.21 | 124 | 3600 | 13.34 |
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Did well dewater? Yes (No) Amount actually evacuated: 3600

Sampling Time: 0938 Sampling Date: 5-29-24

Sample I.D.: TLAMF-MW044_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528~~CS-100~~ SC-1 | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-45 | Well Diameter (in.): (2) 3 4 6 8 ____ |
| Total Well Depth (ft.): 36.54 | Depth to Water (ft.): 16.61 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump Peristaltic Pump * Bladder Pump

Sampling Method: * Dedicated Tubing New Tubing Other

Start Purge Time: 1441 Flow Rate: 200 mL/min Pump Depth: 25'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1444 | 21.8 | 7.63 | 486 | 46 | Clear | 3.83 | 55.8 | 600 | 16.74 |
| 1447 | 21.4 | 7.52 | 485 | 30 | | 3.73 | 66.7 | 1200 | 16.76 |
| 1450 | 21.2 | 7.49 | 484 | 26 | | 3.67 | 73.3 | 1800 | 16.76 |
| 1453 | 21.2 | 7.47 | 484 | 20 | | 3.63 | 77.8 | 2400 | 16.78 |
| 1456 | 21.3 | 7.47 | 484 | 18 | | 3.60 | 80.6 | 3000 | 16.79 |
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| Did well dewater? Yes (No) | Amount actually evacuated: 3000 |
| Sampling Time: 1501 | Sampling Date: 5-28-24 |
| Sample I.D.: TI AMF - MW45 _ MAY 24 | Laboratory: |
| Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D | Other: |
| Equipment Blank I.D.: @ Time | Duplicate I.D.: |

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# LOW FLOW WELL MONITORING DATA SHEET

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|---|---|
| Project #: 240538SCM | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-46 | Well Diameter (in.): (2) 3 4 6 8 |
| Total Well Depth (ft.): 42.21 | Depth to Water (ft.): 22.22 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | * Bladder Pump

Sampling Method: * Dedicated Tubing | New Tubing | Other

Start Purge Time: 1124 | Flow Rate: 200 mL/min | Pump Depth: 30'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or (µS/cm)) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1127 | 22.2 | 7.14 | 616 | 81.9 | white cloudy, | 4.15 | 98.2 | 600 | 21.65 |
| 1130 | 22.2 | 7.12 | 615 | 60.6 | turbid | 4.05 | 117 | 1200 | 21.59 |
| 1133 | 22.2 | 7.12 | 615 | 41.4 | " | 3.97 | 128 | 1800 | 21.56 |
| 1136 | 22.1 | 7.12 | 615 | 29.8 | " | 3.97 | 131 | 2400 | 21.60 |
| 1139 | 22.3 | 7.11 | 614 | 23.3 | " | 3.93 | 132 | 3000 | 21.61 |
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Did well dewater? Yes (No) | Amount actually evacuated: 3000

Sampling Time: 1144 | Sampling Date: 5-29-24

Sample I.D.: TIAMF-MW046_MAY24 | Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D | Other:

Equipment Blank I.D.: @ Time | Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

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|---|---|
| Project #: 240538SL-1 | Client: Parsons |
| Sampler: FH | Gauging Date: 5-28-24 |
| Well I.D.: MW-47 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 42.35 | Depth to Water (ft.): 18.53 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DSS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | * Bladder Pump
Sampling Method: * Dedicated Tubing | New Tubing | Other

Start Purge Time: 1024 Flow Rate: 200 mL/min Pump Depth: 30'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1027 | 20.4 | 7.09 | 558 | 28.4 | clear | 4.90 | 147 | 600 | 19.10 |
| 1030 | 20.3 | 7.01 | 561 | 17.6 | " | 4.84 | 148 | 1200 | 19.16 |
| 1033 | 20.4 | 7.00 | 563 | 12.2 | " | 4.78 | 148 | 1800 | 19.16 |
| 1036 | 20.3 | 7.00 | 563 | 81.0 | " | 4.73 | 147 | 2400 | 19.24 |
| 1039 | 20.5 | 6.99 | 564 | 66.3 | " | 4.70 | 147 | 3000 | 19.26 |
| 1042 | 20.4 | 6.99 | 564 | 62.9 | " | 4.68 | 148 | 3600 | 19.27 |
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Did well dewater? Yes (No) Amount actually evacuated: 3600

Sampling Time: 1047 Sampling Date: 5-28-24

Sample I.D.: TIAMF-MW047_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528SC-1 | Client: Parsons |
| Sampler: SC | Gauging Date: 5/28/24 |
| Well I.D.: MW-48 | Well Diameter (in.) : (2) 3 4 6 8 ____ |
| Total Well Depth (ft.) : 21.57 | Depth to Water (ft.) : 37.62 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro Plus |

Purge Method: 2" Grundfos Pump  Peristaltic Pump  (Bladder Pump)
Sampling Method: (Dedicated Tubing)  New Tubing  Other

Start Purge Time: 0837  Flow Rate: 200 mL/min  Pump Depth: 29'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0840 | 19.9 | 7.80 | 414.9 | 35 | Clear | 2.11 | 94.7 | 600 | 21.73 |
| 0843 | 20.0 | 7.89 | 422.6 | 37 | | 1.98 | 89.5 | 1200 | 21.85 |
| 0846 | 20.0 | 7.87 | 394.8 | 38 | | 1.84 | 85.5 | 1800 | 21.92 |
| 0849 | 20.0 | 7.90 | 389.6 | 36 | | 1.82 | 83.0 | 2400 | 21.99 |
| 0852 | 20.1 | 7.87 | 387.5 | 35 | | 1.78 | 81.7 | 3000 | 22.08 |
| 0855 | 20.1 | 7.92 | 387.1 | 36 | | 1.75 | 79.0 | 3600 | 22.12 |
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|---|---|
| Did well dewater? Yes (No) | Amount actually evacuated: 3.6L |
| Sampling Time: 0900 | Sampling Date: 5/29/24 |
| Sample I.D.: TIAMF-MW048-MAY24 | Laboratory: |
| Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D | Other: |
| Equipment Blank I.D.: @ Time | Duplicate I.D.: |

# LOW FLOW WELL MONITORING DATA SHEET

SC-1

| | |
|---|---|
| Project #: 240528~~CS 100~~ | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-49 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 37.24 | Depth to Water (ft.): 13.30 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: *Dedicated Tubing | New Tubing | Other ___

Start Purge Time: 1152 Flow Rate: 200 mL/min Pump Depth: 25'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1155 | 23.1 | 7.22 | 576 | 46.8 | faintly | 5.55 | 154 | 600 | 13.48 |
| 1158 | 23.0 | 7.16 | 576 | 359 | white, ~~turbid~~ | 5.46 | 153 | 1200 | 13.53 |
| 1201 | 22.6 | 7.15 | 577 | 281 | | 5.41 | 152 | 1800 | 13.54 |
| 1204 | 22.7 | 7.14 | 575 | 236 | | 5.42 | 151 | 2406 | 13.49 |
| 1207 | 22.9 | 7.14 | 576 | 174 | | 5.36 | 150 | 3000 | 13.51 |
| 1210 | 22.7 | 7.15 | 577 | 129 | " | 5.34 | 150 | 3600 | 13.52 |
| 1213 | 22.7 | 7.15 | 578 | 122 | clear | 5.28 | 150 | 4200 | 13.53 |
| 1216 | 22.7 | 7.15 | 578 | 105 | " | 5.24 | 149 | 4800 | 13.49 |
| 1219 | 22.8 | 7.16 | 580 | 80.7 | " | 5.20 | 149 | ~~5600~~ (EH) 5400 | 13.47 |
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Did well dewater? Yes (No) Amount actually evacuated: 5400

Sampling Time: 1224 Sampling Date: 5-30-24

Sample I.D.: TIAMF-MW049_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240507856-1 | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-50 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 41.84 | Depth to Water (ft.): 22.96 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: *Dedicated Tubing | New Tubing | Other ___

Start Purge Time: 1249 Flow Rate: 200 mL/min Pump Depth: 30'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1252 | 23.4 | 7.12 | 726 | >1000 | white, cloudy | 4.13 | 134 | 600 | 23.11 |
| 1255 | 22.0 | 7.12 | 722 (EH) | * 747 | turbid | 4.24 | 134 | 1200 | 23.12 |
| 1258 | 21.8 | 7.10 | 716 | 459 | ↓ | 3.98 | 132 | 1806 | 23.15 |
| 1301 | 21.8 | 7.10 | 717 | 347 | ↓ | 3.94 | 132 | 2400 | 23.14 |
| 1304 | 21.6 | 7.10 | 715 | 254 | → | 3.90 | 131 | 3000 | 23.13 |
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Did well dewater? Yes (No) Amount actually evacuated: 3000

Sampling Time: 1309 Sampling Date: 5-29-24

Sample I.D.: TIAMF-MW050_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

SC-1

| | |
|---|---|
| Project #: 240528 ~~GS-TBD~~ | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-51 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 37.76 | Depth to Water (ft.): 14.29 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: *Dedicated Tubing | New Tubing | Other ____
Start Purge Time: 1308 | Flow Rate: 200 mL/min | Pump Depth: 25'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1311 | 26.7 | 7.16 | 785 | >1000 | white, turbid | 4.73 | 112.8 | 600 | 14.42 |
| 1314 | 25.9 | 7.15 | 784 | 723 | | 4.75 | 115.3 | 1200 | 14.38 |
| 1317 | 26.8 | 7.14 | 784 | 485 | | 4.61 | 116.4 | 1800 | 14.42 |
| 1320 | 25.7 | 7.14 | 782 | 339 | | 4.61 | 117.3 | 2400 | 14.40 |
| 1323 | 25.9 | 7.14 | 785 | 268 | | 4.65 | 117.9 | 3000 | 14.39 |
| 1326 | 26.6 | 7.14 | 784 | 210 | | 4.62 | 118.1 | 3600 | 14.39 |
| 1329 | 25.6 | 7.15 | 785 | 166 | | 4.64 | 118.8 | 4200 | 14.41 |
| 1332 | 26.0 | 7.14 | 784 | 134 | | 4.64 | 119.3 | 4800 | 14.41 |
| 1335 | 26.5 | 7.14 | 785 | 116 | | 4.63 | 119.4 | 5400 | 14.42 |
| 1338 | 26.1 | 7.14 | 786 | 89.7 | | 4.64 | 119.8 | 6000 | 14.44 |
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Did well dewater? Yes (No) | Amount actually evacuated: 6000
Sampling Time: 1343 | Sampling Date: 5-31-24
Sample I.D.: TIAMF-MW051_MAY24 | Laboratory:
Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D | Other:
Equipment Blank I.D.: @ Time | Duplicate I.D.:



TIAMF-MW051_MAY24_MS
TIAMF-MW051_MAY24_MSD

# LOW FLOW WELL MONITORING DATA SHEET

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|---|---|
| Project #: 240528501 | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-52 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 47.51 | Depth to Water (ft.): 26.30 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Flo DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: * Dedicated Tubing | New Tubing | Other ___

Start Purge Time: 1348 Flow Rate: 200 mL/min Pump Depth: 35'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1351 | 22.7 | 6.91 | 804 | 609 | a bit turbid | 2.35 | 113 | 600 | 26.22 |
| 1354 | 22.7 | 6.91 | 804 | 422 | | 2.25 | 120 | 1200 | 26.22 |
| 1357 | 22.8 | 6.91 | 804 | 326 | | 2.18 | 123 | 1800 | 26.22 |
| 1400 | 22.7 | 6.91 | 804 | 244 | | 2.13 | 125 | 2400 | 26.20 |
| 1403 | 22.7 | 6.91 | 804 | 212 | | 2.08 | 125 | 3000 | 26.24 |
| 1406 | 22.7 | 6.91 | 805 | 188 | | 2.05 | 125 | 3600 | 26.20 |
| 1409 | 22.7 | 6.91 | 805 | 168 | | 2.03 | 126 | 4200 | 26.25 |
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Did well dewater? Yes (No) Amount actually evacuated: 4200

Sampling Time: 1414 Sampling Date: 5-29-24

Sample I.D.: TIAMF-MW052_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.: TIAMF-MW052_MAY24_F

# LOW FLOW WELL MONITORING DATA SHEET

SC-1

| | |
|---|---|
| Project #: 240528~~65~~-90 | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-53 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 36.64 | Depth to Water (ft.): 20.75 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | * Bladder Pump
Sampling Method: * Dedicated Tubing | New Tubing | Other ___

Start Purge Time: 1143 Flow Rate: 200 mL/min Pump Depth: 30'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1146 | 21.9 | 7.54 | 561 | 297 | white, | 1.67 | 78.4 | 600 | 21.26 |
| 1149 | 21.8 | 7.50 | 561 | 344 | cloudy | 1.52 | 75.6 | 1200 | 21.40 |
| 1152 | 22.2 | 7.49 | 561 | 350 | | 1.41 | 70.7 | 1800 | 21.45 |
| 1155 | 21.9 | 7.50 | 560 | 280 | | 1.37 | 67.5 | 2400 | 21.54 |
| 1158 | 22.0 | 7.50 | 560 | 279 | | 1.35 | 65.8 | 3000 | 21.56 |
| 1201 | 22.1 | 7.50 | 560 | 220 | ↓ | 1.34 | 64.1 | 3600 | 21.59 |
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Did well dewater? Yes (No) Amount actually evacuated: 3600

Sampling Time: 1206 Sampling Date: 5-31-24

Sample I.D.: TIAMF-MW053_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:



TIAMF-MW053_MAY24_MS
TIAMF-MW053_MAY24_MSD

# LOW FLOW WELL MONITORING DATA SHEET

SC-1

| | |
|---|---|
| Project #: 240528~~65~~ 130 | Client: Parsons |
| Sampler: GH | Gauging Date: 5-28-24 |
| Well I.D.: MW-54 | Well Diameter (in.): (2) 3 4 6 8 |
| Total Well Depth (ft.): 24.94 | Depth to Water (ft.): 5.28 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | * Bladder Pump
Sampling Method: * Dedicated Tubing | New Tubing | Other

Start Purge Time: 1139 Flow Rate: 200 mL/min Pump Depth: 18'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mf.) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1142 | 18.6 | 8.06 | 496 | 67 | clear | 0.85 | -3.7 | 600 | 6.55 |
| 1145 | 18.4 | 8.05 | 494 | 41 | | 0.70 | -43.3 | 1200 | 6.78 |
| 1148 | 18.3 | 8.04 | 493 | 25 | | 0.64 | -62.8 | 1800 | 7.23 |
| 1151 | 18.2 | 8.02 | 493 | 18 | | 0.56 | -90.1 | 2400 | 7.65 |
| 1154 | 18.2 | 8.02 | 492 | 12 | | 0.52 | -101.4 | 3000 | 7.92 |
| 1157 | 18.1 | 7.99 | 490 | 12 | | 0.50 | -111.7 | 3600 | 8.16 |
| 1200 | 18.1 | 7.97 | 488 | 10 | | 0.48 | -117.7 | 4200 | 8.22 |
| 1203 | 18.1 | 7.95 | 486 | 6 | | 0.46 | -121.7 | 4800 | 8.33 |
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Did well dewater? Yes (No) Amount actually evacuated: 4800

Sampling Time: 1208 Sampling Date: 5-28-24

Sample I.D.: TI AMF - MW54_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

SC-1

| | |
|---|---|
| Project #: 240528 ~~GS-100~~ | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-55 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 27.52 | Depth to Water (ft.): 6.77 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: * Dedicated Tubing | New Tubing | Other

Start Purge Time: 1231 Flow Rate: 200 mL/min Pump Depth: 20'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1234 | 21.6 | 8.82 | 455 | 40 | clear | 1.22 | 60.0 | 600 | 6.96 |
| 1237 | 22.7 | 8.75 | 457 | 36 | " | 1.06 | 51.6 | 1200 | 6.88 |
| 1240 | 23.2 | 8.76 | 461 | 33 | " | 0.98 | 42.5 | 1800 | 6.86 |
| 1243 | 23.5 | 8.77 | 463 | 35 | " | 0.91 | 34.6 | 2400 | 6.92 |
| 1246 | 23.7 | 8.77 | 466 | 28 | " | 0.82 | 28.3 | 3000 | 6.88 |
| 1249 | 24.0 | 8.77 | 466 | 27 | " | 0.78 | 23.0 | 3600 | 6.87 |
| 1252 | 24.2 | 8.76 | 467 | 25 | " | 0.76 | 20.1 | 4200 | 6.87 |
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Did well dewater? Yes (No) Amount actually evacuated: 4200

Sampling Time: 1257 Sampling Date: 5-28-24

Sample I.D.: TIAMF-MW55_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528SC-1 | Client: Parsons |
| Sampler: SC | Gauging Date: 5/28/24 |
| Well I.D.: HW-56 | Well Diameter (in.) : 2 3 4 6 8 ___ |
| Total Well Depth (ft.) : 37.45 | Depth to Water (ft.) : 17.18 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: PVC Grade | Flow Cell Type: YSI Pro Plus |

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other ___

Start Purge Time: 0912 Flow Rate: 100 mL/min Pump Depth: 27'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0915 | 20.5 | 7.58 | 553 | 269 | ~~Clear~~ Cloudy | 5.42 | 87.0 | 600 | 17.22 |
| 0918 | 20.4 | 7.47 | 551 | 150 | | 5.42 | 93.4 | 1200 | 17.22 |
| 0921 | 20.1 | 7.43 | 552 | 82 | | 5.46 | 95.6 | 1800 | 17.22 |
| 0924 | 20.2 | 7.42 | 550 | 60 | Slightly Cloudy | 5.29 | 96.6 | 2400 | 17.22 |
| 0927 | 20.4 | 7.44 | 551 | 43 | Clear | 5.37 | 96.0 | 3000 | 17.22 |
| 0930 | 20.2 | 7.46 | 551 | 33 | | 5.38 | 95.7 | 3600 | 17.22 |
| 0933 | 20.2 | 7.46 | 550 | 31 | | 5.38 | 96.5 | 4200 | 17.22 |
| 0936 | 20.3 | 7.45 | 550 | 30 | | 5.36 | 98.0 | 4800 | 17.22 |
| 0939 | 20.3 | 7.47 | 550 | 32 | | 5.28 | 96.5 | 5400 | 17.22 |
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|---|---|
| Did well dewater? Yes No | Amount actually evacuated: 5.4L |
| Sampling Time: 0945 | Sampling Date: 5/29/24 |
| Sample I.D.: TIAMF-MW056_MAY24 | Laboratory: |
| Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D | Other: |
| Equipment Blank I.D.: @ Time | Duplicate I.D.: |

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555**

# LOW FLOW WELL MONITORING DATA SHEET

SC-1

| | |
|---|---|
| Project #: 240529~~65-180~~ | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-57 | Well Diameter (in.): (2) 3 4 6 8 |
| Total Well Depth (ft.): 42.22 | Depth to Water (ft.): 20.42 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: *Dedicated Tubing | New Tubing | Other

Start Purge Time: 1457 Flow Rate: 200 ml/min Pump Depth: 30'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1500 | 25.8 | 7.60 | 458 | 660 | slightly tan | 3.54 | 84.7 | 600 | 20.92 |
| 1503 | 25.4 | 7.52 | 455 | 497 | | 3.38 | 91.3 | 1200 | 21.10 |
| 1506 | 25.7 | 7.50 | 455 | 302 | | 3.31 | 95.0 | 1800 | 21.10 |
| 1509 | 25.2 | 7.50 | 455 | 239 | | 3.33 | 97.6 | 2400 | 21.19 |
| 1512 | 25.3 | 7.48 | 456 | 283 | | 3.31 | 99.4 | 3000 | 21.24 |
| 1515 | 25.1 | 7.48 | 456 | 230 | | 3.33 | 100.2 | 3600 | 21.27 |
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Did well dewater? Yes (No) Amount actually evacuated: 3600

Sampling Time: 1520 Sampling Date: 5-30-24

Sample I.D.: TIAMF-MW057_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

8-W-9

# LOW FLOW WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528 ~~GS-130~~ SC-1 | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-58 | Well Diameter (in.): (2) 3 4 6 8 ____ |
| Total Well Depth (ft.): 25.03 | Depth to Water (ft.): 23.60 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump Bailer ~~*Peristaltic Pump~~ Bladder Pump
Sampling Method: Dedicated Tubing ~~*New Tubing~~ * Other Bailer

Start Purge Time: — Flow Rate: — Pump Depth: 24'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1105 | 23.2 | 7.05 | 1040 | 210 | grey | 3.18 | -48.2 | Grab | |
| | | | | | | | | | |
| * Client permitted grab samples + parameters. See notes. | | | | | | | | | |
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|---|---|
| Did well dewater? Yes (No) | Amount actually evacuated: Grab |
| Sampling Time: 1110 | Sampling Date: 5-31-24 |
| Sample I.D.: TIAMF-MW058_MAY24 | Laboratory: |
| Analyzed for: TPH-G BTEX MTBE TPH-D 3E TPH-D | Other: |
| Equipment Blank I.D.: @ Time | Duplicate I.D.: |

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555**

Note: First asked client if peristaltic pump was an option after trying bladder pump and no water was being purged. Client confirmed peri-pump was ok for parameters and to use a bailer to collect sample.

MW-58

Peri-pump was set up, but no water coming up. Pulled up tubing, tubing was dry with roots on it. Sent bailer down ~ 1/6 of the bailer filled with water. I suspect roots in the well are impeding ~~purging~~ purging efforts.

Called client he ok'd using bailer for grab sample and set of parameters.

# LOW FLOW WELL MONITORING DATA SHEET

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|---|---|
| Project #: 240528 ~~GS-180~~ SG-1 | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-59 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 31.91 | Depth to Water (ft.): 10.66 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: *Dedicated Tubing | New Tubing | Other ___

Start Purge Time: 0810 | Flow Rate: 200 mL/min | Pump Depth: 20'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0813 | 19.2 | 6.66 | 657 | 15.2 | clear | 1.05 | 152 | 600 | 11.06 |
| 0816 | 19.1 | 6.67 | 658 | 13.4 | " | 0.92 | 151 | 1200 | 11.10 |
| 0819 | 19.2 | 6.68 | 663 | 88.0 | " | 0.83 | 148 | 1800 | 11.08 |
| 0822 | 19.2 | 6.69 | 666 | 76.0 | " | 0.79 | 146 | 2400 | 10.98 |
| 0825 | 19.2 | 6.69 | 671 | 61.3 | " | 0.78 | 144 | 3000 | 11.04 |
| 0828 | 19.2 | 6.69 | 668 | 52.4 | " | 0.75 | 140 | 3600 | 11.06 |
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|---|---|
| Did well dewater? Yes (No) | Amount actually evacuated: 3600 |
| Sampling Time: 0833 | Sampling Date: 5-29-24 |
| Sample I.D.: TIAMF - MW059 _ MAY24 | Laboratory: |
| Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D | Other: |
| Equipment Blank I.D.: @ Time | Duplicate I.D.: |

# LOW FLOW WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528SC-1 | Client: Parsons |
| Sampler: EH | Gauging Date: 5-28-24 |
| Well I.D.: MW-60 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 37.40 | Depth to Water (ft.): 22.63 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | * Bladder Pump
Sampling Method: * Dedicated Tubing | New Tubing | Other ____
Start Purge Time: 1452 | Flow Rate: 200 mL/min | Pump Depth: 30'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1455 | 21.7 | 6.83 | 1133 | >1000 | tan turbid | 3.42 | 154 | 600 | 22.70 |
| 1458 | 21.7 | 6.81 | 1132 | >1000 | | 3.25 | 153 | 1200 | 22.71 |
| 1501 | 21.5 | 6.81 | 1127 | 784 | | 3.20 | 152 | 1800 | 22.78 |
| 1504 | 21.4 | 6.81 | 1117 | 582 | | 3.15 | 151 | 2400 | 22.77 |
| 1507 | 21.4 | 6.82 | 1111 | 405 | | 3.11 | 150 | 3000 | 22.76 |
| 1510 | 21.4 | 6.82 | 1103 | 283 | less turbid | 3.09 | 149 | 3600 | 22.76 |
| 1513 | 21.3 | 6.82 | 1099 | 229 | | 3.08 | 148 | 4200 | 22.76 |
| 1516 | 21.4 | 6.82 | 1095 | 179 | | 3.06 | 147 | 4800 | 22.72 |
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Did well dewater? Yes (No) | Amount actually evacuated: 4800
Sampling Time: 1521 | Sampling Date: 5-29-24
Sample I.D.: T1AMF-MW060_MAY24 | Laboratory:
Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D | Other:
Equipment Blank I.D.: @ Time | Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

1/2

SC-1

| | |
|---|---|
| Project #: 240528 ~~CG-160~~ | Client: Parsons |
| Sampler: EH | Gauging Date: 6-3-24 |
| Well I.D.: MW-61 | Well Diameter (in.): (2) 3 4 6 8 |
| Total Well Depth (ft.): 32.65 | Depth to Water (ft.): 17.50 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | * Bladder Pump

Sampling Method: Dedicated Tubing | * New Tubing | Other

Start Purge Time: 1226 | Flow Rate: 200 ml/min | Pump Depth: 25'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1229 | 22.2 | 7.38 | 736 | 368 | white | 1.06 | 102.7 | 600 | 18.14 |
| 1232 | 21.7 | 7.32 | 736 | 356 | turbid | 0.93 | 96.6 | 1200 | 18.21 |
| 1235 | 21.5 | 7.31 | 730 | 310 | | 0.96 | 93.2 | 1800 | 18.27 |
| 1238 | 21.7 | 7.30 | 722 | 264 | | 1.06 | 90.9 | 2400 | 18.22 |
| 1241 | 21.7 | 7.30 | 710 | 235 | | 1.24 | 90.4 | 3000 | 18.26 |
| 1244 | 21.5 | 7.30 | 698 | 214 | | 1.43 | 89.0 | 3600 | 18.33 |
| 1247 | 21.7 | 7.29 | 690 | 176 | | 1.57 | 85.4 | 4200 | 18.26 |
| 1250 | 21.8 | 7.29 | 682 | 156 | | 1.71 | 78.9 | 4800 | 18.27 |
| 1253 | 21.4 | 7.29 | 671 | 133 | | 1.86 | 71.1 | 5400 | 18.30 |
| 1256 | 22.0 | 7.29 | 667 | 120 | | 1.95 | 66.3 | 6000 | 18.33 |
| 1259 | 21.9 | 7.29 | 662 | 111 | | 2.06 | 61.6 | 6600 | 18.27 |
| 1302 | 21.7 | 7.29 | 658 | 104 | | 2.21 | 58.0 | 7200 | 18.31 |

Did well dewater? Yes (No) | Amount actually evacuated: 9400

Sampling Time: 1313 | Sampling Date: 6-3-24

Sample I.D.: TIAMF-MW061_MAY24 | Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D | Other:

Equipment Blank I.D.: @ Time | Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET 2/2

| | |
|---|---|
| Project #: 240528SC-1 | Client: Parsons |
| Sampler: | Gauging Date: 6-3-24 |
| Well I.D.: MW-61 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 32.65 | Depth to Water (ft.): 17.50 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DSS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other ____

Start Purge Time: 1220 Flow Rate: 200 mL/min Pump Depth: 25'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1305 | 21.3 | 7.28 | 651 | 84.0 | L | 2.31 | 52.8 | 7800 | 18.36 |
| 1308 | 21.4 | 7.28 | 647 | 82.8 | L | 2.39 | 49.3 | 8400 | 18.34 |
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Did well dewater? Yes (No) Amount actually evacuated: 8400 mL

Sampling Time: 1313 Sampling Date: 6-3-24

Sample I.D.: TIAMF-MW061-May 24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

SC-1

| | |
|---|---|
| Project #: 240528SS-T10 | Client: Parsons |
| Sampler: EH | Gauging Date: 6-3-24 |
| Well I.D.: MW-62 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 32.66 | Depth to Water (ft.): 17.62 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: Dedicated Tubing | * New Tubing | Other ___

Start Purge Time: 1118 Flow Rate: 300 mL/min Pump Depth: 25'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1121 | 20.1 | 7.41 | 1061 | 269 | white, cloudy | 1.48 | +135.8 | 900 | 18.85 |
| 1124 | 19.9 | 7.33 | 1067 | 204 | | 1.42 | 127.2 | 1800 | 19.01 |
| 1127 | 19.7 | 7.31 | 1081 | 139 | | 1.44 | 120.0 | 2700 | 19.23 |
| 1130 | 19.8 | 7.30 | 1087 | 104 | | 1.48 | 116.0 | 3600 | 19.33 |
| 1133 | 19.9 | 7.30 | 1087 | 86.4 | | 1.55 | 112.5 | 4500 | 19.36 |
| 1136 | 19.9 | 7.30 | 1086 | 81.9 | | 1.62 | 110.3 | 5400 | 19.46 |
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Did well dewater? Yes (No) Amount actually evacuated: 5400

Sampling Time: 1141 Sampling Date: 6-3-24

Sample I.D.: TIAMF-MW062_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

SC-1

| | |
|---|---|
| Project #: 240528 ~~65~~ 80 | Client: Parsons |
| Sampler: EH | Gauging Date: 6-3-24 |
| Well I.D.: MW-63 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 30.11 | Depth to Water (ft.): 14.22 |
| Depth to Free Product: --- | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | * Bladder Pump
Sampling Method: Dedicated Tubing | * New Tubing | Other

Start Purge Time: 0948 Flow Rate: 200 mL/min Pump Depth: 25'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or *µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0951 | 19.1 | 7.38 | 715 | >1000 | cloudy white | 1.14 | 96.4 | 600 | 15.35 |
| 0954 | 19.2 | 7.32 | 717 | 889 | | 1.55 | 92.4 | 1200 | 15.51 |
| 0957 | 19.7 | 7.31 | 724 | 916 | | 1.47 | 90.6 | 1800 | 15.32 |
| 1000 | 19.2 | 7.31 | 734 | 925 | | 1.73 | 93.8 | 2400 | 15.53 |
| 1003 | 19.1 | 7.30 | 737 | 595 | | 1.77 | 92.6 | 3000 | 15.75 |
| 1006 | 19.4 | 7.31 | 735 | 431 | | 2.12 | 91.9 | 3600 | 15.77 |
| 1009 | 19.1 | 7.30 | 737 | 289 | | 2.10 | 94.4 | 4200 | 15.97 |
| 1012 | 19.1 | 7.30 | 738 | 240 | | 2.54 | 98.9 | 4800 | 16.20 |
| 1015 | 19.0 | 7.29 | 740 | 233 | | 2.35 | 99.9 | 5400 | 16.20 |
| 1018 | 19.0 | 7.28 | 744 | 192 | | 2.12 | 99.4 | 6000 | 16.31 |
| 1021 | 19.2 | 7.28 | 742 | 151 | | 2.15 | 99.5 | 6600 | 16.15 |
| 1024 | 19.0 | 7.27 | 746 | 163 | — | 2.30 | 99.8 | 7200 | 16.34 |

Did well dewater? Yes (No) Amount actually evacuated: 7200

Sampling Time: 1029 Sampling Date: 6-3-24

Sample I.D.: TIAMF - MW063-MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

SC-1

| | |
|---|---|
| Project #: 240528C5-T30 | Client: Parsons |
| Sampler: EH | Gauging Date: 6-3-24 |
| Well I.D.: MW-64 | Well Diameter (in.): (2) 3 4 6 8 |
| Total Well Depth (ft.): 32.04 | Depth to Water (ft.): 14.47 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | * Bladder Pump
Sampling Method: Dedicated Tubing | * New Tubing | Other

Start Purge Time: 0833 Flow Rate: 200 ml/min Pump Depth: 25'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or *µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L.) | ORP (mV) | Water Removed (gals. or mL.) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0836 | 19.5 | 7.94 | 537 | >1000 | white, turbid | 0.93 | -247.1 | 600 | 14.86 |
| 0839 | 19.5 | 7.95 | 536 | 874 | | 0.68 | -278.3 | 1200 | 14.86 |
| 0842 | 19.5 | 7.96 | 536 | 681 | | 0.60 | -297.5 | 1800 | 14.81 |
| 0845 | 19.5 | 7.97 | 536 | 519 | | 0.55 | -310.1 | 2400 | 14.80 |
| 0848 | 19.5 | 7.97 | 535 | 449 | | 0.53 | -316.1 | 3000 | 14.86 |
| 0851 | 19.6 | 7.97 | 534 | 380 | | 0.50 | -322.8 | 3600 | 14.93 |
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Did well dewater? Yes (No) Amount actually evacuated: 3600

Sampling Time: 0856 Sampling Date: 6-3-24

Sample I.D.: TIAMF-MW064_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528CS-1 | Client: Parsons |
| Sampler: EH | Gauging Date: 6-3-24 |
| Well I.D.: MW-66 | Well Diameter (in.): (2) 3 4 6 8 ___ |
| Total Well Depth (ft.): 32.64 | Depth to Water (ft.): 19.99 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro DDS |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | *Bladder Pump
Sampling Method: Dedicated Tubing | * New Tubing | Other ____

Start Purge Time: 1436 Flow Rate: 300 ml/min Pump Depth: 25'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1439 | 22.0 | 7.17 | 687 | >1000 | Beige, | 4.06 | 105.6 | 900 | 20.15 |
| 1442 | 21.3 | 7.13 | 685 | >1000 | opaque | 4.28 | 107.4 | 1800 | 20.17 |
| 1445 | 21.0 | 7.13 | 685 | >1000 | " | 4.52 | 113.9 | 2700 | 20.17 |
| 1448 | 21.2 | 7.12 | 685 | >1000 | " | 4.57 | 118.9 | 3600 | 20.21 |
| 1451 | 21.3 | 7.11 | 685 | >1000 | " | 4.47 | 122.2 | 4500 | 20.20 |
| 1454 | 21.0 | 7.12 | 685 | >1000 | " | 4.57 | 124.9 | 5400 | 20.22 |
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Did well dewater? Yes (No) Amount actually evacuated: 5400

Sampling Time: 1459 Sampling Date: 6-3-24

Sample I.D.: TIAMF-MW066_MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:

# LOW FLOW WELL MONITORING DATA SHEET

| | |
|---|---|
| Project #: 246578SC-1 | Client: Parsons |
| Sampler: SC | Gauging Date: 5/28/24 |
| Well I.D.: GW-01 | Well Diameter (in.): 2 3 (4) 6 8 |
| Total Well Depth (ft.): 26.57 | Depth to Water (ft.): 18.05 |
| Depth to Free Product: — | Thickness of Free Product (feet): — |
| Referenced to: (PVC) Grade | Flow Cell Type: YSI Pro Plus |

Purge Method: 2" Grundfos Pump | Peristaltic Pump | (Bladder Pump)
Sampling Method: Dedicated Tubing | (New Tubing) | Other

Start Purge Time: 0801 Flow Rate: 200mL/min Pump Depth: 22.5'

| Time | Temp. (°C or °F) | pH | Cond. (mS/cm or µS/cm) | Turbidity (NTUs) | Color (Visual) | D.O. (mg/L) | ORP (mV) | Water Removed (gals. or mL) | Depth to Water (ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 0804 | 18.5 | 7.84 | 704 | 13 | Clear | 5.10 | 156.5 | 600 | 18.12 |
| 0807 | 18.5 | 7.52 | 670 | 10 | | 4.89 | 140.8 | 1200 | 18.14 |
| 0810 | 18.5 | 7.36 | 660 | 4 | | 4.86 | 132.2 | 1800 | 18.23 |
| 0813 | 18.5 | 7.35 | 658 | 4 | | 4.86 | 128.4 | 2400 | 18.24 |
| 0816 | 18.6 | 7.33 | 653 | 4 | | 4.93 | 123.8 | 3000 | 18.25 |
| 0819 | 18.6 | 7.35 | 652 | 4 | | 4.92 | 122.2 | 3600 | 18.25 |
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Did well dewater? Yes (No) Amount actually evacuated: 3.6L

Sampling Time: 0824 Sampling Date: 5/29/24

Sample I.D.: TIAMS-GW01-MAY24 Laboratory:

Analyzed for: TPH-G BTEX MTBE TPH-D BE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.:



TB-2 _ MAY24 @ 0745

# WELLHEAD INSPECTION CHECKLIST



Client Parsons Date 05/28/24

Site Address Titan Misc 16

Job Number 240508X-1 Technician EH/SL

| Well ID | Well Inspected - No Corrective Action Required | Water Bailed From Wellbox | Wellbox Components Cleaned | Cap Replaced | Lock Replaced | Other Action Taken (explain below) | Well Not Inspected (explain below) | Repair Order Submitted |
|---|---|---|---|---|---|---|---|---|
| MW-57 | X | | | | | | | |
| MW-32 | X | | | | | | | |
| MW-33 | X | | | | | | | |
| MW-18 | X | | | | | | | |
| MW-~~54~~34 | X | | | | | | | |
| MW-38 | X | | | | | | | |
| MW-53 | X | | | | | | | |
| MW-52 | X | | | | | | | |
| MW-50 | X | | | | | | | |
| MW-46 | X | | | | | | | |
| MW-14 | X | | | | | | | |
| MW-59 | X | | | | | | | |
| MW-47 | X | | | | | | | |
| MW-60 | X | | | | | | | |
| MW-29 | X | | | | | | | |
| MW-30 | | 1/2 | bolts missing | | | | | |

NOTES: only 1 key

# WELLHEAD INSPECTION CHECKLIST



Client Parsons Date 05/28/24

Site Address Titan Missile

Job Number 240528SC-1 Technician EH, SC

| Well ID | Well Inspected - No Corrective Action Required | Water Bailed From Wellbox | Wellbox Components Cleaned | Cap Replaced | Lock Replaced | Other Action Taken (explain below) | Well Not Inspected (explain below) | Repair Order Submitted |
|---|---|---|---|---|---|---|---|---|
| MW-16 | X | | | | | | | |
| MW-51 | X | | | | | | | |
| MW-49 | X | | | | | | | |
| MW-11 | X | | | | | | | |
| MW-17 | X | | | | | | | |
| MW-35 | X | | | | | | | |
| MW-48 | X | | | | | | | |
| MW-56 | X | | | | | | | |
| MW-45 | X | | | | | | | |
| MW-22 | X | | | | | | | |
| MW-43 | X | | | | | | | |
| MW-55 | X | | | | | | | |
| MW-54 | X | | | | | | | |
| MW-19 | X | | | | | | | |
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NOTES:

# WELLHEAD INSPECTION CHECKLIST



Client Parsons Date 06/03/24

Site Address Titan Missile

Job Number 240528SC-1 Technician EH

| Well ID | Well Inspected - No Corrective Action Required | Water Bailed From Wellbox | Wellbox Components Cleaned | Cap Replaced | Lock Replaced | Other Action Taken (explain below) | Well Not Inspected (explain below) | Repair Order Submitted |
|---|---|---|---|---|---|---|---|---|
| MW-64 | X | | | | | | | |
| MW-63 | X | | | | | | | |
| MW-62 | X | | | | | | | |
| MW-61 | X | | | | | | | |
| MW-66 | X | | | | | | | |
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NOTES:

# TEST EQUIPMENT CALIBRATION LOG

| PROJECT NAME | Former Titan 1-A Missile facility | PROJECT NUMBER | 240528CS-1 | | | |
|---|---|---|---|---|---|---|
| EQUIPMENT NAME | EQUIPMENT NUMBER | DATE/TIME OF TEST | STANDARDS USED | EQUIPMENT READING | CALIBRATED TO: OR WITHIN 10%: | TEMP. | INITIALS |
| YSI Pro DDS | 19J100720 | 5-28-24 0650 | pH 4.00, 7.00, 10.00 | 4.00, 7.00, 10.00 | yes | 18°C | EH |
| " | " | " | ORP | 240 mV | yes | " | " |
| " | " | " | Cond. | ~~4927~~ 4250 | yes | " | " |
| " | " | " | DO | 100% | yes | " | " |
| YSI Pro DDS | 19J100720 | 5-29-24 0715 | pH | 4.00; 7.00 10.00 | yes | 20°C | EH |
| " | " | " | ORP | 237 mV | yes | " | " |
| " | " | " | Cond. | 4280 | yes | " | " |
| " | " | " | DO | 100% | yes | " | " |
| YSI Pro DDS | 19J100720 | 5-30-24 0710 | pH | 4.00, 7.00, 10.00 | Y | 22°C | EH |
| " | " | " | ORP | 235 mV | Y | " | " |
| " | " | " | Cond. | 4250 | Y | " | " |
| " | " | " | DO | 105% | Y | " | " |

# TEST EQUIPMENT CALIBRATION LOG

| PROJECT NAME | Pumps @ Titan I-A Missile | | | PROJECT NUMBER | 240528.4 | | |
|---|---|---|---|---|---|---|---|
| EQUIPMENT NAME | EQUIPMENT NUMBER | DATE/TIME OF TEST | STANDARDS USED | EQUIPMENT READING | CALIBRATED TO: OR WITHIN 10%: | TEMP. | INITIALS |
| YSI Pro Plus | 19E103449 | 5/23/24 0520 | Cond 3900 DO 100% | Cond 3907 DO 100% | ✓ ✓ | 22.8 | SC |
| ↓ | ↓ | ↓ | pH 4 7 10 | pH 4.02 7.06 10.00 | ✓ ✓ ✓ | 22.8 | SC |
| ↓ | ↓ | ↓ | ORP 231.0 | ORP 230.7 | ✓ | 22.8 | SC |
| YSI Pro Plus | 19F103449 | 5/24/24 0540 | Cond 3900 DO 100% | Cond 3907 DO 99.9% | ✓ ✓ ✓ | 23.4 | SC |
| ↓ | ↓ | ↓ | pH 4 7 10 | pH 3.97 7.00 10.07 | ✓ ✓ ✓ | 23.4 | SC |
| ↓ | ↓ | ↓ | ORP 231.0 | ORP 231.8 | ✓ | 23.4 | SC |
| YSI Pro DSS | 19J100700 | 5-31-24 0715 | pH 7, 10, 4 ORP 231 | 7.00, 10.00, 4.00 231 | ✓ ✓ | 25.0 25.0 | EH |
| ↓ | ↓ | ↓ | Cond 4379 DO 100% | 4379 100% | ✓ ✓ | 25.0 25.0 | EH |
| YSI Pro DSS | ↓ | 6-3-24 0730 | pH 7, 10, 4 ORP 234 | 7.00, 10.00, 4.00 ORP 234 | ✓ ✓ | 23.0 23.0 | EH |
| ↓ | ↓ | ↓ | Cond 4203 DO 100% | Cond 4203 100% | ✓ ✓ | 23.0 23.0 | EH |
| | | | | | | | |

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Purgons |
| Sampler: HM | Site: Titan A-1 |
| ID: SV-01 | Sampling Date: 5/28/24 |
| Ambient Temp (°F): 69 | Ambient Barometric Pressure (inHg): 29.98 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -14 End inHg: -14
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4400 ml
3. Leak Testing Compound: HP
4. Helium Gas Concentration in Shroud: ≥20 %
5. Post Purge leak check using Helium Detector: 0.0 %

stopped purge after 500 ml due to high back pressure.

| | | | |
|---|---|---|---|
| Sample I.D.: ~~X~~ T1AMF-SV001-May24 | | Sampling Date: 5/28/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -28 | End inHg: -28 |
| Canister Serial/ID #: L4497 | Critical Orifice Assembly (COA) #: 22390 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1219 | End: 1226 | Duration: 7 min / hour | |
| **Canister Volume:** | Initial: -28 inHg | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: _____ | End inHg: _____ |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: _____ ml/min |
| **Sample Time:** Start: | End: | Duration: _____ min / hour | |
| **Canister Volume:** | Initial: _____ inHg | Final: _____ inHg | |

| | |
|---|---|
| **Laboratory:** Eurofin | |
| **Analyzed For:** see COC | |

Sampler's Signature: [signature]

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-2 | Sampling Date: 5/31/24 |
| Ambient Temp (°F): 78 | Ambient Barometric Pressure (inHg): 29.88 |
| Monitoring Equipment: ☒ Multi Rae (PID) ☒ MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.2 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -17 End inHg: -17
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4564 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: 220 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TIAMP-SV002_May24 | | Sampling Date: 05/31/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -28 | End inHg: -28 |
| Canister Serial/ID #: 16314 | Critical Orifice Assembly (COA) #: 25377 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1121 | End: 1128 | Duration: 7 | min / hour |
| **Canister Volume:** Initial: -28 inHg | | Final: -5 | inHg |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: | inHg |

**Laboratory:** Eurofins

**Analyzed For:** See CoC

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528 HM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A-1 |
| ID: SV-3 | Sampling Date: 06/03/24 |
| Ambient Temp (°F): 77 | Ambient Barometric Pressure (inHg): 29.91 |
| Monitoring Equipment: ☒ Multi Rae (PID) ☒ MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -15 End inHg: -15
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4545 ml
3. Leak Testing Compound: Helium
4. Helium Gas Concentration in Shroud: >20.0 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: T1AMF-SV003_~~May~~Jun 24 | | Sampling Date: 06/03/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -27 | End inHg: -27 |
| Canister Serial/ID #: 1L1968 | Critical Orifice Assembly (COA) #: 25527 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1226 | End: 1233 | Duration: 7 (min) / hour | |
| **Canister Volume:** | Initial: -27 inHg | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: min / hour | |
| **Canister Volume:** | Initial: inHg | Final: inHg | |

| | |
|---|---|
| **Laboratory:** | Eurofins |
| **Analyzed For:** | See COC |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240328 HM-1 | Client: Parsons |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-4 | Sampling Date: 5/30/24 |
| Ambient Temp (°F): 81 | Ambient Barometric Pressure (inHg): 30.00 |
| Monitoring Equipment: ☒ Multi Rae (PID) ☒ MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.9 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -22 End inHg: -22
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4477 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: ≥20 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TIAMF-SV004_May24 | | Sampling Date: 5/30/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -26 | End inHg: -26 |
| Canister Serial/ID #: IL 2206 | Critical Orifice Assembly (COA) #: 20641 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1618 | End: 1626 | Duration: 8 | min / hour |
| **Canister Volume:** Initial: -26 inHg | | Final: -5 | inHg |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: | inHg |

| |
|---|
| **Laboratory:** Eurofin |
| **Analyzed For:** See COC |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: HM | Site: Ti Tank FA |
| ID: SV-5B | Sampling Date: 5/30/24 |
| Ambient Temp (°F): 81 | Ambient Barometric Pressure (inHg): 30.00 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.9 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -20 End inHg: -20
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4427 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: 220 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TIAMF-SV005B_May24 | | Sampling Date: 5/30/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -30 | End inHg: -30 |
| Canister Serial/ID #: IL4219 | Critical Orifice Assembly (COA) #: 21482 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1455 | End: 1904 | Duration: 9 | min / hour |
| **Canister Volume:** Initial: -30 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| ~~Duplicate~~ Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: inHg | |

| |
|---|
| **Laboratory:** Eurofin |
| **Analyzed For:** see COC |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-6 | Sampling Date: 5/30/24 |
| Ambient Temp (°F): 73 | Ambient Barometric Pressure (inHg): 30.00 |
| Monitoring Equipment: ☒ Multi Rae (PID) ☒ MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.3 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -17 End inHg: -17
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 642 ml
3. Leak Testing Compound: HP
4. Helium Gas Concentration in Shroud: ≥20 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: T1AMF-SV006_May24 | | Sampling Date: 5/30/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -27 | End inHg: -27 |
| Canister Serial/ID #: IL4700 | Critical Orifice Assembly (COA) #: 21437 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1020 | End: 1028 | Duration: 8 | min / hour |
| **Canister Volume:** Initial: -27 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: inHg | |

| |
|---|
| **Laboratory:** Envirotech |
| **Analyzed For:** See COC |

Sampler's Signature: _____

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240928.HM-1 | Client: Parsons |
| Sampler: HM | Site: Titch 1-A |
| ID: SV-2 | Sampling Date: 5/30/24 |
| Ambient Temp (°F): 70 | Ambient Barometric Pressure (inHg): 30.00 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -22 End inHg: -22
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4477 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: 220 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: T2AMF-SV007_May24 | | Sampling Date: 5/30/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -27 | End inHg: -27 |
| Canister Serial/ID #: 13343 | Critical Orifice Assembly (COA) #: 20298 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 0903 | End: 0911 | Duration: 8 | min / hour |
| **Canister Volume:** Initial: -27 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| ~~Duplicate~~ Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: inHg | |

| |
|---|
| **Laboratory:** Eurofins |
| **Analyzed For:** STL CoC |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Pausons |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-8 | Sampling Date: 5/30/24 |
| Ambient Temp (°F): >6 | Ambient Barometric Pressure (inHg): 30.00 |
| Monitoring Equipment: ☒ Multi Rae (PID) ☒ MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.2 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -13 End inHg: -15
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4422 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: ≥20 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TIAMF-SV008_May24 | | Sampling Date: 5/30/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -27 | End inHg: -27 |
| Canister Serial/ID #: IL4533 | Critical Orifice Assembly (COA) #: 24506 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1246 | End: 1251 | Duration: 5 | min / hour |
| **Canister Volume:** Initial: -27 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| ~~Duplicate~~ Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | ~~Critical Orifice Assembly~~ (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | ~~Duration:~~ | min / hour |
| **Canister Volume:** Initial: inHg | | Final: inHg | |

| |
|---|
| **Laboratory:** Envotech |
| **Analyzed For:** See CoC |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528 HM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A-1 |
| ID: SV-9B | Sampling Date: 06/06/24 |
| Ambient Temp (°F): 92 | Ambient Barometric Pressure (inHg): 29.78 |
| Monitoring Equipment: ☒ Multi Rae (PID) ☒ MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -15 End inHg: -15
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4495 ml
3. Leak Testing Compound: Helium
4. Helium Gas Concentration in Shroud: >20.0 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TIAMF-SV09B_JUN24 | | Sampling Date: 06/06/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -28.5 | End inHg: -28.5 |
| Canister Serial/ID #: 14263 | Critical Orifice Assembly (COA) #: 25515 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1213 | End: 1219 | Duration: 6 (min) / hour | |
| **Canister Volume:** Initial: -28.5 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: min / hour | |
| **Canister Volume:** Initial: inHg | | Final: inHg | |

**Laboratory:** Eurofins

**Analyzed For:** See COC

Sampler's Signature: [signature]

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A-1 |
| ID: SV-10 | Sampling Date: 06/03/24 |
| Ambient Temp (°F): 74 | Ambient Barometric Pressure (inHg): 29.92 |
| Monitoring Equipment: ☒ Multi Rae (PID) ☒ MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -17 End inHg: -17
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4564 ml
3. Leak Testing Compound: Helium
4. Helium Gas Concentration in Shroud: >20.0 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: T1AMF-SV010-~~Aug~~ JUN 24 BD | | Sampling Date: 06/03/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -26 | End inHg: -26 |
| Canister Serial/ID #: 1C2226 | Critical Orifice Assembly (COA) #: 22393 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1124 | End: 1130 | Duration: 6 min / hour | |
| **Canister Volume:** | Initial: -26 inHg | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: min / hour | |
| **Canister Volume:** | Initial: inHg | Final: inHg | |

| | |
|---|---|
| **Laboratory:** Eurofins | |
| **Analyzed For:** See COC | |

Sampler's Signature: [signature]

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A-1 |
| ID: SV-11 | Sampling Date: 06/03/24 |
| Ambient Temp (°F): 73 | Ambient Barometric Pressure (inHg): 29.91 |
| Monitoring Equipment: ☒ Multi Rae (PID) ☒ MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -13 End inHg: -13
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4620 ml
3. Leak Testing Compound: —
4. Helium Gas Concentration in Shroud: — %
5. Post Purge leak check using Helium Detector: — %

Purged 5 minutes and water in tubing/well - No Samples collected

| | | | |
|---|---|---|---|
| Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: | inHg |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: | inHg |

| | |
|---|---|
| **Laboratory:** | Eurofins |
| **Analyzed For:** | See COC |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528 HA-1 | Client: Parsons |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-12 | Sampling Date: 5/31/24 |
| Ambient Temp (°F): 80 | Ambient Barometric Pressure (inHg): 29.90 |
| Monitoring Equipment: ☒ Multi Rae (PID) | ☒ MGD 2002 (Helium Detector) |
| PID Reading (ppm): — | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☐ PASS ☐ FAIL Start inHg: _____ End inHg: _____
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** _____ ml
3. Leak Testing Compound: _____
4. Helium Gas Concentration in Shroud: _____ %
5. Post Purge leak check using Helium Detector: _____ %

Water was in the sample line, could not sample.

| | | | |
|---|---|---|---|
| Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: _____ | End inHg: _____ |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: _____ ml/min |
| **Sample Time:** Start: | End: | Duration: _____ | min / hour |
| **Canister Volume:** Initial: _____ inHg | | Final: _____ inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: _____ | End inHg: _____ |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: _____ ml/min |
| **Sample Time:** Start: | End: | Duration: _____ | min / hour |
| **Canister Volume:** Initial: _____ inHg | | Final: _____ inHg | |

| |
|---|
| **Laboratory:** |
| **Analyzed For:** |

Sampler's Signature: [signature]

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-15B | Sampling Date: 5/31/24 |
| Ambient Temp (°F): 81 | Ambient Barometric Pressure (inHg): 29.90 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.3 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -15 End inHg: -15
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4452 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: ≥20 %
5. Post Purge leak check using Helium Detector: 0.0 %

pressure meter started at ~~-25~~ -21 and maxed out after the can was opened.

| | | | |
|---|---|---|---|
| Sample I.D.: TIAMF-SV015B_May24 | | Sampling Date: 5/31/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -30 | End inHg: -30 |
| Canister Serial/ID #: 1L2881 | Critical Orifice Assembly (COA) #: 25371 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1310 | End: 1315 | Duration: 5 min / hour | |
| **Canister Volume:** | Initial: HM ~~X~~ <-30 inHg | Final: -25 inHg | |

| | | | |
|---|---|---|---|
| ~~Duplicate Sample I.D.:~~ | | Sampling Date: | |
| Vacuum Shut In Test: [ ] ~~PASS~~ [ ] FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: min / hour | |
| **Canister Volume:** | Initial: inHg | Final: inHg | |

| | |
|---|---|
| **Laboratory:** Eurofin | |
| **Analyzed For:** see COC | |

Ran sample for 5 min then closed the can, due to pressure meter not working.

Sampler's Signature: [signature]

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528Hm -1 | Client: Parsons |
| Sampler: Hm | Site: Titan 1-A |
| ID: SV-16 | Sampling Date: 5/30/24 |
| Ambient Temp (°F): >5 | Ambient Barometric Pressure (inHg): 29.99 |
| Monitoring Equipment: ☒ Multi Rae (PID) ☒ MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.2 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -15 End inHg: -15
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** ~~4450~~ 4550 ml (RM)
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: ≥20 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: T1AMF-SV016_May24 | | Sampling Date: 5/30/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -28 | End inHg: -28 |
| Canister Serial/ID #: 1L3746 | Critical Orifice Assembly (COA) #: 25379 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1130 | End: 1137 | Duration: 7 | min / hour |
| **Canister Volume:** Initial: -28 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: inHg | |

| |
|---|
| **Laboratory:** Eurofins |
| **Analyzed For:** 8260 CoC |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528 HA-1 | Client: Parsons |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-17B | Sampling Date: 5/29/24 |
| Ambient Temp (°F): 70 | Ambient Barometric Pressure (inHg): 30.09 |
| Monitoring Equipment: ☒ Multi Rae (PID) ☒ MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -12 End inHg: -12 (HM) -1
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4422 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: 220 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TIAMF-SV017B_JW24 | | Sampling Date: 05/29/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -28 | End inHg: -28 |
| Canister Serial/ID #: 16429 | Critical Orifice Assembly (COA) #: 316 X X 6 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1617 | End: 1625 | Duration: 8 | min / hour |
| **Canister Volume:** Initial: -28 inHg | | Final: -5 | inHg |

| | | | |
|---|---|---|---|
| ~~Duplicate Sample I.D.:~~ | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: | inHg |

| |
|---|
| **Laboratory:** Envofin |
| **Analyzed For:** See COC |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-18 | Sampling Date: 5/28/24 |
| Ambient Temp (°F): 61 | Ambient Barometric Pressure (inHg): 29.98 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -19 End inHg: -15
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4400 ml
3. Leak Testing Compound: HP
4. Helium Gas Concentration in Shroud: ≥20 %
5. Post Purge leak check using Helium Detector: 0.0 %

3 in of water in the top of line, placeded with sample, at points

| | | | |
|---|---|---|---|
| Sample I.D.: TLAMF-SV01R_May24 | | Sampling Date: 05/28/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -26 | End inHg: -26 |
| Canister Serial/ID #: L3753 | Critical Orifice Assembly (COA) #: 25492 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1051 | End: 1057 | Duration: 6 | (min) / hour |
| **Canister Volume:** Initial: -26 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| ~~Duplicate Sample I.D.:~~ | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: inHg | |

| |
|---|
| **Laboratory:** Envirotech |
| **Analyzed For:** See C-C |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 24 0528 HA-1 | Client: Parsons |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-19 | Sampling Date: 5/31/24 |
| Ambient Temp (°F): 76 | Ambient Barometric Pressure (inHg): 29.88 |
| Monitoring Equipment: ☒ Multi Rae (PID) | ☒ MGD 2002 (Helium Detector) |
| PID Reading (ppm): 0.2 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -22 End inHg: -22
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4550 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: ≥20 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TIAME-SV019-May24 | | Sampling Date: 5/31/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -27 | End inHg: -27 |
| Canister Serial/ID #: L4781 | Critical Orifice Assembly (COA) #: 22550 9 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1004 | End: 1009 | Duration: 5 | min / hour |
| **Canister Volume:** Initial: -27 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| ~~Duplicate~~ Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: inHg | |

**Laboratory:** Envirotech

**Analyzed For:** See CoC

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-20 | Sampling Date: 5/29/24 |
| Ambient Temp (°F): 74 | Ambient Barometric Pressure (inHg): 30.09 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -15 End inHg: -15
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4550 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: ≥20 %
5. Post Purge leak check using Helium Detector: 0.0 %

-15 pressure before sample was taken.

purge stopped after 500 mL due to high backpressure.

| | | | |
|---|---|---|---|
| Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -22 | End inHg: -22 |
| Canister Serial/ID #: 1L1792 | Critical Orifice Assembly (COA) #: 24633 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1445 | End: 1505 | Duration: 20 min / hour | |
| **Canister Volume:** | Initial: ~~-20~~ -22 inHg | Final: -17 inHg | |

| | | | |
|---|---|---|---|
| ~~Duplicate Sample I.D.:~~ | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: min / hour | |
| **Canister Volume:** | Initial: inHg | Final: inHg | |

| | |
|---|---|
| **Laboratory:** Eurofin | |
| **Analyzed For:** see COC | |

meter stayed at -17 inHg after can was closed.

Sampler's Signature: [signature]

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-21 | Sampling Date: 5/28/24 |
| Ambient Temp (°F): 63 | Ambient Barometric Pressure (inHg): 29.98 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -15 End inHg: -15
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4400 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: ≥20 %
5. Post Purge leak check using Helium Detector: 0.0 % -17 pressure before sampl was taken.

stopped purged due to high back pressure after 100ml

| | | | |
|---|---|---|---|
| Sample I.D.: T1AMF-SV~~002~~ 021 (HM) _May24 | | Sampling Date: 5/~~24~~ 28 (HM) /24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -30 | End inHg: -30 |
| Canister Serial/ID #: 1L4701 | Critical Orifice Assembly (COA) #: 22351 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1202 | End: 1223 | Duration: 21 min / hour | |
| **Canister Volume:** | Initial: -30 inHg | Final: -30 inHg | |

| | | | |
|---|---|---|---|
| ~~Duplicate Sample I.D.:~~ | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: _____ | End inHg: _____ |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: _____ ml/min |
| **Sample Time:** Start: | End: | Duration: _____ min / hour | |
| **Canister Volume:** | Initial: _____ inHg | Final: _____ inHg | |

| | |
|---|---|
| **Laboratory:** Eurofin | |
| **Analyzed For:** See COC | |

Sampler's Signature: [signature]

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: HM | Site: Titan 1-A |
| ID: SW-22 | Sampling Date: 5/29/24 |
| Ambient Temp (°F): 70 | Ambient Barometric Pressure (inHg): 30.09 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -17 End inHg: -17
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** ~~4452~~ 4560 (3) ml
3. Leak Testing Compound: HP
4. Helium Gas Concentration in Shroud: ≥ 20 %
5. Post Purge leak check using Helium Detector: 0.0 %

Stopped purge after 200 mL due to high backpressure.

| | | | |
|---|---|---|---|
| Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -26 | End inHg: -26 |
| Canister Serial/ID #: L2975 | Critical Orifice Assembly (COA) #: 30295 | | Flow Rate: _____ ml/min |
| **Sample Time:** Start: 1310 | End: 1315 | Duration: 5 | min / hour |
| **Canister Volume:** Initial: -26 inHg | | Final: -5 | inHg |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: _____ | End inHg: _____ |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: _____ ml/min |
| **Sample Time:** Start: | End: | Duration: _____ | min / hour |
| **Canister Volume:** Initial: _____ inHg | | Final: _____ | inHg |

| |
|---|
| **Laboratory:** Eurofins |
| **Analyzed For:** See CoC |

Sampler's Signature: _____

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: HM | Site: Titan A-1 |
| ID: SV-23 | Sampling Date: 5/29/24 |
| Ambient Temp (°F): 61 | Ambient Barometric Pressure (inHg): 30.09 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -20 End inHg: -20
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4400 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: ≥20 %
5. Post Purge leak check using Helium Detector: 0 %

| | | | |
|---|---|---|---|
| Sample I.D.: T1AMF-SV023_May24 | | Sampling Date: 5/29/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -26 | End inHg: -26 |
| Canister Serial/ID #: KAL 3147 | Critical Orifice Assembly (COA) #: 22526 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 0857 | End: 0902 | Duration: ~~2005~~ 5 min / hour | |
| **Canister Volume:** | Initial: -26 inHg | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: T1AMF-SV023_May24_FD | | Sampling Date: 5/29/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -26 | End inHg: -26 |
| Canister Serial/ID #: LC273 | Critical Orifice Assembly (COA) #: 20946 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 0857 | End: 0903 | Duration: 6 min / hour | |
| **Canister Volume:** | Initial: -26 inHg | Final: -5 inHg | |

| | |
|---|---|
| **Laboratory:** Eurofin | |
| **Analyzed For:** see COC | |

Sampler's Signature: [signature]

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 24528 HM-1 | Client: Falsoft |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-24 | Sampling Date: 5/29/24 |
| Ambient Temp (°F): 70 | Ambient Barometric Pressure (inHg): 30.09 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -15 End inHg: -15
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** ~~6817~~ 5809 ml
3. Leak Testing Compound: HC
4. Helium Gas Concentration in Shroud: 220 %
5. Post Purge leak check using Helium Detector: 0.0 %

3X purge should = 4550 mL

| | | | |
|---|---|---|---|
| Sample I.D.: T1 AMF-SV024_May24 | | Sampling Date: 5/29/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -29 | End inHg: -29 |
| Canister Serial/ID #: L4004 | Critical Orifice Assembly (COA) #: 22399 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1054 | End: 1102 | Duration: 8 min / hour | |
| **Canister Volume:** Initial: -29 inHg | | Final: -1 inHg | |

| | | | |
|---|---|---|---|
| ~~Duplicate Sample I.D.:~~ | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: min / hour | |
| **Canister Volume:** Initial: inHg | | Final: inHg | |

| |
|---|
| **Laboratory:** Envofin. |
| **Analyzed For:** See COC |

Low final negative pressure due to pressure meter malfunction.

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: ~~240537~~ (HM) 240528HM-1 | Client: Parsons |
| Sampler: HM | Site: Titan 1-A |
| ID: SV-25 | Sampling Date: 5/31/24 |
| Ambient Temp (°F): 73 | Ambient Barometric Pressure (inHg): 29.88 |
| Monitoring Equipment: [X] Multi Rae (PID) | [X] MGD 2002 (Helium Detector) |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -23 End inHg: -23
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** ~~4450~~ (HM) 4550 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: 220 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: T1AMF-SV025_May24 | | Sampling Date: 5/31/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -26 | End inHg: -26 |
| Canister Serial/ID #: 1L4524 | Critical Orifice Assembly (COA) #: 22506 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 0902 | End: 0907 | Duration: 5 min / hour | |
| **Canister Volume:** | Initial: -26 inHg | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: min / hour | |
| **Canister Volume:** | Initial: inHg | Final: inHg | |

| | |
|---|---|
| **Laboratory:** Eurofin | |
| **Analyzed For:** see COC | |

Sampler's Signature: [signature]

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: HM | Site: Titan A-1 |
| ID: SV-26 | Sampling Date: 5/29/24 |
| Ambient Temp (°F): 73 | Ambient Barometric Pressure (inHg): 30.09 |
| Monitoring Equipment: ☒ Multi Rae (PID) ☒ MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -19 End inHg: -19
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4492 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: 220 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TIAMF-SV026_May24 | | Sampling Date: 5/29/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -26 | End inHg: -26 |
| Canister Serial/ID #: L1827 | Critical Orifice Assembly (COA) #: 24618 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1211 | End: 1220 | Duration: 9 | min / hour |
| **Canister Volume:** Initial: -26 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: TIAMF-SV026_May24_D | | Sampling Date: 5/29/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -28 | End inHg: -28 |
| Canister Serial/ID #: L3309 | Critical Orifice Assembly (COA) #: 21824 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1211 | End: 1220 | Duration: 9 | min / hour |
| **Canister Volume:** Initial: -28 inHg | | Final: -5 inHg | |

| |
|---|
| **Laboratory:** Eurofins |
| **Analyzed For:** See COC |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528 HM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A-1 |
| ID: SV-27 | Sampling Date: 06/03/24 |
| Ambient Temp (°F): 83 | Ambient Barometric Pressure (inHg): 29.87 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -16 End inHg: -16
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4615 ml
3. Leak Testing Compound: Helium
4. Helium Gas Concentration in Shroud: >20.0 %
5. Post Purge leak check using Helium Detector: 0.0 %

Back Pressure - canister stopped filling at -16 inHg

| | | | |
|---|---|---|---|
| Sample I.D.: T1 AMF-SV027-~~May~~ JUN 24 BD | | Sampling Date: 06/03/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -27 | End inHg: -27 |
| Canister Serial/ID #: 1L4128 | Critical Orifice Assembly (COA) #: 22426 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1435 | End: 1455 | Duration: 20 min / hour | |
| **Canister Volume:** | Initial: -27 inHg | Final: -16 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: min / hour | |
| **Canister Volume:** | Initial: inHg | Final: inHg | |

| | |
|---|---|
| **Laboratory:** Eurofins | |
| **Analyzed For:** See COC | |

Sampler's Signature: [signature]

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A-1 |
| ID: SV-28 | Sampling Date: 06/03/24 |
| Ambient Temp (°F): 82 | Ambient Barometric Pressure (inHg): 29.88 |
| Monitoring Equipment: ☒ Multi Rae (PID) | ☒ MGD 2002 (Helium Detector) |
| PID Reading (ppm): 0.1 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -13 End inHg: -13
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4615 ml
3. Leak Testing Compound: Helium
4. Helium Gas Concentration in Shroud: >20.0 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TIAMF-SV028-JUN May 24 FD | | Sampling Date: 06/03/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -29 | End inHg: -29 |
| Canister Serial/ID #: L2385 | Critical Orifice Assembly (COA) #: 25457 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1337 | End: 1343 | Duration: 6 (min) / hour | |
| **Canister Volume:** Initial: -29 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: TIAMF-SV028-JUN May 24 FD | | Sampling Date: 06/03/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -29 | End inHg: -29 |
| Canister Serial/ID #: L4822 | Critical Orifice Assembly (COA) #: 25518 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: ~~1340~~ 1337 | End: 1342 | Duration: 5 (min) / hour | |
| **Canister Volume:** Initial: -29 inHg | | Final: -5 inHg | |

| | |
|---|---|
| **Laboratory:** Eurofins | |
| **Analyzed For:** See COC | |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528 HM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A-1 |
| ID: SV-29 | Sampling Date: 06/03/24 |
| Ambient Temp (°F): 67 | Ambient Barometric Pressure (inHg): 29.90 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -15 End inHg: -15
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4571 ml
3. Leak Testing Compound: Helium
4. Helium Gas Concentration in Shroud: >20.0 %
5. Post Purge leak check using Helium Detector: 0.0 %

Vapor well has back pressure, stopped filling at -23 inHg

| | | | |
|---|---|---|---|
| Sample I.D.: T1AMF-SV029-~~May~~ JUN 24 | | Sampling Date: 06/03/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -29 | End inHg: -29 |
| Canister Serial/ID #: L3453 | Critical Orifice Assembly (COA) #: 25587 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 0855 | End: 0915 | Duration: 20 (min) / hour | |
| **Canister Volume:** Initial: -29 inHg | | Final: -23 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: min / hour | |
| **Canister Volume:** Initial: inHg | | Final: inHg | |

| | |
|---|---|
| **Laboratory:** Eurofins | |
| **Analyzed For:** See COC | |

Sampler's Signature: _____

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A-1 |
| ID: SV-30 | Sampling Date: 06/03/24 |
| Ambient Temp (°F): 69 | Ambient Barometric Pressure (inHg): 29.90 |
| Monitoring Equipment: [X] Multi Rae (PID) | [X] MGD 2002 (Helium Detector) |
| PID Reading (ppm): 0.4 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -16 End inHg: -16
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4564 ml
3. Leak Testing Compound: Helium
4. Helium Gas Concentration in Shroud: >20.0 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TI AMF - SV030 - ~~Aug~~ JUN 24 | | Sampling Date: 06/03/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -27 | End inHg: -27 |
| Canister Serial/ID #: 1L4702 | Critical Orifice Assembly (COA) #: 24588 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 0949 | End: 0955 | Duration: 6 min / hour | |
| **Canister Volume:** | Initial: -27 inHg | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: min / hour | |
| **Canister Volume:** | Initial: inHg | Final: inHg | |

| | |
|---|---|
| **Laboratory:** | Eurofins |
| **Analyzed For:** | See COC |

Sampler's Signature: [signature]

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A-1 |
| ID: SV-31 | Sampling Date: 06/03/24 |
| Ambient Temp (°F): 83 | Ambient Barometric Pressure (inHg): 29.85 |
| Monitoring Equipment: ☒ Multi Rae (PID) ☒ MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -13 End inHg: -13
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4593 ml
3. Leak Testing Compound: Helium
4. Helium Gas Concentration in Shroud: >20.0 %
5. Post Purge leak check using Helium Detector: 0.0 %

Back Pressure - canister stopped filling at -13 inHg

| | | | |
|---|---|---|---|
| Sample I.D.: T1AMF-SV031-060324 | | Sampling Date: 06/03/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -27 | End inHg: -27 |
| Canister Serial/ID #: 14005 | Critical Orifice Assembly (COA) #: 40690 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1537 | End: 1601 | Duration: 24 | min / hour |
| **Canister Volume:** Initial: -27 inHg | | Final: -13 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: inHg | |

| | |
|---|---|
| **Laboratory:** | Eurofins |
| **Analyzed For:** | See COC |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240588 HM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A1 |
| ID: SV-329 | Sampling Date: 06/06/24 |
| Ambient Temp (°F): 85 | Ambient Barometric Pressure (inHg): 29.79 |
| Monitoring Equipment: ☒ Multi Rae (PID) | ☒ MGD 2002 (Helium Detector) |
| PID Reading (ppm): 0.4 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -14 End inHg: -14
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4608 ml
3. Leak Testing Compound: Helium
4. Helium Gas Concentration in Shroud: >20.0 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TIAMF-SV0329-JUN24 | | Sampling Date: 06/06/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -26 | End inHg: -26 |
| Canister Serial/ID #: L20635 | Critical Orifice Assembly (COA) #: 30727 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1012 | End: 1019 | Duration: 7 | min / hour |
| **Canister Volume:** Initial: -26 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: | inHg |

| | |
|---|---|
| **Laboratory:** Eurofins | |
| **Analyzed For:** See COC | |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A-1 |
| ID: SV-326 | Sampling Date: 06/06/24 |
| Ambient Temp (°F): 89 | Ambient Barometric Pressure (inHg): 29.79 |
| Monitoring Equipment: ☒ Multi Rae (PID) | ☒ MGD 2002 (Helium Detector) |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -16.5 End inHg: -16.5
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4535 ml
3. Leak Testing Compound: Helium
4. Helium Gas Concentration in Shroud: >20.0 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TI AMF-SV0326-JUN24 | | Sampling Date: 06/06/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -28 | End inHg: -28 |
| Canister Serial/ID #: L4059 | Critical Orifice Assembly (COA) #: 24643 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1150 | End: 1159 | Duration: 7 (min) / hour | |
| **Canister Volume:** Initial: -28 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| ~~Duplicate Sample I.D.:~~ | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: inHg | |

**Laboratory:** Eurofins

**Analyzed For:** SOC 02

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528 HM-1 | Client: Parsons |
| Sampler: HM | Site: Titan A-1 |
| ID: SV-33 | Sampling Date: 5/28/24 |
| Ambient Temp (°F): >5 | Ambient Barometric Pressure (inHg): 29.98 |
| Monitoring Equipment: [X] Multi Rae (PID) [X] MGD 2002 (Helium Detector) | |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: [X] PASS [ ] FAIL Start inHg: -22 End inHg: -22
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4400 ml
3. Leak Testing Compound: He
4. Helium Gas Concentration in Shroud: >20 %
5. Post Purge leak check using Helium Detector: <1 %

stopped purge after 4000mL due to high back pressure.

| | | | |
|---|---|---|---|
| Sample I.D.: ~~1L~~ TIAMF-SV-033-May24 | | Sampling Date: 5/28/24 | |
| Vacuum Shut In Test: [X] PASS [ ] FAIL | | Start inHg: -28 | End inHg: -28 |
| Canister Serial/ID #: 12454 | Critical Orifice Assembly (COA) #: 2535 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 1443 | End: 1452 | Duration: 9 | min / hour |
| **Canister Volume:** Initial: -28 inHg | | Final: -5 | inHg |

| | | | |
|---|---|---|---|
| ~~Duplicate~~ Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: [ ] PASS [ ] FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: | inHg |

| |
|---|
| **Laboratory:** Eurofins |
| **Analyzed For:** See COC |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 070588 MM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A-1 |
| ID: SV-34 | Sampling Date: 06/06/04 |
| Ambient Temp (°F): 80 | Ambient Barometric Pressure (inHg): 29.79 |
| Monitoring Equipment: ☒ Multi Rae (PID) | ☒ MGD 2002 (Helium Detector) |
| PID Reading (ppm): 0.0 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -13.5 End inHg: -13.5
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4615 ml
3. Leak Testing Compound: Helium
4. Helium Gas Concentration in Shroud: > 20.0 %
5. Post Purge leak check using Helium Detector: 0.0 %

Back Pressure - stopped filling at -7 inHg

| | | | |
|---|---|---|---|
| Sample I.D.: TIAMF-SV034_060604 | | Sampling Date: 06/06/04 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -27 | End inHg: -27 |
| Canister Serial/ID #: 12042 | Critical Orifice Assembly (COA) #: 25443 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 0806 | End: 0826 | Duration: 20 | (min) / hour |
| **Canister Volume:** Initial: -27 inHg | | Final: -7 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: | | Sampling Date: | |
| Vacuum Shut In Test: ☐ PASS ☐ FAIL | | Start inHg: | End inHg: |
| Canister Serial/ID #: | Critical Orifice Assembly (COA) #: | | Flow Rate: ml/min |
| **Sample Time:** Start: | End: | Duration: | min / hour |
| **Canister Volume:** Initial: inHg | | Final: | inHg |

| | |
|---|---|
| **Laboratory:** Eurofins | |
| **Analyzed For:** See COC | |

Sampler's Signature:

# SOIL VAPOR AND AIR MONITORING DATA SHEET

| | |
|---|---|
| Project #: 240528HM-1 | Client: Parsons |
| Sampler: BD | Site: Titan A-1 |
| ID: SV-35 | Sampling Date: 06/06/24 |
| Ambient Temp (°F): 82 | Ambient Barometric Pressure (inHg): 29.79 |
| Monitoring Equipment: ☒ Multi Rae (PID) | ☒ MGD 2002 (Helium Detector) |
| PID Reading (ppm): 0.6 | |

**SAMPLE PURGE INFORMATION**

1. Vacuum Shut In Test: ☒ PASS ☐ FAIL Start inHg: -13 End inHg: -13
2. Purged 3 volumes prior to sample collection. **Total Volume Purged:** 4615 ml
3. Leak Testing Compound: Helium
4. Helium Gas Concentration in Shroud: >20.0 %
5. Post Purge leak check using Helium Detector: 0.0 %

| | | | |
|---|---|---|---|
| Sample I.D.: TIAMF-SV035_JUN24 | | Sampling Date: 06/06/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: ~~-25~~ -25 | End inHg: ~~-5~~ -25 |
| Canister Serial/ID #: L4489 | Critical Orifice Assembly (COA) #: 21476 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 0915 | End: 0926 | Duration: 11 (min) / hour | |
| **Canister Volume:** Initial: -25 inHg | | Final: -5 inHg | |

| | | | |
|---|---|---|---|
| Duplicate Sample I.D.: TIAMF-SV035_JUN24-FD | | Sampling Date: 06/06/24 | |
| Vacuum Shut In Test: ☒ PASS ☐ FAIL | | Start inHg: -29 | End inHg: -29 |
| Canister Serial/ID #: L3657 | Critical Orifice Assembly (COA) #: ~~25433~~ 21476 | | Flow Rate: 200 ml/min |
| **Sample Time:** Start: 0915 | End: ~~0929~~ 0922 | Duration: 7 (min) / hour | |
| **Canister Volume:** Initial: -29 inHg | | Final: -5 inHg | |

| | |
|---|---|
| **Laboratory:** | Eurofins |
| **Analyzed For:** | See COC |

Sampler's Signature: _____

# Appendix F – Field Notes

5/20/24 Titan 1-A MW/SV install

0735 Arrived @ St. Joseph Parking Lot

0738 Cascade Onsite

0800 USACE (Jessequa) & Condor Country biologist (Sam) arrived

0805 Held biological survey meeting followed by Tailgate safety meeting.

0810 Forklift delivered.

0810 Began mobilization to site; unload drilling

0900 Unload drums & park Truck & trailer @ Placer County lay down; Met with Bryan (Placer County) confirm location for drum storage, restroom usage & truck/trailer parking.

1100 Began mobilization to SV-33; USACE (Jesse) arrived on site & received safety & biological mtg.

1210 Crew to lunch

1240 Placer county grout inspector onsite (Paul)

1310 Begin SV-33 placement

1345 Reach depth of 10'

10'-9' Sand

@9.5' Probe tip

9'-8' Dry

8'- surface wet bentonite

monument 2' below

1533 Completed bollard placement @ SV-33

1540 Began site cleanup

5/20/24 cont.

1545 USACE (Jessequa) offsite

1555 Condor Country (Sann) offsite

1605 Cascade offsite

1610 Parsons locked County Laydown Yard Gate

A. Pruitt

Rite in the Rain

5/21/24 Titan 1-A MW/SV install

0700 Arrived onsite; Safety tailgate

715 Mobilized to MW-66

730 PID zero 0.0 ppm / Bump 94.3 ppm

0800 Began drilling @ MW-66

DPT 22 - for sampling 2.25" diameter

HSA - for drilling hole to set well

1035 Refusal of DPT @ 20'; need part to clear hole to continue sampling with HSA.

En route to site from Cascade in Sacramento

1100 Crew sent to lunch; Matt (USACE) onsite

1215 Part arrived, crew resumed drilling

1245 Paul Holloway (Placer county grout inspector) onsite

1300 Maddy Montgomery (?) onsite

1500 Began setting well

1600 Well complete, ~~placing bollards~~

1645 Clean up

1700 Offsite

*

6 5/22/24 Titan 1-A MW/SV Install

0700 Arrived; Safety Tailgate

0715 Mobilize to MW-61

0900 ~~Jessica~~ (USACE) onsite

0915 ~~Jessie~~ Tim/Katie (USACE) onsite; received safety/bio trainings.

0940 Began drilling @ MW-61

1100 Lunch

1300 Began setting well; Maddy (PE grout insp) onsite

1440 Well complete

1500 Began clean up & mobilization to MW-62

1600 Offsite

A. Rutt

5/23/24 Titan 1-A MW/SV install

0700 Arrive onsite; safety tailgate prep & mobilize to MW-62

0815 Begin drilling @ MW-62

0900 Completed DPT sampling; began HSA to depth for install

1045 reached depth, began setting well

1210 lunch

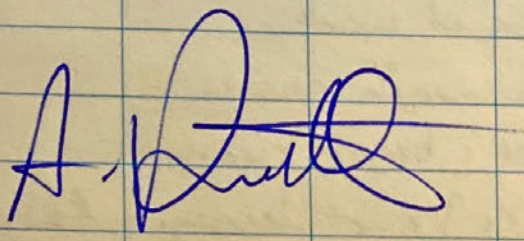
1245 Grout well, Sent photos to inspector

1310 Place monument

1330 Decon equipment; mobilize to MW-63

1530 Sam (CC) offsite

1600 Offsite



Rite in the Rain®

8 5/24/24 Titan 1-A MW/SV install

0700 Arrived onsite ; safety tailgate

0715 Prep to move across stream

0800 Set up mats, move equipment to MW-63

0915 Resident (Paula) asked about activities and if any drilling will be done behind her house. Informed her no drilling behind her house. Gave her two copies of information handout

1100 Completed DPT, Began HSA

1200 lunch

1330 Began setting well

1345 Resident (Stan) came over to ask about progress of work.

1430 USACE Jessequa onsite

1450 Well set ; began cleanup

1600 Sam (CC) and Jessequa (USACE) offsite

1700 Offsite

5/28/24 Titan I-A MW/SV install/sampling

0700 Arrived onsite; safety tailgate; Bio-orientation for samplers, developer & new Parsons personnel

0745 Samplers depart to begin sampling
Move equipment to MW-64

0815 Begin DPT for logging

1130 Complete DPT, Lunch, Drillers noticed small leak and will get O-ring to replace damaged O-ring

1220 Replaced part

1230 Began HSA of MW-64

1315 Began setting well

1430 Grout

1445 Well complete

1545 Began clean up, GW Samplers offsite, Developer offsite

1600 Drillers, SV sampler, Parsons offsite

* See daily for SV & GW sampled for the day
- Ashleigh (Parsons) oversaw development, GW/SV sampling

A. Pruett

Rite in the Rain

10 5/29/24 Titan 1-A MW/SV install & sampling

0700 Arrived onsite ; Safety tailgate

0730 MW/SV samplers begin sampling
Set up for ~~SV~~ installation of SV-30

0~~825~~ Begin drilling

0952 Begin SV install

~~1000~~ ~~(Complete SV install ; Begin placing bellaid)~~

1030 Cristian (Blaine tech) offsite

~~1130~~ Complete SV install & bellard placement
Move to SV-29

1200 Chad (Cascade Developer) offsite

1300 Begin drilling at SV-29

1345 Begin SV install

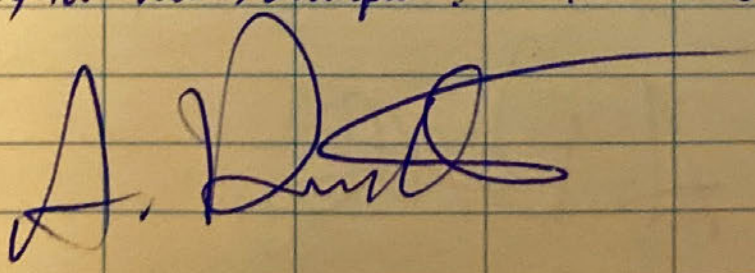
1415 Complete SV install & bollard placement.

1430 Mobilize to SV-31
Clean up site

1615 Cascade, GW samplers, biologist offsite

1645 Parsons and SV sampler offsite.

* See daily for wells developed & MW/SV wells sampled.



5/30/24 Titan I-A MW/SV install & sampling

0700 Arrive onsite ; safety tailgate

0730 GW/SV samplers begin sampling

0800 Mobilize and set up @ SV-31

0915 Begin drilling

0955 Begin SV install

1048 SV install complete ; begin installing bollards

1200 Bollards installed, Lunch then mobilize to SV-32 a, b

1300 Begin drilling @ SV-32 a, b

1351 Begin SV install

1425 SV-32 a, b install complete

1430 Begin installing bollards

1520 Install complete ; clean up site mobilize to SV-28

1530 Chad (Cascade developer) offsite

1615 Drillers & MW sampler offsite

1700 Parsons & SV sampler offsite

* see daily for MW/SV sampled and wells developed. All wells developed.

A. [illegible]

Rite in the Rain

5/31/24 Titan 1-A MW/SV install & sampling

0700 Arrived onsite; Safety tailgate

0730 MW/SV samplers begin sampling

0 Drilling crew set up @ SV-28

0900 Begin Drilling @ SV-28

0930 Install SV probe

0956 Complete install; begin setting bollards

1200 Bollard complete; Lunch, mobilize to SV-27

1300 Begin drilling @ SV-27

1345 Install SV probes

1405 Complete SV install; begin installing bollards; Mychal (Blainetech SV) sampler offsite

1500 Bollard install complete; clean up site

1600 All personnel offsite

* See daily for MW/SV wells sampled

A. Pruitt

6/3/24 Titan 1-A MW/SV install & sampling

0700 Arrived onsite; Safety Tailgate

0730 MW/SV samplers begin sampling
Drillers set up @ SV-34

0840 Begin drilling @ SV-34

0915 Install SV probe

0945 SV install complete; begin installing bollards

1030 Mobilize to SV-35

1105 Begin drilling @ SV-35

1145 Install SV probe

1210 SV install complete; begin installing bollards

1330 Bollard install complete.

1400 Begin demobilizing to laydown yard.

1600 Drillers & MW sampler offsite

1700 Parsons & SV sampler offsite.

** See daily for MW/SV wells sampled.

Rite in the Rain.

14 6/6/24 Titan 1-A MW/SV install & sampling

0700 Blumefield & Parsons onsite; safety tailgate

0715 Rex Engineers (Surveyors) onsite; safety tailgate

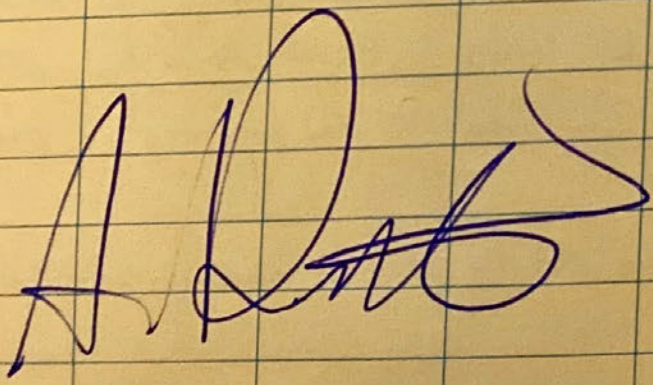
0730 SV sampler begins sampling; Walked site with surveyors

0815 Surveyors begin setting up control points & survey
Parsons takes IDW samples (soil & water)

1200 SV sampler offsite

1430 Surveyors offsite.

1700 Parsons offsite.



# Appendix G – Biological Monitoring Reports

## Daily Construction Monitoring Log v5

| | |
|---|---|
| Date | 05/15/2024 |
| Type of Service | Preconstruction Nesting Bird Survey |
| **Survey Conditions** | |
| Project phase(s): | |
| Time on site: | 07:05 AM |
| Time off site: | 02:00 PM |
| Weather: | 0705: 59°F, clear, winds 0 MPH<br>1335: 86°F, 36% humidity, winds 5 MPH |
| Monitor(s): | Sam McNally (SM) |
| Other Individuals Onsite | Arnold Pimentel (Parsons)<br>Reed Parson (2M GE) |
| Number of Hours Condor Biologists Onsite | |
| Number of Hours of Other Personnel Onsite (Per Person) (Non-Condor) | |
| Safety tailgate training occurred prior to work activities? | true |
| Environmental training occurred prior to start of work activities? | true |
| **Biological Observations** | |
| Were there any special status species observed? | No |
| Notes About Observations | On May 15, 2024, Condor Country biologist Sam McNally (SM) conducted a preconstruction survey of the former Titan 1-A Missile Facility and surrounding study area to assess presence of nesting birds protected under the federal Migratory Bird Treaty Act of 1918 (MBTA) and the Bald and Golden Eagle Protection Act.<br><br>Visual and auditory searches for active nests and nesting behavior were performed within the project area and surrounding 500 feet, focusing on areas of intrusive activities. Survey equipment consisted of 8x42 binoculars. The surveyor examined trees and shrubs within rhe area and along the perimeter, conducted periods of stationary observation in areas with good vantage points to watch for signs of nesting behavior, and walked transects through grassy areas. Trees on private property west of the study area were surveiled from within the study area via binoculars. The survey began at 0725 and concluded at 1400.<br><br>The survey included focused surveys for burrowing owl (BUOW), modified from protocols developed by the California Burrowing Owl Consortium (CBOC 1993) and the California Department of Fish and Game (CDFG 2008 and 2012).<br><br>RESULTS |

Two active bird nests were identified in the southern study area in heavily wooded oak/ cottonwood habitat:

1) a cavity nest inhabited by European starlings (EUST; 38.876695, -121.269316), near the boundary of the Cal Sierra Limited Parcel and Sun City Lincoln Hills parcel. The nest tree is approximately 200 ft from proposed wells MW-64 and MW-65, and 180 ft from the nearest existing well, MW-19.

2) a cavity nest inhabited by acorn woodpeckers (ACWO; 38.875964, -121.266547), near the boundary of the Sun City Lincoln Hills parcel and Century Communities parcel. The nest tree is approximately 960 ft from the nearest spot of proposed intrusive activities (MW-65), and 330 ft from the nearest existing well, MW-33.

Neither nests are within 100 feet of planned intrusive activities, and are not likely to be disturbed by project activities. Furthermore, MBTA protections do not apply to European starlings or other non-native bird species in the United States (USFWS 2020).

Several inactive stick nests were observed in cottonwood trees along the creek in the southern portion, but none showed sign of current or recent activity.

No BUOW, nor evidence of BUOW, was observed in the survey area. No burrows greater than 4" in diameter were located, and culverts showed no signs of BUOW.

Project activities are unlikely to cause take of any migratory nesting bird species.

REFERENCES

California Burrowing Owl Consortium (CBOC). 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines.

California Department of Fish and Game (CDFG). 2008. Guidance for burrowing Owl Conservation. Habitat Conservation Branch, Wildlife Branch, Bay Delta Region. Sacramento, California. April 14, 2008.

California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing owl Mitigation. State of California Natural Resources Agency. March 7, 2012.

U.S Fish and Wildlife Service. 2020. List of Bird Species To Which the Migratory Bird Treaty Act Does Not Apply. April 16, 2020. Docket No. FWS–HQ–MB–2018–0048 <https://www.federalregister.gov/d/2020-06782>

## Reporting

| | |
|---|---|
| Were there any specific compliance requirements or concerns that need to be documented? | No |
| Notes/Other Observations: | |
| Species Occurring Onsite | *Aphelocoma californica* / Western scrub-jay<br>*Cathartes aura* / Turkey vulture<br>*Carpodacus mexicanus* / House finch<br>*Spinus psaltria* / Lesser goldfinch<br>*Sturnus vulgaris* / European starling<br>*Zenaida macroura* / Mourning dove<br>*Archilochus alexandri* / Black-chinned hummingbird<br>*Ardea alba* / Great egret<br>*Turdus migratorius* / American robin<br>*Branta canadensis* / Canada goose<br>*Thryomanes bewickii* / Bewick's wren<br>*Meleagris gallopavo* / Wild turkey<br>*Lepus californicus* / Black-tailed jackrabbit<br>*Sialia mexicana* / Western bluebird |

*Pipilo crissalis* / California towhee
*Charadrius vociferus* / Killdeer
*Buteo jamaicensis* / Red-tailed hawk
*Melanerpes formicivorus* / Acorn woodpecker
*Lithobates catesbeianus* / American bullfrog
*Agelaius phoeniceus* / Red-winged blackbird

## Representative Photos

Photos



European starling (EUST) nest tree (38.876695, -121.269316)



Acorn woodpecker (ACWO) nest (38.875964, -121.266547)



Area near MW-53



Cottonwood grove



Vicinity of SV-33 site



Seasonal wetlands, water present



Vicinity of MW-63 site



Ephemeral stream along western border. Currently no standing water

Biologist signature



# Pre-construction Nesting Bird Survey

## Former Titan 1-A Missile Facility
## Lincoln, California

Adapted from Figure 18.1 of Work Plan/UFPQAPP

Oak Tree Ln

## Legend

- Bird nest
- Extraction Well
- Monitoring Well
- Monitoring Well, Proposed
- Soil Vapor Probe
- Soil Vapor Probe, Proposed
- Soil Vapor Probe, Proposed nested
- Sampling Route, Dashed where Walking (no vehicles allowed)
- Fence
- Parcel Boundary
- Ephemeral/Seasonal Streams and Surface Water Bodies
- Ephemeral stream
- Vehicles will use high-density polyethylene mats to cross streams/wetlands
- Former Titan 1-A Missile Facility / FUDS Boundary
- Investigation Derived Waste Storage Area




Site Location in California

300 150 0 300 Feet

N W E S

| PARSONS | U.S. Army Corps of Engineers Sacramento District |
|---|---|

CONDOR COUNTRY CONSULTING, INC.

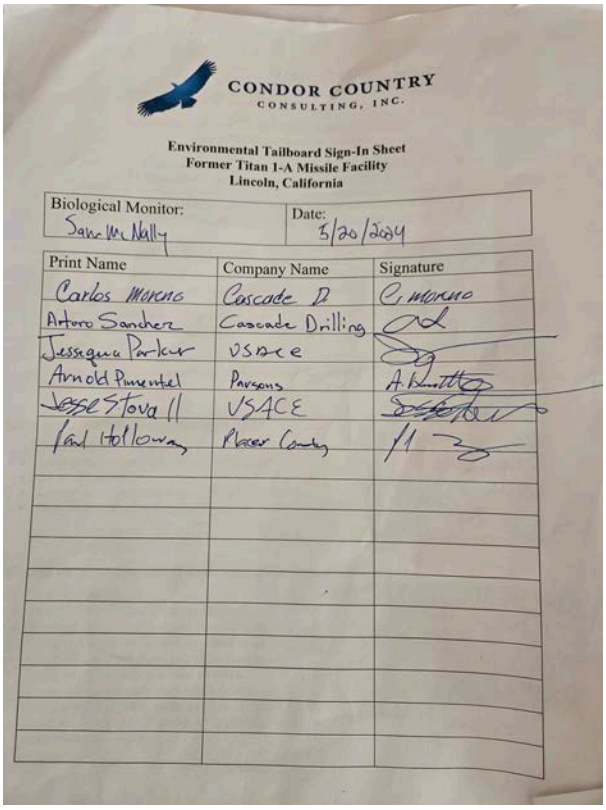
## Daily Construction Monitoring Log v5

| | |
|---|---|
| Project | Daily Monitoring Report |
| ID | 449328 |
| Survey Date | 05/20/2024 |
| User | Sam McNally |
| Date | 05/20/2024 |
| Type of Service | Biological Monitoring |
| **Survey Conditions** | |
| Project phase(s): | Construction monitoring |
| Time on site: | 07:55 AM |
| Time off site: | 04:00 PM |
| Weather: | 0830: 61° F, 55% humidity, clear, winds 3-5 MPH<br>1600: 84° F, 17% humidity, wispy clouds, winds 5-10 MPH |
| Monitor(s): | Sam McNally (SM) |
| Other Individuals Onsite | Arnold Pimentel- Parsons<br>Jessequa Parker - USACE<br>Arturo Sanchez - Cascade Drilling<br>Carlos Moreno - Cascade Drilling<br>Jesse Stovall - USACE<br>Paul Holloway - Placer County |
| Number of Hours Condor Biologists Onsite | 8 |
| Number of Hours of Other Personnel Onsite (Per Person) (Non-Condor) | 8 |
| Safety tailgate training occurred prior to work activities? | true |
| Environmental training occurred prior to start of work activities? | true |
| **Biological Observations** | |
| Were there any special status species observed? | No |
| Notes About Observations | No special status species observed. One new active Western Bluebird nest detected within FUDS boundary but it is >100 ft from any intrusive activities. |
| **Reporting** | |
| Were there any specific compliance requirements or concerns that need to be documented? | Yes |

| | |
|---|---|
| Is work occurring in response to a rain event? | No |
| Did any environmental training occur for on-site personnel? | Yes |
| Does any fencing, flagging or signage require maintenance? | No |
| Is equipment being staged in appropriate areas? | Yes |
| Were any hazardous material spills (eg fuels or lubricants) observed? | No |
| Were all vehicles and stockpiles of materials such as pipes or culverts inspected to assure wildlife was not underneath prior to use? | Yes |
| Notes/Other Observations: | 0755: Biologist Sam McNally (SM) arrives at parking lot.<br>0800-0840: SM gives sensitive species awareness training. Arnold Pimentel (AP) gives safety tailgate.<br>0845-1030: SM conducts preliminary wildlife survey around staging area and MW-66, focusing on nests that may have become active since 5/15.<br>A Western Bluebird nest appears active in a wooden nest box near the old fire station (adults seen bringing food into box) but as it is >100 ft from any planned or existing wells, project activities are not expected to affect the nest.<br>1030-1200: SM monitors during staging, mobilization, and vegetation clearance.<br>1200-1345: SM lunch break.<br>1345-1440: SM monitors during soil vapor probe drilling activities (SV-33)<br>1440-1540: SM checks for new nests near other soil vapor and monitoring well-drilling sites. No active nests observed.<br>1540-1600: SM monitors completion of SV-33 cap and bollards. |
| Species Occurring Onsite | *Ardea alba* / Great egret<br>*Sialia mexicana* / Western bluebird<br>*Charadrius vociferus* / Killdeer<br>*Euphagus cyanocephalus* / Brewer's blackbird<br>*Spinus psaltria* / Lesser goldfinch<br>*Carpodacus mexicanus* / House finch<br>*Branta canadensis* / Canada goose<br>*Calypte anna* / Anna's hummingbird<br>*Zenaida macroura* / Mourning dove<br>*Sayornis nigricans* / Black phoebe<br>*Sayornis saya* / Say's phoebe<br>*Buteo jamaicensis* / Red-tailed hawk<br>*Cathartes aura* / Turkey vulture<br>*Petrochelidon pyrrhonota* / Cliff swallow<br>*Aphelocoma californica* / Western scrub-jay<br>*Tyrannus verticalis* / Western kingbird<br>*Callipepla californica* / California quail<br>*Sceloporus occidentalis* / Western fence lizard<br>*Sturnus vulgaris* / European starling<br>*Agelaius phoeniceus* / Red-winged blackbird |

## Representative Photos

## Photos



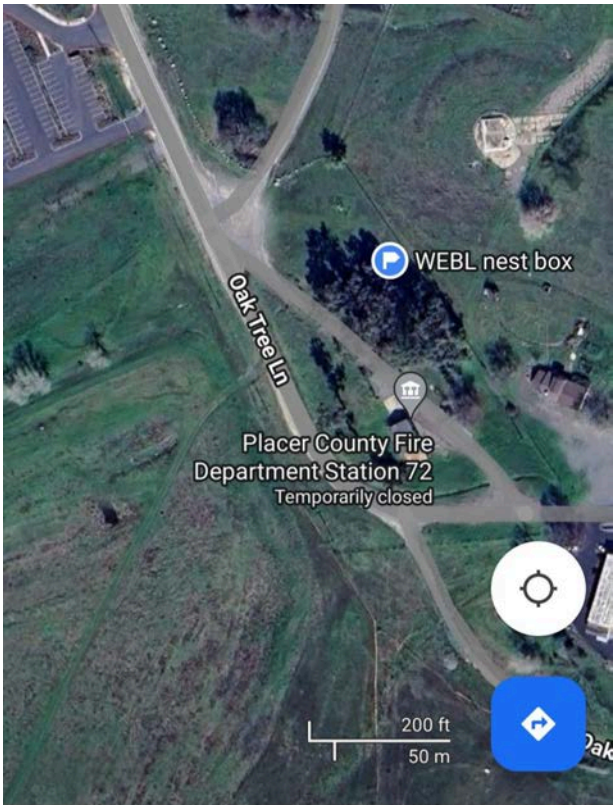
CONDOR COUNTRY CONSULTING, INC.

Environmental Tailboard Sign-In Sheet
Former Titan 1-A Missile Facility
Lincoln, California

Biological Monitor: Samantha Nally
Date: 5/20/2024

| Print Name | Company Name | Signature |
|---|---|---|
| Carlos Moreno | Cascade D | C. Moreno |
| Arturo Sanchez | Cascade Drilling | |
| Jessequa Parker | USACE | |
| Arnold Pimentel | Parsons | |
| Jesse Stova II | USACE | |
| Paul Holloway | Placer County | |

Environmental education sign-in




Location of Western Bluebird (WEBL) nest box




Newly active nest box in use by Western Bluebirds




Mobilizing drill




Staging concrete




Weed trimming around drilling area




Drilling soil vapor probe




SV-33 at end of day

Biologist signature



CONDOR COUNTRY CONSULTING, INC.

## Daily Construction Monitoring Log v5

| | |
|---|---|
| Project | Daily Monitoring Report |
| ID | 449773 |
| Survey Date | 05/21/2024 |
| User | Sam McNally |
| Date | 05/21/2024 |
| Type of Service | Biological Monitoring |
| **Survey Conditions** | |
| Project phase(s): | Construction monitoring |
| Time on site: | 07:06 AM |
| Time off site: | 05:02 PM |
| Weather: | 0730: 57°F, 44% humidity, clear skies, winds 3-5 MPH<br>1700: 88°F, 15% humidity, winds 10-15 MPH |
| Monitor(s): | Sam McNally (SM) |
| Other Individuals Onsite | Arnold Pimentel - Parsons<br>Jessequa Parker - USACE<br>Arturo Sanchez - Cascade Drilling<br>Carlos Moreno - Cascade Drilling<br>Jesse Stovall - USACE<br>Matt Marlatt - USACE<br>Chris Ajello - USACE<br>Paul Holloway - Placer County<br>Maddy Montgomery - Placer County |
| Number of Hours Condor Biologists Onsite | 10 |
| Number of Hours of Other Personnel Onsite (Per Person) (Non-Condor) | 10 |
| Safety tailgate training occurred prior to work activities? | true |
| Environmental training occurred prior to start of work activities? | true |
| **Biological Observations** | |
| Were there any special status species observed? | No |
| Notes About Observations | No special status species or new active bird nests detected. |
| **Reporting** | |
| Were there any specific compliance requirements or | No |

| | |
|---|---|
| concerns that need to be documented? | |
| Notes/Other Observations: | 0706-0730: Sam McNally onsite.<br>0730-1020: SM monitors drilling activities at MW-66 and surrounding 500 ft radius<br>1020-1120: Lunch break.<br>1120: SM gives environmental training to Matt Marlatt<br>1130-1250: SM continues monitors drilling at MW-66<br>1250-1415: SM walks sampling route searching for nests and special status species.<br>1415-1450: Onsite discussion with USACE biologist Chris Ajello.<br>1450-1650: SM monitors completion of MW-66.<br>1700: SM and crew depart. |
| Species Occurring Onsite | *Cathartes aura* / Turkey vulture<br>*Sialia mexicana* / Western bluebird<br>*Melanerpes formicivorus* / Acorn woodpecker<br>*Sturnus vulgaris* / European starling<br>*Zenaida macroura* / Mourning dove<br>*Lepus californicus* / Black-tailed jackrabbit<br>*Tyrannus verticalis* / Western kingbird<br>*Carpodacus mexicanus* / House finch<br>*Branta canadensis* / Canada goose<br>*Ardea alba* / Great egret<br>*Sayornis nigricans* / Black phoebe<br>*Sayornis saya* / Say's phoebe<br>*Buteo jamaicensis* / Red-tailed hawk |

## Representative Photos

Photos




Beginning MW-66 drilling



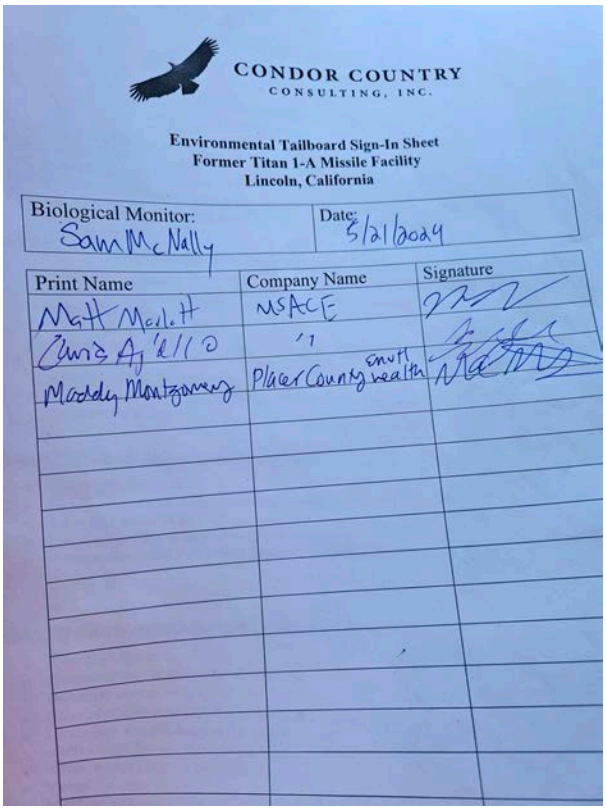

Drilling MW-66



WEBL pair at nest box



Pouring grout at MW-66



CONDOR COUNTRY
CONSULTING, INC.

Environmental Tailboard Sign-In Sheet
Former Titan 1-A Missile Facility
Lincoln, California

Biological Monitor: Sam McNally
Date: 5/21/2024

| Print Name | Company Name | Signature |
|---|---|---|
| Matt Merlott | USACE | |
| Chris Aguilar | " | |
| Maddy Montgomery | Placer County Env Health | |

Environmental tailboard sign-in

Biologist signature



CONDOR COUNTRY CONSULTING, INC.

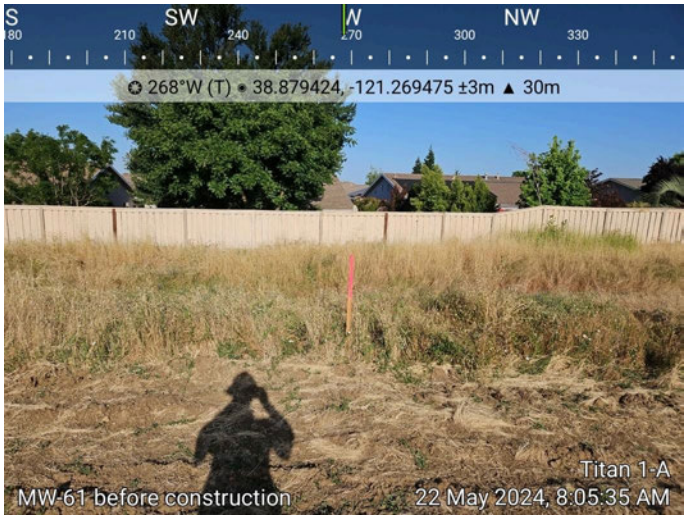
## Daily Construction Monitoring Log v5

| | |
|---|---|
| Project | Daily Monitoring Report |
| ID | 450344 |
| Survey Date | 05/22/2024 |
| User | Sam McNally |
| Date | 05/22/2024 |
| Type of Service | Biological Monitoring |
| **Survey Conditions** | |
| Project phase(s): | Construction monitoring |
| Time on site: | 07:00 AM |
| Time off site: | 04:00 PM |
| Weather: | 0700: 59°F, 57% humidity<br>1600: 87°F, 22% humidity, winds 5-10 MPH |
| Monitor(s): | Sam McNally (SM) |
| Other Individuals Onsite | Arnold Pimentel - Parsons<br>Arturo Sanchez - Cascade Drilling<br>Carlos Moreno - Cascade Drilling<br>Jesse Stovall - USACE<br>Maddy Montgomery - Placer County<br>Tim Crummett - USACE (site visit)<br>Katie Crane - USACE (site visit) |
| Number of Hours Condor Biologists Onsite | 9 |
| Number of Hours of Other Personnel Onsite (Per Person) (Non-Condor) | |
| Safety tailgate training occurred prior to work activities? | true |
| Environmental training occurred prior to start of work activities? | false |
| **Biological Observations** | |
| Were there any special status species observed? | No |
| Notes About Observations | No new nests detected. |
| **Reporting** | |
| Were there any specific compliance requirements or concerns that need to be documented? | No |

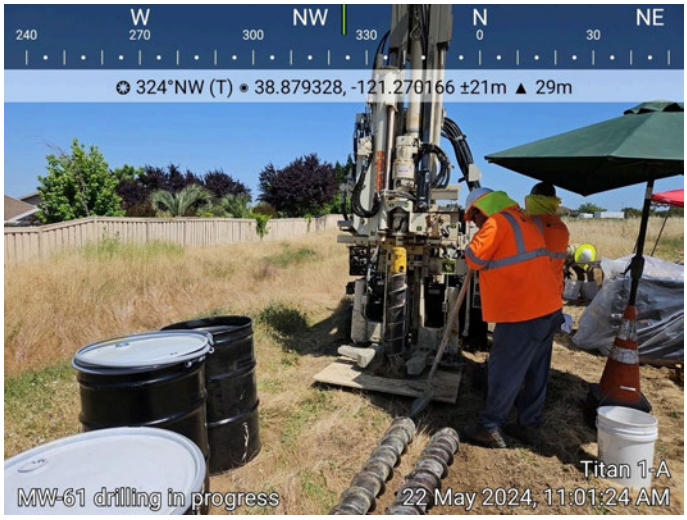
| | |
|---|---|
| Notes/Other Observations: | 0700-0730: Tailgate safety meeting and prep work<br>0730- Sam McNally (SM) surveys access roads as vehicles move to MW-61 area and begin drill prep.<br>0915: Site visit from Tim Crummett and Katie Crane (USACE)<br>1135-1215: SM surveys for nests in vicinity of MW-62 to MW-65<br>1215-1315: Lunch break<br>1315-1500: Monitoring of MW-61 drilling continues.<br>1500-1600: Crew caps MW-61, relocates drill and equipment to MW-62 site and cleans equipment.<br>1600: SM departs. |
| Species Occurring Onsite | *Zenaida macroura* / Mourning dove<br>*Sylvilagus bachmani* / Brush rabbit<br>*Sialia mexicana* / Western bluebird<br>*Mimus polyglottos* / Northern mockingbird<br>*Aphelocoma californica* / Western scrub-jay<br>*Agelaius phoeniceus* / Red-winged blackbird<br>*Carpodacus mexicanus* / House finch<br>*Buteo jamaicensis* / Red-tailed hawk<br>*Callipepla californica* / California quail<br>*Spinus psaltria* / Lesser goldfinch<br>*Sayornis saya* / Say's phoebe<br>*Cathartes aura* / Turkey vulture<br>*Calypte anna* / Anna's hummingbird |

## Representative Photos

Photos




Site of MW-61, before activities




MW-61 drilling




MW-61 monument in place




Bollard pipes covered to keep wildlife out




Site view, looking south

Biologist signature



CONDOR COUNTRY CONSULTING, INC.

## Daily Construction Monitoring Log v5

| | |
|---|---|
| Project | Daily Monitoring Report |
| ID | 450738 |
| Survey Date | 05/23/2024 |
| User | Sam McNally |
| Date | 05/23/2024 |
| Type of Service | Biological Monitoring |
| **Survey Conditions** | |
| Project phase(s): | Construction monitoring |
| Time on site: | 07:05 AM |
| Time off site: | 03:00 PM |
| Weather: | 0705: 57°F, 50% humidity, sunny and clear, winds <5 MPH<br>1450: 84°F, 22% humidity, scattered clouds, winds 5-10 MPH |
| Monitor(s): | Sam McNally (SM) |
| Other Individuals Onsite | Arnold Pimentel - Parsons<br>Arturo Sanchez - Cascade Drilling<br>Carlos Moreno - Cascade Drilling<br>Jesse Stovall - USACE |
| Number of Hours Condor Biologists Onsite | 8 |
| Number of Hours of Other Personnel Onsite (Per Person) (Non-Condor) | |
| Safety tailgate training occurred prior to work activities? | true |
| Environmental training occurred prior to start of work activities? | false |
| **Biological Observations** | |
| Were there any special status species observed? | No |
| Notes About Observations | No new nests observed. |
| **Reporting** | |
| Were there any specific compliance requirements or concerns that need to be documented? | No |
| Notes/Other Observations: | 0705-0715: Safety tailgate meeting.<br>0720-1115: SM monitors drilling at MW-62. |

1115-1200: Lunch break.
1200-1320: Crew finishes and cap well MW-62.
1320-1350: SM, A. Pimental and J. Stovall survey access routes to MW-63 and determine ideal location for dry intermittent streambed crossing location.
1350-1450: Crew relocates drill and equipment near MW-63.
1500: SM departs.

Species Occurring Onsite

*Carpodacus mexicanus* / House finch
*Corvus corax* / Common raven
*Agelaius phoeniceus* / Red-winged blackbird
*Sturnus vulgaris* / European starling
*Sialia mexicana* / Western bluebird
*Zenaida macroura* / Mourning dove
*Psaltriparus minimus* / Bushtit
*Pipilo crissalis* / California towhee
*Buteo lineatus* / Red-shouldered hawk
*Calypte anna* / Anna's hummingbird
*Cathartes aura* / Turkey vulture
*Sayornis saya* / Say's phoebe
*Melanerpes formicivorus* / Acorn woodpecker
*Buteo jamaicensis* / Red-tailed hawk

## Representative Photos

Photos



MW-62 site preparation

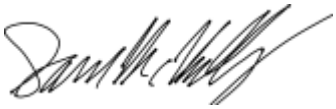


Dry intermittent streambed




Mobilizing drill

Biologist signature



## Daily Construction Monitoring Log v5

| | |
|---|---|
| Project | Daily Monitoring Report |
| ID | 451139 |
| Survey Date | 05/24/2024 |
| User | Sam McNally |
| Date | 05/24/2024 |
| Type of Service | Biological Monitoring |
| **Survey Conditions** | |
| Project phase(s): | Construction monitoring |
| Time on site: | 07:00 AM |
| Time off site: | 04:00 PM |
| Weather: | 0700: 56°F, 68% humidity, scattered clouds, winds 10-15 MPH<br>1600: 81°, winds 10 MPH |
| Monitor(s): | Sam McNally (SM) |
| Other Individuals Onsite | Arnold Pimentel - Parsons<br>Arturo Sanchez - Cascade Drilling<br>Carlos Moreno - Cascade Drilling<br>Jessequa Parker - USACE |
| Number of Hours Condor Biologists Onsite | 9 |
| Number of Hours of Other Personnel Onsite (Per Person) (Non-Condor) | 9 |
| Safety tailgate training occurred prior to work activities? | true |
| Environmental training occurred prior to start of work activities? | false |
| **Biological Observations** | |
| Were there any special status species observed? | Yes |
| Special status species observed: | Nesting birds |
| Notes About Observations | An adult red-tailed hawk (RTHA) with a banded leg perched within the large oak tree nearest MW-64. A second RTHA was seen soaring in the west. Subsequently, an active RTHA nest with two chicks was detected (see notes below). The adults seen earlier are likely the pair tending the nest.<br>A pair of Great horned owls (GHOW) and one fledged juvenile GHOW was observed in a tree (location: 38.876695, -121.269316). The juvenile is fully feathered and capable of flight. The location of the GHOW nest is not known, but is presumed now inactive due to |

| | |
|---|---|
| | the age of the juvenile. Thus, project activities are not expected to disturb incubation or chick rearing in the GHOW. |
| Location (first/last seen): | RTHA nest: In hardwood tree south of creek. 38.875706, -121.266972 |
| Time sighted: | 11:50 AM |
| Biologist contacted? | N/A |
| Explain why N/A: | Biologist made observation |
| Notes: | RTHA nest - approx 860 ft from nearest site of intrusive activities (MW-65), and 300 ft from MW-55. Location: 38.875706, -121.266972. Not likely to be disturbed by any project activities.<br><br>1150: RTHA nest with 2 chicks detected<br>1155: Adult RTHA observed feeding chicks.<br>1208: Adult returned to nest. |
| Incidental Take and Report Form filled out? | N/A |
| Explain: | |

## Reporting

| | |
|---|---|
| Were there any specific compliance requirements or concerns that need to be documented? | No |
| Notes/Other Observations: | 0700-0710: Tailgate safety meeting.<br>0710-0800: Field crew lays high density polypropylene (HDPE) mats across dry intermittent streambed and transports drill and equipment to MW-63 site. SM monitors and scans trees in the vicinity looking for disturbance.<br>0800-1130: SM monitors during drilling operations at MW-63.<br>1130-1215: SM surveys tree line along southern project edge. Red-tailed Hawk nest detected.<br>1215-1300: Lunch break.<br>1300-1430: SM continues nest survey in trees near MW-64 AND MW-65. Great horned owl juvenile and adults detected.<br>1540: Crew moves offsite.<br>1600: SM departs |
| Species Occurring Onsite | *Aphelocoma californica* / Western scrub-jay<br>*Zenaida macroura* / Mourning dove<br>*Sturnus vulgaris* / European starling<br>*Spinus psaltria* / Lesser goldfinch<br>*Agelaius phoeniceus* / Red-winged blackbird<br>*Melanerpes formicivorus* / Acorn woodpecker<br>*Carpodacus mexicanus* / House finch<br>*Pseudacris sierra* / Sierran treefrog<br>*Sayornis saya* / Say's phoebe<br>*Bubo virginianus* / Great horned owl<br>*Sceloporus occidentalis* / Western fence lizard<br>*Lithobates catesbeianus* / American bullfrog<br>*Sayornis nigricans* / Black phoebe<br>*Callipepla californica* / California quail<br>*Buteo jamaicensis* / Red-tailed hawk |

## Representative Photos

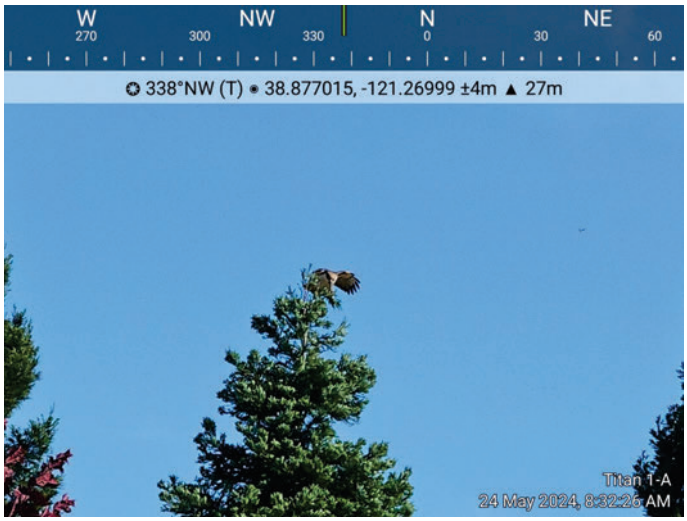
Photos




High density polypropylene (HDPE) mats across dry intermittent stream bed



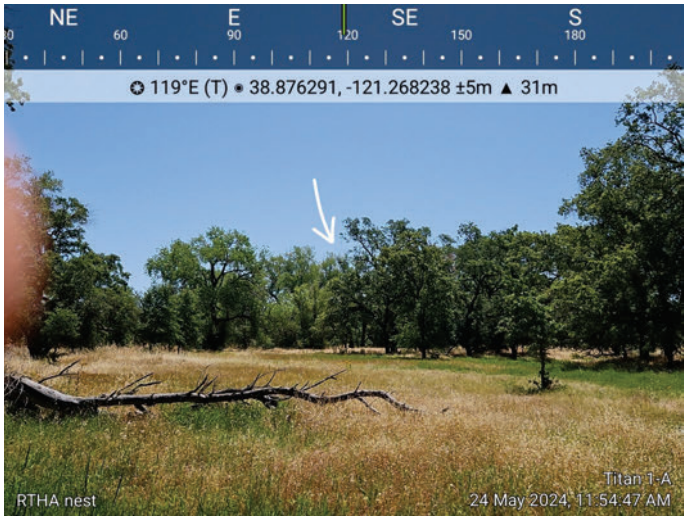

Mobilizing drill across HDPE mats




Red-tailed Hawk with prey




Red-tailed Hawk in oak tree




RTHA nest locator view. Approx 415 ft from camera.




RTHA nest, zoomed in



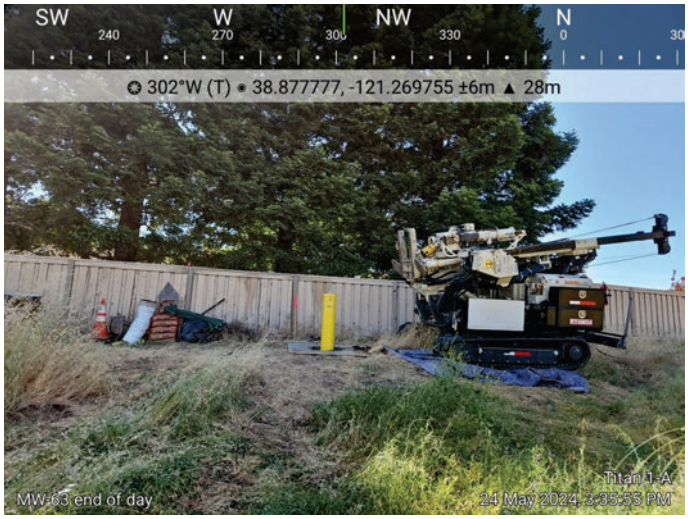
RTHA nest




RTHA nest on map



Great horned owl fledgling




MW-63 at end of day

Biologist signature



CONDOR COUNTRY CONSULTING, INC.

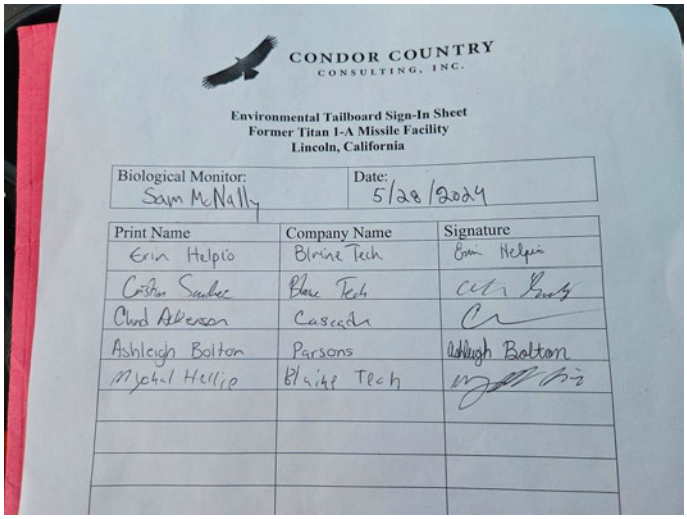
## Daily Construction Monitoring Log v5

| | |
|---|---|
| Project | Daily Monitoring Report |
| ID | 451555 |
| Survey Date | 05/28/2024 |
| User | Sam McNally |
| Date | 05/28/2024 |
| Type of Service | Biological Monitoring |
| **Survey Conditions** | |
| Project phase(s): | Construction monitoring |
| Time on site: | 07:10 AM |
| Time off site: | 03:45 PM |
| Weather: | 0710: 58°F, 75% humidity, winds 5-10 MPH<br>1545: 87°F, 30% humidity, light clouds, winds 5 MPH |
| Monitor(s): | Sam McNally (SM) |
| Other Individuals Onsite | Arnold Pimentel - Parsons<br>Arturo Sanchez - Cascade Drilling<br>Carlos Moreno - Cascade Drilling<br>Ashleigh Bolton - Parsons<br>Erin Helpio - BlaineTech<br>Christian S. - BlaineTech<br>Chad Anderson - Cascade<br>Mychal H. - BlaineTech |
| Number of Hours Condor Biologists Onsite | 8.5 |
| Number of Hours of Other Personnel Onsite (Per Person) (Non-Condor) | |
| Safety tailgate training occurred prior to work activities? | true |
| Environmental training occurred prior to start of work activities? | true |
| **Biological Observations** | |
| Were there any special status species observed? | No |
| Notes About Observations | |
| **Reporting** | |
| Were there any specific compliance requirements or concerns that need to be documented? | No |

| | |
|---|---|
| Notes/Other Observations: | 0710: Biologist Sam McNally (SM) arrives onsite, meets with Arnold Pimentel.<br>0720-0800: Safety tailgate by A. Pimental, environmental training by SM.<br>0800-0930: SM surveys for new nest establishments while drilling crew prepares.<br>0930: Drilling starts at MW-64.<br>1200-1300: Lunch break<br>1300-1400: SM visits wells being tended by BlaineTech samplers.<br>1400-1520: SM monitors during completion of MW-64.<br>1520-1545: Crew cleans up and moves offsite.<br>1545: SM departs |
| Species Occurring Onsite | *Sceloporus occidentalis* / Western fence lizard<br>*Carpodacus mexicanus* / House finch<br>*Sialia mexicana* / Western bluebird<br>*Corvus brachyrhynchos* / American crow<br>*Sturnus vulgaris* / European starling<br>*Charadrius vociferus* / Killdeer<br>*Aphelocoma californica* / Western scrub-jay<br>*Agelaius phoeniceus* / Red-winged blackbird<br>*Sayornis saya* / Say's phoebe<br>*Cathartes aura* / Turkey vulture<br>*Buteo jamaicensis* / Red-tailed hawk<br>*Melanerpes formicivorus* / Acorn woodpecker<br>*Zenaida macroura* / Mourning dove |

## Representative Photos

### Photos




Environmental training sign-in




Drilling MW-64



Producing MW-61



staged vehicles



MW-64, end of day

Biologist signature



CONDOR COUNTRY CONSULTING, INC.

## Daily Construction Monitoring Log v5

| | |
|---|---|
| Project | Daily Monitoring Report |
| ID | 451926 |
| Survey Date | 05/29/2024 |
| User | Sam McNally |
| Date | 05/29/2024 |
| Type of Service | Biological Monitoring |
| **Survey Conditions** | |
| Project phase(s): | Construction monitoring |
| Time on site: | 07:00 AM |
| Time off site: | 04:00 PM |
| Weather: | 0700: 58°F, 70% humidity, clear, winds <5MPH<br>1600: 89°F, 20% humidity, 15% cloud cover, winds 10-15 MPH |
| Monitor(s): | Sam McNally (SM) |
| Other Individuals Onsite | Arnold Pimentel - Parsons<br>Ashleigh Bolton - Parsons<br>Arturo Sanchez - Cascade Drilling<br>Carlos Moreno - Cascade Drilling<br>Erin Helpio - BlaineTech<br>Christian S. - BlaineTech<br>Chad Anderson - Cascade<br>Mychal H. - BlaineTech |
| Number of Hours Condor Biologists Onsite | 9 |
| Number of Hours of Other Personnel Onsite (Per Person) (Non-Condor) | |
| Safety tailgate training occurred prior to work activities? | true |
| Environmental training occurred prior to start of work activities? | false |
| **Biological Observations** | |
| Were there any special status species observed? | No |
| Notes About Observations | |
| **Reporting** | |
| Were there any specific compliance requirements or concerns that need to be documented? | No |

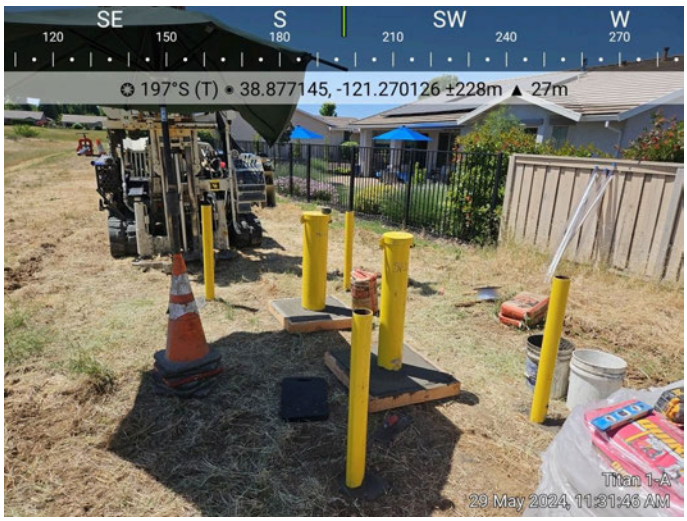
| | |
|---|---|
| Notes/Other Observations: | 0700-0730: Morning prep and safety tailgate meeting.<br>0730-0900: SM surveys region around planned MW-65.<br>0900-1200: SM monitors during SV-30 installation.<br>1200-1245: Lunch<br>1245-1530: SV-29 and bollard installation.<br>1530-1600: Crew cleans up and moves out of work area. |
| Species Occurring Onsite | *Agelaius phoeniceus* / Red-winged blackbird<br>*Melanerpes formicivorus* / Acorn woodpecker<br>*Passer domesticus* / House sparrow<br>*Carpodacus mexicanus* / House finch<br>*Sturnus vulgaris* / European starling<br>*Zenaida macroura* / Mourning dove<br>*Mimus polyglottos* / Northern mockingbird<br>*Cathartes aura* / Turkey vulture<br>*Callipepla californica* / California quail<br>*Sayornis nigricans* / Black phoebe<br>*Ardea alba* / Great egret<br>*Buteo jamaicensis* / Red-tailed hawk<br>*Sceloporus occidentalis* / Western fence lizard<br>*Sayornis saya* / Say's phoebe<br>*Sylvilagus bachmani* / Brush rabbit<br>*Sialia mexicana* / Western bluebird |

## Representative Photos

Photos



Red-tailed hawk perched near project area



Bollards around MW-64 & SV-30




Installing SV-29

Biologist signature



CONDOR COUNTRY
CONSULTING, INC.

July 22, 2024

Carrie Ross
Parsons

Subject: **Summary Monitoring Report: Biological Services.** Semi-Annual Groundwater and Soil Vapor Sampling at Former Titan 1-A Missile Facility, Lincoln, California

Dear Carrie Ross,

This summary report, prepared by Condor Country Consulting Inc. (CCCI), covers all survey and monitoring activities that occurred between May 15 and May 29, 2024, at the former Titan 1-A Missile Facility in Lincoln, California. All survey and monitoring was performed by USACE- and CDFW-approved monitor Sam McNally.

**Pre-construction surveys**
Pre-construction nesting bird surveys were conducted on May 15. Two active nests were detected and mapped: acorn woodpecker and European starling. Neither were within 100 feet of intrusive activities, and introduced European starlings are not protected under Migratory Bird Treaty Act. No burrowing owls, elderberry bushes, or vernal pool crustaceans were detected.

**Daily monitoring**
Daily biological monitoring was performed on May 20, 21, 22, 23, 24, 28, and 29, with daily reports submitted each day. All onsite personnel were given environmental training in sensitive resources on their first day of work. During monitoring, two new active bird nests were encountered incidentally but not within areas of intrusive activities: a western bluebird nest on May 20 over 100 ft from intrusive sites and a red-tailed hawk nest on May 24, over 800 ft from the nearest site of intrusive activities. No disturbance of any nest was observed, and no other special status species were encountered. All appropriate Avoidance and Minimization Measures were followed, including avoidance of wet weather work, avoidance of wetlands to the extent possible, and the placement of high-density polyethylene mats at perennial wetland crossings. No compliance violations were observed.

Please contact me if you have questions. I can be reached by phone at (925) 335-9308, or by email at sam@condorcountry.com.

815 ESTUDILLO STREET • MARTINEZ • CA • 94553-1617
PHONE: (925)335-9308 • FAX: (925)231-0571
EMAIL: INFO@CONDORCOUNTRY.COM

Sincerely,



Sam McNally
Staff Biologist II
Condor Country Consulting, Inc.

# Appendix H – Laboratory Analytical Reports

EMAX LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 07-10-2024
EMAX Batch No.: 24F003_R1

Attn: Mark Rigby

Parsons
75 W Towne Ridge Pkway # 200
Sandy UT 84070

Subject: Revised Laboratory Report
Project: TITAN 1-A

---

Enclosed is the Revised Laboratory report for samples received on 06/01/24.
The data reported relate only to samples listed below :

| Sample ID | Control # | Col Date | Matrix | Analysis |
|---|---|---|---|---|
| T1AMF-MW059-MAY24 | F003-01 | 05/29/24 | WATER | VOCS BY 8260C |
| T1AMF-MW044-MAY24 | F003-02 | 05/29/24 | WATER | VOCS BY 8260C |
| T1AMF-MW047-MAY24 | F003-03 | 05/29/24 | WATER | VOCS BY 8260C |
| T1AMF-MW046-MAY24 | F003-04 | 05/29/24 | WATER | VOCS BY 8260C |
| T1AMF-MW050-MAY24 | F003-05 | 05/29/24 | WATER | VOCS BY 8260C |
| T1AMF-MW052-MAY24 | F003-06 | 05/29/24 | WATER | VOCS BY 8260C |
| T1AMF-MW052-MAY24_FD | F003-07 | 05/29/24 | WATER | VOCS BY 8260C |
| T1AMF-MW060-MAY24 | F003-08 | 05/29/24 | WATER | VOCS BY 8260C |
| T1AMF-MW017-MAY24 | F003-09 | 05/30/24 | WATER | VOCS BY 8260C |
| T1AMF-MW011-MAY24 | F003-10 | 05/30/24 | WATER | VOCS BY 8260C |
| T1AMF-MW016-MAY24 | F003-11 | 05/30/24 | WATER | VOCS BY 8260C |
| T1AMF-MW016-MAY24_FD | F003-12 | 05/30/24 | WATER | VOCS BY 8260C |
| T1AMF-MW049-MAY24 | F003-13 | 05/30/24 | WATER | VOCS BY 8260C |
| T1AMF-MW029-MAY24 | F003-14 | 05/30/24 | WATER | VOCS BY 8260C |
| T1AMF-MW030-MAY24 | F003-15 | 05/30/24 | WATER | VOCS BY 8260C |
| T1AMF-MW030-MAY24_FD | F003-16 | 05/30/24 | WATER | VOCS BY 8260C |
| T1AMF-MW057-MAY24 | F003-17 | 05/30/24 | WATER | VOCS BY 8260C |
| TB-1_MAY24 | F003-18 | 05/28/24 | WATER | VOCS BY 8260C |
| TB-2_MAY24 | F003-19 | 05/29/24 | WATER | VOCS BY 8260C |

Note: Report was revised to update purge and trap method from SW5030B to SW5030C.

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912023-25
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

# CHAIN OF CUSTODY

| | | | |
|---|---|---|---|
| 3051 Fujita St., Torrance, CA 90505<br>Tel #: 310-618-8889 FAX#: 310-618-0818<br>Email: info@emaxlabs.com | PO NUMBER: 0015461 | EMAX CONTROL NO. 24F003 |
| | SAMPLE STORAGE | PROJECT CODE: |

CLIENT: Parsons

PROJECT: Titan 1-A Semi-Annual Groundwater and Soil Vapor Sampling

COORDINATOR: Carrie Ross@Parsons.us

TEL.: 303-349-8292 FAX: EMAIL: Carrie.Ross@parsons.us

SEND REPORT TO: carrie.ross@parsons.com; mark.rigby@parsons.com; sandra.delasfuentes@parsons.us

COMPANY:

ADDRESS:

EMAX PM:

| MATRIX CODE | PRESERVATIVE CODE |
|---|---|
| DW=Drinking Water | IC=Ice |
| GW=Ground Water | HC=HCl |
| WW=Waste Water | SN=HNO3 |
| SD=Solid Waste SL=Sludge | SH=NaOS |
| SS=Soil/ Sediment | SC=H2SO4 |
| WP=Wipes PP=Pure Product | EA=Zinc Acetate |
| AR=Air | SD=NaSO4 |
| O= | |

ANALYSIS REQUIRED: VOCs via SW8260; Title 22 metals via SW6010/7471; TCLP VOCs via SW1311/8260; TCLP metals via SW1311/6010/7471; STLC metals via SWWET/6010/7471

TAT:
- ☐ Rush__24__hrs.
- ☐ Rush__48_hrs
- ☐ Rush_72_hrs
- ☐ 7 days
- ☐ 14 days
- ☐ 21 days

| LAB | SAMPLE ID CLIENT | SAMPLING LOCATION | DATE | TIME | MATRIX CODE NO. | SIZE | TYPE | MATRIX CODE | QC | PRESERVATIVE CODE | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | T1AMF-MW59-MAY24 | Titan 1-A | 5/29/2024 | 833 | | | | GW | | HC | |
| 2 | T1AMF-MW44-MAY24 | Titan 1-A | 5/29/2024 | 938 | | | | GW | | | |
| 3 | T1AMF-MW47-MAY24 | Titan 1-A | 5/29/2024 | 1047 | | | | GW | | | |
| 4 | T1AMF-MW46-MAY24 | Titan 1-A | 5/29/2024 | 1144 | | | | GW | | | |
| 5 | T1AMF-MW50-MAY24 | Titan 1-A | 5/29/2024 | 1309 | | | | GW | | | |
| 6 | T1AMF-MW52-MAY24 | Titan 1-A | 5/29/2024 | 1414 | | | | GW | | | |
| 7 | T1AMF-MW52-MAY24_FD | Titan 1-A | 5/29/2024 | 1419 | | | | GW | FD | | |
| 8 | T1AMF-MW60-MAY24 | Titan 1-A | 5/29/2024 | 1521 | | | | GW | | | |
| 9 | T1AMF-MW17-MAY24 | Titan 1-A | 5/30/2024 | 829 | | | | GW | | | |
| 10 | T1AMF-MW11-MAY24 | Titan 1-A | 5/30/3024 | 927 | | | | GW | | | |

Instructions: Please have the analytical results sent to

Mark.rigby@parsons.com

carrie.ross@parsons.com

sandra.delasfuentes@parsons.us

| Cooler # | Temp. (°C) | Sample #s |
|---|---|---|
| 1 | 2.2 | |

SAMPLER:

COURIER/AIRBILL:

| RELINQUISHED BY | Date | Time | RECEIVED BY |
|---|---|---|---|
| Erin Nelson | 5-31-24 | 1145 | Arnold Pimentel |
| Arnold Pimentel | 5/31/24 | 1210 | |
| | 06/01/24 | 1025 | |

NOTICE: Turn-around-time (TAT) for samples will not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical, but not prior to fifteen (15) calendar days after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

Project J09CA1108-01

# CHAIN OF CUSTODY

| | | | |
|---|---|---|---|
| [illegible] | 3051 Fujita St., Torrance, CA 90505<br>Tel #: 310-618-8889 FAX#: 310-618-0818<br>Email: info@emaxlabs.com | **PO NUMBER: 0015461**<br>SAMPLE STORAGE | **EMAX CONTROL NO.** 24F003<br>**PROJECT CODE:** |

| | | | |
|---|---|---|---|
| CLIENT: Parsons | MATRIX CODE | PRESERVATIVE CODE | ANALYSIS REQUIRED |
| PROJECT: Titan 1-A Semi-Annual Groundwater and Soil Vapor Sampling | DW=Drinking Water | IC = Ice | |
| COORDINATOR: Carrie Ross@Parsons.us | GW=Ground Water | HC = HCl | |
| TEL 301-349-8352 FAX EMAIL: CarrieRoss@parsons.us | WW=Waste Water | HN=HNO3 | |
| SEND REPORT TO: carrieross@parsons.com, mark.rigby@parsons.com, sandra.delasfuentes@parsons.us | SD=Solid Waste SL=Sludge | SH=NaOH | |
| COMPANY | SS=Soil/Sediment | ST=Na2S2O3 | |
| ADDRESS | WP=Wipes PP=Pure Products | ZA=Zinc Acetate | |
| | AR=Air | HS=H2SO4 | |
| EMAX FM | O= Lab Water | | |

TAT:
- ☐ Rush __24__hrs.
- ☐ Rush __48_hrs
- ☐ Rush_72_hrs
- ☐ 7 days
- ☐ 14 days
- ☐ 21 days

| SAMPLE ID | | SAMPLING | | | CONTAINER | | | MATRIX CODE | QC | VOCs via SW8260 | Title 22 metals via SW6010/7471 | TCLP VOCs via SW1311/8260 | TCLP metals via SW1311/6010/7471 | STLC metals via SWWET/6010/7471 | | | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LAB | CLIENT | LOCATION | DATE | TIME | NO. | SIZE | TYPE | | | HC | | | | | | | | | | |
| 1 | T1AMF-MW16-MAY24 | Titan 1-A | 5/30/2024 | 1035 | 3 | | VOA | GW | | X | | | | | | | | | | |
| 2 | T1AMF-MW16-MAY24_FD | Titan 1-A | 5/30/2024 | 1040 | 3 | | VOA | GW | FD | X | | | | | | | | | | |
| 3 | T1AMF-MW49-MAY24 | Titan 1-A | 5/30/2024 | 1224 | 3 | | VOA | GW | | X | | | | | | | | | | |
| 4 | T1AMF-MW29-MAY24 | Titan 1-A | 5/30/2024 | 1316 | 3 | | VOA | GW | | X | | | | | | | | | | |
| 5 | T1AMF-MW30-MAY24 | Titan 1-A | 5/30/2024 | 1421 | 3 | | VOA | GW | | X | | | | | | | | | | |
| 6 | T1AMF-MW30-MAY24_FD | Titan 1-A | 5/30/2024 | 1426 | 3 | | VOA | GW | FD | X | | | | | | | | | | |
| 7 | T1AMF-MW57-MAY24 | Titan 1-A | 5/30/2024 | 1520 | 3 | | VOA | GW | | X | | | | | | | | | | |
| 8 | TB-1_MAY24 | Titan 1-A | 5/28/2024 | 0830 | 3 | | VOA | DI | | X | | | | | | | | | | |
| 9 | TB-2_MAY24 | Titan 1-A | 5/29/2024 | 0745 | 3 | | VOA | DI | | X | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |

| Instructions: Please have the analytical results sent to | Cooler # | Temp. (°C) | Sample #s |
|---|---|---|---|
| Mark.rigby@parsons.com | 1 | 2.2 | |
| carrie.ross@parsons.com | | | |
| sandra.delasfuentes@parsons.us | | | |

| SAMPLER | | | COURIER/AIRBILL |
|---|---|---|---|
| RELINQUISHED BY | Date | Time | RECEIVED BY |
| Erin Helpio | 5-31-24 | 1145 | Arnold Pimentel |
| Arnold Pimentel | 5/31/24 | 1210 | |
| | 06/01/24 | 1025 | [signature] |

NOTICE: Turn around time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

Project J09CA1108-01

# SAMPLE RECEIPT FORM 1

EMAX LABORATORIES, INC.

| Type of Delivery | Airbill / Tracking Number | ECN 24F003 |
|---|---|---|
| ☒ Fedex ☐ UPS ☐ GSO ☐ Others | 2753 6051 3001 | Recipient Nandeen Vacana |
| ☐ EMAX Courier ☐ Client Delivery | | Date 06/01/24 Time 10:25 |

## COC INSPECTION

| | | | | | |
|---|---|---|---|---|---|
| ☒ Client Name | ☒ Client PM/FC | ☐ Sampler Name | ☒ Sampling Date/Time | ☒ Sample ID | ☒ Matrix |
| ☐ Address | ☒ Tel # / Fax # | ☐ Courier Signature | ☒ Analysis Required | ☐ Reservative (if any) | ☐ TAT |
| Safety Issues (if any) | ☐ High concentrations expected | ☐ From Superfund Site | ☐ Rad screening required | | |

Note: _____

## PACKAGING INSPECTION

| | | | | | |
|---|---|---|---|---|---|
| Container | ☒ Cooler | ☐ Box | ☐ Other | | |
| Condition | ☒ Custody Seal | ☐ Intact | ☐ Damaged | | |
| Packaging | ☒ Bubble Pack | ☐ Styrofoam | ☐ Popcorn | ☐ Sufficient | ☒ bag |
| Temperatures (Cool, ≤6 °C but not frozen) | ☒ Cooler 1 2.2 °C | ☐ Cooler 2 ____ °C | ☐ Cooler 3 ____ °C | ☐ Cooler 4 ____ °C | ☐ Cooler 5 ____ °C |
| | ☐ Cooler 6 ____ °C | ☐ Cooler 7 ____ °C | ☐ Cooler 8 ____ °C | ☐ Cooler 9 ____ °C | ☐ Cooler 10 ____ °C |
| *Thermometer:* | *A - S/N* 218706272 | *B - S/N* 230044860 | *C - S/N* 230044897 | (D) *S/N* 230044857 | |

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note: _____

## DISCREPANCIES

| LabSampleID | LabSampleContainerID | Code | ClientSample Label ID / Information | Corrective Action |
|---|---|---|---|---|
| 1-10 | 1-30 | D1 (*) | Analysis not on label and COC | R8 |
| 11~19 | 31~57 | D1 | Analysis not on label | R1 |
| 1-17 | 1-51 | D3 | Label reads: "TIAMF-MW0..." | R8 |
| | | | COC ID reads: "TIAMF-MW..." | ↓ |

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

DF 6/3/24

NOTES/OBSERVATIONS: (*) only preservation marked on the COC.

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☒ NO

## LEGEND:

☐ Continue to next page.

| Code | Description- Sample Management |
|---|---|
| (D1) | Analysis is not indicated in label/COC |
| D2 | Analysis mismatch COC vs label |
| (D3) | Sample ID mismatch COC vs label |
| D4 | Sample ID is not indicated in _____ |
| D5 | Container -(improper) (leaking) (broken) |
| D6 | Date/Time is not indicated in _____ |
| D7 | Date/Time mismatch COC vs label |
| D8 | Sample listed in COC is not received |
| D9 | Sample received is not listed in COC |
| D10 | No initial/date on corrections in COC/label |
| D11 | Container count mismatch COC vs received |
| D12 | Container size mismatch COC vs received |
| D13 | Out of Holding Time |
| D14 | Bubble is >6mm |
| D15 | No trip blank in cooler |
| D16 | Preservation not indicated in _____ |
| D17 | Preservation mismatch COC vs label |
| D18 | Insufficient chemical preservative |
| D19 | Insufficient Sample |
| D20 | No filtration info for dissolved analysis |
| D21 | No sample for moisture determination |
| D22 | _____ |
| D23 | _____ |
| D24 | _____ |

| Code | Description-Sample Management |
|---|---|
| R1 | Proceed as indicated in ☒ COC ☐ Label |
| R2 | Refer to attached instruction |
| R3 | Cancel the analysis |
| R4 | Use vial with smallest bubble first |
| R5 | Log-in with latest sampling date and time/ 1 min |
| R6 | Adjust pH as necessary |
| R7 | Filter and preserved as necessary |
| R8 | Informed Client |
| R9 | _____ |
| R10 | _____ |
| R11 | _____ |
| R12 | _____ |

REVIEWS:

Sample Labeling Maricia Rivera Date 06/03/24 — Cynthia 6/3/24

SRF Cynthia Date 6/3/24

PM DF Date 6/3/24

## Dilukshi Fernando

**From:** Arnoldo.Pimentel@parsons.com
**Sent:** Monday, June 03, 2024 3:00 PM
**To:** Dilukshi Fernando; Mark.Rigby@parsons.com; Richard Beauvil
**Cc:** Carrie.Ross@parsons.us; Beth.Driskill@parsons.us
**Subject:** Re: Titan 1-A GW samples SDG 24F003 Discrepancies

Hi Dilukshi,

See responses to questions below:

1. VOC analysis via SW8260 is the correct analysis for #1-#10
2. The 0(zero) should be included in the sample ID.

Thanks,

**Arnold Pimentel**
*Senior Geologist*
100 Pringle Avenue, Ste 525
Walnut Creek, CA 94596
Arnoldo.pimentel@parsons.com -
Cell: 626.710.7746

---

**From:** Dilukshi Fernando <DFernando@emaxlabs.com>
**Sent:** Monday, June 3, 2024 14:29
**To:** Pimentel, Arnoldo [US-US] <Arnoldo.Pimentel@parsons.com>; Rigby, Mark [US-US] <Mark.Rigby@parsons.com>; Richard Beauvil <RBeauvil@emaxlabs.com>
**Cc:** Ross, Carrie [US-US] <Carrie.Ross@parsons.us>; Driskill, Beth [US-US] <Beth.Driskill@parsons.us>
**Subject:** [EXTERNAL] RE: Titan 1-A GW samples SDG 24F003 Discrepancies

Hello Mark,

The following discrepancies were noted for SDG 24F003.

Analysis is not indicated on the label and COC for samples #1 - #10. Please confirm that the required analysis is VOCs via SW8260 for sample #1 - #10.
Sample ID mismatch for samples #1 - #17. Please advise if the "O" should be included in the sample ID.
COC: T1AMF-MW...
Label: T1AMF-MWO...

I have attached the COCs and SRFs for your reference.

Thank you!

Dilukshi Fernando
Project Coordinator
3051 Fujita Street
Torrance, CA 90505
Tel: 310-618-8889 X132
dfernando@emaxlabs.com

**From:** Arnoldo.Pimentel@parsons.com <Arnoldo.Pimentel@parsons.com>
**Sent:** Friday, May 31, 2024 1:17 PM
**To:** Mark.Rigby@parsons.com; Richard Beauvil <RBeauvil@emaxlabs.com>; Dilukshi Fernando <DFernando@emaxlabs.com>
**Cc:** Jim Carter <JCarter@emaxlabs.com>; Caspar Pang <CPang@emaxlabs.com>; Carrie.Ross@parsons.us; Beth.Driskill@parsons.us; Cecilia Chavez <CChavez@emaxlabs.com>; Tyler Kosaka <TKosaka@emaxlabs.com>
**Subject:** Re: Titan 1-A GW samples - Saturday delivery?

Hi Team,

Please see attached COC for samples shipped today to arrive tomorrow (Saturday).

FedEx tracking #: 275360513001

Thanks,

**Arnold Pimentel**
*Senior Geologist*
100 Pringle Avenue, Ste 525
Walnut Creek, CA 94596
Arnoldo.pimentel@parsons.com -
Cell: 626.710.7746

---

**From:** Rigby, Mark [US-US] <Mark.Rigby@parsons.com>
**Sent:** Friday, May 31, 2024 12:27:45 PM
**To:** Richard Beauvil <RBeauvil@emaxlabs.com>; Dilukshi Fernando <DFernando@emaxlabs.com>
**Cc:** Jim Carter <JCarter@emaxlabs.com>; Caspar Pang <CPang@emaxlabs.com>; Ross, Carrie [US-US] <Carrie.Ross@parsons.us>; Pimentel, Arnoldo [US-US] <Arnoldo.Pimentel@parsons.com>; Driskill, Beth [US-US] <Beth.Driskill@parsons.us>; Cecilia Chavez <CChavez@emaxlabs.com>; Tyler Kosaka <TKosaka@emaxlabs.com>
**Subject:** RE: Titan 1-A GW samples - Saturday delivery?

I may have the quote for the Treatability Study. I did not see VOC on that quote. Do you have a PO for this or did we provide you a quote for the VOC only. On the QAPP it looks like a short list of analytes.

> You should have two POs for this contract… huh, I don't see one for the treatability study. Let me look into that
>
> The one that samples will be shipped to you under now is PO-0015461. See attached

Can you also let us know what level of data package you will need (II, III or IV) and what type of EDD(s). TAT 21days?

ORIGIN ID:AUNA (626) 710-7746

PARSONS
100 PRINGLE AVE STE 525

WALNUT CREEK, CA 94596
UNITED STATES US

SHIP DATE: 31MAY24
ACTWGT: 53.00 LB
CAD: 6993724/SSFE2500
DIMS: 25x15x15 IN

BILL THIRD PARTY

Part # 156297-435 HRDB EXP 02/23

TO **EMAX LABS**
**ATTN: SAMPLE RECEIVING** 1026 Ø
**3051 FUJITA ST**
sealed

**TORRANCE CA 90505**

(310) 618-8888 REF:

INV: DEPT:

PO:

FedEx Express

**SATURDAY 12:00P**

TRK# 0201 **2753 6051 3001**

**PRIORITY OVERNIGHT**

# WO HHRA

**90505**
CA-US **LAX**

Part # 156297-435 RRDB2 EXP 03/25

Reference:
2758 59
TS1. DRILL

## REPORTING CONVENTIONS

### DATA QUALIFIERS:

| Lab Qualifier | AFCEE Qualifier | Description |
|---|---|---|
| J | F | Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL. |
| N | | Indicates presumptive evidence of a compound. |
| B | B | Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level. |
| E | J | Indicates that the result is above the maximum calibration range or estimated value. |
| * | * | Out of QC limit. |

**Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.**

### ACRONYMS AND ABBREVIATIONS:

| | |
|---|---|
| CRDL | Contract Required Detection Limit |
| RL | Reporting Limit |
| MRL | Method Reporting Limit |
| MDL | Method Detection Limit |
| DL | Detection Limit |
| LOD | Limit of Detection |
| LOQ | Limit of Quantitation |
| DO | Diluted out |

### DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

# SUMMARY PACKAGE
# VOLATILE ORGANICS

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F003

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

A total of nineteen(19) water samples were received on 06/01/24 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030C/8260C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There were four(4)CCVs (Data File IDs: RFG062, RFG088, RFG092 and RFG119) associated with this SDG. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two(2) method blanks were analyzed. VOE2F03B and VOE2F04B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. VOE2F03L/VOE2F03C and VOE2F04L/VOE2F04C were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F003
Instrument ID : E2

WATER

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| LCS1W | VOE2F03L | 1 | NA | 06/10/2417:13 | 06/10/2417:13 | RFG063 | REG122 | VOE2F03 | Lab Control Sample (LCS) |
| LCD1W | VOE2F03C | 1 | NA | 06/10/2417:37 | 06/10/2417:37 | RFG064 | REG122 | VOE2F03 | LCS Duplicate |
| MBLK1W | VOE2F03B | 1 | NA | 06/10/2418:25 | 06/10/2418:25 | RFG067 | REG122 | VOE2F03 | Method Blank |
| TB-1_MAY24 | 24F003-18 | 1 | NA | 06/10/2420:48 | 06/10/2420:48 | RFG073 | REG122 | VOE2F03 | Field Sample |
| TB-2_MAY24 | 24F003-19 | 1 | NA | 06/10/2421:11 | 06/10/2421:11 | RFG074 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW059-MAY24 | 24F003-01N | 1 | NA | 06/10/2421:35 | 06/10/2421:35 | RFG075 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW044-MAY24 | 24F003-02N | 1 | NA | 06/10/2421:59 | 06/10/2421:59 | RFG076 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW047-MAY24 | 24F003-03N | 1 | NA | 06/10/2422:23 | 06/10/2422:23 | RFG077 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW046-MAY24 | 24F003-04N | 1 | NA | 06/10/2422:46 | 06/10/2422:46 | RFG078 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW050-MAY24 | 24F003-05N | 1 | NA | 06/10/2423:10 | 06/10/2423:10 | RFG079 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW052-MAY24 | 24F003-06N | 1 | NA | 06/10/2423:33 | 06/10/2423:33 | RFG080 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW052-MAY24_FD | 24F003-07N | 1 | NA | 06/10/2423:57 | 06/10/2423:57 | RFG081 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW060-MAY24 | 24F003-08N | 1 | NA | 06/11/2400:20 | 06/11/2400:20 | RFG082 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW017-MAY24 | 24F003-09N | 1 | NA | 06/11/2400:44 | 06/11/2400:44 | RFG083 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW011-MAY24 | 24F003-10N | 1 | NA | 06/11/2401:08 | 06/11/2401:08 | RFG084 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW016-MAY24 | 24F003-11 | 1 | NA | 06/11/2401:32 | 06/11/2401:32 | RFG085 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW016-MAY24_FD | 24F003-12 | 1 | NA | 06/11/2401:56 | 06/11/2401:56 | RFG086 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW049-MAY24 | 24F003-13 | 1 | NA | 06/11/2402:19 | 06/11/2402:19 | RFG087 | REG122 | VOE2F03 | Field Sample |
| LCS2W | VOE2F04L | 1 | NA | 06/11/2414:15 | 06/11/2414:15 | RFG093 | REG122 | VOE2F04 | Lab Control Sample (LCS) |
| LCD2W | VOE2F04C | 1 | NA | 06/11/2414:39 | 06/11/2414:39 | RFG094 | REG122 | VOE2F04 | LCS Duplicate |
| MBLK2W | VOE2F04B | 1 | NA | 06/11/2415:26 | 06/11/2415:26 | RFG096 | REG122 | VOE2F04 | Method Blank |
| T1AMF-MW029-MAY24 | 24F003-14 | 1 | NA | 06/11/2417:25 | 06/11/2417:25 | RFG101 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW030-MAY24 | 24F003-15 | 1 | NA | 06/11/2417:49 | 06/11/2417:49 | RFG102 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW030-MAY24_FD | 24F003-16 | 1 | NA | 06/11/2418:13 | 06/11/2418:13 | RFG103 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW057-MAY24 | 24F003-17 | 1 | NA | 06/11/2418:37 | 06/11/2418:37 | RFG104 | REG122 | VOE2F04 | Field Sample |

FN - Filename
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 08:33 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 21:35 |
| Sample ID | : T1AMF-MW059-MAY24 | Date Analyzed: | 06/10/24 21:35 |
| Lab Samp ID: | 24F003-01N | Dilution Factor: | 1 |
| Lab File ID: | RFG075 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.29J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 7.0 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.0 | 10.0 | 110 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.0 | 100 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.92 | 10.0 | 99 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 09:38 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 21:59 |
| Sample ID | : T1AMF-MW044-MAY24 | Date Analyzed: | 06/10/24 21:59 |
| Lab Samp ID: | 24F003-02N | Dilution Factor: | 1 |
| Lab File ID: | RFG076 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 2.1 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.23J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 46 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.9 | 10.0 | 109 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 10.1 | 10.0 | 101 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 10:47 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 22:23 |
| Sample ID | : T1AMF-MW047-MAY24 | Date Analyzed: | 06/10/24 22:23 |
| Lab Samp ID: | 24F003-03N | Dilution Factor: | 1 |
| Lab File ID: | RFG077 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.0 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.30J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 20 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 9.85 | 10.0 | 98 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 11:44 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 22:46 |
| Sample ID | : T1AMF-MW046-MAY24 | Date Analyzed: | 06/10/24 22:46 |
| Lab Samp ID: | 24F003-04N | Dilution Factor: | 1 |
| Lab File ID: | RFG078 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 2.6 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.18J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 120 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.5 | 10.0 | 115 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.93 | 10.0 | 99 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 13:09 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 23:10 |
| Sample ID | : T1AMF-MW050-MAY24 | Date Analyzed: | 06/10/24 23:10 |
| Lab Samp ID: | 24F003-05N | Dilution Factor: | 1 |
| Lab File ID: | RFG079 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.56J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.14J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 14 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.6 | 10.0 | 116 | 81-118 |
| 4-Bromofluorobenzene | 10.2 | 10.0 | 102 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 10.4 | 10.0 | 104 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 14:14 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 23:33 |
| Sample ID | : T1AMF-MW052-MAY24 | Date Analyzed: | 06/10/24 23:33 |
| Lab Samp ID: | 24F003-06N | Dilution Factor: | 1 |
| Lab File ID: | RFG080 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.42J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.31J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 5.0 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.2 | 10.0 | 112 | 81-118 |
| 4-Bromofluorobenzene | 10.2 | 10.0 | 102 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 9.76 | 10.0 | 98 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 14:19 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 23:57 |
| Sample ID | : T1AMF-MW052-MAY24_FD | Date Analyzed: | 06/10/24 23:57 |
| Lab Samp ID: | 24F003-07N | Dilution Factor: | 1 |
| Lab File ID: | RFG081 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.37J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.34J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 5.3 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.6 | 10.0 | 116 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 10.1 | 10.0 | 101 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 15:21 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 00:20 |
| Sample ID | : T1AMF-MW060-MAY24 | Date Analyzed: | 06/11/24 00:20 |
| Lab Samp ID: | 24F003-08N | Dilution Factor: | 1 |
| Lab File ID: | RFG082 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 2.0 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.3 | 10.0 | 113 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.0 | 100 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 10.2 | 10.0 | 102 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 08:29 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 00:44 |
| Sample ID | : T1AMF-MW017-MAY24 | Date Analyzed: | 06/11/24 00:44 |
| Lab Samp ID: | 24F003-09N | Dilution Factor: | 1 |
| Lab File ID: | RFG083 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.19J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 3.9 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.7 | 10.0 | 117 | 81-118 |
| 4-Bromofluorobenzene | 10.2 | 10.0 | 102 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.94 | 10.0 | 99 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 09:27 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 01:08 |
| Sample ID | : T1AMF-MW011-MAY24 | Date Analyzed: | 06/11/24 01:08 |
| Lab Samp ID: | 24F003-10N | Dilution Factor: | 1 |
| Lab File ID: | RFG084 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.62J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 5.4 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.3 | 10.0 | 113 | 81-118 |
| 4-Bromofluorobenzene | 10.7 | 10.0 | 107 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 9.94 | 10.0 | 99 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 10:35 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 01:32 |
| Sample ID | : T1AMF-MW016-MAY24 | Date Analyzed: | 06/11/24 01:32 |
| Lab Samp ID: | 24F003-11 | Dilution Factor: | 1 |
| Lab File ID: | RFG085 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.60J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 2.9 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.5 | 10.0 | 115 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.0 | 100 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 10.2 | 10.0 | 102 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 10:40 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 01:56 |
| Sample ID | : T1AMF-MW016-MAY24_FD | Date Analyzed: | 06/11/24 01:56 |
| Lab Samp ID: | 24F003-12 | Dilution Factor: | 1 |
| Lab File ID: | RFG086 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.63J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 2.8 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.4 | 10.0 | 114 | 81-118 |
| 4-Bromofluorobenzene | 9.86 | 10.0 | 99 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 10.0 | 10.0 | 100 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 12:24 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 02:19 |
| Sample ID | : T1AMF-MW049-MAY24 | Date Analyzed: | 06/11/24 02:19 |
| Lab Samp ID: | 24F003-13 | Dilution Factor: | 1 |
| Lab File ID: | RFG087 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.1 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 71 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.5 | 10.0 | 115 | 81-118 |
| 4-Bromofluorobenzene | 10.1 | 10.0 | 101 | 85-114 |
| Toluene-d8 | 10.4 | 10.0 | 104 | 89-112 |
| Dibromofluoromethane | 10.1 | 10.0 | 101 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 13:16 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 17:25 |
| Sample ID | : T1AMF-MW029-MAY24 | Date Analyzed: | 06/11/24 17:25 |
| Lab Samp ID: | 24F003-14 | Dilution Factor: | 1 |
| Lab File ID: | RFG101 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.3 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 33 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 9.83 | 10.0 | 98 | 85-114 |
| Toluene-d8 | 10.4 | 10.0 | 104 | 89-112 |
| Dibromofluoromethane | 9.92 | 10.0 | 99 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 14:21 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 17:49 |
| Sample ID | : T1AMF-MW030-MAY24 | Date Analyzed: | 06/11/24 17:49 |
| Lab Samp ID: | 24F003-15 | Dilution Factor: | 1 |
| Lab File ID: | RFG102 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.6 | 10.0 | 116 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 10.1 | 10.0 | 101 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 14:26 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 18:13 |
| Sample ID | : T1AMF-MW030-MAY24_FD | Date Analyzed: | 06/11/24 18:13 |
| Lab Samp ID: | 24F003-16 | Dilution Factor: | 1 |
| Lab File ID: | RFG103 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.2 | 10.0 | 102 | 85-114 |
| Toluene-d8 | 10.4 | 10.0 | 104 | 89-112 |
| Dibromofluoromethane | 10.2 | 10.0 | 102 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 15:20 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 18:37 |
| Sample ID | : T1AMF-MW057-MAY24 | Date Analyzed: | 06/11/24 18:37 |
| Lab Samp ID: | 24F003-17 | Dilution Factor: | 1 |
| Lab File ID: | RFG104 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 10.3 | 10.0 | 103 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 08:30 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 20:48 |
| Sample ID | : TB-1_MAY24 | Date Analyzed: | 06/10/24 20:48 |
| Lab Samp ID: | 24F003-18 | Dilution Factor: | 1 |
| Lab File ID: | RFG073 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | 0.33J | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.9 | 10.0 | 109 | 81-118 |
| 4-Bromofluorobenzene | 10.4 | 10.0 | 104 | 85-114 |
| Toluene-d8 | 10.8 | 10.0 | 108 | 89-112 |
| Dibromofluoromethane | 9.92 | 10.0 | 99 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 07:45 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 21:11 |
| Sample ID | : TB-2_MAY24 | Date Analyzed: | 06/10/24 21:11 |
| Lab Samp ID: | 24F003-19 | Dilution Factor: | 1 |
| Lab File ID: | RFG074 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | 0.29J | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.8 | 10.0 | 108 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 9.79 | 10.0 | 98 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

# QC SUMMARIES

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/10/24 18:25 |
| Project | : TITAN 1-A | Date Received: | 06/10/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 18:25 |
| Sample ID | : MBLK1W | Date Analyzed: | 06/10/24 18:25 |
| Lab Samp ID: | VOE2F03B | Dilution Factor: | 1 |
| Lab File ID: | RFG067 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.3 | 10.0 | 103 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.8 | 10.0 | 108 | 89-112 |
| Dibromofluoromethane | 9.60 | 10.0 | 96 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F003
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK1W | LCS1W | LCD1W |
| LAB SAMPLE ID | : VOE2F03B | VOE2F03L | VOE2F03C |
| LAB FILE ID | : RFG067 | RFG063 | RFG064 |
| DATE PREPARED | : 06/10/24 18:25 | 06/10/24 17:13 | 06/10/24 17:37 |
| DATE ANALYZED | : 06/10/24 18:25 | 06/10/24 17:13 | 06/10/24 17:37 |
| PREP BATCH | : VOE2F03 | VOE2F03 | VOE2F03 |
| CALIBRATION REF: | REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 10.3 | 103 | 10.0 | 10.6 | 106 | 3 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.9 | 109 | 10.0 | 11.5 | 115 | 5 | 79-118 | 20 |
| Benzene | ND | 10.0 | 10.7 | 107 | 10.0 | 11.1 | 111 | 4 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 10.2 | 102 | 10.0 | 10.6 | 106 | 4 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.7 | 107 | 10.0 | 11.4 | 114 | 6 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 20.8 | 104 | 20.0 | 22.2 | 111 | 7 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.9 | 109 | 10.0 | 11.8 | 118 | 8 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.8 | 108 | 10.0 | 11.7 | 117 | 8 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 10.1 | 101 | 10.0 | 10.2 | 102 | 1 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.31 | 93 | 10.0 | 9.74 | 97 | 5 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 10.1 | 101 | 10.0 | 9.12 | 91 | 10 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 9.95 | 100 | 10.0 | 9.88 | 99 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.4 | 104 | 10.0 | 10.8 | 108 | 85-114 |
| Toluene-d8 | 10.0 | 10.5 | 105 | 10.0 | 10.5 | 105 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.84 | 98 | 10.0 | 9.40 | 94 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/11/24 15:26 |
| Project | : TITAN 1-A | Date Received: | 06/11/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 15:26 |
| Sample ID | : MBLK2W | Date Analyzed: | 06/11/24 15:26 |
| Lab Samp ID: | VOE2F04B | Dilution Factor: | 1 |
| Lab File ID: | RFG096 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.8 | 10.0 | 108 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.95 | 10.0 | 100 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F003
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK2W | LCS2W | LCD2W |
| LAB SAMPLE ID | : VOE2F04B | VOE2F04L | VOE2F04C |
| LAB FILE ID | : RFG096 | RFG093 | RFG094 |
| DATE PREPARED | : 06/11/24 15:26 | 06/11/24 14:15 | 06/11/24 14:39 |
| DATE ANALYZED | : 06/11/24 15:26 | 06/11/24 14:15 | 06/11/24 14:39 |
| PREP BATCH | : VOE2F04 | VOE2F04 | VOE2F04 |
| CALIBRATION REF: | REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 9.69 | 97 | 10.0 | 9.34 | 93 | 4 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.7 | 107 | 10.0 | 10.3 | 103 | 4 | 79-118 | 20 |
| Benzene | ND | 10.0 | 9.98 | 100 | 10.0 | 9.74 | 97 | 2 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 9.91 | 99 | 10.0 | 9.49 | 95 | 4 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.5 | 105 | 10.0 | 10.4 | 104 | 1 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 20.4 | 102 | 20.0 | 20.2 | 101 | 1 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.7 | 107 | 10.0 | 10.6 | 106 | 1 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.4 | 104 | 10.0 | 10.3 | 103 | 1 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 9.39 | 94 | 10.0 | 9.07 | 91 | 3 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.00 | 90 | 10.0 | 8.65 | 87 | 4 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 11.0 | 110 | 10.0 | 10.4 | 104 | 6 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.6 | 106 | 10.0 | 10.1 | 101 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 11.1 | 111 | 10.0 | 10.6 | 106 | 85-114 |
| Toluene-d8 | 10.0 | 10.6 | 106 | 10.0 | 10.6 | 106 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.84 | 98 | 10.0 | 9.56 | 96 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

# INITIAL CALIBRATION(S)

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: REG116 BFB Injection Date: 05/17/24

Instrument ID: E2 BFB Injection Time: 11:23

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.276 |
| 75 | 30 - 60% of mass 95 | 50.050 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.720 |
| 173 | Less than 2% of mass 174 | 0.804(.96)1 |
| 174 | Greater than 50% of mass 95 | 83.334 |
| 175 | 5 - 9% of mass 174 | 6.239(7.49)1 |
| 176 | 95 - 101% % of mass 174 | 81.293(97.55)1 |
| 177 | 5 - 9% % of mass 176 | 5.264(6.48)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD0.5 | VOE2E172 | REG118 | 05/17/24 | 12:33 |
| 2 | VSTD1 | VOE2E173 | REG119 | 05/17/24 | 12:57 |
| 3 | VSTD2 | VOE2E174 | REG120 | 05/17/24 | 13:21 |
| 4 | VSTD5 | VOE2E175 | REG121 | 05/17/24 | 13:45 |
| 5 | VSTD10 | VOE2E176 | REG122 | 05/17/24 | 14:09 |
| 6 | VSTD30 | VOE2E177 | REG123 | 05/17/24 | 14:33 |
| 7 | VSTD50 | VOE2E178 | REG124 | 05/17/24 | 14:57 |
| 8 | VSTD100 | VOE2E179 | REG125 | 05/17/24 | 15:21 |
| 9 | VSTD200 | VOE2E1710 | REG126 | 05/17/24 | 15:44 |

Sim

5/24/24

Instrument ID :E2
Beginning DateTime :05/17/24 12:33
Spike Units :PPB
IC File :REG122

Column Spec :RTX 502.2 ID :0.32MM
Ending DateTime :05/17/24 15:44
HPChem Method :VOE2E17

| M | IDX | Parameters | 5<br>12:33<br>REG118 | 1<br>12:57<br>REG119 | 2<br>13:21<br>REG120 | 5<br>13:45<br>REG121 | 10<br>14:09<br>REG122 | 30<br>14:33<br>REG123 | 50<br>14:57<br>REG124 | 100<br>15:21<br>REG125 | 200<br>15:44<br>REG126 | Av_RRF | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 5.9874 |
| | 2 | Dichlorodifluoromethane | 0.621 | 0.637 | 0.579 | 0.504 | 0.509 | 0.610 | 0.570 | 0.578 | 0.556 | 0.574 | 8.06 | 2.7078 |
| | 3 | Chloromethane | 0.526 | 0.465 | 0.434 | 0.383 | 0.373 | 0.377 | 0.368 | 0.382 | 0.398 | 0.412 | 13.00 | 2.9059 |
| | 4 | Vinyl chloride | 0.419 | 0.490 | 0.461 | 0.376 | 0.416 | 0.439 | 0.449 | 0.449 | 0.415 | 0.435 | 7.58 | 2.9903 |
| | 5 | Bromomethane | 0.348 | 0.325 | 0.291 | 0.268 | 0.244 | 0.267 | 0.278 | 0.296 | 0.330 | 0.294 | 11.62 | 3.3131 |
| | 6 | Dichlorofluoromethane | 1.071 | 1.087 | 0.974 | 1.099 | 0.990 | 1.025 | 0.930 | 0.904 | 0.869 | 0.994 | 8.41 | 3.3523 |
| | 7 | Chloroethane | 0.222 | 0.255 | 0.216 | 0.196 | 0.204 | 0.219 | 0.205 | 0.207 | 0.193 | 0.213 | 8.74 | 3.3461 |
| | 8 | Trichlorofluoromethane | 1.076 | 1.027 | 0.981 | 0.846 | 0.898 | 1.033 | 0.988 | 0.997 | 0.949 | 0.977 | 7.24 | 3.5112 |
| 5 | 9 | Acrolein | 0.074 | 0.076 | 0.063 | 0.070 | 0.064 | 0.060 | 0.059 | 0.060 | 0.059 | 0.065 | 10.21 | 3.7423 |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 0.510 | 0.445 | 0.389 | 0.475 | 0.409 | 0.418 | 0.409 | 0.396 | 0.383 | 0.426 | 10.04 | 3.7521 |
| 5 | 11 | Acetone | 0.325 | 0.240 | 0.181 | 0.149 | 0.137 | 0.118 | 0.119 | ------ | ------ | 0.181 | 42.17 | 3.7690 |
| 25 | 12 | tert-Butyl alcohol | 0.075 | 0.070 | 0.063 | 0.057 | 0.061 | 0.056 | 0.057 | 0.055 | 0.054 | 0.061 | 11.83 | 3.8744 |
| | 13 | 1,1-Dichloroethene | 0.972 | 0.970 | 0.870 | 1.007 | 0.889 | 0.901 | 0.818 | 0.823 | 0.795 | 0.894 | 8.46 | 3.9025 |
| 10 | 14 | Acetonitrile | ------ | 0.037 | 0.031 | 0.030 | 0.031 | 0.026 | 0.027 | ------ | ------ | 0.030 | 12.37 | 3.8744 |
| | 15 | Allyl chloride | 0.262 | 0.270 | 0.227 | 0.265 | 0.239 | 0.241 | 0.223 | 0.204 | 0.194 | 0.236 | 11.27 | 4.1055 |
| | 16 | Iodomethane | 0.335 | 0.312 | 0.310 | 0.409 | 0.432 | 0.563 | 0.530 | 0.509 | 0.459 | 0.429 | 22.23 | 4.1434 |
| | 17 | Methyl acetate | ----- | 0.410 | 0.337 | 0.344 | 0.341 | 0.293 | 0.304 | ------ | ------ | 0.338 | 12.15 | 4.0285 |
| | 18 | Methylene chloride | 1.122 | 1.095 | 0.930 | 0.852 | 0.731 | 0.698 | 0.612 | 0.596 | 0.570 | 0.801 | 26.33 | 4.1825 |
| 5 | 19 | Acrylonitrile | 0.187 | 0.165 | 0.144 | 0.155 | 0.158 | 0.140 | 0.134 | 0.135 | 0.136 | 0.150 | 11.69 | 4.2156 |
| | 20 | tert-Butyl methyl ether (MTBE) | 1.687 | 1.599 | 1.508 | 1.603 | 1.504 | 1.453 | 1.377 | 1.365 | 1.352 | 1.494 | 7.94 | 4.2266 |
| | 21 | Carbon disulfide | 1.587 | 1.493 | 1.289 | 1.218 | 1.375 | 1.338 | 1.287 | ---- | ------ | 1.370 | 9.42 | 4.3052 |
| | 22 | trans-1,2-Dichloroethene | 0.536 | 0.534 | 0.472 | 0.542 | 0.468 | 0.442 | 0.442 | 0.426 | 0.429 | 0.477 | 10.07 | 4.3696 |
| | 23 | Isopropyl ether (DIPE) | 1.738 | 1.638 | 1.535 | 1.682 | 1.513 | 1.489 | 1.394 | 1.379 | 1.317 | 1.520 | 9.47 | 4.4601 |
| | 24 | Vinyl acetate | 0.905 | 0.932 | 0.893 | 0.899 | 0.928 | 0.816 | 0.810 | 0.820 | 0.793 | 0.866 | 6.41 | 4.5457 |
| | 25 | 1,1-Dichloroethane | 1.123 | 1.084 | 0.958 | 1.041 | 0.935 | 0.964 | 0.901 | 0.851 | 0.823 | 0.965 | 10.57 | 4.6338 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 2.025 | 2.049 | 1.829 | 2.024 | 1.854 | 1.711 | 1.759 | 1.666 | 1.701 | 1.846 | 8.21 | 4.7328 |
| 5 | 27 | 2-Butanone | ----- | 0.059 | 0.048 | 0.048 | 0.049 | 0.043 | 0.043 | 0.042 | 0.042 | 0.047 | 12.56 | 4.8539 |
| 10 | 28 | Propionitrile | 0.067 | 0.061 | 0.059 | 0.057 | 0.053 | 0.051 | 0.051 | 0.048 | 0.050 | 0.055 | 11.17 | 4.9101 |
| 70 | 29 | Isobutyl alcohol | ----- | 0.024 | 0.020 | 0.019 | 0.020 | 0.018 | 0.019 | 0.017 | ------ | 0.020 | 12.47 | 5.0299 |
| | 30 | 2,2-Dichloropropane | 1.070 | 1.031 | 0.913 | 1.100 | 0.993 | 0.952 | 0.921 | 0.878 | 0.831 | 0.966 | 9.30 | 5.0202 |
| 10 | 31 | Methacrylonitrile | 0.105 | 0.103 | 0.092 | 0.099 | 0.089 | 0.088 | 0.084 | 0.080 | 0.076 | 0.091 | 11.02 | 5.0568 |
| | 32 | cis-1,2-Dichloroethene | 0.592 | 0.622 | 0.541 | 0.585 | 0.519 | 0.520 | 0.508 | 0.491 | 0.507 | 0.543 | 8.40 | 5.0630 |
| | 33 | Chloroform | 1.500 | 1.398 | 1.172 | 1.238 | 1.117 | 1.090 | 1.041 | 1.012 | ------ | 1.196 | 14.51 | 5.1730 |
| | 34 | Bromochloromethane | 0.354 | 0.366 | 0.325 | 0.348 | 0.326 | 0.321 | 0.296 | 0.275 | 0.259 | 0.319 | 11.29 | 5.3271 |
| | 35 | Tetrahydrofuran | ------ | 0.140 | 0.129 | 0.132 | 0.124 | 0.122 | 0.118 | 0.116 | ---- | 0.126 | 6.67 | 5.3192 |
| | 36 | Dibromofluoromethane | 0.677 | 0.642 | 0.571 | 0.613 | 0.624 | 0.588 | 0.573 | ------ | ------ | 0.612 | 6.30 | 5.3381 |
| | 37 | 1,1,1-Trichloroethane | 1.193 | 1.165 | 1.010 | 1.192 | 1.074 | 1.094 | 1.020 | 0.999 | 0.960 | 1.079 | 8.19 | 5.4971 |
| | 38 | Cyclohexane | 0.684 | 0.625 | 0.466 | 0.628 | 0.461 | 0.515 | 0.544 | 0.500 | 0.528 | 0.550 | 14.22 | 5.5484 |
| | 39 | tert-Amyl methyl ether (TAME) | 0.340 | 0.348 | 0.314 | 0.372 | 0.345 | 0.297 | 0.329 | 0.313 | 0.306 | 0.329 | 7.33 | 5.6144 |
| | 40 | 1,1-Dichloropropene | 0.262 | 0.251 | 0.222 | 0.266 | 0.242 | 0.218 | 0.228 | 0.219 | 0.217 | 0.236 | 8.29 | 5.6132 |
| | 41 | 1,2-Dichloroethane-d4 | 0.972 | 0.902 | 0.780 | 0.802 | 0.781 | 0.709 | 0.720 | ------ | ------ | 0.809 | 11.80 | 5.7233 |
| | 42 | Carbon tetrachloride | 0.945 | 0.992 | 0.834 | 1.044 | 0.930 | 0.901 | 0.890 | 0.840 | 0.838 | 0.913 | 8.01 | 5.7343 |
| | 43 | 1,2-Dichloroethane | 1.036 | 1.026 | 0.936 | 1.027 | 0.937 | 0.846 | 0.859 | 0.810 | 0.796 | 0.919 | 10.41 | 5.8003 |
| | 44 | Benzene | 2.100 | 2.054 | 1.772 | 1.904 | 1.819 | 1.719 | 1.753 | 1.684 | 1.662 | 1.830 | 8.64 | 5.8663 |
| | 45 | Trichloroethene | 0.573 | 0.564 | 0.468 | 0.553 | 0.494 | 0.496 | 0.481 | 0.460 | 0.468 | 0.505 | 9.09 | 6.3714 |
| | 46 | Methyl methacrylate | 0.521 | 0.497 | 0.421 | 0.494 | 0.427 | 0.401 | 0.430 | 0.422 | 0.415 | 0.448 | 9.77 | 6.4386 |
| | 47 | Methylcyclohexane | ------ | 0.701 | 0.528 | 0.712 | 0.530 | 0.546 | 0.606 | 0.586 | 0.600 | 0.601 | 11.92 | 6.4537 |
| | 48 | 1,2-Dichloropropane | 0.559 | 0.532 | 0.465 | 0.483 | 0.464 | 0.418 | 0.437 | 0.427 | 0.418 | 0.467 | 10.74 | 6.5266 |
| 20 | 49 | 1,4-Dioxane | ----- | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 50 | Bromodichloromethane | ------ | 1.077 | 0.909 | 0.968 | 0.886 | 0.841 | 0.821 | 0.796 | 0.773 | 0.884 | 11.38 | 6.7687 |
| | 51 | Dibromomethane | 0.454 | 0.430 | 0.373 | 0.417 | 0.371 | 0.368 | 0.349 | 0.344 | 0.315 | 0.380 | 11.79 | 6.8568 |
| | 52 | 2-Chloroethyl vinyl ether | 0.233 | 0.250 | 0.232 | 0.253 | 0.238 | 0.229 | 0.224 | 0.216 | 0.206 | 0.231 | 6.45 | 6.9338 |
| 5 | 53 | 4-Methyl-2-pentanone | 0.591 | 0.572 | 0.496 | 0.557 | 0.534 | 0.467 | 0.473 | 0.467 | 0.447 | 0.512 | 10.35 | 6.9571 |
| | 54 | cis-1,3-Dichloropropene | 0.921 | 0.873 | 0.791 | 0.882 | 0.822 | 0.782 | 0.775 | 0.759 | 0.743 | 0.817 | 7.57 | 7.2750 |
| | 55 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9.5641 |
| | 56 | Toluene-d8 | ------ | 2.328 | 1.900 | 1.960 | 2.006 | 1.860 | 1.868 | ------ | ------ | 1.987 | 8.88 | 7.5941 |
| | 57 | Ethyl methacrylate | 0.687 | 0.714 | 0.662 | 0.753 | 0.707 | 0.647 | 0.685 | 0.635 | 0.651 | 0.682 | 5.59 | 7.6932 |
| | 58 | Toluene | 2.522 | 2.598 | 2.196 | 2.483 | 2.250 | 2.053 | 2.185 | 2.012 | 2.114 | 2.268 | 9.46 | 7.6932 |
| | 59 | trans-1,3-Dichloropropene | 1.019 | 1.031 | 0.921 | 1.072 | 0.988 | 0.969 | 0.957 | 0.878 | 0.899 | 0.970 | 6.61 | 7.8143 |
| 5 | 60 | 2-Hexanone | 0.494 | 0.448 | 0.391 | 0.437 | 0.433 | 0.389 | 0.385 | 0.352 | 0.362 | 0.410 | 11.13 | 7.9378 |
| | 61 | 1,1,2-Trichloroethane | 0.616 | 0.606 | 0.548 | 0.580 | 0.535 | 0.538 | 0.494 | 0.461 | 0.466 | 0.538 | 10.51 | 8.0454 |
| | 62 | 1,3-Dichloropropane | 0.881 | 0.932 | 0.787 | 0.866 | 0.785 | 0.770 | 0.765 | 0.707 | 0.701 | 0.799 | 9.83 | 8.3535 |
| | 63 | Tetrachloroethene | 0.591 | 0.595 | 0.434 | 0.529 | 0.477 | 0.495 | 0.463 | 0.431 | 0.448 | 0.496 | 12.71 | 8.5088 |
| | 64 | Dibromochloromethane | ------ | 1.038 | 0.826 | 0.858 | 0.788 | 0.824 | 0.742 | 0.693 | 0.690 | 0.807 | 13.87 | 8.7827 |
| | 65 | 1,2-Dibromoethane | 0.651 | 0.619 | 0.556 | 0.621 | 0.592 | 0.594 | 0.549 | 0.522 | 0.516 | 0.580 | 8.08 | 9.0688 |
| | 66 | 1-Chlorohexane | 0.844 | 0.848 | 0.651 | 0.843 | 0.747 | 0.751 | 0.722 | 0.671 | 0.677 | 0.751 | 10.45 | 9.1239 |
| | 67 | Chlorobenzene | 1.802 | 1.685 | 1.395 | 1.599 | 1.466 | 1.486 | 1.389 | 1.323 | 1.338 | 1.490 | 11.00 | 9.6191 |
| | 68 | 1,1,1,2-Tetrachloroethane | 0.713 | 0.709 | 0.595 | 0.685 | 0.647 | 0.654 | 0.606 | 0.565 | 0.563 | 0.637 | 9.12 | 9.6460 |
| | 69 | Ethylbenzene | 3.192 | 3.179 | 2.449 | 2.920 | 2.662 | 2.734 | 2.599 | 2.475 | 2.468 | 2.742 | 10.66 | 9.6411 |
| 2 | 70 | m-Xylene & p-Xylene | 2.549 | 2.503 | 1.987 | 2.323 | 2.078 | 2.117 | 2.094 | ------ | ------ | 2.236 | 9.97 | 9.7496 |
| | 71 | o-Xylene | 2.536 | 2.361 | 1.926 | 2.321 | 2.112 | 1.978 | 2.058 | 1.894 | 1.863 | 2.117 | 11.21 | 10.4127 |
| | 72 | Styrene | 1.648 | 1.724 | 1.354 | 1.615 | 1.493 | 1.415 | 1.441 | 1.328 | 1.303 | 1.480 | 10.19 | 10.4580 |
| | 73 | Isopropylbenzene | 2.835 | 2.946 | 2.240 | 2.644 | 2.424 | 2.142 | 2.250 | 2.149 | 2.077 | 2.412 | 13.33 | 10.9397 |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 13.8891 |
| | 75 | Bromoform | 1.246 | 1.192 | 1.112 | 1.177 | 1.072 | 1.033 | 1.055 | 0.974 | 0.962 | 1.091 | 9.03 | 11.0608 |
| | 76 | 1,1,2,2-Tetrachloroethane | 1.731 | 1.658 | 1.370 | 1.490 | 1.349 | 1.248 | 1.296 | 1.218 | 1.184 | 1.394 | 13.93 | 11.2026 |
| | 77 | 4-Bromofluorobenzene | ------ | 1.901 | 1.601 | 1.620 | 1.559 | 1.327 | 1.516 | ------ | ------ | 1.587 | 11.73 | 11.3689 |
| | 78 | 1,2,3-Trichloropropane | 0.441 | 0.449 | 0.384 | 0.439 | 0.374 | 0.344 | 0.366 | 0.344 | 0.322 | 0.385 | 12.26 | 11.4460 |
| | 79 | trans-1,4-Dichloro 2-butene | 0.345 | 0.390 | 0.351 | 0.456 | 0.395 | 0.395 | 0.414 | 0.380 | 0.379 | 0.389 | 8.47 | 11.5132 |
| | 80 | n-Propylbenzene | 7.684 | 7.739 | 5.851 | 7.164 | 6.006 | 5.607 | 5.968 | 5.582 | 5.465 | 6.341 | 14.55 | 11.5780 |
| | 81 | Bromobenzene | 1.646 | 1.681 | 1.348 | 1.563 | 1.386 | 1.206 | 1.293 | 1.208 | 1.192 | 1.392 | 13.87 | 11.7321 |
| | 82 | 1,3,5-Trimethylbenzene | 5.366 | 5.227 | 4.073 | 4.881 | 4.205 | 3.892 | 4.064 | 3.785 | 3.738 | 4.359 | 14.43 | 11.8287 |
| | 83 | 2-Chlorotoluene | ------ | 4.800 | 3.579 | 4.665 | 3.673 | 3.653 | 3.858 | 3.598 | 3.483 | 3.914 | 13.23 | 11.9192 |
| | 84 | 4-Chlorotoluene | 4.791 | 5.151 | 3.841 | 3.940 | 3.868 | 2.881 | 3.359 | 3.161 | 3.176 | 3.796 | 20.12 | 11.9764 |
| | 85 | tert-Butylbenzene | 0.747 | 0.829 | 0.605 | 0.740 | 0.648 | 0.561 | 0.592 | ------ | ------ | 0.675 | 14.63 | 12.4081 |
| | 86 | 1,2,4-Trimethylbenzene | 5.058 | 5.235 | 4.012 | 4.761 | 4.182 | 3.747 | 3.973 | 3.721 | 3.680 | 4.263 | 14.07 | 12.4780 |
| | 87 | sec-Butylbenzene | ------ | 6.256 | 4.523 | 5.517 | 4.832 | 4.450 | 4.638 | 4.362 | ------ | 4.940 | 14.11 | 12.7493 |
| | 88 | p-Isopropyltoluene | 5.045 | 5.046 | 3.819 | 4.703 | 3.968 | 3.664 | 3.821 | 3.689 | 3.551 | 4.145 | 14.69 | 12.9549 |
| | 89 | 1,3-Dichlorobenzene | 3.020 | 2.992 | 2.191 | 2.485 | 2.182 | 2.011 | 2.088 | 1.908 | 1.849 | 2.303 | 19.08 | 13.1652 |
| | 90 | 1,2,3-Trimethylbenzene | 4.849 | 5.175 | 3.973 | 4.777 | 4.170 | 3.766 | 3.928 | 3.729 | 3.652 | 4.224 | 13.33 | 13.2545 |
| | 91 | 1,4-Dichlorobenzene | 3.022 | 3.108 | 2.117 | 2.540 | 2.221 | 2.073 | 2.138 | 1.953 | 1.965 | 2.349 | 18.81 | 13.3278 |
| | 92 | n-Butylbenzene | 4.979 | 4.820 | 3.500 | 4.168 | 3.792 | 3.621 | 3.712 | 3.405 | 3.483 | 3.942 | 14.93 | 13.6140 |
| | 93 | 1,2-Dichlorobenzene | ------ | 2.697 | 2.183 | 2.392 | 2.013 | 1.895 | 1.926 | ------ | ------ | 2.184 | 14.28 | 13.9331 |
| | 94 | 1,2-Dibromo-3-chloropropane | 0.324 | 0.328 | 0.262 | 0.286 | 0.265 | 0.273 | 0.269 | 0.273 | 0.271 | 0.283 | 8.87 | 15.1339 |
| | 95 | 1,2,4-Trichlorobenzene | 2.154 | 2.073 | 1.549 | 1.477 | 1.289 | 1.277 | 1.274 | 1.228 | 1.317 | 1.493 | 24.05 | 16.4643 |
| | 96 | Hexachlorobutadiene | ------ | 0.968 | 0.705 | 0.840 | 0.750 | 0.697 | 0.696 | 0.668 | 0.717 | 0.755 | 13.33 | 16.6624 |
| | 97 | Naphthalene | ------ | 4.357 | 3.062 | 3.424 | 3.316 | 3.128 | 3.237 | 3.113 | 3.378 | 3.377 | 12.35 | 16.8715 |
| | 98 | 1,2,3-Trichlorobenzene | 2.077 | 1.941 | 1.298 | 1.377 | 1.232 | 1.225 | 1.192 | 1.180 | 1.249 | 1.419 | 24.06 | 17.2310 |

Spike Amount = Nominal Amount * M
Ave_%RSD : 11.8 Max_%RSD : 42.2

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = X0 + X1 * Amt_Ratio

| IDX | Parameter | X0 | X1 | CCF |
|---|---|---|---|---|
| 11 | Acetone | 0.05832 | 0.11706 | 0.9992 |
| 16 | Iodomethane | -0.01397 | 0.48870 | 0.9969 |
| 18 | Methylene chloride | 0.04858 | 0.59178 | 0.9974 |
| 84 | 4-Chlorotoluene | 0.14395 | 3.17771 | 0.9987 |
| 89 | 1,3-Dichlorobenzene | 0.09201 | 1.90749 | 0.9986 |
| 91 | 1,4-Dichlorobenzene | 0.08306 | 1.99157 | 0.9991 |
| 95 | 1,2,4-Trichlorobenzene | 0.04972 | 1.27956 | 0.9993 |
| 98 | 1,2,3-Trichlorobenzene | 0.04722 | 1.21614 | 0.9995 |

5/24/24

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :E2
Beginning DateTime :05/17/24 12:33
Spike Units :PPB
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :05/17/24 15:44
HPChem Method :VOE2B17

| M | IDX | Parameters | .5<br>12:33<br>REG118 | 1<br>12:57<br>REG119 | 2<br>13:21<br>REG120 | 5<br>13:45<br>REG121 | 10<br>14:09<br>REG122 | 30<br>14:33<br>REG123 | 50<br>14:57<br>REG124 | 100<br>15:21<br>REG125 | 200<br>15:44<br>REG126 | AvDRec | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 5.9874 |
| | 2 | Dichlorodifluoromethane | 108 | 111 | 101 | 88 | 89 | 106 | 99 | 101 | 97 | 6 | 8.06 | 2.7078 |
| | 3 | Chloromethane | 128 | 113 | 105 | 93 | 91 | 92 | 89 | 93 | 97 | 10.2 | 13.00 | 2.9059 |
| | 4 | Vinyl chloride | 96 | 113 | 106 | 86 | 96 | 101 | 103 | 103 | 95 | 5.8 | 7.58 | 2.9903 |
| | 5 | Bromomethane | 118 | 111 | 99 | 91 | 83 | 91 | 95 | 101 | 112 | 9.3 | 11.62 | 3.3131 |
| | 6 | Dichlorofluoromethane | 108 | 109 | 98 | 111 | 100 | 103 | 94 | 91 | 87 | 6.9 | 8.41 | 3.3523 |
| | 7 | Chloroethane | 104 | 120 | 101 | 92 | 96 | 103 | 96 | 97 | 91 | 6.3 | 8.74 | 3.3461 |
| | 8 | Trichlorofluoromethane | 110 | 105 | 100 | 87 | 92 | 106 | 101 | 102 | 97 | 5.4 | 7.24 | 3.5112 |
| 5 | 9 | Acrolein | 114 | 117 | 97 | 108 | 98 | 92 | 91 | 92 | 91 | 8.5 | 10.21 | 3.7423 |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 120 | 104 | 91 | 112 | 96 | 98 | 96 | 93 | 90 | 7.9 | 10.04 | 3.7521 |
| 5 | 11 | Acetone | 78 | 105 | 105 | 107 | 107 | 97 | 99 | ------ | ------ | 31.9 | 42.17 | 3.7690 |
| 25 | 12 | tert-Butyl alcohol | 123 | 115 | 103 | 93 | 100 | 92 | 93 | 90 | 89 | 9.3 | 11.83 | 3.8744 |
| | 13 | 1,1-Dichloroethene | 109 | 109 | 97 | 113 | 99 | 101 | 91 | 92 | 89 | 6.8 | 8.46 | 3.9025 |
| 10 | 14 | Acetonitrile | ------ | 123 | 103 | 100 | 103 | 87 | 90 | ------ | ------ | 8.9 | 12.37 | 3.8744 |
| | 15 | Allyl chloride | 111 | 114 | 96 | 112 | 101 | 102 | 94 | 86 | 82 | 9.1 | 11.27 | 4.1055 |
| | 16 | Iodomethane | 126 | 92 | 78 | 89 | 91 | 116 | 109 | 104 | 94 | 18.1 | 22.23 | 4.1434 |
| | 17 | Methyl acetate | ------ | 121 | 100 | 102 | 101 | 87 | 90 | ------ | ------ | 7.9 | 12.15 | 4.0285 |
| | 18 | Methylene chloride | 26 | 103 | 116 | 128 | 115 | 115 | 102 | 100 | 96 | 22.1 | 26.33 | 4.1825 |
| 5 | 19 | Acrylonitrile | 125 | 110 | 96 | 103 | 105 | 93 | 89 | 90 | 91 | 9.3 | 11.69 | 4.2156 |
| | 20 | tert-Butyl methyl ether (MTBE) | 113 | 107 | 101 | 107 | 101 | 97 | 92 | 91 | 90 | 6.4 | 7.94 | 4.2266 |
| | 21 | Carbon disulfide | 116 | 109 | 94 | 89 | 100 | 98 | 94 | ------ | ------ | 7.2 | 9.42 | 4.3052 |
| | 22 | trans-1,2-Dichloroethene | 112 | 112 | 99 | 114 | 98 | 93 | 93 | 89 | 90 | 8.5 | 10.07 | 4.3696 |
| | 23 | Isopropyl ether (DIPE) | 114 | 108 | 101 | 111 | 100 | 98 | 92 | 91 | 87 | 7.5 | 9.47 | 4.4601 |
| | 24 | Vinyl acetate | 105 | 108 | 103 | 104 | 107 | 94 | 94 | 95 | 92 | 5.8 | 6.41 | 4.5457 |
| | 25 | 1,1-Dichloroethane | 116 | 112 | 99 | 108 | 97 | 100 | 93 | 88 | 85 | 8.2 | 10.57 | 4.6338 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 110 | 111 | 99 | 110 | 100 | 93 | 95 | 90 | 92 | 6.8 | 8.21 | 4.7328 |
| 5 | 27 | 2-Butanone | ------ | 126 | 102 | 102 | 104 | 91 | 91 | 89 | 89 | 9 | 12.56 | 4.8539 |
| 10 | 28 | Propionitrile | 122 | 111 | 107 | 104 | 96 | 93 | 93 | 87 | 91 | 9.3 | 11.17 | 4.9101 |
| 20 | 29 | Isobutyl alcohol | ------ | 120 | 100 | 95 | 100 | 90 | 95 | 85 | ------ | 7.9 | 12.47 | 5.0299 |
| | 30 | 2,2-Dichloropropane | 111 | 107 | 95 | 114 | 103 | 99 | 95 | 91 | 86 | 7.6 | 9.30 | 5.0202 |
| 10 | 31 | Methacrylonitrile | 115 | 113 | 101 | 109 | 98 | 97 | 92 | 88 | 84 | 8.9 | 11.02 | 5.0568 |
| | 32 | cis-1,2-Dichloroethene | 109 | 115 | 100 | 108 | 96 | 96 | 94 | 90 | 93 | 7 | 8.40 | 5.0630 |
| | 33 | Chloroform | 125 | 117 | 98 | 104 | 93 | 91 | 87 | 85 | ------ | 11.5 | 14.51 | 5.1730 |
| | 34 | Bromochloromethane | 111 | 115 | 102 | 109 | 102 | 101 | 93 | 86 | 81 | 8.8 | 11.29 | 5.3271 |
| | 35 | Tetrahydrofuran | ------ | 111 | 102 | 105 | 98 | 97 | 94 | 92 | ------ | 5.3 | 6.67 | 5.3192 |
| | 36 | Dibromofluoromethane | 111 | 105 | 93 | 100 | 102 | 96 | 94 | ------ | ------ | 4.9 | 6.30 | 5.3381 |
| | 37 | 1,1,1-Trichloroethane | 111 | 108 | 94 | 110 | 100 | 101 | 95 | 93 | 89 | 6.8 | 8.19 | 5.4971 |
| | 38 | Cyclohexane | 124 | 114 | 85 | 114 | 84 | 94 | 99 | 91 | 96 | 11.6 | 14.22 | 5.5484 |
| | 39 | tert-Amyl methyl ether (TAME) | 103 | 106 | 95 | 113 | 105 | 90 | 100 | 95 | 93 | 5.9 | 7.33 | 5.6144 |
| | 40 | 1,1-Dichloropropene | 111 | 106 | 94 | 113 | 103 | 92 | 97 | 93 | 92 | 7.2 | 8.29 | 5.6132 |
| | 41 | 1,2-Dichloroethane-d4 | 120 | 111 | 96 | 99 | 97 | 88 | 89 | ------ | ------ | 9 | 11.80 | 5.7233 |
| | 42 | Carbon tetrachloride | 104 | 109 | 91 | 114 | 102 | 99 | 97 | 92 | 92 | 6.3 | 8.01 | 5.7343 |
| | 43 | 1,2-Dichloroethane | 113 | 112 | 102 | 112 | 102 | 92 | 93 | 88 | 87 | 8.9 | 10.41 | 5.8003 |
| | 44 | Benzene | 115 | 112 | 97 | 104 | 99 | 94 | 96 | 92 | 91 | 6.9 | 8.64 | 5.8663 |
| | 45 | Trichloroethene | 113 | 112 | 91 | 110 | 98 | 98 | 95 | 91 | 93 | 7.7 | 9.09 | 6.3714 |
| | 46 | Methyl methacrylate | 116 | 111 | 94 | 110 | 95 | 90 | 96 | 94 | 93 | 8.4 | 9.77 | 6.4386 |
| | 47 | Methylcyclohexane | ------ | 117 | 88 | 118 | 88 | 91 | 101 | 98 | 100 | 9 | 11.92 | 6.4537 |
| | 48 | 1,2-Dichloropropane | 120 | 114 | 100 | 103 | 99 | 90 | 94 | 91 | 90 | 8.2 | 10.74 | 6.5266 |
| 20 | 49 | 1,4-Dioxane | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 50 | Bromodichloromethane | ------ | 122 | 103 | 110 | 100 | 95 | 93 | 90 | 87 | 8.6 | 11.38 | 6.7687 |
| | 51 | Dibromomethane | 119 | 113 | 98 | 110 | 98 | 97 | 92 | 91 | 83 | 9.4 | 11.79 | 6.8568 |
| | 52 | 2-Chloroethyl vinyl ether | 101 | 108 | 100 | 110 | 103 | 99 | 97 | 94 | 89 | 4.8 | 6.45 | 6.9338 |
| 5 | 53 | 4-Methyl-2-pentanone | 115 | 112 | 97 | 109 | 104 | 91 | 92 | 91 | 87 | 9 | 10.35 | 6.9571 |
| | 54 | cis-1,3-Dichloropropene | 113 | 107 | 97 | 108 | 101 | 96 | 95 | 93 | 91 | 6.3 | 7.57 | 7.2750 |
| | 55 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9.5641 |
| | 56 | Toluene-d8 | ------ | 117 | 96 | 99 | 101 | 94 | 94 | ------ | ------ | 6 | 8.88 | 7.5941 |
| | 57 | Ethyl methacrylate | 101 | 105 | 97 | 110 | 104 | 95 | 100 | 93 | 95 | 4.4 | 5.59 | 7.6932 |
| | 58 | Toluene | 111 | 115 | 97 | 109 | 99 | 91 | 96 | 89 | 93 | 7.8 | 9.46 | 7.6932 |
| | 59 | trans-1,3-Dichloropropene | 105 | 106 | 95 | 111 | 102 | 100 | 99 | 91 | 93 | 5.2 | 6.61 | 7.8143 |
| 5 | 60 | 2-Hexanone | 120 | 109 | 95 | 107 | 106 | 95 | 94 | 86 | 88 | 9.3 | 11.13 | 7.9378 |
| | 61 | 1,1,2-Trichloroethane | 114 | 113 | 102 | 108 | 99 | 100 | 92 | 86 | 87 | 8.1 | 10.51 | 8.0454 |
| | 62 | 1,3-Dichloropropane | 110 | 117 | 98 | 108 | 98 | 96 | 96 | 88 | 88 | 7.8 | 9.83 | 8.3535 |
| | 63 | Tetrachloroethene | 119 | 120 | 88 | 107 | 96 | 100 | 93 | 87 | 90 | 10.2 | 12.71 | 8.5088 |
| | 64 | Dibromochloromethane | ------ | 129 | 102 | 106 | 98 | 102 | 92 | 86 | 86 | 9.8 | 13.87 | 8.7827 |
| | 65 | 1,2-Dibromoethane | 112 | 107 | 96 | 107 | 102 | 102 | 95 | 90 | 89 | 6.8 | 8.08 | 9.0688 |
| | 66 | 1-Chlorohexane | 112 | 113 | 87 | 112 | 99 | 100 | 96 | 89 | 90 | 8.4 | 10.45 | 9.1239 |
| | 67 | Chlorobenzene | 120 | 112 | 93 | 107 | 98 | 99 | 93 | 88 | 89 | 8.8 | 11.00 | 9.6191 |
| | 68 | 1,1,1,2-Tetrachloroethane | 112 | 111 | 93 | 108 | 102 | 103 | 95 | 89 | 88 | 7.7 | 9.12 | 9.6460 |
| | 69 | Ethylbenzene | 116 | 116 | 89 | 106 | 97 | 100 | 95 | 90 | 90 | 8.6 | 10.66 | 9.6411 |
| 2 | 70 | m-Xylene & p-Xylene | 114 | 112 | 89 | 104 | 93 | 95 | 94 | ------ | ------ | 8.5 | 9.97 | 9.7496 |
| | 71 | o-Xylene | 120 | 112 | 91 | 110 | 100 | 93 | 97 | 89 | 88 | 9.1 | 11.21 | 10.4127 |
| | 72 | Styrene | 111 | 116 | 91 | 109 | 101 | 96 | 97 | 90 | 88 | 8.4 | 10.19 | 10.4580 |
| | 73 | Isopropylbenzene | 118 | 122 | 93 | 110 | 100 | 89 | 93 | 89 | 86 | 11.1 | 13.33 | 10.9397 |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 13.8891 |
| | 75 | Bromoform | 114 | 109 | 102 | 108 | 98 | 95 | 97 | 89 | 88 | 7.4 | 9.03 | 11.0608 |
| | 76 | 1,1,2,2-Tetrachloroethane | 124 | 119 | 98 | 107 | 97 | 90 | 93 | 87 | 85 | 11.1 | 13.93 | 11.2026 |
| | 77 | 4-Bromofluorobenzene | ------ | 120 | 101 | 102 | 98 | 84 | 96 | ------ | ------ | 7.6 | 11.73 | 11.3689 |
| | 78 | 1,2,3-Trichloropropane | 115 | 117 | 100 | 114 | 97 | 89 | 95 | 89 | 84 | 10.1 | 12.26 | 11.4460 |
| | 79 | trans-1,4-Dichloro-2-butene | 89 | 100 | 90 | 117 | 102 | 102 | 106 | 98 | 97 | 5.9 | 8.47 | 11.5132 |
| | 80 | n-Propylbenzene | 121 | 122 | 92 | 113 | 95 | 88 | 94 | 88 | 86 | 12.5 | 14.55 | 11.5780 |
| | 81 | Bromobenzene | 118 | 121 | 97 | 112 | 100 | 87 | 93 | 87 | 86 | 11.4 | 13.87 | 11.7321 |
| | 82 | 1,3,5-Trimethylbenzene | 123 | 120 | 93 | 112 | 96 | 89 | 93 | 87 | 86 | 12.2 | 14.43 | 11.8287 |
| | 83 | 2-Chlorotoluene | ------ | 123 | 91 | 119 | 94 | 93 | 99 | 92 | 89 | 10.5 | 13.23 | 11.9192 |
| | 84 | 4-Chlorotoluene | 60 | 117 | 98 | 115 | 117 | 89 | 105 | 99 | 100 | 15.3 | 20.12 | 11.9754 |
| | 85 | tert-Butylbenzene | 111 | 123 | 90 | 110 | 96 | 83 | 88 | ------ | ------ | 12.4 | 14.63 | 12.4081 |
| | 86 | 1,2,4-Trimethylbenzene | 119 | 123 | 94 | 112 | 98 | 88 | 93 | 87 | 86 | 11.8 | 14.07 | 12.4780 |
| | 87 | sec-Butylbenzene | ------ | 127 | 92 | 112 | 98 | 90 | 94 | 88 | ------ | 11 | 14.11 | 12.7493 |
| | 88 | p-Isopropyltoluene | 122 | 122 | 92 | 113 | 96 | 88 | 92 | 89 | 86 | 12.6 | 14.69 | 12.9549 |
| | 89 | 1,3-Dichlorobenzene | 62 | 109 | 90 | 120 | 110 | 104 | 108 | 100 | 97 | 15.3 | 19.08 | 13.1652 |
| | 90 | 1,2,3-Trimethylbenzene | 115 | 123 | 94 | 113 | 99 | 89 | 93 | 88 | 86 | 11.2 | 13.33 | 13.2545 |
| | 91 | 1,4-Dichlorobenzene | 126 | 114 | 86 | 119 | 107 | 103 | 106 | 98 | 98 | 15.4 | 18.81 | 13.3278 |
| | 92 | n-Butylbenzene | 126 | 122 | 89 | 106 | 96 | 92 | 94 | 86 | 88 | 12.1 | 14.93 | 13.6140 |
| | 93 | 1,2-Dichlorobenzene | ------ | 123 | 100 | 110 | 92 | 87 | 88 | ------ | ------ | 11 | 14.28 | 13.9331 |
| | 94 | 1,2-Dibromo-3-chloropropane | 114 | 116 | 93 | 101 | 94 | 96 | 95 | 96 | 96 | 6.8 | 8.87 | 15.1339 |
| | 95 | 1,2,4-Trichlorobenzene | 90 | 123 | 86 | 108 | 97 | 98 | 99 | 90 | 103 | 18.5 | 24.05 | 16.4643 |
| | 96 | Hexachlorobutadiene | ------ | 128 | 93 | 111 | 99 | 92 | 92 | 88 | 95 | 9.9 | 13.33 | 16.6624 |
| | 97 | Naphthalene | ------ | 129 | 91 | 101 | 98 | 93 | 96 | 92 | 100 | 7.6 | 12.35 | 16.8715 |
| | 98 | 1,2,3-Trichlorobenzene | 94 | 121 | 88 | 105 | 97 | 97 | 97 | 97 | 102 | 18.5 | 24.06 | 17.2310 |

For 8260C
SCL
5/24/24

Compound List Report E2

Method Path : C:\MSDCHEM\1\METHODS\
Method File : VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024
Response Via : Initial Calibration

Total Cpnds : 98

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 114 | 5.987 | 1.000 | A | 1 | A | B |
| 2 | T | Dichlorodifluoromethane | 85 | 2.708 | 0.452 | A | 1 | A | B |
| 3 | T | Chloromethane | 50 | 2.906 | 0.485 | A | 1 | A | B |
| 4 | T | Vinyl chloride | 62 | 2.994 | 0.500 | A | 1 | A | B |
| 5 | T | Bromomethane | 94 | 3.313 | 0.553 | A | 1 | A | B |
| 6 | T | Dichlorofluoromethane | 67 | 3.357 | 0.561 | A | 1 | A | B |
| 7 | T | Chloroethane | 64 | 3.346 | 0.559 | A | 1 | A | B |
| 8 | T | Trichlorofluoromethane | 101 | 3.511 | 0.586 | A | 1 | A | B |
| 9 | T | Acrolein | 56 | 3.742 | 0.625 | A | 1 | A | B |
| 10 | T | 1,1,2-Trichloro-1,2,2-Trifl... | 151 | 3.753 | 0.627 | A | 1 | A | B |
| 11 | T | Acetone | 43 | 3.764 | 0.629 | L | 1 | A | B |
| 12 | T | tert-Butyl alcohol | 59 | 3.874 | 0.647 | A | 1 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 3.908 | 0.653 | A | 2 | A | B |
| 14 | T | Acetonitrile | 41 | 3.874 | 0.647 | A | 1 | A | B |
| 15 | T | Allyl chloride | 76 | 4.106 | 0.686 | A | 1 | A | B |
| 16 | T | Iodomethane | 142 | 4.150 | 0.693 | L | 1 | A | B |
| 17 | T | Methyl acetate | 43 | 4.029 | 0.673 | A | 1 | A | B |
| 18 | T | Methylene chloride | 49 | 4.183 | 0.699 | L | 2 | A | B |
| 19 | T | Acrylonitrile | 53 | 4.216 | 0.704 | A | 2 | A | B |
| 20 | T | tert-Butyl methyl ether (MTBE) | 73 | 4.227 | 0.706 | A | 1 | A | B |
| 21 | T | Carbon disulfide | 76 | 4.304 | 0.719 | A | 1 | A | B |
| 22 | T | trans-1,2-Dichloroethene | 96 | 4.370 | 0.730 | A | 1 | A | B |
| 23 | T | Isopropyl ether (DIPE) | 45 | 4.458 | 0.745 | A | 1 | A | B |
| 24 | T | Vinyl acetate | 43 | 4.546 | 0.759 | A | 1 | A | B |
| 25 | T | 1,1-Dichloroethane | 63 | 4.634 | 0.774 | A | 2 | A | B |
| 26 | T | tert-Butyl ethyl ether (ETBE) | 59 | 4.733 | 0.791 | A | 1 | A | B |
| 27 | T | 2-Butanone | 72 | 4.854 | 0.811 | A | 1 | A | B |
| 28 | T | Propionitrile | 54 | 4.909 | 0.820 | A | 1 | A | B |
| 29 | T | Isobutyl alcohol | 43 | 5.030 | 0.840 | A | 1 | A | B |
| 30 | T | 2,2-Dichloropropane | 77 | 5.019 | 0.838 | A | 2 | A | B |
| 31 | T | Methacrylonitrile | 52 | 5.052 | 0.844 | A | 1 | A | B |
| 32 | T | cis-1,2-Dichloroethene | 96 | 5.063 | 0.846 | A | 1 | A | B |
| 33 | T | Chloroform | 83 | 5.173 | 0.864 | A | 2 | A | B |
| 34 | T | Bromochloromethane | 130 | 5.327 | 0.890 | A | 1 | A | B |
| 35 | T | Tetrahydrofuran | 42 | 5.327 | 0.890 | A | 2 | A | B |
| 36 | S | Dibromofluoromethane | 111 | 5.338 | 0.892 | A | 1 | A | B |
| 37 | T | 1,1,1-Trichloroethane | 97 | 5.492 | 0.917 | A | 2 | A | B |
| 38 | T | Cyclohexane | 84 | 5.547 | 0.927 | A | 1 | A | B |
| 39 | T | tert-Amyl methyl ether (TAME) | 87 | 5.613 | 0.938 | A | 1 | A | B |
| 40 | T | 1,1-Dichloropropene | 110 | 5.613 | 0.938 | A | 1 | A | B |
| 41 | S | 1,2-Dichloroethane-d4 | 65 | 5.723 | 0.956 | A | 1 | A | B |
| 42 | T | Carbon tetrachloride | 119 | 5.734 | 0.958 | A | 1 | A | B |
| 43 | T | 1,2-Dichloroethane | 62 | 5.800 | 0.969 | A | 1 | A | B |
| 44 | T | Benzene | 78 | 5.866 | 0.980 | A | 2 | A | B |
| 45 | T | Trichloroethene | 130 | 6.373 | 1.064 | A | 3 | A | B |
| 46 | T | Methyl methacrylate | 69 | 6.439 | 1.075 | A | 1 | A | B |
| 47 | T | Methylcyclohexane | 83 | 6.450 | 1.077 | A | 2 | A | B |
| 48 | T | 1,2-Dichloropropane | 63 | 6.527 | 1.090 | A | 1 | A | B |
| 49 | T | 1,4-Dioxane | 88 | 6.725 | 1.123 | A | 1 | A | B |
| 50 | T | Bromodichloromethane | 83 | 6.769 | 1.131 | A | 1 | A | B |
| 51 | T | Dibromomethane | 93 | 6.857 | 1.145 | A | 2 | A | B |
| 52 | T | 2-Chloroethyl vinyl ether | 63 | 6.934 | 1.158 | A | 1 | A | B |
| 53 | T | 4-Methyl-2-pentanone | 43 | 6.956 | 1.162 | A | 3 | A | B |
| 54 | T | cis-1,3-Dichloropropene | 75 | 7.275 | 1.215 | A | 3 | A | B |
| 55 | I | CHLOROBENZENE-D5 | 117 | 9.564 | 1.000 | A | 2 | A | B |

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|---|---|---|---|---|---|---|---|---|---|
| 56 | S | Toluene-d8 | 98 | 7.594 | 0.794 | A | 1 | A | B |
| 57 | T | Ethyl methacrylate | 69 | 7.693 | 0.804 | A | 1 | A | B |
| 58 | T | Toluene | 91 | 7.693 | 0.804 | A | 1 | A | B |
| 59 | T | trans-1,3-Dichloropropene | 75 | 7.814 | 0.817 | A | 1 | A | B |
| 60 | T | 2-Hexanone | 43 | 7.935 | 0.830 | A | 1 | A | B |
| 61 | T | 1,1,2-Trichloroethane | 97 | 8.045 | 0.841 | A | 2 | A | B |
| 62 | T | 1,3-Dichloropropane | 76 | 8.354 | 0.873 | A | 1 | A | B |
| 63 | T | Tetrachloroethene | 164 | 8.508 | 0.890 | A | 3 | A | B |
| 64 | T | Dibromochloromethane | 129 | 8.783 | 0.918 | A | 1 | A | B |
| 65 | T | 1,2-Dibromoethane | 107 | 9.069 | 0.948 | A | 1 | A | B |
| 66 | T | 1-Chlorohexane | 91 | 9.124 | 0.954 | A | 1 | A | B |
| 67 | T | Chlorobenzene | 112 | 9.619 | 1.006 | A | 1 | A | B |
| 68 | T | 1,1,1,2-Tetrachloroethane | 131 | 9.652 | 1.009 | A | 1 | A | B |
| 69 | T | Ethylbenzene | 91 | 9.641 | 1.008 | A | 1 | A | B |
| 70 | T | m-Xylene & p-Xylene | 91 | 9.740 | 1.018 | A | 1 | A | B |
| 71 | T | o-Xylene | 91 | 10.412 | 1.089 | A | 1 | A | B |
| 72 | T | Styrene | 104 | 10.456 | 1.093 | A | 2 | A | B |
| 73 | T | Isopropylbenzene | 105 | 10.940 | 1.144 | A | 3 | A | B |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 152 | 13.889 | 1.000 | A | 1 | A | B |
| 75 | T | Bromoform | 173 | 11.061 | 0.796 | A | 2 | A | B |
| 76 | T | 1,1,2,2-Tetrachloroethane | 83 | 11.204 | 0.807 | A | 1 | A | B |
| 77 | S | 4-Bromofluorobenzene | 95 | 11.369 | 0.819 | A | 2 | A | B |
| 78 | T | 1,2,3-Trichloropropane | 110 | 11.446 | 0.824 | A | 1 | A | B |
| 79 | T | trans-1,4-Dichloro-2-butene | 53 | 11.512 | 0.829 | A | 1 | A | B |
| 80 | T | n-Propylbenzene | 91 | 11.578 | 0.834 | A | 2 | A | B |
| 81 | T | Bromobenzene | 156 | 11.732 | 0.845 | A | 1 | A | B |
| 82 | T | 1,3,5-Trimethylbenzene | 105 | 11.831 | 0.852 | A | 2 | A | B |
| 83 | T | 2-Chlorotoluene | 91 | 11.919 | 0.858 | A | 1 | A | B |
| 84 | T | 4-Chlorotoluene | 91 | 11.974 | 0.862 | L | 1 | A | B |
| 85 | T | tert-Butylbenzene | 134 | 12.415 | 0.894 | A | 1 | A | B |
| 86 | T | 1,2,4-Trimethylbenzene | 105 | 12.470 | 0.898 | A | 1 | A | B |
| 87 | T | sec-Butylbenzene | 105 | 12.745 | 0.918 | A | 1 | A | B |
| 88 | T | p-Isopropyltoluene | 119 | 12.954 | 0.933 | A | 2 | A | B |
| 89 | T | 1,3-Dichlorobenzene | 146 | 13.163 | 0.948 | L | 2 | A | B |
| 90 | T | 1,2,3-Trimethylbenzene | 105 | 13.251 | 0.954 | A | 2 | A | B |
| 91 | T | 1,4-Dichlorobenzene | 146 | 13.328 | 0.960 | L | 2 | A | B |
| 92 | T | n-Butylbenzene | 91 | 13.614 | 0.980 | A | 2 | A | B |
| 93 | T | 1,2-Dichlorobenzene | 146 | 13.933 | 1.003 | A | 1 | A | B |
| 94 | T | 1,2-Dibromo-3-chloropropane | 157 | 15.133 | 1.090 | A | 1 | A | B |
| 95 | T | 1,2,4-Trichlorobenzene | 180 | 16.464 | 1.185 | L | 2 | A | B |
| 96 | T | Hexachlorobutadiene | 225 | 16.663 | 1.200 | A | 2 | A | B |
| 97 | T | Naphthalene | 128 | 16.872 | 1.215 | A | 1 | A | B |
| 98 | T | 1,2,3-Trichlorobenzene | 180 | 17.224 | 1.240 | L | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

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VOE2E17.M Tue May 21 20:46:28 2024

5/24/24

# SECOND SOURCE VERIFICATION

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: REG130 BFB Injection Date: 05/18/24

Instrument ID: E2 BFB Injection Time: 09:16

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 19.254 |
| 75 | 30 - 60% of mass 95 | 50.320 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.311 |
| 173 | Less than 2% of mass 174 | 0.512(.61)1 |
| 174 | Greater than 50% of mass 95 | 84.221 |
| 175 | 5 - 9% of mass 174 | 6.661(7.91)1 |
| 176 | 95 - 101% % of mass 174 | 81.783(97.11)1 |
| 177 | 5 - 9% % of mass 176 | 6.306(7.71)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | IVOE2E1702 | REG131 | 05/18/24 | 09:57 |

5/24/24

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :E2
IC Beginning DateTime :05/17/24 12:33
Spike Amount :10 PPB
CC/CV File :REG131
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
IC Ending DateTime :05/17/24 15:44
HSChem Method :VOE2R27
Date Time :05/10/24 09:57

| M | IDX | Parameters | CC_Con | CC%_D | CC_Resp | CCRRF | AvRRF | CC_RTm | AvRTm | %_RSD | Co_X0 | Co_X1 | Co_X2 | Co_Cor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 10.000 | 0 | 647637 | 1 | 1 | 5.988 | 5.987 | 0 | | | | |
| | 2 | Dichlorodifluoromethane | 10.420 | 4.2 | 387316 | 0.598 | 0.574 | 2.708 | 2.708 | 8.06 | | | | |
| | 3 | Chloromethane | 10.034 | 0.3 | 267638 | 0.413 | 0.412 | 2.906 | 2.906 | 13.00 | | | | |
| | 4 | Vinyl chloride | 10.450 | 4.5 | 294360 | 0.455 | 0.435 | 2.994 | 2.990 | 7.58 | | | | |
| | 5 | Bromomethane | 10.726 | 7.3 | 204345 | 0.316 | 0.294 | 3.313 | 3.313 | 11.62 | | | | |
| | 6 | Dichlorofluoromethane | 9.831 | -1.7 | 632775 | 0.977 | 0.994 | 3.357 | 3.352 | 8.41 | | | | |
| | 7 | Chloroethane | 11.738 | 17.4 | 161985 | 0.250 | 0.213 | 3.346 | 3.346 | 8.74 | | | | |
| | 8 | Trichlorofluoromethane | 10.360 | 3.6 | 655613 | 1.012 | 0.977 | 3.511 | 3.511 | 7.24 | | | | |
| 5 | 9 | Acrolein | 53.498 | 7.0 | 225327 | 0.070 | 0.065 | 3.743 | 3.742 | 10.21 | | | | |
| | 10 | 1,1,2 Trichloro-1,2,2-Trifluoroethane | 9.863 | -1.4 | 272122 | 0.420 | 0.426 | 3.753 | 3.752 | 10.04 | | | | |
| 5 | 11 | Acetone | 55.179 | 10.4 | 456111 | 0.141 | 0.181 | 3.764 | 3.769 | 42.17 | 0.0583 | 0.1171 | | 0.9992 |
| 25 | 12 | Tert-Butyl alcohol | 274.988 | 10.0 | 1082983 | 0.067 | 0.061 | 3.875 | 3.874 | 11.83 | | | | |
| | 13 | 1,1-Dichloroethene | 9.753 | -2.5 | 564613 | 0.872 | 0.894 | 3.908 | 3.902 | 8.46 | | | | |
| 10 | 14 | Acetonitrile | 109.003 | 9.0 | 213040 | 0.033 | 0.030 | 3.875 | 3.874 | 12.37 | | | | |
| | 15 | Allyl chloride | 10.843 | 8.4 | 165769 | 0.256 | 0.236 | 4.106 | 4.106 | 11.27 | | | | |
| | 16 | Iodomethane | 8.785 | -12.2 | 268999 | 0.415 | 0.429 | 4.150 | 4.143 | 22.23 | -0.0140 | 0.4887 | | 0.9969 |
| | 17 | Methyl acetate | 10.001 | 0.0 | 219009 | 0.338 | 0.338 | 4.029 | 4.029 | 12.15 | | | | |
| | 18 | Methylene chloride | 11.388 | 13.9 | 467946 | 0.723 | 0.801 | 4.183 | 4.182 | 26.33 | 0.0486 | 0.5918 | | 0.9974 |
| 5 | 19 | Acrylonitrile | 52.272 | 4.5 | 508984 | 0.157 | 0.150 | 4.216 | 4.216 | 11.69 | | | | |
| | 20 | tert-Butyl methyl ether (MTBE) | 10.647 | 6.5 | 1030417 | 1.591 | 1.494 | 4.227 | 4.227 | 7.94 | | | | |
| | 21 | Carbon disulfide | 9.831 | -1.7 | 872085 | 1.347 | 1.370 | 4.315 | 4.305 | 9.42 | | | | |
| | 22 | trans-1,2-Dichloroethene | 10.193 | 1.9 | 314802 | 0.486 | 0.477 | 4.370 | 4.370 | 10.07 | | | | |
| | 23 | Isopropyl ether (DIPE) | 10.521 | 5.2 | 1036035 | 1.600 | 1.520 | 4.469 | 4.460 | 9.47 | | | | |
| | 24 | Vinyl acetate | 11.461 | 14.6 | 642883 | 0.993 | 0.866 | 4.546 | 4.546 | 6.41 | | | | |
| | 25 | 1,1 Dichloroethane | 9.919 | -0.8 | 619716 | 0.957 | 0.965 | 4.634 | 4.634 | 10.57 | | | | |
| | 26 | tert-Butyl ethyl ether (ETBE) | 10.432 | 4.3 | 1247585 | 1.926 | 1.846 | 4.733 | 4.733 | 8.21 | | | | |
| 5 | 27 | 2-Butanone | 54.888 | 9.8 | 166808 | 0.052 | 0.047 | 4.854 | 4.854 | 12.56 | | | | |
| 10 | 28 | Propionitrile | 114.244 | 14.2 | 409063 | 0.063 | 0.055 | 4.909 | 4.910 | 11.17 | | | | |
| 20 | 29 | Isobutyl alcohol | 228.221 | 14.1 | 288723 | 0.022 | 0.020 | 5.030 | 5.030 | 12.47 | | | | |
| | 30 | 2,2-Dichloropropane | 9.835 | -1.6 | 615087 | 0.950 | 0.966 | 5.019 | 5.020 | 9.30 | | | | |
| 10 | 31 | Methacrylonitrile | 106.760 | 6.8 | 627605 | 0.097 | 0.091 | 5.052 | 5.057 | 11.02 | | | | |
| | 32 | cis-1,2-Dichloroethene | 10.190 | 1.9 | 358317 | 0.553 | 0.543 | 5.063 | 5.063 | 8.40 | | | | |
| | 33 | Chloroform | 9.159 | -8.4 | 709429 | 1.095 | 1.196 | 5.173 | 5.173 | 14.51 | | | | |
| | 34 | Bromochloromethane | 10.418 | 4.2 | 215189 | 0.332 | 0.319 | 5.327 | 5.327 | 11.29 | | | | |
| | 35 | Tetrahydrofuran | 11.049 | 10.5 | 90175 | 0.139 | 0.126 | 5.316 | 5.319 | 6.67 | | | | |
| | 36 | Dibromofluoromethane | 9.254 | -7.5 | 367086 | 0.567 | 0.612 | 5.338 | 5.338 | 6.30 | | | | |
| | 37 | 1,1,1-Trichloroethane | 9.563 | -4.4 | 668020 | 1.031 | 1.079 | 5.503 | 5.497 | 8.19 | | | | |
| | 38 | Cyclohexane | 10.101 | 1.0 | 359700 | 0.555 | 0.550 | 5.547 | 5.548 | 14.22 | | | | |
| | 39 | tert-Amyl methyl ether (TAME) | 10.845 | 8.5 | 231432 | 0.357 | 0.329 | 5.613 | 5.614 | 7.33 | | | | |
| | 40 | 1,1-Dichloropropene | 9.880 | -1.2 | 151104 | 0.233 | 0.236 | 5.613 | 5.613 | 8.29 | | | | |
| | 41 | 1,2-Dichloroethane-d4 | 8.914 | -10.9 | 467273 | 0.722 | 0.809 | 5.723 | 5.723 | 11.80 | | | | |
| | 42 | Carbon tetrachloride | 9.430 | -5.7 | 557403 | 0.861 | 0.913 | 5.734 | 5.734 | 8.01 | | | | |
| | 43 | 1,2-Dichloroethane | 9.596 | -4.0 | 571321 | 0.882 | 0.919 | 5.800 | 5.800 | 10.41 | | | | |
| | 44 | Benzene | 10.262 | 2.6 | 1216026 | 1.878 | 1.830 | 5.866 | 5.866 | 8.64 | | | | |
| | 45 | Trichloroethene | 9.910 | -0.9 | 324173 | 0.501 | 0.505 | 6.373 | 6.373 | 9.09 | | | | |
| | 46 | Methyl methacrylate | 10.822 | 8.2 | 313684 | 0.484 | 0.448 | 6.439 | 6.439 | 9.77 | | | | |
| | 47 | Methylcyclohexane | 10.456 | 4.6 | 407082 | 0.629 | 0.601 | 6.450 | 6.454 | 11.92 | | | | |
| | 48 | 1,2-Dichloropropane | 10.391 | 3.9 | 314276 | 0.485 | 0.467 | 6.527 | 6.527 | 10.74 | | | | |
| 20 | 49 | 1,4-Dioxane | | | | | | | | | | | | |
| | 50 | Bromodichloromethane | 9.851 | -1.5 | 563896 | 0.871 | 0.884 | 6.780 | 6.769 | 11.38 | | | | |
| | 51 | Dibromomethane | 9.836 | -1.6 | 242061 | 0.374 | 0.380 | 6.857 | 6.857 | 11.79 | | | | |
| | 52 | 2-Chloroethyl vinyl ether | 8.988 | -10.1 | 134655 | 0.208 | 0.231 | 6.934 | 6.934 | 6.45 | | | | |
| 5 | 53 | 4-Methyl-2-pentanone | 51.435 | 2.9 | 1704193 | 0.526 | 0.512 | 6.956 | 6.957 | 10.35 | | | | |
| | 54 | cis-1,3-Dichloropropene | 10.439 | 4.4 | 552132 | 0.853 | 0.817 | 7.275 | 7.275 | 7.57 | | | | |
| | 55 | CHLOROBENZENE-D5 | 10.000 | 0 | 555845 | 1 | 1 | 9.564 | 9.564 | 0 | | | | |
| | 56 | Toluene-d8 | 9.506 | -4.9 | 1050036 | 1.889 | 1.987 | 7.594 | 7.594 | 8.88 | | | | |
| | 57 | Ethyl methacrylate | 11.236 | 12.4 | 426233 | 0.767 | 0.682 | 7.693 | 7.693 | 5.59 | | | | |
| | 58 | Toluene | 10.086 | 0.9 | 1271585 | 2.288 | 2.268 | 7.693 | 7.693 | 9.46 | | | | |
| | 59 | trans-1,3-Dichloropropene | 10.278 | 2.8 | 554416 | 0.997 | 0.970 | 7.814 | 7.814 | 6.61 | | | | |
| 5 | 60 | 2-Hexanone | 50.761 | 1.5 | 3156980 | 0.416 | 0.410 | 7.946 | 7.938 | 11.13 | | | | |
| | 61 | 1,1,2-Trichloroethane | 10.111 | 1.1 | 302512 | 0.544 | 0.538 | 8.045 | 8.045 | 10.51 | | | | |
| | 62 | 1,3-Dichloropropane | 10.361 | 3.6 | 460356 | 0.828 | 0.799 | 8.354 | 8.354 | 9.83 | | | | |
| | 63 | Tetrachloroethene | 9.524 | -4.8 | 262477 | 0.472 | 0.496 | 8.519 | 8.509 | 12.71 | | | | |
| | 64 | Dibromochloromethane | 9.409 | -5.9 | 422250 | 0.760 | 0.807 | 8.783 | 8.783 | 13.87 | | | | |
| | 65 | 1,2-Dibromoethane | 10.137 | 1.4 | 326860 | 0.588 | 0.580 | 9.069 | 9.069 | 8.08 | | | | |
| | 66 | 1-Chlorohexane | 10.040 | 0.4 | 418878 | 0.754 | 0.751 | 9.124 | 9.124 | 10.45 | | | | |
| | 67 | Chlorobenzene | 9.723 | -2.8 | 809661 | 1.457 | 1.498 | 9.619 | 9.619 | 11.00 | | | | |
| | 68 | 1,1,1,2-Tetrachloroethane | 9.599 | -4.0 | 340100 | 0.612 | 0.637 | 9.652 | 9.646 | 9.12 | | | | |
| | 69 | Ethylbenzene | 9.758 | -2.4 | 1487392 | 2.676 | 2.742 | 9.641 | 9.641 | 10.66 | | | | |
| 2 | 70 | m-Xylene & p-Xylene | 18.880 | -5.6 | 2346333 | 2.111 | 2.236 | 9.751 | 9.750 | 9.97 | | | | |
| | 71 | o Xylene | 10.096 | 1.0 | 1187781 | 2.137 | 2.117 | 10.412 | 10.413 | 11.21 | | | | |
| | 72 | Styrene | 10.151 | 1.5 | 835184 | 1.503 | 1.480 | 10.467 | 10.458 | 10.19 | | | | |
| | 73 | Isopropylbenzene | 9.879 | -1.2 | 1324380 | 2.383 | 2.412 | 10.940 | 10.940 | 13.33 | | | | |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 10.000 | 0 | 262396 | 1 | 1 | 13.889 | 13.889 | 0 | | | | |
| | 75 | Bromoform | 9.959 | -0.4 | 285204 | 1.087 | 1.091 | 11.061 | 11.061 | 9.03 | | | | |
| | 76 | 1,1,2,2-Tetrachloroethane | 10.875 | 8.8 | 397736 | 1.516 | 1.394 | 11.204 | 11.203 | 13.93 | | | | |
| | 77 | 4-Bromofluorobenzene | 10.006 | 0.1 | 416821 | 1.589 | 1.587 | 11.369 | 11.369 | 11.73 | | | | |
| | 78 | 1,2,3-Trichloropropane | 10.854 | 8.5 | 109593 | 0.418 | 0.385 | 11.446 | 11.446 | 12.26 | | | | |
| | 79 | trans 1,4-Dichloro-2-butene | 11.666 | 16.7 | 119204 | 0.454 | 0.389 | 11.523 | 11.513 | 8.47 | | | | |
| | 80 | n-Propylbenzene | 9.908 | -0.9 | 1640572 | 6.283 | 6.341 | 11.578 | 11.578 | 14.55 | | | | |
| | 81 | Bromobenzene | 10.166 | 1.7 | 371222 | 1.415 | 1.392 | 11.732 | 11.732 | 13.87 | | | | |
| | 82 | 1,3,5-Trimethylbenzene | 9.826 | -1.7 | 1123998 | 4.284 | 4.359 | 11.031 | 11.029 | 14.43 | | | | |
| | 83 | 2-Chlorotoluene | 10.515 | 5.2 | 1079812 | 4.115 | 3.914 | 11.919 | 11.919 | 13.23 | | | | |
| | 84 | 4-Chlorotoluene | 11.112 | 11.1 | 964334 | 3.675 | 3.796 | 11.974 | 11.975 | 20.12 | 0.1440 | 3.1777 | | 0.9987 |
| | 85 | tert-Butylbenzene | 9.977 | -0.2 | 176618 | 0.673 | 0.675 | 12.415 | 12.408 | 14.63 | | | | |
| | 86 | 1,2,4-Trimethylbenzene | 10.070 | 0.7 | 1126508 | 4.293 | 4.263 | 12.481 | 12.478 | 14.07 | | | | |
| | 87 | sec-Butylbenzene | 9.921 | -0.8 | 1286003 | 4.901 | 4.940 | 12.756 | 12.749 | 14.11 | | | | |
| | 88 | p-Isopropyltoluene | 9.947 | -0.5 | 1081873 | 4.123 | 4.145 | 12.954 | 12.955 | 14.69 | | | | |
| | 89 | 1,3-Dichlorobenzene | 11.402 | 14.0 | 594859 | 2.267 | 2.303 | 13.174 | 13.165 | 19.08 | 0.0920 | 1.9075 | | 0.9986 |
| | 90 | 1,2,3-Trimethylbenzene | 10.087 | 0.9 | 1118089 | 4.261 | 4.224 | 13.262 | 13.255 | 13.33 | | | | |
| | 91 | 1,4-Dichlorobenzene | 11.077 | 10.8 | 600654 | 2.289 | 2.349 | 13.328 | 13.328 | 18.81 | 0.0831 | 1.9916 | | 0.9991 |
| | 92 | n-Butylbenzene | 9.895 | -1.0 | 1023631 | 3.901 | 3.942 | 13.614 | 13.614 | 14.93 | | | | |
| | 93 | 1,2-Dichlorobenzene | 9.725 | -2.7 | 557437 | 2.124 | 2.184 | 13.933 | 13.933 | 14.28 | | | | |
| | 94 | 1,2-Dibromo-3-chloropropane | 10.796 | 8.0 | 80292 | 0.306 | 0.283 | 15.144 | 15.134 | 8.87 | | | | |
| | 95 | 1,2,4-Trichlorobenzene | 10.262 | 2.6 | 357605 | 1.363 | 1.493 | 16.475 | 16.464 | 24.05 | 0.0497 | 1.2796 | | 0.9993 |
| | 96 | Hexachlorobutadiene | 10.669 | 6.7 | 211409 | 0.806 | 0.755 | 16.663 | 16.662 | 13.33 | | | | |
| | 97 | Naphthalene | 10.446 | 4.5 | 925673 | 3.528 | 3.377 | 16.872 | 16.872 | 12.35 | | | | |
| | 98 | 1,2,3-Trichlorobenzene | 10.036 | 0.4 | 332666 | 1.268 | 1.419 | 17.235 | 17.231 | 24.06 | 0.0472 | 1.2161 | | 0.9995 |

Spike Amount Nominal Amount * M

SM 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 134 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 10.000 | 10.421 | -4.2 | 157 | 0.00 |
| 3 | P,T,M Chloromethane | 10.000 | 10.035 | -0.4 | 148 | 0.00 |
| 4 | C,T,M Vinyl chloride | 10.000 | 10.451 | -4.5 | 146 | 0.00 |
| 5 | T,M Bromomethane | 10.000 | 10.727 | -7.3 | 173 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 10.000 | 9.831 | 1.7 | 132 | 0.00 |
| 7 | T,M Chloroethane | 10.000 | 11.738 | -17.4 | 164 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 10.000 | 10.360 | -3.6 | 151 | 0.00 |
| 9 | T,M Acrolein | 50.000 | 53.499 | -7.0 | 146 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 9.863 | 1.4 | 137 | 0.00 |
| 11 | T,M Acetone | 50.000 | 55.179 | -10.4 | 137 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 250.000 | 274.989 | -10.0 | 147 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 10.000 | 9.754 | 2.5 | 131 | 0.00 |
| 14 | T,M Acetonitrile | 100.000 | 109.003 | -9.0 | 144 | 0.00 |
| 15 | T,M Allyl chloride | 10.000 | 10.844 | -8.4 | 143 | 0.00 |
| 16 | T,M Iodomethane | 10.000 | 8.785 | 12.1 | 129 | 0.00 |
| 17 | T,M Methyl acetate | 10.000 | 10.001 | -0.0 | 133 | 0.00 |
| 18 | T,M Methylene chloride | 10.000 | 11.389 | -13.9 | 132 | 0.00 |
| 19 | T,M Acrylonitrile | 50.000 | 52.273 | -4.5 | 133 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 10.000 | 10.648 | -6.5 | 142 | 0.00 |
| 21 | T,M Carbon disulfide | 10.000 | 9.831 | 1.7 | 131 | 0.01 |
| 22 | T,M trans-1,2-Dichloroethene | 10.000 | 10.193 | -1.9 | 139 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 10.000 | 10.521 | -5.2 | 142 | 0.01 |
| 24 | T,M Vinyl acetate | 10.000 | 11.462 | -14.6 | 143 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 10.000 | 9.920 | 0.8 | 137 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 10.000 | 10.433 | -4.3 | 139 | 0.00 |
| 27 | T,M 2-Butanone | 50.000 | 54.888 | -9.8 | 140 | 0.00 |
| 28 | T,M Propionitrile | 100.000 | 114.245 | -14.2 | 158 | 0.00 |
| 29 | T,M Isobutyl alcohol | 200.000 | 228.222 | -14.1 | 152 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 10.000 | 9.836 | 1.6 | 128 | 0.00 |
| 31 | T,M Methacrylonitrile | 100.000 | 106.760 | -6.8 | 146 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 10.000 | 10.190 | -1.9 | 143 | 0.00 |
| 33 | C,T,M Chloroform | 10.000 | 9.160 | 8.4 | 131 | 0.00 |
| 34 | T,M Bromochloromethane | 10.000 | 10.419 | -4.2 | 136 | 0.00 |
| 35 | T,M Tetrahydrofuran | 10.000 | 11.050 | -10.5 | 150 | -0.01 |
| 36 | S Dibromofluoromethane | 10.000 | 9.254 | 7.5 | 122 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 10.000 | 9.563 | 4.4 | 129 | 0.01 |
| 38 | T,M Cyclohexane | 10.000 | 10.102 | -1.0 | 161 | 0.00 |
| 39 | T,M tert-Amyl methyl ether (TAM | 10.000 | 10.845 | -8.5 | 139 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 10.000 | 9.881 | 1.2 | 129 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 10.000 | 8.915 | 10.9 | 124 | 0.00 |
| 42 | T,M Carbon tetrachloride | 10.000 | 9.430 | 5.7 | 124 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 10.000 | 9.596 | 4.0 | 126 | 0.00 |
| 44 | T,M Benzene | 10.000 | 10.262 | -2.6 | 138 | 0.00 |
| 45 | T,M Trichloroethene | 10.000 | 9.910 | 0.9 | 136 | 0.00 |
| 46 | T,M Methyl methacrylate | 10.000 | 10.823 | -8.2 | 152 | 0.00 |
| 47 | T,M Methylcyclohexane | 10.000 | 10.457 | -4.6 | 159 | 0.00 |
| 48 | C,T,M 1,2-Dichloropropane | 10.000 | 10.391 | -3.9 | 140 | 0.00 |
| 49 | T,M 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M Bromodichloromethane | 10.000 | 9.851 | 1.5 | 132 | 0.01 |
| 51 | T,M Dibromomethane | 10.000 | 9.836 | 1.6 | 135 | 0.00 |

VOE2E17.M Tue May 21 21:07:18 2024 5/24/24 Page: 1

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 8.989 | 10.1 | 117 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 51.435 | -2.9 | 132 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.440 | -4.4 | 139 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 136 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.507 | 4.9 | 128 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.236 | -12.4 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 10.087 | -0.9 | 138 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.278 | -2.8 | 137 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 50.761 | -1.5 | 131 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.111 | -1.1 | 138 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.361 | -3.6 | 143 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.524 | 4.8 | 134 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.409 | 5.9 | 131 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 10.138 | -1.4 | 135 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.040 | -0.4 | 137 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.724 | 2.8 | 135 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.599 | 4.0 | 128 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.759 | 2.4 | 136 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.880 | 5.6 | 138 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 10.096 | -1.0 | 137 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.152 | -1.5 | 137 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.880 | 1.2 | 133 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 133 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.959 | 0.4 | 134 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.876 | -8.8 | 149 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.007 | -0.1 | 135 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.854 | -8.5 | 148 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 11.667 | -16.7 | 152 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.909 | 0.9 | 139 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 10.166 | -1.7 | 135 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.827 | 1.7 | 135 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 10.515 | -5.2 | 149 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.112 | -11.1 | 126 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.977 | 0.2 | 138 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 10.070 | -0.7 | 136 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.921 | 0.8 | 134 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.947 | 0.5 | 138 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.403 | -14.0 | 138 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.087 | -0.9 | 135 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.077 | -10.8 | 137 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.896 | 1.0 | 136 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.725 | 2.8 | 140 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 10.797 | -8.0 | 153 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 10.262 | -2.6 | 140 | 0.01 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 10.670 | -6.7 | 142 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.446 | -4.5 | 141 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.037 | -0.4 | 136 | 0.01 |



5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

SH 5/24/24

# DAILY CALIBRATIONS

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F003
Lab File ID: RFG061 BFB Injection Date: 06/10/24
Instrument ID: E2 BFB Injection Time: 15:55

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.420 |
| 75 | 30 - 60% of mass 95 | 52.039 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 7.244 |
| 173 | Less than 2% of mass 174 | 1.243(1.64)1 |
| 174 | Greater than 50% of mass 95 | 75.606 |
| 175 | 5 - 9% of mass 174 | 5.475(7.24)1 |
| 176 | 95 - 101% % of mass 174 | 73.387(97.07)1 |
| 177 | 5 - 9% % of mass 176 | 4.772(6.5)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1706 | RFG062 | 06/10/24 | 16:35 |
| 2 | LCS1W | VOE2F03L | RFG063 | 06/10/24 | 17:13 |
| 3 | LCD1W | VOE2F03C | RFG064 | 06/10/24 | 17:37 |
| 4 | MBLK1W | VOE2F03B | RFG067 | 06/10/24 | 18:25 |
| 5 | TB-1_MAY24 | 24F003-18 | RFG073 | 06/10/24 | 20:48 |
| 6 | TB-2_MAY24 | 24F003-19 | RFG074 | 06/10/24 | 21:11 |
| 7 | T1AMF-MW059-MAY24 | 24F003-01N | RFG075 | 06/10/24 | 21:35 |
| 8 | T1AMF-MW044-MAY24 | 24F003-02N | RFG076 | 06/10/24 | 21:59 |
| 9 | T1AMF-MW047-MAY24 | 24F003-03N | RFG077 | 06/10/24 | 22:23 |
| 10 | T1AMF-MW046-MAY24 | 24F003-04N | RFG078 | 06/10/24 | 22:46 |
| 11 | T1AMF-MW050-MAY24 | 24F003-05N | RFG079 | 06/10/24 | 23:10 |
| 12 | T1AMF-MW052-MAY24 | 24F003-06N | RFG080 | 06/10/24 | 23:33 |
| 13 | T1AMF-MW052-MAY24_FD | 24F003-07N | RFG081 | 06/10/24 | 23:57 |
| 14 | T1AMF-MW060-MAY24 | 24F003-08N | RFG082 | 06/11/24 | 00:20 |
| 15 | T1AMF-MW017-MAY24 | 24F003-09N | RFG083 | 06/11/24 | 00:44 |
| 16 | T1AMF-MW011-MAY24 | 24F003-10N | RFG084 | 06/11/24 | 01:08 |
| 17 | T1AMF-MW016-MAY24 | 24F003-11 | RFG085 | 06/11/24 | 01:32 |
| 18 | T1AMF-MW016-MAY24_FD | 24F003-12 | RFG086 | 06/11/24 | 01:56 |
| 19 | T1AMF-MW049-MAY24 | 24F003-13 | RFG087 | 06/11/24 | 02:19 |
| 20 | VSTD10 | EVOE2E1706 | RFG088 | 06/11/24 | 02:43 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F003
Date Analyzed: 05/17/24
Time Analyzed: 14:09

| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| | UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| | LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 754319 | 5.99 | 601845 | 9.56 | 305181 | 13.89 |
| 2 | LCS1W | 792750 | 5.99 | 646227 | 9.56 | 321378 | 13.89 |
| 3 | LCD1W | 821664 | 5.99 | 645570 | 9.56 | 324769 | 13.89 |
| 4 | MBLK1W | 727124 | 5.99 | 552730 | 9.56 | 266282 | 13.89 |
| 5 | TB-1_MAY24 | 558266 | 5.99 | 422620 | 9.56 | 206204 | 13.89 |
| 6 | TB-2_MAY24 | 532753 | 5.99 | 414099 | 9.56 | 187690 | 13.89 |
| 7 | T1AMF-MW059-MAY24 | 517077 | 5.99 | 404842 | 9.56 | 199904 | 13.89 |
| 8 | T1AMF-MW044-MAY24 | 505402 | 5.99 | 390333 | 9.56 | 183981 | 13.89 |
| 9 | T1AMF-MW047-MAY24 | 493646 | 5.99 | 384955 | 9.56 | 184007 | 13.89 |
| 10 | T1AMF-MW046-MAY24 | 484255 | 5.99 | 379562 | 9.56 | 181666 | 13.89 |
| 11 | T1AMF-MW050-MAY24 | 468785 | 5.99 | 377159 | 9.56 | 180466 | 13.89 |
| 12 | T1AMF-MW052-MAY24 | 476344 | 5.99 | 367398 | 9.56 | 172504 | 13.89 |
| 13 | T1AMF-MW052-MAY24_FD | 466794 | 5.99 | 360921 | 9.56 | 173390 | 13.88 |
| 14 | T1AMF-MW060-MAY24 | 482092 | 5.99 | 384233 | 9.56 | 184090 | 13.89 |
| 15 | T1AMF-MW017-MAY24 | 468845 | 5.99 | 366412 | 9.56 | 177214 | 13.89 |
| 16 | T1AMF-MW011-MAY24 | 457705 | 5.99 | 362030 | 9.56 | 168731 | 13.89 |
| 17 | T1AMF-MW016-MAY24 | 457099 | 5.99 | 363853 | 9.56 | 174264 | 13.89 |
| 18 | T1AMF-MW016-MAY24_FD | 466426 | 5.99 | 362719 | 9.56 | 175336 | 13.89 |
| 19 | T1AMF-MW049-MAY24 | 455017 | 5.99 | 364511 | 9.56 | 174043 | 13.89 |
| 20 | VSTD10 | 493624 | 5.99 | 398955 | 9.56 | 221976 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 156 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.839 | -8.4 | 190 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 7.384 | 26.2# | 127 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.461 | -4.6 | 171 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 8.230 | 17.7 | 155 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 11.096 | -11.0 | 174 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 9.062 | 9.4 | 148 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.401 | 16.0 | 143 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 42.007 | 16.0 | 134 | 0.01 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 10.274 | -2.7 | 167 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 50.666 | -1.3 | 148 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 250.165 | -0.1 | 156 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.483 | -4.8 | 164 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 105.761 | -5.8 | 163 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 11.506 | -15.1 | 177 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 10.464 | -4.6 | 180 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.912 | -9.1 | 148 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 43.827 | 12.3 | 130 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 11.065 | -10.6 | 171 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 10.264 | -2.6 | 159 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.442 | -4.4 | 166 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 10.383 | -3.8 | 163 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 5.910 | 40.9# | 86 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.570 | -5.7 | 170 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.692 | 3.1 | 150 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 48.961 | 2.1 | 145 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 102.751 | -2.8 | 166 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 206.376 | -3.2 | 160 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 11.544 | -15.4 | 175 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 101.779 | -1.8 | 162 | 0.01 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.795 | -7.9 | 176 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.372 | -3.7 | 173 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.972 | 0.3 | 152 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 9.418 | 5.8 | 149 | 0.00 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.786 | 2.1 | 150 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 11.146 | -11.5 | 175 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.879 | -8.8 | 162 | 0.01 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.561 | -5.6 | 161 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.246 | -2.5 | 166 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.875 | -8.8 | 166 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.160 | -11.6 | 171 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.938 | -9.4 | 172 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.816 | 1.8 | 157 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 7.438 | 25.6# | 121 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.384 | -3.8 | 163 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.01 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.013 | -10.1 | 171 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 9.735 | 2.7 | 155 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 7.494 | 25.1# | 114 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 45.062 | 9.9 | 135 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.952 | -9.5 | 170 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 147 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.822 | -8.2 | 158 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.395 | -13.9 | 162 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.605 | -16.1 | 172 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.830 | -18.3 | 171 | 0.01 |
| 60 | T,M | 2-Hexanone | 50.000 | 48.545 | 2.9 | 135 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.893 | -8.9 | 161 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 11.701 | -17.0 | 175 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 10.713 | -7.1 | 164 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.946 | 0.5 | 150 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 10.079 | -0.8 | 145 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 11.139 | -11.4 | 164 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 11.006 | -10.1 | 165 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.857 | -8.6 | 157 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 11.321 | -13.2 | 171 | 0.01 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 22.224 | -11.1 | 176 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 11.637 | -16.4 | 171 | 0.01 |
| 72 | T,M | Styrene | 10.000 | 11.262 | -12.6 | 164 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 11.542 | -15.4 | 169 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 154 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.719 | 2.8 | 153 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.388 | -3.9 | 166 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.724 | -7.2 | 168 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.516 | -5.2 | 167 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 11.659 | -16.6 | 177 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 10.935 | -9.4 | 178 | 0.01 |
| 81 | T,M | Bromobenzene | 10.000 | 10.357 | -3.6 | 160 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 10.732 | -7.3 | 172 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 11.463 | -14.6 | 188 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.523 | -25.2# | 164 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 10.821 | -8.2 | 174 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.023 | -10.2 | 173 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 10.973 | -9.7 | 173 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 10.624 | -6.2 | 171 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 12.000 | -20.0 | 168 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.904 | -9.0 | 170 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.553 | -15.5 | 165 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 11.020 | -10.2 | 177 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.313 | -3.1 | 173 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 9.616 | 3.8 | 159 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 11.452 | -14.5 | 181 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 11.051 | -10.5 | 172 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.389 | -3.9 | 163 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.820 | -8.2 | 171 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E17/06
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 156 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.622 | -8.4 | 190 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.304 | 26.2# | 127 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.455 | -4.6 | 171 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.242 | 17.7 | 155 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 1.103 | -11.0 | 174 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.193 | 9.4 | 148 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.821 | 16.0 | 143 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.055 | 15.4 | 134 | 0.01 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.438 | -2.8 | 167 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.130 | 28.2# | 148 | 0.01 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.061 | 0.0 | 156 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.937 | -4.8 | 164 | 0.00 |
| 14 | T,M Acetonitrile | 0.030 | 0.032 | -6.7 | 163 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.272 | -15.3 | 177 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.497 | -15.9 | 180 | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.694 | 13.4 | 148 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.132 | 12.0 | 130 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.653 | -10.6 | 171 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.406 | -2.6 | 159 | 0.01 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.498 | -4.4 | 166 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.579 | -3.9 | 163 | 0.01 |
| 24 | T,M Vinyl acetate | 0.866 | 0.512 | 40.9# | 86 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 1.020 | -5.7 | 170 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.790 | 3.0 | 150 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.046 | 2.1 | 145 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.057 | -3.6 | 166 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.020 | 0.0 | 160 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 1.115 | -15.4 | 175 | 0.01 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.092 | -1.1 | 162 | 0.01 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.586 | -7.9 | 176 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.240 | -3.7 | 173 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.318 | 0.3 | 152 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.119 | 5.6 | 149 | 0.00 |
| 36 | S Dibromofluoromethane | 0.612 | 0.599 | 2.1 | 150 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.202 | -11.4 | 175 | 0.01 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.358 | -8.8 | 162 | 0.01 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.249 | -5.5 | 161 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.829 | -2.5 | 166 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 0.993 | -8.8 | 166 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 1.026 | -11.6 | 171 | 0.00 |
| 44 | T,M Benzene | 1.830 | 2.001 | -9.3 | 172 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.496 | 1.8 | 157 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.333 | 25.7# | 121 | 0.00 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.485 | -3.9 | 163 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.01 |
| 50 | T,M Bromodichloromethane | 0.884 | 0.973 | -10.1 | 171 | 0.01 |
| 51 | T,M Dibromomethane | 0.380 | 0.370 | 2.6 | 155 | 0.01 |

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.173 | 25.1# | 114 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.461 | 10.0 | 135 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.894 | -9.4 | 170 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 147 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.150 | -8.2 | 158 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.778 | -14.1 | 162 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.632 | -16.0 | 172 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.148 | -18.4 | 171 | 0.01 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.398 | 2.9 | 135 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.586 | -8.9 | 161 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.935 | -17.0 | 175 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.531 | -7.1 | 164 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.803 | 0.5 | 150 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.585 | -0.9 | 145 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.836 | -11.3 | 164 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.649 | -10.1 | 165 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.692 | -8.6 | 157 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 3.104 | -13.2 | 171 | 0.01 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.484 | -11.1 | 176 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.463 | -16.3 | 171 | 0.01 |
| 72 | T,M | Styrene | 1.480 | 1.667 | -12.6 | 164 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.784 | -15.4 | 169 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 154 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.061 | 2.7 | 153 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.448 | -3.9 | 166 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.702 | -7.2 | 168 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.405 | -5.2 | 167 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.454 | -16.7 | 177 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.934 | -9.4 | 178 | 0.01 |
| 81 | T,M | Bromobenzene | 1.392 | 1.441 | -3.5 | 160 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.678 | -7.3 | 172 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.486 | -14.6 | 188 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.123 | -8.6 | 164 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.730 | -8.1 | 174 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.699 | -10.2 | 173 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 5.421 | -9.7 | 173 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.404 | -6.2 | 171 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.381 | -3.4 | 168 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.606 | -9.0 | 170 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.384 | -1.5 | 165 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 4.344 | -10.2 | 177 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.253 | -3.2 | 173 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.273 | 3.5 | 159 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.515 | -1.5 | 181 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.834 | -10.5 | 172 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 3.508 | -3.9 | 163 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.363 | 3.9 | 171 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 102 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 10.000 | 11.887 | -18.9 | 137 | 0.00 |
| 3 | P,T,M Chloromethane | 10.000 | 7.594 | 24.1# | 85 | 0.00 |
| 4 | C,T,M Vinyl chloride | 10.000 | 11.793 | -17.9 | 126 | 0.00 |
| 5 | T,M Bromomethane | 10.000 | 7.870 | 21.3# | 97 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 10.000 | 11.101 | -11.0 | 114 | 0.00 |
| 7 | T,M Chloroethane | 10.000 | 8.971 | 10.3 | 96 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 10.000 | 9.688 | 3.1 | 108 | 0.00 |
| 9 | T,M Acrolein | 50.000 | 30.859 | 38.3# | 64 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 10.267 | -2.7 | 109 | 0.00 |
| 11 | T,M Acetone | 50.000 | 45.965 | 8.1 | 89 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 250.000 | 221.073 | 11.6 | 90 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 10.000 | 10.645 | -6.4 | 109 | -0.01 |
| 14 | T,M Acetonitrile | 100.000 | 93.870 | 6.1 | 94 | 0.00 |
| 15 | T,M Allyl chloride | 10.000 | 10.251 | -2.5 | 103 | 0.00 |
| 16 | T,M Iodomethane | 10.000 | 9.908 | 0.9 | 111 | 0.00 |
| 17 | T,M Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M Methylene chloride | 10.000 | 10.752 | -7.5 | 96 | 0.00 |
| 19 | T,M Acrylonitrile | 50.000 | 39.058 | 21.9# | 76 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 10.000 | 11.091 | -10.9 | 112 | 0.00 |
| 21 | T,M Carbon disulfide | 10.000 | 10.324 | -3.2 | 105 | 0.00 |
| 22 | T,M trans-1,2-Dichloroethene | 10.000 | 10.113 | -1.1 | 105 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 10.000 | 9.568 | 4.3 | 98 | 0.00 |
| 24 | T,M Vinyl acetate | 10.000 | 5.404 | 46.0# | 51 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 10.000 | 10.284 | -2.8 | 108 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 10.000 | 9.409 | 5.9 | 96 | 0.00 |
| 27 | T,M 2-Butanone | 50.000 | 41.369 | 17.3 | 80 | 0.00 |
| 28 | T,M Propionitrile | 100.000 | 89.785 | 10.2 | 95 | 0.00 |
| 29 | T,M Isobutyl alcohol | 200.000 | 159.210 | 20.4# | 81 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 10.000 | 10.746 | -7.5 | 107 | 0.01 |
| 31 | T,M Methacrylonitrile | 100.000 | 106.105 | -6.1 | 110 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 10.000 | 10.413 | -4.1 | 111 | 0.00 |
| 33 | C,T,M Chloroform | 10.000 | 11.008 | -10.1 | 120 | 0.00 |
| 34 | T,M Bromochloromethane | 10.000 | 9.934 | 0.7 | 99 | 0.00 |
| 35 | T,M Tetrahydrofuran | 10.000 | 8.603 | 14.0 | 89 | -0.01 |
| 36 | S Dibromofluoromethane | 10.000 | 10.156 | -1.6 | 102 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 10.000 | 11.974 | -19.7 | 123 | 0.00 |
| 38 | T,M Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 10.000 | 11.177 | -11.8 | 109 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 10.000 | 10.196 | -2.0 | 102 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 10.000 | 11.563 | -15.6 | 122 | 0.00 |
| 42 | T,M Carbon tetrachloride | 10.000 | 12.288 | -22.9# | 123 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 10.000 | 12.625 | -26.3# | 126 | 0.00 |
| 44 | T,M Benzene | 10.000 | 10.550 | -5.5 | 108 | 0.00 |
| 45 | T,M Trichloroethene | 10.000 | 9.701 | 3.0 | 101 | 0.00 |
| 46 | T,M Methyl methacrylate | 10.000 | 6.971 | 30.3# | 74 | 0.00 |
| 47 | T,M Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 10.000 | 9.931 | 0.7 | 102 | 0.00 |
| 49 | T,M 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M Bromodichloromethane | 10.000 | 11.780 | -17.8 | 120 | 0.00 |
| 51 | T,M Dibromomethane | 10.000 | 10.241 | -2.4 | 107 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 6.774 | 32.3# | 67 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 42.974 | 14.1 | 84 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.201 | -2.0 | 103 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.488 | -4.9 | 101 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 10.597 | -6.0 | 100 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.165 | -11.6 | 110 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.571 | -15.7 | 111 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 45.973 | 8.1 | 85 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.495 | -4.9 | 103 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 11.309 | -13.1 | 112 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 10.756 | -7.6 | 109 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 10.244 | -2.4 | 102 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.749 | 2.5 | 93 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.660 | -6.6 | 104 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 10.925 | -9.3 | 109 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 11.367 | -13.7 | 109 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 11.446 | -14.5 | 115 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 22.476 | -12.4 | 118 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 11.602 | -16.0 | 113 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 11.297 | -13.0 | 109 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 11.578 | -15.8 | 112 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 112 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.170 | 8.3 | 105 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 9.421 | 5.8 | 109 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.050 | -0.5 | 115 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.191 | -1.9 | 117 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 10.164 | -1.6 | 112 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.998 | 0.0 | 118 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.712 | 2.9 | 109 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.988 | 0.1 | 116 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.957 | 0.4 | 119 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.324 | -23.2# | 118 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.778 | 2.2 | 114 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 10.501 | -5.0 | 120 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 10.061 | -0.6 | 115 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.858 | 1.4 | 115 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.232 | -12.3 | 115 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.228 | -2.3 | 116 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.060 | -10.6 | 115 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.908 | 0.9 | 116 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.015 | -0.2 | 122 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.737 | 12.6 | 105 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.598 | 4.0 | 111 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 10.173 | -1.7 | 115 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 8.798 | 12.0 | 100 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 9.964 | 0.4 | 115 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 102 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.682 | -18.8 | 137 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.313 | 24.0# | 85 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.513 | -17.9 | 126 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.231 | 21.4# | 97 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 1.103 | -11.0 | 114 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.191 | 10.3 | 96 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.947 | 3.1 | 108 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.040 | 38.5# | 64 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.437 | -2.6 | 109 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.119 | 34.3# | 89 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.054 | 11.5 | 90 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.951 | -6.4 | 109 | -0.01 |
| 14 | T,M Acetonitrile | 0.030 | 0.028 | 6.7 | 94 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.242 | -2.5 | 103 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.470 | -9.6 | 111 | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.685 | 14.5 | 96 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.117 | 22.0# | 76 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.657 | -10.9 | 112 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.414 | -3.2 | 105 | 0.00 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.482 | -1.0 | 105 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.455 | 4.3 | 98 | 0.00 |
| 24 | T,M Vinyl acetate | 0.866 | 0.468 | 46.0# | 51 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 0.992 | -2.8 | 108 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.737 | 5.9 | 96 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.039 | 17.0 | 80 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.050 | 9.1 | 95 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.016 | 20.0 | 81 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 1.038 | -7.5 | 107 | 0.01 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.096 | -5.5 | 110 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.565 | -4.1 | 111 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.317 | -10.1 | 120 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.317 | 0.6 | 99 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.108 | 14.3 | 89 | -0.01 |
| 36 | S Dibromofluoromethane | 0.612 | 0.622 | -1.6 | 102 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.292 | -19.7 | 123 | 0.00 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.368 | -11.9 | 109 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.241 | -2.1 | 102 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.936 | -15.7 | 122 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 1.122 | -22.9# | 123 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 1.161 | -26.3# | 126 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.930 | -5.5 | 108 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.490 | 3.0 | 101 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.312 | 30.4# | 74 | 0.00 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.464 | 0.6 | 102 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.001 | 0.0 | 0# | 0.00 |
| 50 | T,M Bromodichloromethane | 0.884 | 1.041 | -17.8 | 120 | 0.00 |
| 51 | T,M Dibromomethane | 0.380 | 0.389 | -2.4 | 107 | 0.01 |

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.157 | 32.0# | 67 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.440 | 14.1 | 84 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.833 | -2.0 | 103 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.084 | -4.9 | 101 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.723 | -6.0 | 100 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.532 | -11.6 | 110 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.123 | -15.8 | 111 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.377 | 8.0 | 85 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.565 | -5.0 | 103 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.904 | -13.1 | 112 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.533 | -7.5 | 109 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.827 | -2.5 | 102 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.565 | 2.6 | 93 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.800 | -6.5 | 104 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.637 | -9.3 | 109 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.725 | -13.8 | 109 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 3.138 | -14.4 | 115 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.513 | -12.4 | 118 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.456 | -16.0 | 113 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.672 | -13.0 | 109 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.792 | -15.8 | 112 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 112 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.001 | 8.2 | 105 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.313 | 5.8 | 109 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.595 | -0.5 | 115 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.392 | -1.8 | 117 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.396 | -1.8 | 112 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.339 | 0.0 | 118 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.352 | 2.9 | 109 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.354 | 0.1 | 116 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.897 | 0.4 | 119 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.060 | -7.0 | 118 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.660 | 2.2 | 114 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.477 | -5.0 | 120 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.970 | -0.6 | 115 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.086 | 1.4 | 115 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.234 | 3.0 | 115 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.321 | -2.3 | 116 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.286 | 2.7 | 115 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.906 | 0.9 | 116 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.188 | -0.2 | 122 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.248 | 12.4 | 105 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.278 | 14.4 | 111 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.768 | -1.7 | 115 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.971 | 12.0 | 100 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.259 | 11.3 | 115 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F003
Lab File ID: RFG091 BFB Injection Date: 06/11/24
Instrument ID: E2 BFB Injection Time: 12:47

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.430 |
| 75 | 30 - 60% of mass 95 | 58.855 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 7.042 |
| 173 | Less than 2% of mass 174 | 0.000(0)1 |
| 174 | Greater than 50% of mass 95 | 86.589 |
| 175 | 5 - 9% of mass 174 | 6.114(7.06)1 |
| 176 | 95 - 101% % of mass 174 | 82.804(95.63)1 |
| 177 | 5 - 9% % of mass 176 | 6.481(7.83)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1707 | RFG092 | 06/11/24 | 13:35 |
| 2 | LCS2W | VOE2F04L | RFG093 | 06/11/24 | 14:15 |
| 3 | LCD2W | VOE2F04C | RFG094 | 06/11/24 | 14:39 |
| 4 | MBLK2W | VOE2F04B | RFG096 | 06/11/24 | 15:26 |
| 5 | T1AMF-MW029-MAY24 | 24F003-14 | RFG101 | 06/11/24 | 17:25 |
| 6 | T1AMF-MW030-MAY24 | 24F003-15 | RFG102 | 06/11/24 | 17:49 |
| 7 | T1AMF-MW030-MAY24_FD | 24F003-16 | RFG103 | 06/11/24 | 18:13 |
| 8 | T1AMF-MW057-MAY24 | 24F003-17 | RFG104 | 06/11/24 | 18:37 |
| 9 | VSTD10 | EVOE2E1707 | RFG119 | 06/12/24 | 00:30 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F003
Date Analyzed: 05/17/24
Time Analyzed: 14:09

| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| | UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| | LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 670311 | 5.99 | 536256 | 9.56 | 276585 | 13.89 |
| 2 | LCS2W | 700127 | 5.99 | 552821 | 9.56 | 279028 | 13.89 |
| 3 | LCD2W | 703905 | 5.99 | 550837 | 9.56 | 285241 | 13.89 |
| 4 | MBLK2W | 600187 | 5.99 | 469288 | 9.56 | 222326 | 13.89 |
| 5 | T1AMF-MW029-MAY24 | 496966 | 5.99 | 393665 | 9.56 | 192105 | 13.89 |
| 6 | T1AMF-MW030-MAY24 | 484161 | 5.99 | 392148 | 9.56 | 178457 | 13.89 |
| 7 | T1AMF-MW030-MAY24_FD | 468619 | 5.99 | 374980 | 9.56 | 178942 | 13.89 |
| 8 | T1AMF-MW057-MAY24 | 462451 | 5.99 | 362871 | 9.56 | 175655 | 13.89 |
| 9 | VSTD10 | 558649 | 5.99 | 454298 | 9.56 | 253559 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | Amount | Calc. | | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | | 0.0 | 139 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 10.000 | 10.649 | | -6.5 | 166 | 0.00 |
| 3 | P,T,M Chloromethane | 10.000 | 8.586 | | 14.1 | 131 | 0.00 |
| 4 | C,T,M Vinyl chloride | 10.000 | 10.811 | / | -8.1 | 157 | 0.00 |
| 5 | T,M Bromomethane | 10.000 | 9.771 | | 2.3 | 163 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 10.000 | 9.548 | | 4.5 | 133 | 0.00 |
| 7 | T,M Chloroethane | 10.000 | 8.924 | | 10.8 | 129 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 10.000 | 8.783 | | 12.2 | 132 | 0.00 |
| 9 | T,M Acrolein | 50.000 | 34.629 | | 30.7# | 98 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.679 | | 13.2 | 125 | 0.00 |
| 11 | T,M Acetone | 50.000 | 43.317 | | 13.4 | 114 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 250.000 | 188.868 | | 24.5# | 105 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 10.000 | 8.941 | / | 10.6 | 125 | 0.00 |
| 14 | T,M Acetonitrile | 100.000 | 81.614 | | 18.4 | 112 | 0.00 |
| 15 | T,M Allyl chloride | 10.000 | 9.379 | | 6.2 | 128 | 0.00 |
| 16 | T,M Iodomethane | 10.000 | 11.646 | | -16.5 | 178 | 0.00 |
| 17 | T,M Methyl acetate | 10.000 | 0.000 | | 100.0# | 0 | -4.03# |
| 18 | T,M Methylene chloride | 10.000 | 10.524 | | -5.2 | 127 | 0.00 |
| 19 | T,M Acrylonitrile | 50.000 | 36.443 | | 27.1# | 96 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 10.000 | 9.529 | | 4.7 | 131 | 0.00 |
| 21 | T,M Carbon disulfide | 10.000 | 8.924 | | 10.8 | 123 | 0.01 |
| 22 | T,M trans-1,2-Dichloroethene | 10.000 | 8.687 | | 13.1 | 123 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 10.000 | 8.519 | | 14.8 | 119 | 0.01 |
| 24 | T,M Vinyl acetate | 10.000 | 6.518 | | 34.8# | 84 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 10.000 | 9.014 | | 9.9 | 129 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 10.000 | 8.169 | | 18.3 | 113 | 0.00 |
| 27 | T,M 2-Butanone | 50.000 | 37.923 | | 24.2# | 100 | 0.00 |
| 28 | T,M Propionitrile | 100.000 | 81.332 | | 18.7 | 117 | 0.00 |
| 29 | T,M Isobutyl alcohol | 200.000 | 151.186 | | 24.4# | 104 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 10.000 | 10.189 | | -1.9 | 137 | 0.00 |
| 31 | T,M Methacrylonitrile | 100.000 | 87.958 | | 12.0 | 124 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 10.000 | 9.028 | | 9.7 | 131 | 0.00 |
| 33 | C,T,M Chloroform | 10.000 | 9.138 | / | 8.6 | 136 | 0.00 |
| 34 | T,M Bromochloromethane | 10.000 | 8.446 | | 15.5 | 114 | 0.00 |
| 35 | T,M Tetrahydrofuran | 10.000 | 7.721 | | 22.8# | 109 | -0.01 |
| 36 | S Dibromofluoromethane | 10.000 | 9.705 | | 2.9 | 132 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 10.000 | 9.866 | | 1.3 | 137 | 0.00 |
| 38 | T,M Cyclohexane | 10.000 | 0.000 | | 100.0# | 0 | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 10.000 | 9.277 | | 7.2 | 123 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 10.000 | 8.871 | | 11.3 | 120 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 10.000 | 10.597 | | -6.0 | 152 | 0.00 |
| 42 | T,M Carbon tetrachloride | 10.000 | 9.739 | | 2.6 | 132 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 10.000 | 10.080 | | -0.8 | 137 | 0.00 |
| 44 | T,M Benzene | 10.000 | 9.061 | | 9.4 | 126 | 0.00 |
| 45 | T,M Trichloroethene | 10.000 | 8.246 | | 17.5 | 117 | 0.00 |
| 46 | T,M Methyl methacrylate | 10.000 | 5.935 | | 40.7# | 86 | 0.00 |
| 47 | T,M Methylcyclohexane | 10.000 | 0.000 | | 100.0# | 0 | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 10.000 | 8.839 | / | 11.6 | 123 | 0.00 |
| 49 | T,M 1,4-Dioxane | 200.000 | 0.000 | | 100.0# | 0 | 0.01 |
| 50 | T,M Bromodichloromethane | 10.000 | 9.636 | | 3.6 | 133 | 0.01 |
| 51 | T,M Dibromomethane | 10.000 | 8.470 | | 15.3 | 120 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 5.920 | 40.8# | 80 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 37.966 | 24.1# | 101 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 8.995 | 10.1 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 131 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.547 | -5.5 | 137 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.244 | 7.6 | 117 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 9.752 | 2.5 | 129 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.861 | 1.4 | 127 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 40.672 | 18.7 | 101 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.121 | 8.8 | 120 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 9.625 | 3.8 | 128 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.050 | 9.5 | 123 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 8.470 | 15.3 | 114 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 8.250 | 17.5 | 106 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.359 | 6.4 | 123 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.312 | 6.9 | 125 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.481 | 5.2 | 122 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.633 | 3.7 | 130 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.700 | 6.5 | 132 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 9.826 | 1.7 | 129 | 0.01 |
| 72 | T,M | Styrene | 10.000 | 9.591 | 4.1 | 125 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.667 | 3.3 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 140 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.979 | 20.2# | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.290 | 17.1 | 120 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.427 | -4.3 | 148 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 8.633 | 13.7 | 124 | 0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 8.773 | 12.3 | 121 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.032 | 9.7 | 133 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.711 | 12.9 | 122 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 8.948 | 10.5 | 130 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.622 | 3.8 | 143 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 10.110 | -1.1 | 121 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.022 | 9.8 | 131 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 8.989 | 10.1 | 128 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.033 | 9.7 | 129 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 8.762 | 12.4 | 128 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 9.940 | 0.6 | 127 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 8.965 | 10.4 | 127 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 9.670 | 3.3 | 126 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 8.962 | 10.4 | 130 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 8.707 | 12.9 | 132 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.548 | 24.5# | 113 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.068 | 9.3 | 131 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.359 | 6.4 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 8.020 | 19.8 | 114 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.765 | 12.3 | 126 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 139 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.611 | -6.4 | 166 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.354 | 14.1 | 131 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.470 | -8.0 | 157 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.287 | 2.4 | 163 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 0.949 | 4.5 | 133 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.190 | 10.8 | 129 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.858 | 12.2 | 132 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.045 | 30.8# | 98 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.370 | 13.1 | 125 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.113 | 37.6# | 114 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.046 | 24.6# | 105 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.799 | 10.6 | 125 | 0.00 |
| 14 | T,M Acetonitrile | 0.030 | 0.025 | 16.7 | 112 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.221 | 6.4 | 128 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.555 | -29.4# | 178 | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.671 | 16.2 | 127 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.110 | 26.7# | 96 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.424 | 4.7 | 131 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.222 | 10.8 | 123 | 0.01 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.414 | 13.2 | 123 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.295 | 14.8 | 119 | 0.01 |
| 24 | T,M Vinyl acetate | 0.866 | 0.564 | 34.9# | 84 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 0.870 | 9.8 | 129 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.508 | 18.3 | 113 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.036 | 23.4# | 100 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.045 | 18.2 | 117 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.015 | 25.0# | 104 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 0.984 | -1.9 | 137 | 0.00 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.080 | 12.1 | 124 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.490 | 9.8 | 131 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.093 | 8.6 | 136 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.269 | 15.7 | 114 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.097 | 23.0# | 109 | -0.01 |
| 36 | S Dibromofluoromethane | 0.612 | 0.594 | 2.9 | 132 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.064 | 1.4 | 137 | 0.00 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.306 | 7.0 | 123 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.209 | 11.4 | 120 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.858 | -6.1 | 152 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 0.889 | 2.6 | 132 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 0.927 | -0.9 | 137 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.658 | 9.4 | 126 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.416 | 17.6 | 117 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.266 | 40.6# | 86 | 0.00 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.413 | 11.6 | 123 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.01 |
| 50 | T,M Bromodichloromethane | 0.884 | 0.852 | 3.6 | 133 | 0.01 |
| 51 | T,M Dibromomethane | 0.380 | 0.322 | 15.3 | 120 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.137 | 40.7# | 80 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.388 | 24.2# | 101 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.735 | 10.0 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 131 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.096 | -5.5 | 137 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.631 | 7.5 | 117 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.212 | 2.5 | 129 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.957 | 1.3 | 127 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.334 | 18.5 | 101 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.491 | 8.7 | 120 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.769 | 3.8 | 128 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.449 | 9.5 | 123 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.684 | 15.2 | 114 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.479 | 17.4 | 106 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.702 | 6.5 | 123 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.395 | 6.9 | 125 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.604 | 5.2 | 122 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.641 | 3.7 | 130 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.090 | 6.5 | 132 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.080 | 1.7 | 129 | 0.01 |
| 72 | T,M | Styrene | 1.480 | 1.420 | 4.1 | 125 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.331 | 3.4 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 140 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.871 | 20.2# | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.155 | 17.1 | 120 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.655 | -4.3 | 148 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.332 | 13.8 | 124 | 0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.342 | 12.1 | 121 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.727 | 9.7 | 133 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.212 | 12.9 | 122 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.901 | 10.5 | 130 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.765 | 3.8 | 143 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.357 | 11.6 | 121 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.609 | 9.8 | 131 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.832 | 10.1 | 128 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.462 | 9.7 | 129 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.632 | 12.4 | 128 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 1.988 | 13.7 | 127 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 3.787 | 10.3 | 127 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.009 | 14.5 | 126 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.533 | 10.4 | 130 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.902 | 12.9 | 132 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.214 | 24.4# | 113 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.210 | 19.0 | 131 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.707 | 6.4 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.709 | 19.8 | 114 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.113 | 21.6# | 126 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.899 | -9.0 | 142 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 10.507 | -5.1 | 134 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 14.645 | -46.4# | 177 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 5.366 | 46.3# | 75 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.635 | -6.3 | 123 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.983 | 10.2 | 108 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.845 | 11.5 | 111 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 27.725 | 44.5# | 65 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 9.660 | 3.4 | 116 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 43.732 | 12.5 | 96 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 220.530 | 11.8 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.041 | -0.4 | 117 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 96.026 | 4.0 | 109 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.309 | -3.1 | 117 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 6.669 | 33.3# | 83 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 11.646 | -16.5 | 117 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 37.860 | 24.3# | 83 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.448 | -4.5 | 120 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.631 | 3.7 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.302 | 7.0 | 110 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.475 | 5.3 | 110 | 0.00 |
| 24 | T,M | Vinyl acetate | 10.000 | 4.668 | 53.3# | 50 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.917 | 0.8 | 118 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.146 | 8.5 | 105 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 38.964 | 22.1# | 86 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 87.169 | 12.8 | 104 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 162.595 | 18.7 | 93 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 9.936 | 0.6 | 112 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 98.112 | 1.9 | 115 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.823 | 1.8 | 119 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.263 | -2.6 | 127 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.343 | 6.6 | 105 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 8.042 | 19.6 | 94 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.797 | 2.0 | 111 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 11.196 | -12.0 | 130 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.723 | -7.2 | 118 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 9.737 | 2.6 | 110 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.807 | -8.1 | 129 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.964 | -9.6 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.513 | -15.1 | 130 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.133 | -1.3 | 118 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.332 | 6.7 | 110 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 7.356 | 26.4# | 89 | -0.01 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.808 | -8.1 | 126 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.853 | -18.5 | 137 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 10.325 | -3.2 | 122 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 6.922 | 30.8# | 78 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 50.000 | 0.0 | 111 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.839 | -8.4 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 111 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.731 | -7.3 | 118 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.287 | -12.9 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.162 | -11.6 | 125 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.206 | -12.1 | 122 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 46.086 | 7.8 | 97 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.767 | 2.3 | 109 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.557 | -5.6 | 119 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.984 | 0.2 | 115 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.345 | 6.5 | 106 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.352 | 6.5 | 102 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.235 | -2.3 | 114 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 10.045 | -0.4 | 114 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.661 | -6.6 | 117 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 10.555 | -5.5 | 121 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 20.592 | -3.0 | 123 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 10.863 | -8.6 | 121 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.638 | -6.4 | 117 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 10.626 | -6.3 | 117 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 128 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.882 | 21.2# | 103 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.414 | 15.9 | 111 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 9.596 | 4.0 | 125 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.239 | 7.6 | 122 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 7.310 | 26.9# | 92 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.067 | 9.3 | 123 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.800 | 12.0 | 113 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.018 | 9.8 | 120 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.124 | 8.8 | 125 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.052 | -10.5 | 121 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.334 | 6.7 | 125 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 9.256 | 7.4 | 121 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 8.968 | 10.3 | 117 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.112 | 8.9 | 122 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 10.374 | -3.7 | 122 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 9.762 | 2.4 | 127 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.438 | -4.4 | 125 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.705 | 2.9 | 129 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.067 | 9.3 | 126 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.358 | 26.4# | 101 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 8.528 | 14.7 | 113 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 8.779 | 12.2 | 113 | -0.01 |
| 97 | T,M | Naphthalene | 10.000 | 8.048 | 19.5 | 105 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.570 | 14.3 | 113 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 1

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.625 | -8.9 | 142 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.433 | -5.1 | 134 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.637 | -46.4# | 177 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.158 | 46.3# | 75 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.057 | -6.3 | 123 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.191 | 10.3 | 108 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.864 | 11.6 | 111 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.036 | 44.6# | 65 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.411 | 3.5 | 116 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.114 | 37.0# | 96 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.054 | 11.5 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.897 | -0.3 | 117 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.029 | 3.3 | 109 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.243 | -3.0 | 117 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.312 | 27.3# | 83 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.738 | 7.9 | 117 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.114 | 24.0# | 83 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.561 | -4.5 | 120 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.319 | 3.7 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.444 | 6.9 | 110 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.441 | 5.2 | 110 | 0.00 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.404 | 53.3# | 50 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 0.957 | 0.8 | 118 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.689 | 8.5 | 105 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.037 | 21.3# | 86 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.048 | 12.7 | 104 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.016 | 20.0 | 93 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.959 | 0.7 | 112 | 0.00 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.089 | 2.2 | 115 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.533 | 1.8 | 119 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.227 | -2.6 | 127 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.298 | 6.6 | 105 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.101 | 19.8 | 94 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.600 | 2.0 | 111 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.208 | -12.0 | 130 | 0.00 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.353 | -7.3 | 118 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.230 | 2.5 | 110 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.875 | -8.2 | 129 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 1.001 | -9.6 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.058 | -15.1 | 130 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.854 | -1.3 | 118 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.471 | 6.7 | 110 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.329 | 26.6# | 89 | -0.01 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.505 | -8.1 | 126 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.003 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 1.048 | -18.6 | 137 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.392 | -3.2 | 122 | 0.00 |

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.160 | 30.7# | 78 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.512 | 0.0 | 111 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.885 | -8.3 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 111 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.132 | -7.3 | 118 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.770 | -12.9 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.531 | -11.6 | 125 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.087 | -12.1 | 122 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.378 | 7.8 | 97 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.526 | 2.2 | 109 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.844 | -5.6 | 119 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.495 | 0.2 | 115 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.754 | 6.6 | 106 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.542 | 6.6 | 102 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.768 | -2.3 | 114 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.505 | -0.5 | 114 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.680 | -6.8 | 117 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.894 | -5.5 | 121 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.302 | -3.0 | 123 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.299 | -8.6 | 121 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.575 | -6.4 | 117 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.563 | -6.3 | 117 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 128 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.860 | 21.2# | 103 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.173 | 15.9 | 111 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.523 | 4.0 | 125 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.356 | 7.5 | 122 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.285 | 26.7# | 92 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.749 | 9.3 | 123 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.225 | 12.0 | 113 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.931 | 9.8 | 120 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.571 | 8.8 | 125 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.656 | 3.7 | 121 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.630 | 6.7 | 125 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.946 | 7.4 | 121 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.430 | 10.3 | 117 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.777 | 8.9 | 122 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.071 | 10.1 | 122 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.124 | 2.4 | 127 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.162 | 8.0 | 125 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.826 | 2.9 | 129 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.981 | 9.3 | 126 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.209 | 26.1# | 101 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.141 | 23.6# | 113 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.663 | 12.2 | 113 | -0.01 |
| 97 | T,M | Naphthalene | 3.377 | 2.718 | 19.5 | 105 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.089 | 23.3# | 113 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 1

# ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 05/17/24 ☐ 5-mL Purge ☒ 10-mL Purge ☐ 25-mL Purge Book #: AE2-031

BATCH VOE2E176

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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ZL

5/23/24

| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | VOE2E17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc. (mg/L) |
|---|---|---|---|
| DCC $CS_2$ | SVI-43-98-01 | * | 250 |
| DCC GAS | -98-03 | | 250 |
| DCC ~~METHANOL~~ | -97-02 | | 250/6250 |
| DCC 8260 | -99-01 | | 250 |
| BFB | -76-02 | 1 | 50 |
| IS/SURR. | -96-02 | 5 | 20 |
| | -96-03 | 1 | 250 |
| ICV/LCS | -79-02 | 0.4 | 250 |
| ICV/LCS | -94-01 | .4 | 250 |
| ICV/LCS | -80-01 | 2 | 250 |
| | -94-02 | 2 | 50 |
| ICV/LCS | -85-02 | 2 | 50 |
| Data File Folder | 24E17 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | | MSV-03-04-14-6 |
| Chlorine strip | | -04-13-3 |
| Methanol | | -03-25 |
| $NaHSO_4$ | | -02-25 |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments: * Varied amount

Analyzed By: DN

Date Disposed: 5/18/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24E17

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Reg116.d | 1. | BFBE2E09 | T/CHK | 17 May 2024 11:2 |
| 2 | 2 | Reg117.d | 1. | VOE2E161 0.012 WRONG SPIKE | 0.3ppb 8260/1.5pp... | 17 May 2024 12:1 |
| 3 | 3 | Reg118.d | 1. | VOE2E172 0.02 | 0.5ppb 8260/2.5pp... | 17 May 2024 12:3 |
| 4 | 4 | Reg119.d | 1. | VOE2E173 0.04 | 1.0ppb 8260/5.0pp... | 17 May 2024 12:5 |
| 5 | 5 | Reg120.d | 1. | VOE2E174 0.08 | 2.0ppb 8260/10ppb... | 17 May 2024 13:2 |
| 6 | 6 | Reg121.d | 1. | VOE2E175 0.2 | 5.0ppb 8260/25ppb... | 17 May 2024 13:4 |
| 7 | 7 | Reg122.d | 1. | VOE2E176 0.4 | 10ppb 8260/50ppb ... | 17 May 2024 14:0 |
| 8 | 8 | Reg123.d | 1. | VOE2E177 1.2uL | 30ppb 8260/150ppb... | 17 May 2024 14:3 |
| 9 | 9 | Reg124.d | 1. | VOE2E178 2uL | 50ppb 8260/250pb ... | 17 May 2024 14:5 |
| 10 | 10 | Reg125.d | 1. | VOE2E179 4uL | 100ppb 8260/500pp... | 17 May 2024 15:2 |
| 11 | 11 | Reg126.d | 1. | VOE2E1710 8uL | 200ppb 8260/1000p... | 17 May 2024 15:4 |
| 12 | 12 | Reg127.d | 1. | RINSE | | 17 May 2024 16:0 |
| 13 | 13 | Reg128.d | 1. | RINSE | | 17 May 2024 16:3 |
| 14 | 14 | Reg129.d | 1. | IVOE2E1701 %REC>20 | 10ppb 8260/50ppb ... | 17 May 2024 21:0 |

JL 5/23/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 05/18/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH VOE2E17D2

| Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH < 2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | |
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ZL 5/23/24

| Instrument No. | E2 | | |
|---|---|---|---|
| INITIAL CALIBRATION REFERENCE | | | |
| DATE | 5/17/24 | | |
| ICAL ID | VOE2E17 | | |
| STANDARDS | | | |
| NAME | ID | Amount (µl) | Conc (mg/L) |
| DCC | | | |
| DCC | | | |
| DCC | | | |
| DCC | | | |
| BFB | SV1-43-76-02 | 1 | 50 |
| IS/SURR. | -96-02<br>-96-03 | 5<br>.4 | 20<br>250 |
| ICV/LCS | -79-02 | .4 | 250 |
| ICV/LCS | -94-01 | .4 | 250 |
| ICV/LCS | -70-01<br>-94-02 | 2<br>2 | 250<br>50 |
| ICV/LCS | -85-02 | 2 | 50 |
| Data File Folder | 24E18 | | |
| | LOT # | Syringe Lot # | |
| pH strip | | MSV-03-04-14-6 | |
| Chlorine strip | | -04-13-3 | |
| Methanol | | | |
| $NaHSO_4$ | | | |
| Reagent Water | RW4-23-001 | | |
| Sand | | | |
| Electronic Data Archival Location | | Date | |
| HPCHEM_VOA/TOE2 | | | |

Comments:

Analyzed By: DN

Date Disposed: 5/20/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24E18

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Reg130.d | 1. | BFBE2E09 | T/CHK | 18 May 2024 09:1 |
| 2 | 2 | Reg131.d | 1. | IVOE2E1702 | 10ppb 8260/50ppb ... | 18 May 2024 09:5 |

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/10/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH < 2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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| Instrument No. | E2 | | |
|---|---|---|---|
| INITIAL CALIBRATION REFERENCE | | | |
| DATE | 6/17/24 | | |
| ICAL ID | VOE2E17 | | |
| STANDARDS | | | |
| NAME | ID | Amount (µL) | Conc (mg/L) |
| DCC | SVI-43-04-02 | .4 | 50/50 |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | |
| DCC | -86-01 | 2 | |
| BFB | -38-02 | 1 | |
| IS/SJRR | SVI-45-04-02 | 5 | 20 |
| ICV/LCS | SVI-43-79-02 | .4 | 50/50 |
| ICV/LCS | -82-01 | .4 | |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | 24F10 | | |
| | LOT # | Syringe Lot # | |
| pH strip | HC210330 | WSVI-03-04-14-6 | |
| Chlorine strip | 3191718 | -13-3 | |
| Methanol | | | |
| $NaHSO_4$ | | | |
| Reagent Water | RWH-23-001 | | |
| Sand | | | |
| Electronic Data Archival Location | | Date | |
| HPCHEM_VOA/TOE2 | | | |

Comments:

Analyzed By: DM

Date Disposed: 6/11/24 Disposed By: DM

# Injection Log

Directory: d:\Data\24F10

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg061.d | 1. | BFBF03 | T/CHK | 10 Jun 2024 15:55 |
| 2 | 2 | Rfg062.d | 1. | CVOE2E1706 | 10ppb 8260/50ppb ... | 10 Jun 2024 16:35 |
| 3 | 3 | Rfg063.d | 1. | VOE2F03L | 10ppb 8260/50ppb ... | 10 Jun 2024 17:13 |
| 4 | 4 | Rfg064.d | 1. | VOE2F03C | 10ppb 8260/50ppb ... | 10 Jun 2024 17:37 |
| 5 | 5 | Rfg065.d | 1. | RINSE | 10mL | 10 Jun 2024 18:01 |
| 6 | 7 | Rfg067.d | 1. | VOE2F03B | 10.0mL | 10 Jun 2024 18:25 |
| 7 | 8 | Rfg068.d | 1. | 24F004-05N | 10.0mL | 10 Jun 2024 18:48 |
| 8 | 9 | Rfg069.d | 1. | 24F004-06I 10X | 1.0mL | 10 Jun 2024 19:12 |
| 9 | 10 | Rfg070.d | 1. | 24F004-07I 10X | 1.0mL | 10 Jun 2024 19:36 |
| 10 | 11 | Rfg071.d | 1. | 24F004-09N | 10mL | 10 Jun 2024 20:00 |
| 11 | 12 | Rfg072.d | 1. | 24F004-10N | 10mL | 10 Jun 2024 20:24 |
| 12 | 13 | Rfg073.d | 1. | 24F003-18 | 10mL | 10 Jun 2024 20:48 |
| 13 | 14 | Rfg074.d | 1. | 24F003-19 | 10mL | 10 Jun 2024 21:11 |
| 14 | 15 | Rfg075.d | 1. | 24F003-01N | 10mL | 10 Jun 2024 21:35 |
| 15 | 16 | Rfg076.d | 1. | 24F003-02N | 10mL | 10 Jun 2024 21:59 |
| 16 | 17 | Rfg077.d | 1. | 24F003-03N | 10mL | 10 Jun 2024 22:23 |
| 17 | 18 | Rfg078.d | 1. | 24F003-04N | 10mL | 10 Jun 2024 22:46 |
| 18 | 19 | Rfg079.d | 1. | 24F003-05N | 10mL | 10 Jun 2024 23:10 |
| 19 | 20 | Rfg080.d | 1. | 24F003-06N | 10mL | 10 Jun 2024 23:33 |
| 20 | 21 | Rfg081.d | 1. | 24F003-07N | 10mL | 10 Jun 2024 23:57 |
| 21 | 22 | Rfg082.d | 1. | 24F003-08N | 10mL | 11 Jun 2024 00:20 |
| 22 | 23 | Rfg083.d | 1. | 24F003-09N | 10mL | 11 Jun 2024 00:44 |
| 23 | 24 | Rfg084.d | 1. | 24F003-10N | 1.0mL | 11 Jun 2024 01:08 |
| 24 | 25 | Rfg085.d | 1. | 24F003-11 | 10mL | 11 Jun 2024 01:32 |
| 25 | 26 | Rfg086.d | 1. | 24F003-12 | 10mL | 11 Jun 2024 01:56 |
| 26 | 27 | Rfg087.d | 1. | 24F003-13 | 10mL | 11 Jun 2024 02:19 |
| 27 | 37 | Rfg088.d | 1. | EVOE2E1706 ✓ | 10ppb 8260/50ppb ... | 11 Jun 2024 02:43 |
| 28 | 38 | Rfg089.d | 1. | EVOE2E17061 | 10ppb 8260/50ppb ... | 11 Jun 2024 03:06 |
| 29 | 39 | Rfg090.d | 1. | EVOE2E17062 | 10ppb 8260/50ppb ... | 11 Jun 2024 03:30 |

pH ≤ 2 Cl ≤ 5

DK 6/18/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/11/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH < 2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
| 02 | | | | | | | | | |
| 03 | | | | | | | | | |
| 04 | | | | | | | | | |
| 05 | | | | | | | | | |
| 06 | | | | | | | | | |
| 07 | | | | | | | | | |
| 08 | | | | | | | | | |
| 09 | | | | | | | | | |
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| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |

| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | VOE2F17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc. (ng/5) |
|---|---|---|---|
| DCC | SVI-43-94-02 | .4 | |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | |
| DCC | -86-01 | 2 | 50/150 |
| BFB | -38-02 | 1 | |
| IS/SURR. | SVI-45-04-02 | 5 | 20 |
| ICV/LCS | SVI-43-79-02 | .4 | |
| ICV/LCS | -82-01 | .4 | |
| ICV/LCS | -92-01 | 2 | 50/150 |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC210330 | MBV-03-04-14-6 |
| Chlorine strip | 314117B | -B-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

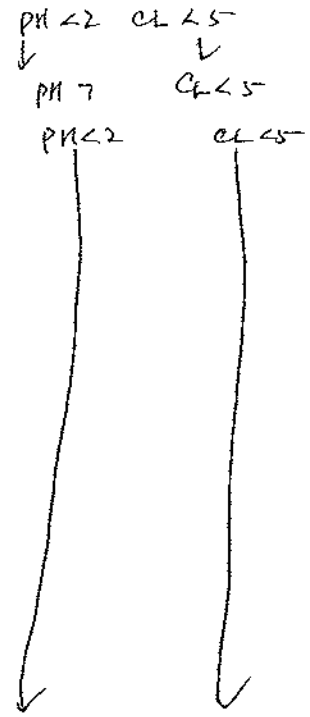
Analyzed By: DH

Date Disposed: 6/12/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24F11

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg091.d | 1. | BFBF04 | T/CHK | 11 Jun 2024 12:47 |
| 2 | 2 | Rfg092.d | 1. | CVOE2E1707 | 10ppb 8260/50ppb ... | 11 Jun 2024 13:35 |
| 3 | 3 | Rfg093.d | 1. | VOE2F04L | 10ppb 8260/50ppb ... | 11 Jun 2024 14:15 |
| 4 | 4 | Rfg094.d | 1. | VOE2F04C | 10ppb 8260/50ppb ... | 11 Jun 2024 14:39 |
| 5 | 5 | Rfg095.d | 1. | RINSE | 10ppb 8260/50ppb ... | 11 Jun 2024 15:03 |
| 6 | 6 | Rfg096.d | 1. | VOE2F04B | 10.0mL | 11 Jun 2024 15:26 |
| 7 | 7 | Rfg097.d | 1. | 24F004-06N | 10.0mL | 11 Jun 2024 15:50 |
| 8 | 8 | Rfg098.d | 1. | 24F004-01N | 10.0mL | 11 Jun 2024 16:14 |
| 9 | 9 | Rfg099.d | 1. | PV-004-08-03 | 10.0mL | 11 Jun 2024 16:37 |
| 10 | 10 | Rfg100.d | 1. | 24F004-08I 10X | 1.0mL | 11 Jun 2024 17:01 |
| 11 | 11 | Rfg101.d | 1. | 24F003-14 | 10mL | 11 Jun 2024 17:25 |
| 12 | 12 | Rfg102.d | 1. | 24F003-15 | 10mL | 11 Jun 2024 17:49 |
| 13 | 13 | Rfg103.d | 1. | 24F003-16 | 10mL | 11 Jun 2024 18:13 |
| 14 | 14 | Rfg104.d | 1. | 24F003-17 | 10mL | 11 Jun 2024 18:37 |
| 15 | 15 | Rfg105.d | 1. | 24F038-01 | 10mL | 11 Jun 2024 19:00 |
| 16 | 16 | Rfg106.d | 1. | RIMSE | 1.0mL | 11 Jun 2024 19:24 |
| 17 | 17 | Rfg107.d | 1. | 24F019-01 | 10mL | 11 Jun 2024 19:47 |
| 18 | 18 | Rfg108.d | 1. | 24F019-02 | 10mL | 11 Jun 2024 20:11 |
| 19 | 19 | Rfg109.d | 1. | 24F019-04 | 10mL | 11 Jun 2024 20:34 |
| 20 | 20 | Rfg110.d | 1. | 24F019-05 | 10mL | 11 Jun 2024 20:58 |
| 21 | 21 | Rfg111.d | 1. | 24F019-06 | 10mL | 11 Jun 2024 21:21 |
| 22 | 22 | Rfg112.d | 1. | 24F019-07 | 10mL | 11 Jun 2024 21:45 |
| 23 | 23 | Rfg113.d | 1. | 24F019-08 | 10mL | 11 Jun 2024 22:09 |
| 24 | 24 | Rfg114.d | 1. | 24F019-09 | 10mL | 11 Jun 2024 22:32 |
| 25 | 25 | Rfg115.d | 1. | 24F019-10 | 10mL | 11 Jun 2024 22:56 |
| 26 | 26 | Rfg116.d | 1. | 24F019-11 | 10mL | 11 Jun 2024 23:19 |
| 27 | 27 | Rfg117.d | 1. | 24F019-02M | 10mL | 11 Jun 2024 23:42 |
| 28 | 28 | Rfg118.d | 1. | 24F019-02S | 10mL | 12 Jun 2024 00:06 |
| 29 | 29 | Rfg119.d | 1. | EVOE2E1707 | 10ppb 8260/50ppb ... | 12 Jun 2024 00:30 |
| 30 | 30 | Rfg120.d | 1. | EVOE2E17071 | 10ppb 8260/50ppb ... | 12 Jun 2024 00:53 |
| 31 | 31 | Rfg121.d | 1. | EVOE2E17072 | 10ppb 8260/50ppb ... | 12 Jun 2024 01:17 |




DK 6/18/24

# RAW DATA
# VOLATILE ORGANICS

LABORATORY REPORT FOR

PARSONS

TITAN 1-A

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

SDG#: 24F003

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F003

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

A total of nineteen(19) water samples were received on 06/01/24 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030C/8260C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There were four(4)CCVs (Data File IDs: RFG062, RFG088, RFG092 and RFG119) associated with this SDG. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two(2) method blanks were analyzed. VOE2F03B and VOE2F04B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. VOE2F03L/VOE2F03C and VOE2F04L/VOE2F04C were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F003
Instrument ID : E2

WATER

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| LCS1W | VOE2F03L | 1 | NA | 06/10/2417:13 | 06/10/2417:13 | RFG063 | REG122 | VOE2F03 | Lab Control Sample (LCS) |
| LCD1W | VOE2F03C | 1 | NA | 06/10/2417:37 | 06/10/2417:37 | RFG064 | REG122 | VOE2F03 | LCS Duplicate |
| MBLK1W | VOE2F03B | 1 | NA | 06/10/2418:25 | 06/10/2418:25 | RFG067 | REG122 | VOE2F03 | Method Blank |
| TB-1_MAY24 | 24F003-18 | 1 | NA | 06/10/2420:48 | 06/10/2420:48 | RFG073 | REG122 | VOE2F03 | Field Sample |
| TB-2_MAY24 | 24F003-19 | 1 | NA | 06/10/2421:11 | 06/10/2421:11 | RFG074 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW059-MAY24 | 24F003-01N | 1 | NA | 06/10/2421:35 | 06/10/2421:35 | RFG075 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW044-MAY24 | 24F003-02N | 1 | NA | 06/10/2421:59 | 06/10/2421:59 | RFG076 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW047-MAY24 | 24F003-03N | 1 | NA | 06/10/2422:23 | 06/10/2422:23 | RFG077 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW046-MAY24 | 24F003-04N | 1 | NA | 06/10/2422:46 | 06/10/2422:46 | RFG078 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW050-MAY24 | 24F003-05N | 1 | NA | 06/10/2423:10 | 06/10/2423:10 | RFG079 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW052-MAY24 | 24F003-06N | 1 | NA | 06/10/2423:33 | 06/10/2423:33 | RFG080 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW052-MAY24_FD | 24F003-07N | 1 | NA | 06/10/2423:57 | 06/10/2423:57 | RFG081 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW060-MAY24 | 24F003-08N | 1 | NA | 06/11/2400:20 | 06/11/2400:20 | RFG082 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW017-MAY24 | 24F003-09N | 1 | NA | 06/11/2400:44 | 06/11/2400:44 | RFG083 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW011-MAY24 | 24F003-10N | 1 | NA | 06/11/2401:08 | 06/11/2401:08 | RFG084 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW016-MAY24 | 24F003-11 | 1 | NA | 06/11/2401:32 | 06/11/2401:32 | RFG085 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW016-MAY24_FD | 24F003-12 | 1 | NA | 06/11/2401:56 | 06/11/2401:56 | RFG086 | REG122 | VOE2F03 | Field Sample |
| TLAMF-MW049-MAY24 | 24F003-13 | 1 | NA | 06/11/2402:19 | 06/11/2402:19 | RFG087 | REG122 | VOE2F03 | Field Sample |
| LCS2W | VOE2F04L | 1 | NA | 06/11/2414:15 | 06/11/2414:15 | RFG093 | REG122 | VOE2F04 | Lab Control Sample (LCS) |
| LCD2W | VOE2F04C | 1 | NA | 06/11/2414:39 | 06/11/2414:39 | RFG094 | REG122 | VOE2F04 | LCS Duplicate |
| MBLK2W | VOE2F04B | 1 | NA | 06/11/2415:26 | 06/11/2415:26 | RFG096 | REG122 | VOE2F04 | Method Blank |
| TLAMF-MW029-MAY24 | 24F003-14 | 1 | NA | 06/11/2417:25 | 06/11/2417:25 | RFG101 | REG122 | VOE2F04 | Field Sample |
| TLAMF-MW030-MAY24 | 24F003-15 | 1 | NA | 06/11/2417:49 | 06/11/2417:49 | RFG102 | REG122 | VOE2F04 | Field Sample |
| TLAMF-MW030-MAY24_FD | 24F003-16 | 1 | NA | 06/11/2418:13 | 06/11/2418:13 | RFG103 | REG122 | VOE2F04 | Field Sample |
| TLAMF-MW057-MAY24 | 24F003-17 | 1 | NA | 06/11/2418:37 | 06/11/2418:37 | RFG104 | REG122 | VOE2F04 | Field Sample |

FN - Filename
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 08:33 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 21:35 |
| Sample ID | : T1AMF-MW059-MAY24 | Date Analyzed: | 06/10/24 21:35 |
| Lab Samp ID: | 24F003-01N | Dilution Factor: | 1 |
| Lab File ID: | RFG075 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.29J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 7.0 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.0 | 10.0 | 110 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.0 | 100 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.92 | 10.0 | 99 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG075.D
Acq On : 10 Jun 2024 21:35
Sample : 24F003-01N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 14:44:27 2024
Quant Results File: VOE2E17.RES

Vial: 15
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 517077 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 404842 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 199904 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 314094 | 9.92 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 99.20% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 462329 | 11.05 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 110.50% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 854770 | 10.63 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 106.30% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 317721 | 10.01 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 100.10% | | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 8185 | 0.29 | ug/l | 98 |
| 45) Trichloroethene | 6.373 | 130 | 182490 | 6.99 | ug/L | 98 |

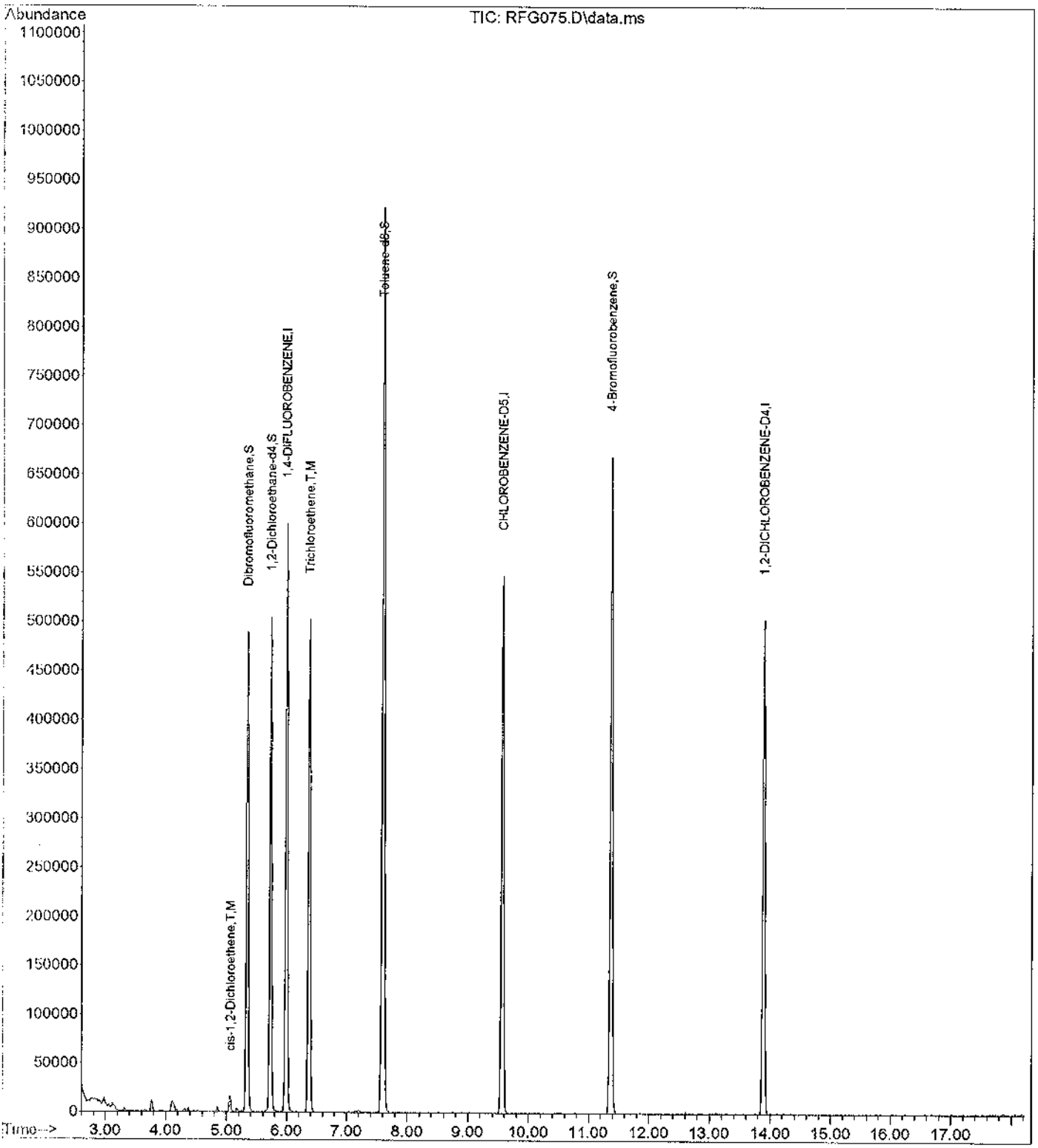
(#) = qualifier out of range (m) = manual integration (+) = signals summed

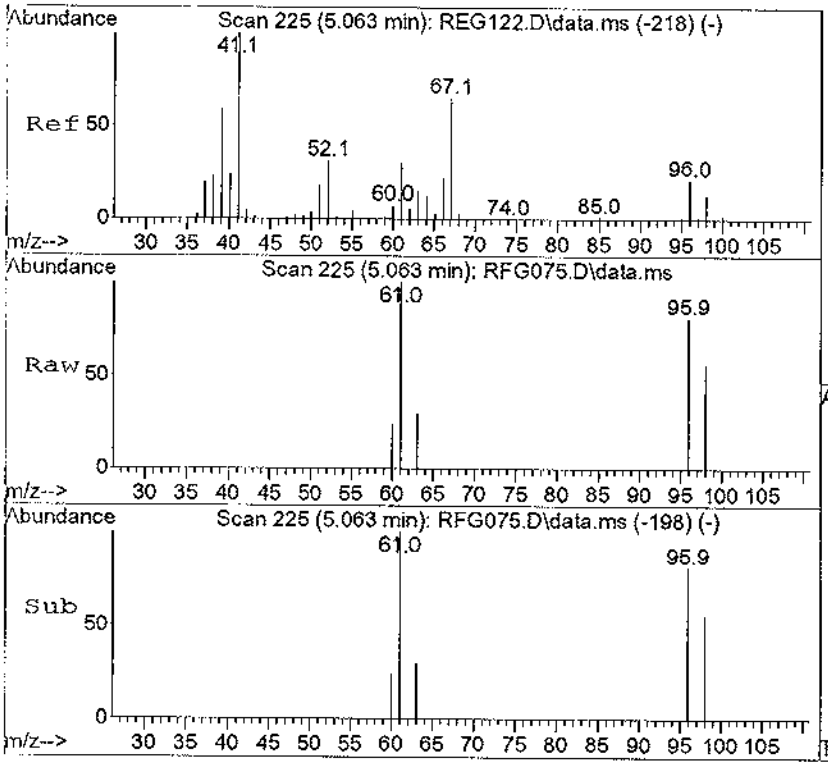
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG075.D
Acq On : 10 Jun 2024 21:35
Sample : 24F003-01N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 14:44:27 2024
Quant Results File: VOE2E17.RES

Vial: 15
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

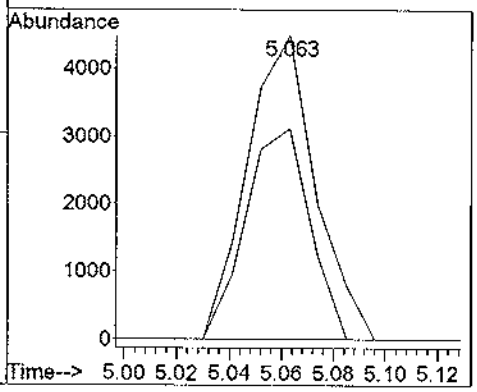


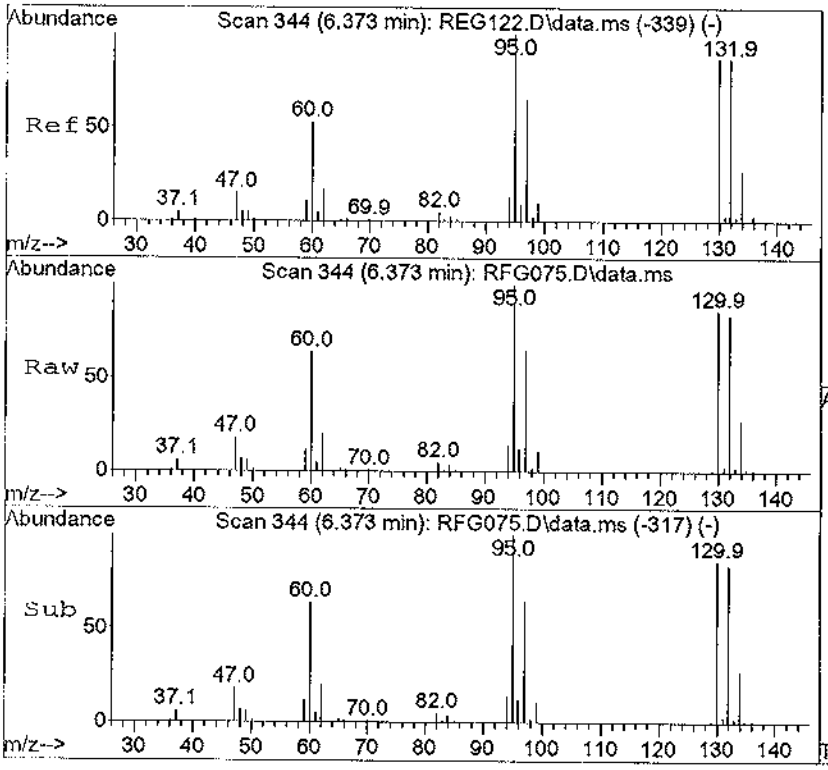



#32
cis-1,2-Dichloroethene
Concen: 0.29 ug/l
RT: 5.063 min Scan# 225
Delta R.T. 0.000 min
Lab File: RFG075.D
Acq: 10 Jun 2024 21:35

Tgt Ion: 96 Resp: 8185

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 65.3 | 33.9 | 93.9 |

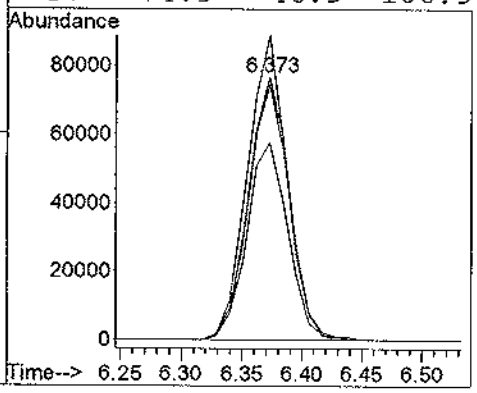



#45
Trichloroethene
Concen: 6.99 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG075.D
Acq: 10 Jun 2024 21:35

Tgt Ion:130 Resp: 182490

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.0 | 67.6 | 127.6 |
| 95 | 111.6 | 82.6 | 142.6 |
| 97 | 74.9 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 09:38 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 21:59 |
| Sample ID | : T1AMF-MW044-MAY24 | Date Analyzed: | 06/10/24 21:59 |
| Lab Samp ID: | 24F003-02N | Dilution Factor: | 1 |
| Lab File ID: | RFG076 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 2.1 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.23J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 46 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.9 | 10.0 | 109 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 10.1 | 10.0 | 101 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG076.D
Acq On : 10 Jun 2024 21:59
Sample : 24F003-02N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:31:37 2024
Quant Results File: VOE2E17.RES

Vial: 16
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 505402 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 390333 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 183981 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 313557 | 10.13 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.30% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 447050 | 10.93 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 109.30% | | |
| 56) Toluene-d8 | 7.594 | 98 | 830167 | 10.70 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.00% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 310815 | 10.64 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.40% | | |
| Target Compounds | | | | | | Qvalue |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 5465 | 0.23 | ug/l | 84 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 57822 | 2.11 | ug/l | 93 |
| 33) Chloroform | 5.173 | 83 | 13780 | 0.23 | ug/l | 99 |
| 45) Trichloroethene | 6.373 | 130 | 1182752 | 46.33 | ug/L | 98 |

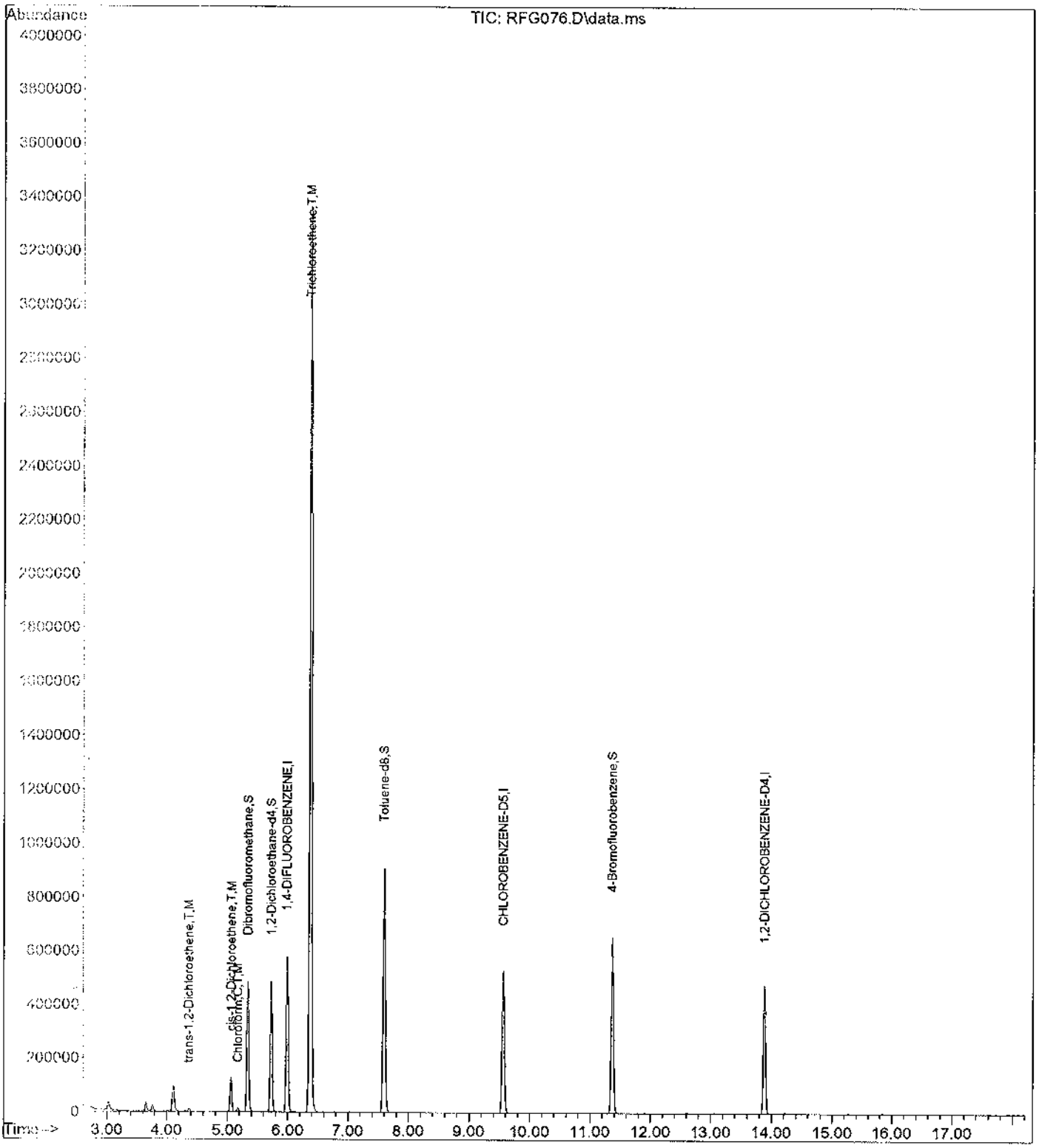
(#) = qualifier out of range (m) = manual integration (+) = signals summed

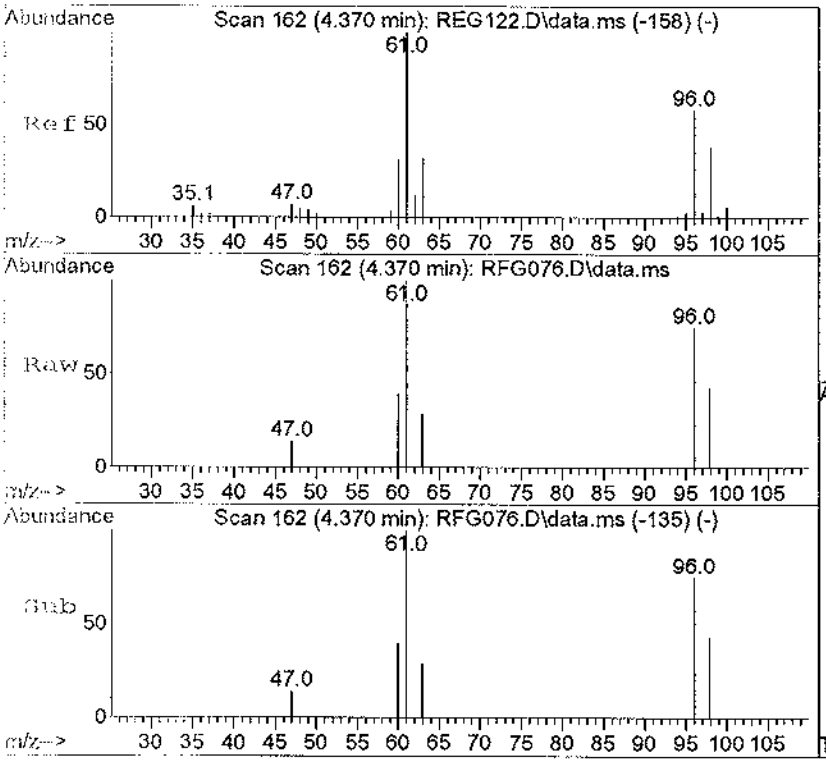
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG076.D
Acq On : 10 Jun 2024 21:59
Sample : 24F003-02N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:31:37 2024
Quant Results File: VOE2E17.RES

Vial: 16
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

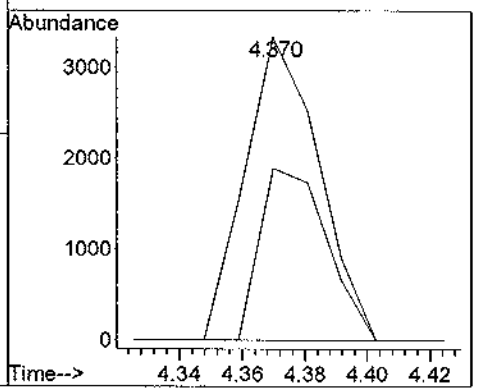


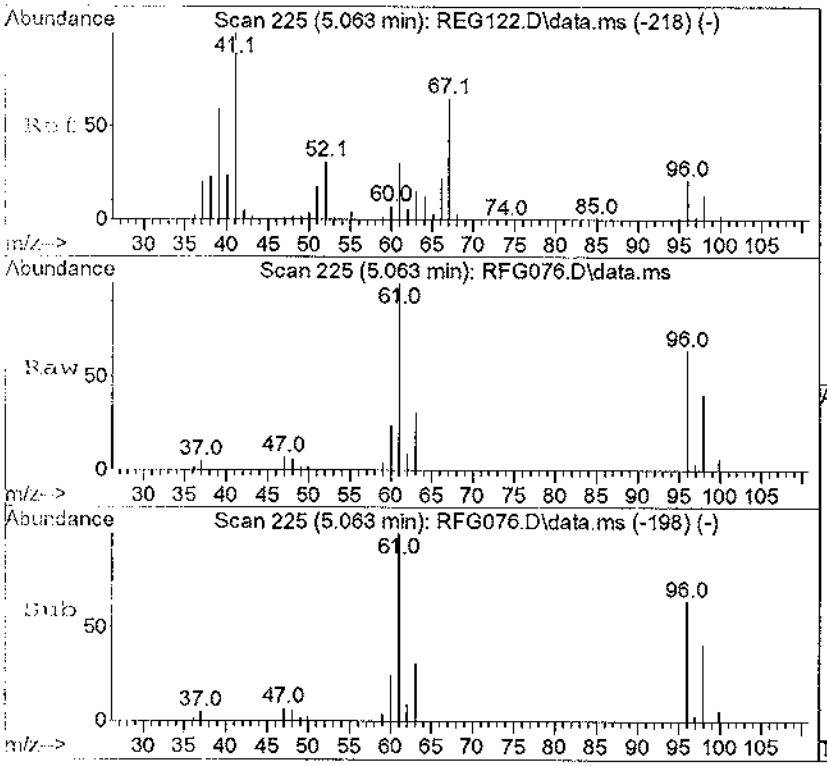



#22
trans-1,2-Dichloroethene
Concen: 0.23 ug/l
RT: 4.370 min Scan# 162
Delta R.T. 0.000 min
Lab File: RFG076.D
Acq: 10 Jun 2024 21:59

Tgt Ion: 96 Resp: 5465

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 51.6 | 34.4 | 94.4 |

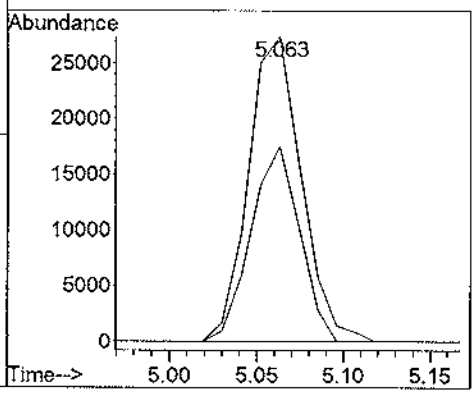


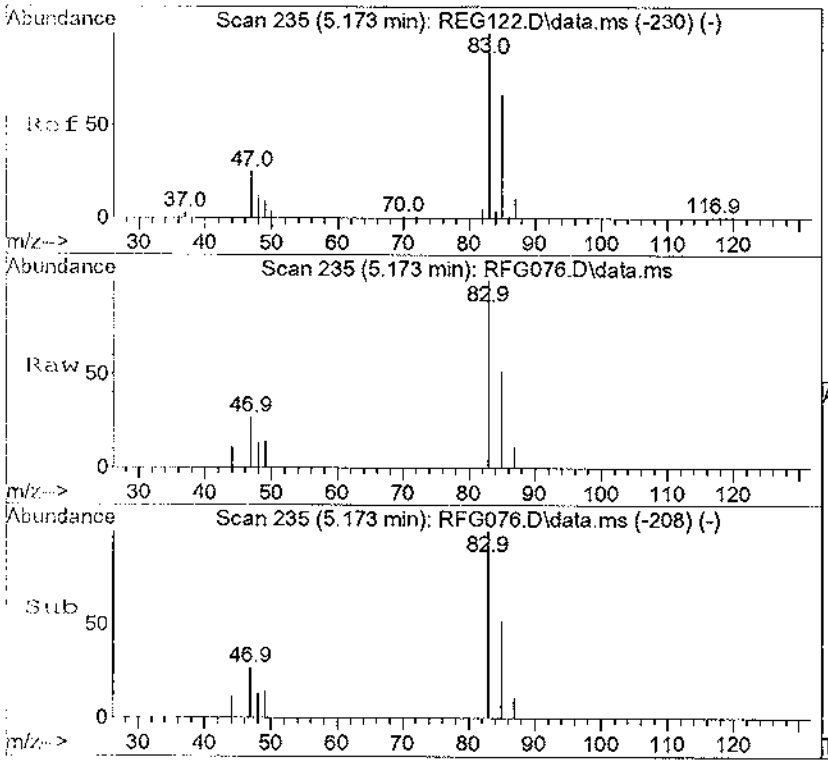




#32
cis-1,2-Dichloroethene
Concen: 2.11 ug/l
RT: 5.063 min Scan# 225
Delta R.T. 0.000 min
Lab File: RFG076.D
Acq: 10 Jun 2024 21:59

Tgt Ion: 96 Resp: 57822

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 58.7 | 33.9 | 93.9 |

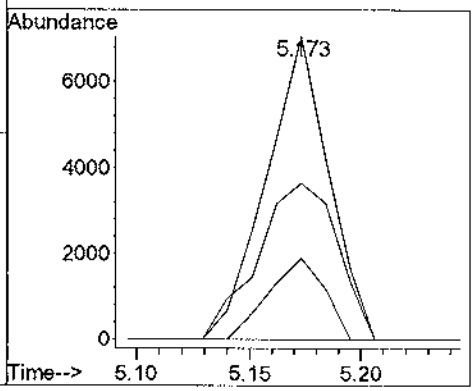


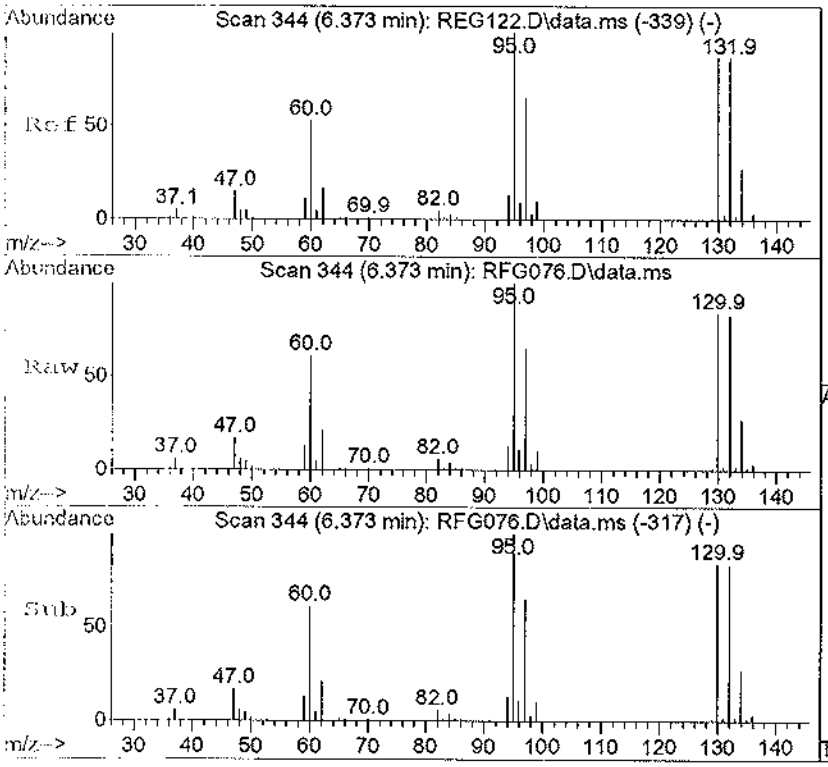



#33
Chloroform
Concen: 0.23 ug/l
RT: 5.173 min Scan# 235
Delta R.T. 0.000 min
Lab File: RFG076.D
Acq: 10 Jun 2024 21:59

Tgt Ion: 83 Resp: 13780

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 65.9 | 35.4 | 95.4 |
| 47 | 24.0 | 0.0 | 55.4 |

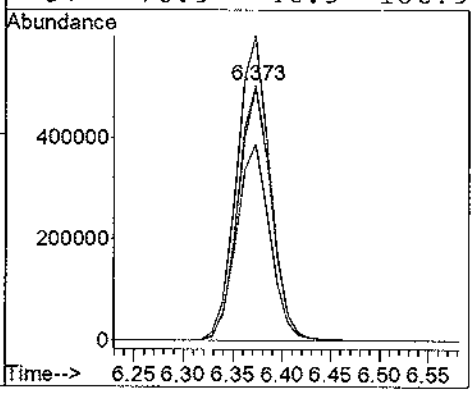



#45
Trichloroethene
Concen: 46.33 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG076.D
Acq: 10 Jun 2024 21:59

Tgt Ion:130 Resp: 1182752

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 98.0 | 67.6 | 127.6 |
| 95 | 118.4 | 82.6 | 142.6 |
| 97 | 76.9 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 10:47 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 22:23 |
| Sample ID | : T1AMF-MW047-MAY24 | Date Analyzed: | 06/10/24 22:23 |
| Lab Samp ID: | 24F003-03N | Dilution Factor: | 1 |
| Lab File ID: | RFG077 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.0 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.30J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 20 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 9.85 | 10.0 | 98 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG077.D
Acq On : 10 Jun 2024 22:23
Sample : 24F003-03N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:35:44 2024
Quant Results File: VOE2E17.RES

Vial: 17
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 493646 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 384955 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 184007 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 297685 | 9.85 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 98.50% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 444707 | 11.13 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 111.30% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 819010 | 10.71 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 107.10% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 299731 | 10.26 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 102.60% | | | |
| Target Compounds | | | | | | Qvalue |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 7101 | 0.30 | ug/l | 92 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 27723 | 1.03 | ug/l | 96 |
| 33) Chloroform | 5.173 | 83 | 16339 | 0.28 | ug/l | 91 |
| 45) Trichloroethene | 6.373 | 130 | 504223 | 20.22 | ug/L | 97 |

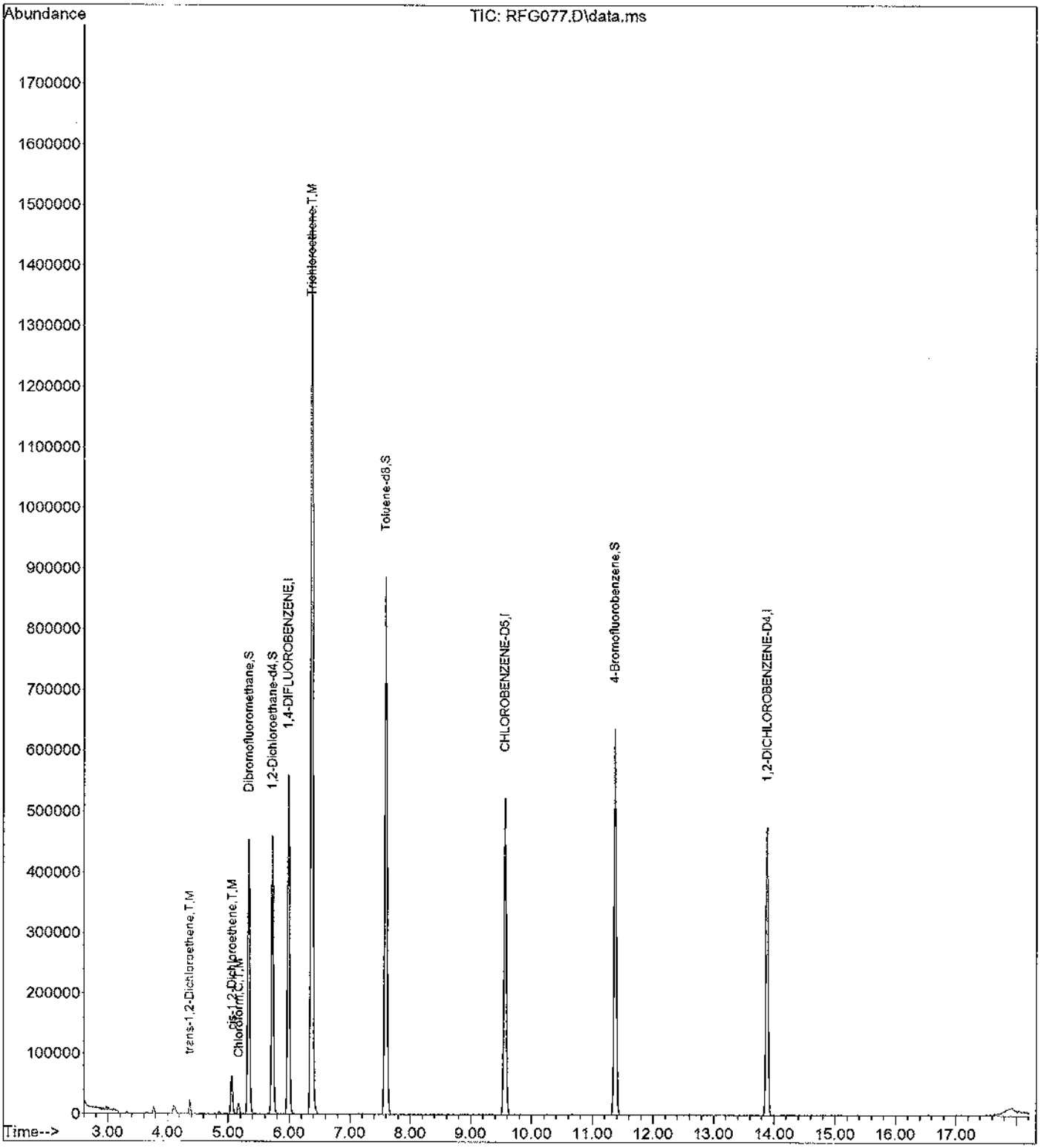
(#) = qualifier out of range (m) = manual integration (+) = signals summed

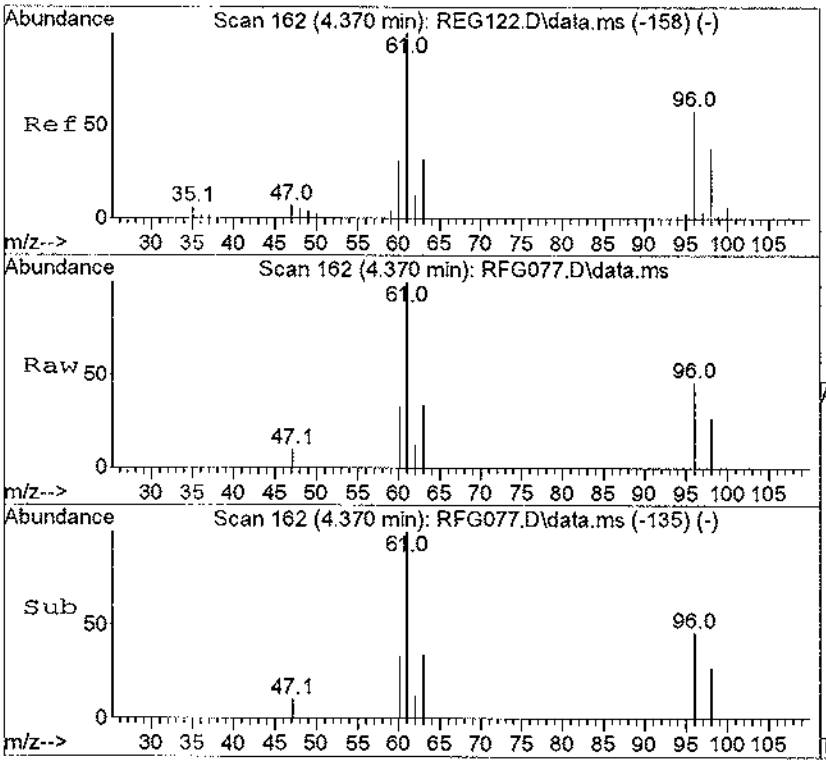
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG077.D
Acq On : 10 Jun 2024 22:23
Sample : 24F003-03N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:35:44 2024
Quant Results File: VOE2E17.RES

Vial: 17
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

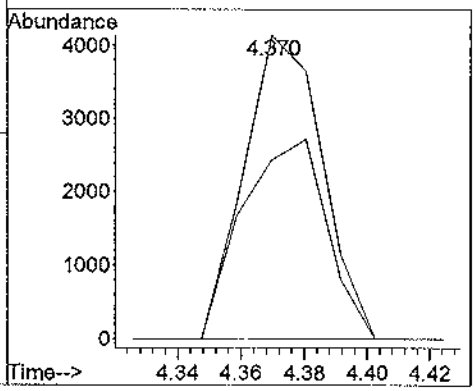


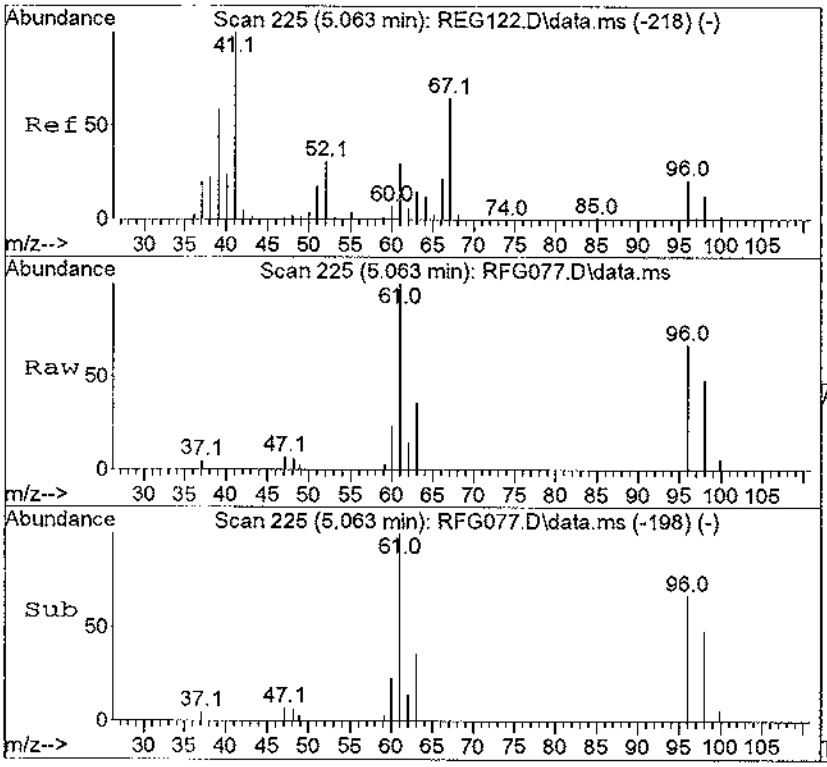



#22
trans-1,2-Dichloroethene
Concen: 0.30 ug/l
RT: 4.370 min Scan# 162
Delta R.T. -0.000 min
Lab File: RFG077.D
Acq: 10 Jun 2024 22:23

Tgt Ion: 96 Resp: 7101

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 70.9 | 34.4 | 94.4 |

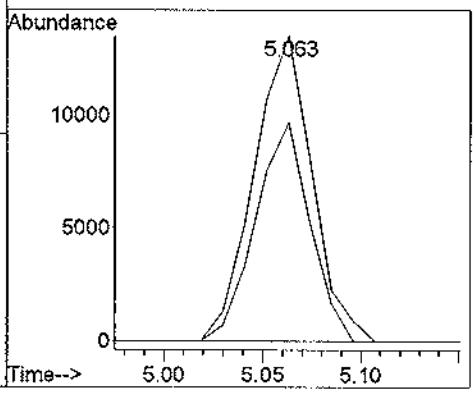


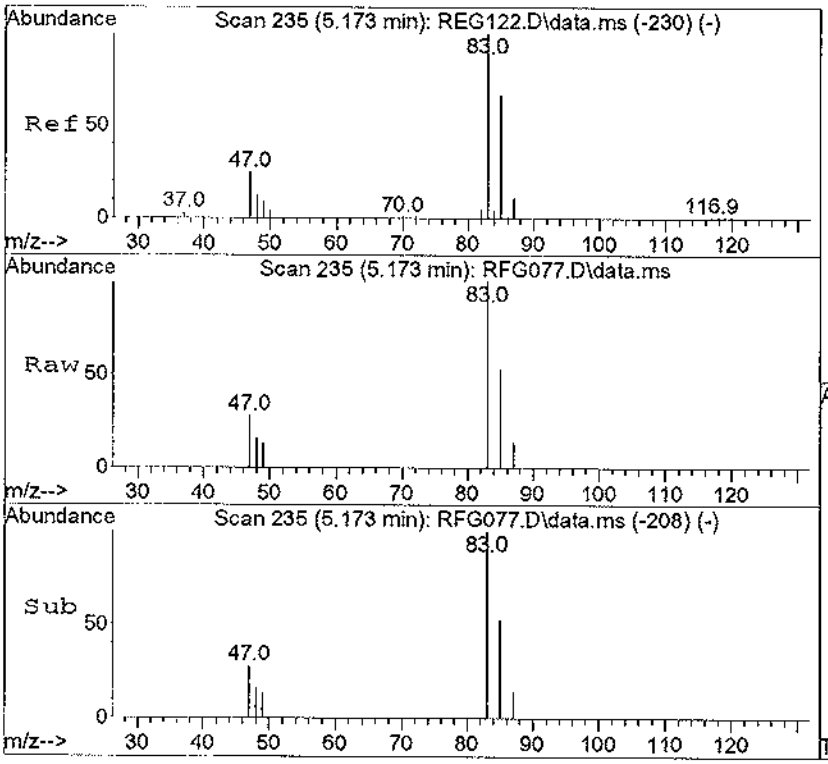




#32
cis-1,2-Dichloroethene
Concen: 1.03 ug/l
RT: 5.063 min Scan# 225
Delta R.T. -0.000 min
Lab File: RFG077.D
Acq: 10 Jun 2024 22:23

Tgt Ion: 96 Resp: 27723

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 67.1 | 33.9 | 93.9 |

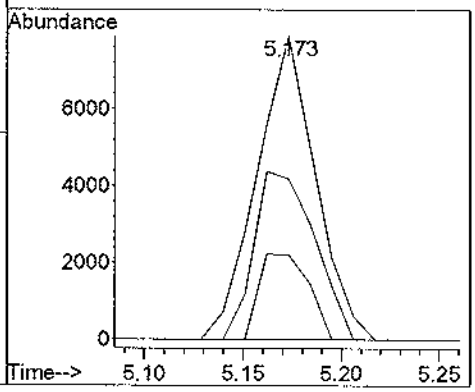


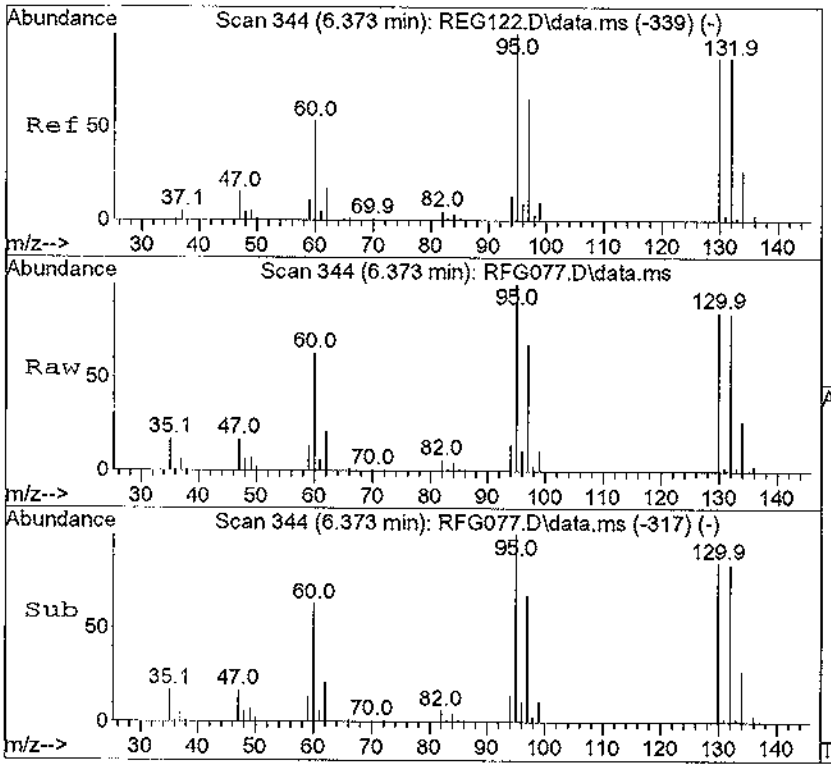



#33
Chloroform
Concen: 0.28 ug/l
RT: 5.173 min Scan# 235
Delta R.T. -0.000 min
Lab File: RFG077.D
Acq: 10 Jun 2024 22:23

Tgt Ion: 83 Resp: 16339

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 57.1 | 35.4 | 95.4 |
| 47 | 23.7 | 0.0 | 55.4 |

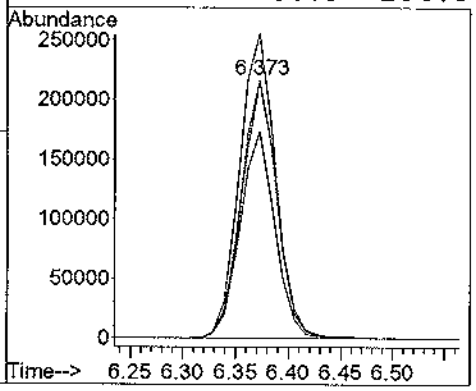



#45
Trichloroethene
Concen: 20.22 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG077.D
Acq: 10 Jun 2024 22:23

Tgt Ion:130 Resp: 504223

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 97.8 | 67.6 | 127.6 |
| 95 | 119.3 | 82.6 | 142.6 |
| 97 | 78.2 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 11:44 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 22:46 |
| Sample ID | : T1AMF-MW046-MAY24 | Date Analyzed: | 06/10/24 22:46 |
| Lab Samp ID: | 24F003-04N | Dilution Factor: | 1 |
| Lab File ID: | RFG078 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 2.6 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.18J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 120 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.5 | 10.0 | 115 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.93 | 10.0 | 99 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG078.D
Acq On : 10 Jun 2024 22:46
Sample : 24F003-04N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:37:43 2024
Quant Results File: VOE2E17.RES

Vial: 18
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 484255 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 379562 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 181666 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 294518 | 9.93 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 99.30% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 452657 | 11.55 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 115.50% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 802434 | 10.64 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 106.40% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 295956 | 10.26 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 102.60% | | | |
| Target Compounds | | | | | | Qvalue |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 4123 | 0.18 | ug/l | 94 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 68791 | 2.62 | ug/l | 98 |
| 33) Chloroform | 5.173 | 83 | 33880 | 0.59 | ug/l | 97 |
| 45) Trichloroethene | 6.372 | 130 | 2824910 | 115.50 | ug/L | 97 |

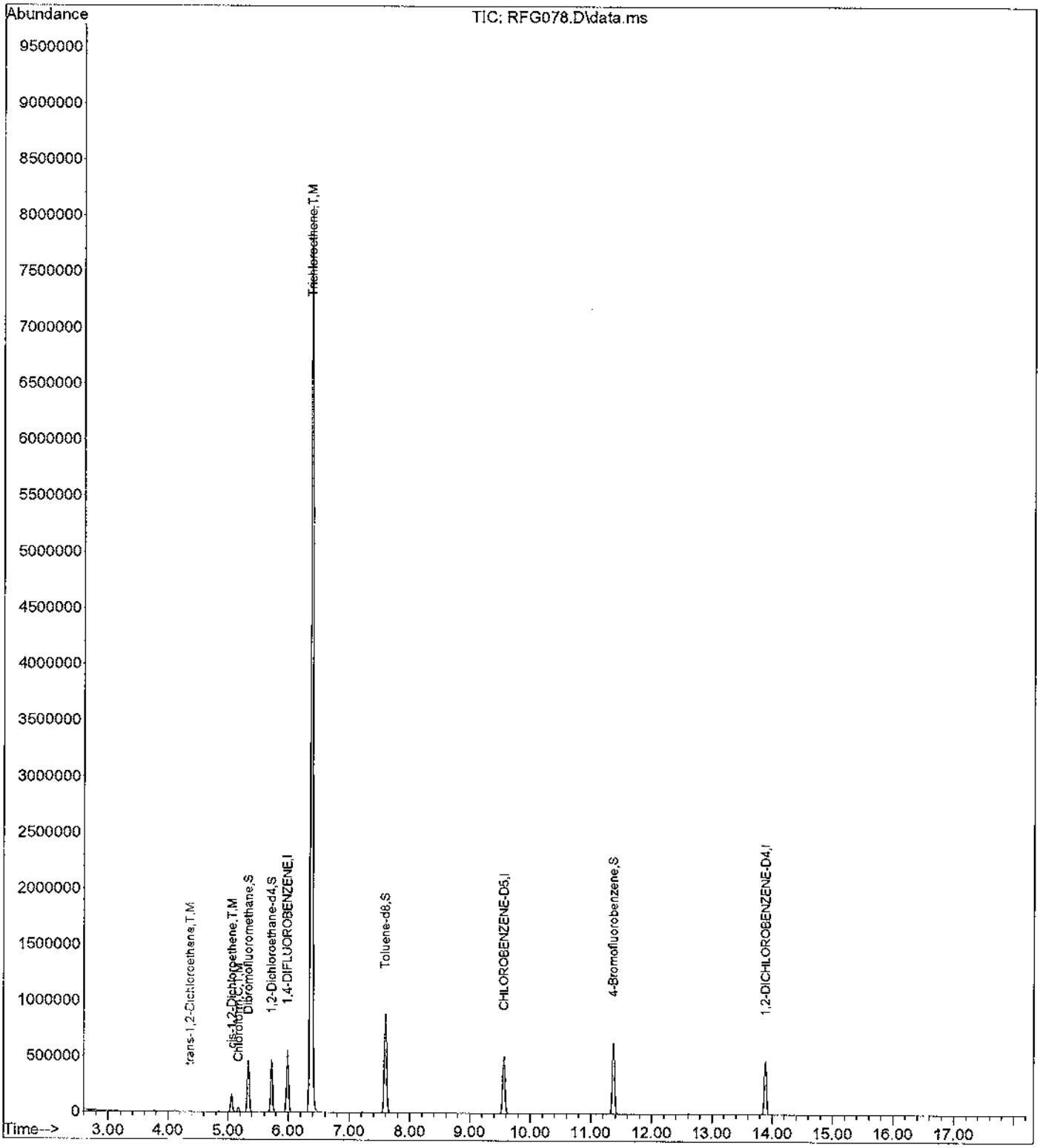
(#) = qualifier out of range (m) = manual integration (+) = signals summed

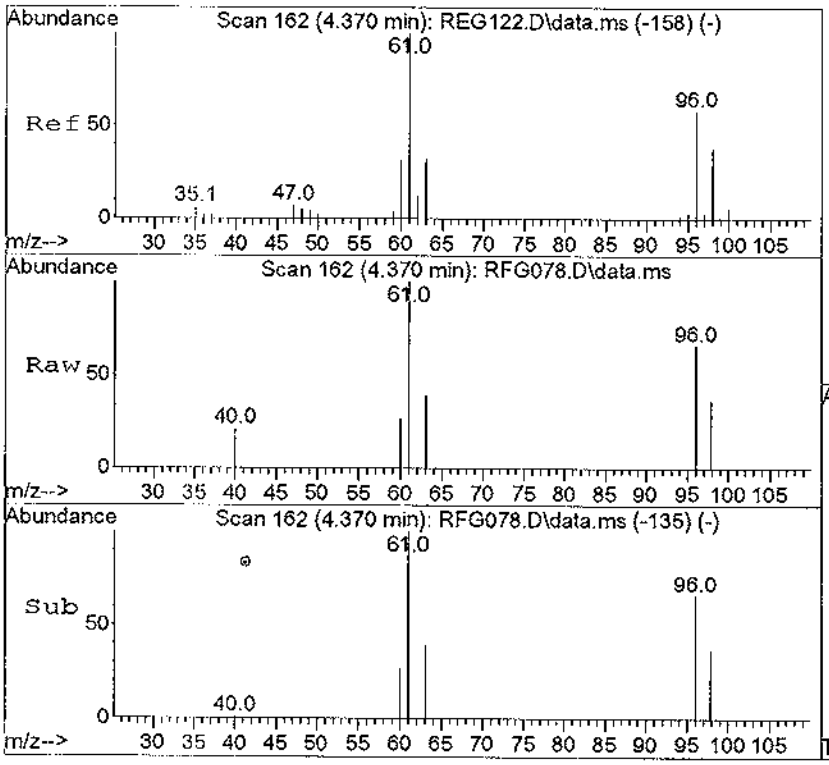
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG078.D
Acq On : 10 Jun 2024 22:46
Sample : 24F003-04N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:37:43 2024
Quant Results File: VOE2E17.RES

Vial: 18
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

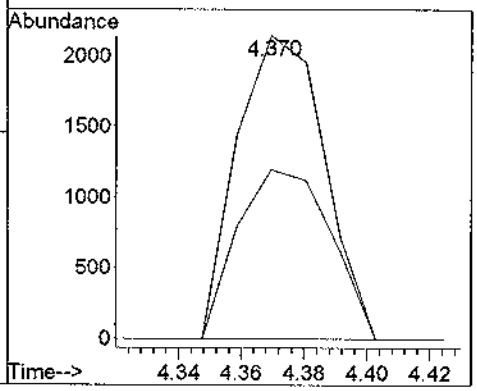


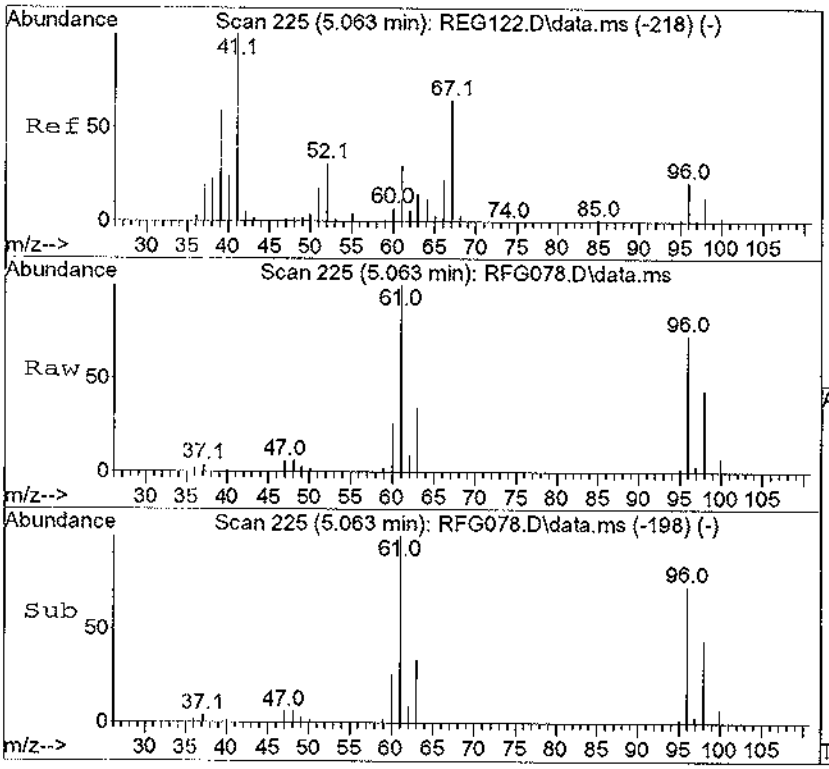



#22
trans-1,2-Dichloroethene
Concen: 0.18 ug/l
RT: 4.370 min Scan# 162
Delta R.T. -0.000 min
Lab File: RFG078.D
Acq: 10 Jun 2024 22:46

Tgt Ion: 96 Resp: 4123

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 59.5 | 34.4 | 94.4 |

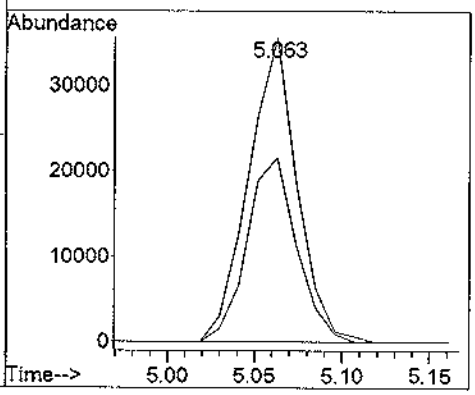


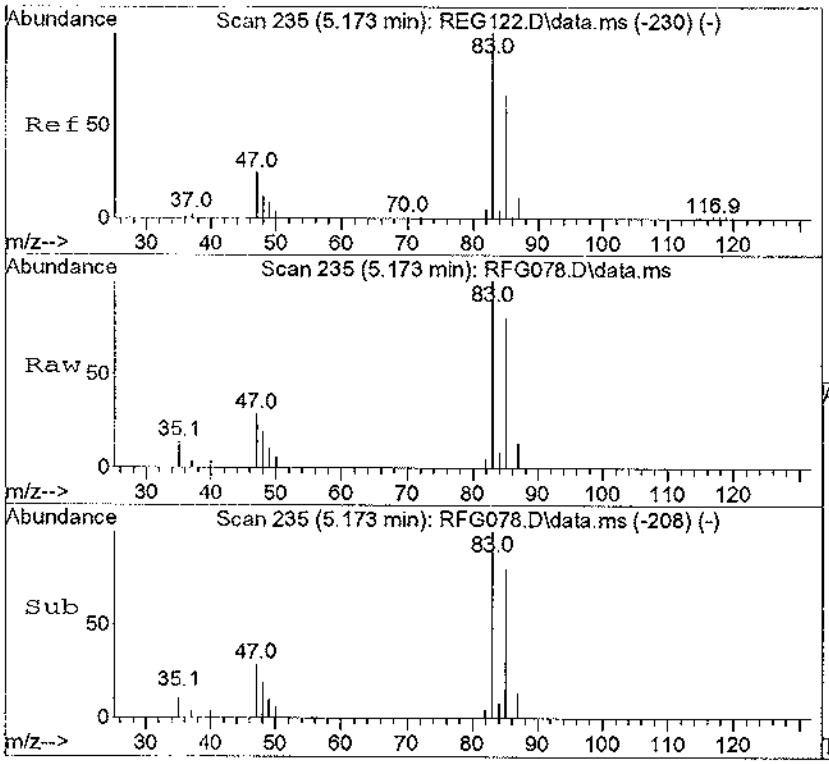




#32
cis-1,2-Dichloroethene
Concen: 2.62 ug/l
RT: 5.063 min Scan# 225
Delta R.T. -0.000 min
Lab File: RFG078.D
Acq: 10 Jun 2024 22:46

Tgt Ion: 96 Resp: 68791

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 62.0 | 33.9 | 93.9 |

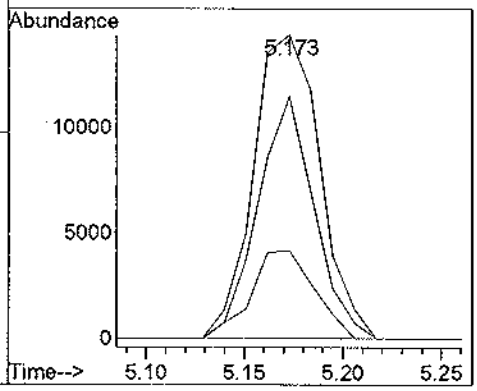


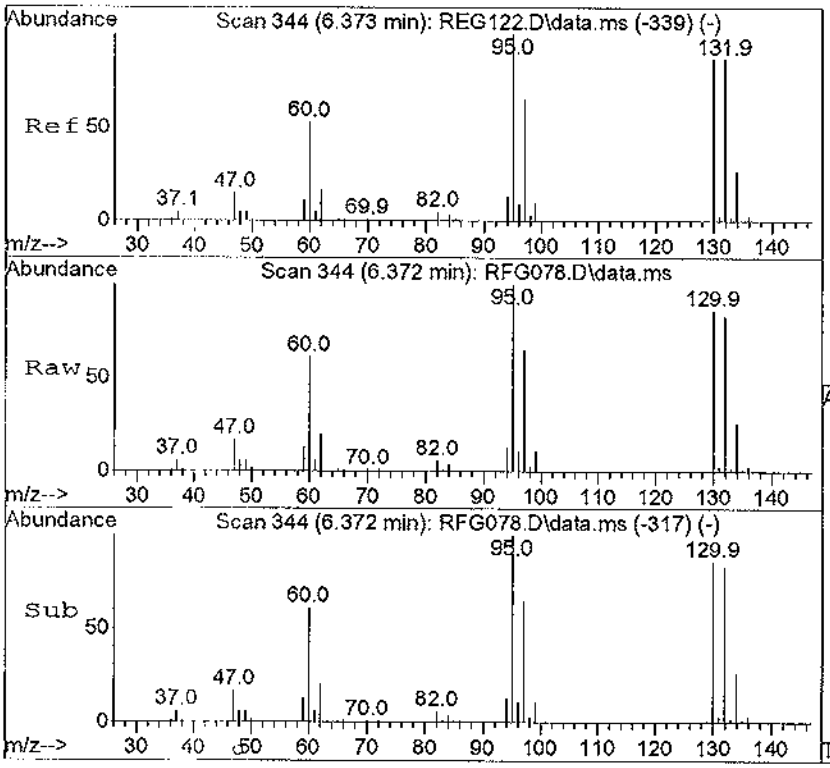



#33
Chloroform
Concen: 0.59 ug/l
RT: 5.173 min Scan# 235
Delta R.T. -0.000 min
Lab File: RFG078.D
Acq: 10 Jun 2024 22:46

Tgt Ion: 83 Resp: 33880

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 67.4 | 35.4 | 95.4 |
| 47 | 27.5 | 0.0 | 55.4 |

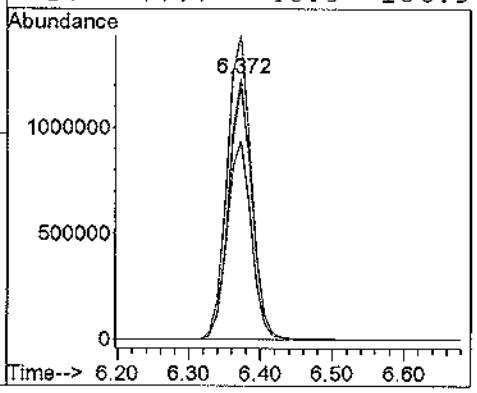



#45
Trichloroethene
Concen: 115.50 ug/L
RT: 6.372 min Scan# 344
Delta R.T. -0.001 min
Lab File: RFG078.D
Acq: 10 Jun 2024 22:46

Tgt Ion:130 Resp: 2824910

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.7 | 67.6 | 127.6 |
| 95 | 118.9 | 82.6 | 142.6 |
| 97 | 77.7 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 13:09 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 23:10 |
| Sample ID | : T1AMF-MW050-MAY24 | Date Analyzed: | 06/10/24 23:10 |
| Lab Samp ID: | 24F003-05N | Dilution Factor: | 1 |
| Lab File ID: | RFG079 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.56J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.14J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 14 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.6 | 10.0 | 116 | 81-118 |
| 4-Bromofluorobenzene | 10.2 | 10.0 | 102 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 10.4 | 10.0 | 104 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG079.D
Acq On : 10 Jun 2024 23:10
Sample : 24F003-05N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:39:30 2024
Quant Results File: VOE2E17.RES

Vial: 19
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 468785 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 377159 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 180466 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 299434 | 10.43 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.30% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 439528 | 11.58 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 115.80% | | |
| 56) Toluene-d8 | 7.594 | 98 | 788990 | 10.53 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.30% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 292307 | 10.20 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.00% | | |
| Target Compounds | | | | | | Qvalue |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 3231 | 0.14 | ug/l | 79 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 14281 | 0.56 | ug/l | 91 |
| 33) Chloroform | 5.173 | 83 | 25668 | 0.46 | ug/l | 95 |
| 45) Trichloroethene | 6.373 | 130 | 342747 | 14.48 | ug/L | 96 |

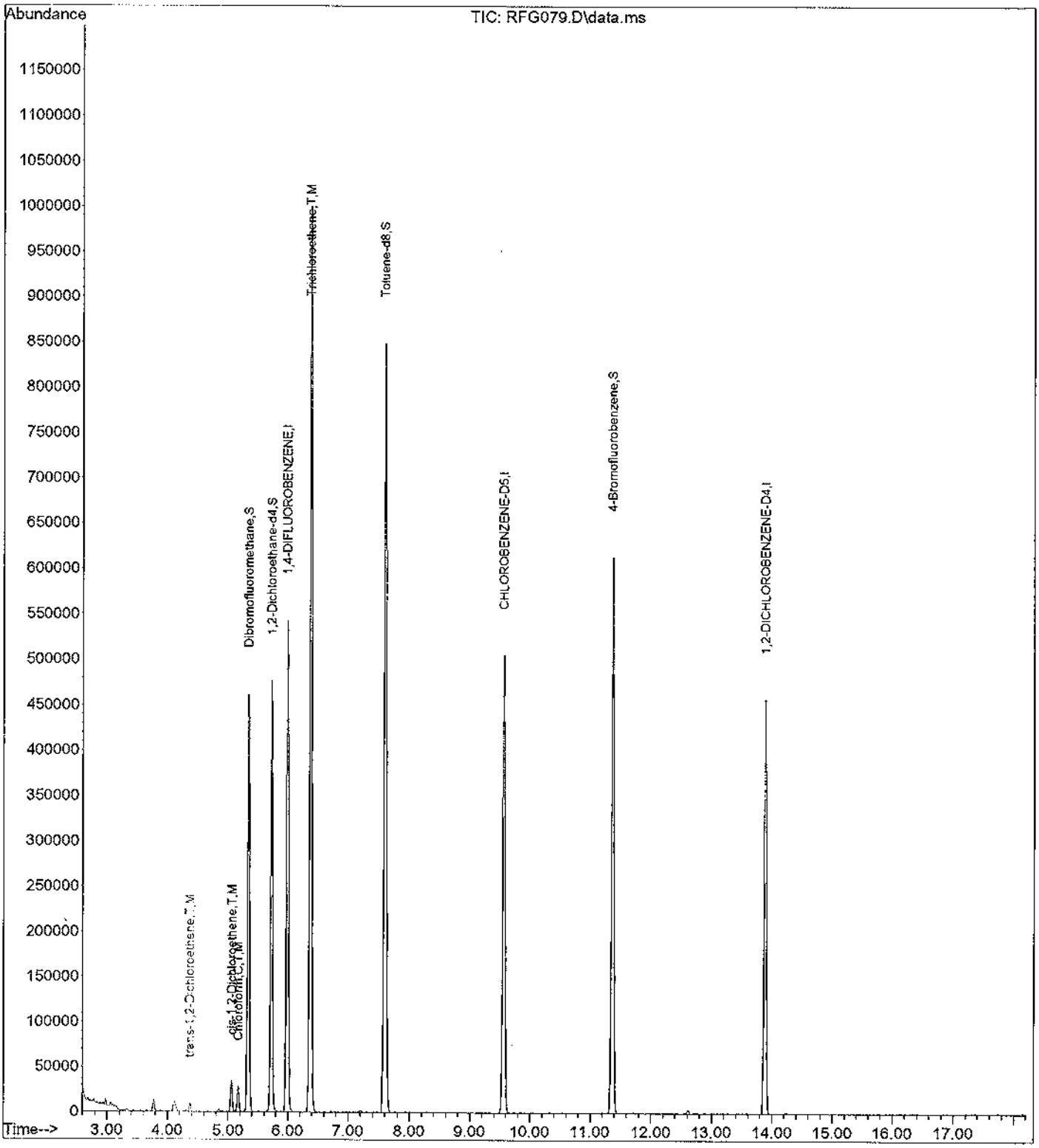
(#) = qualifier out of range (m) = manual integration (+) = signals summed

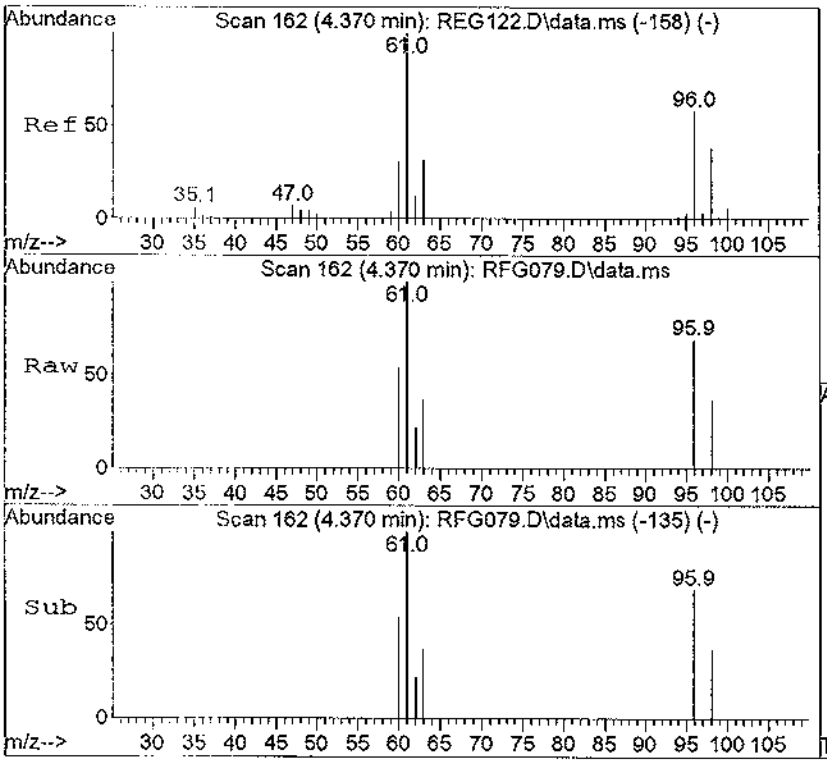
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG079.D
Acq On : 10 Jun 2024 23:10
Sample : 24F003-05N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:39:30 2024
Quant Results File: VOE2E17.RES

Vial: 19
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

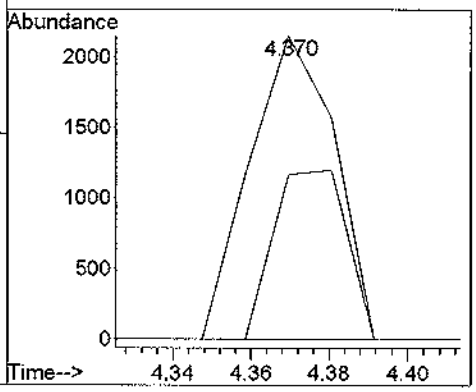


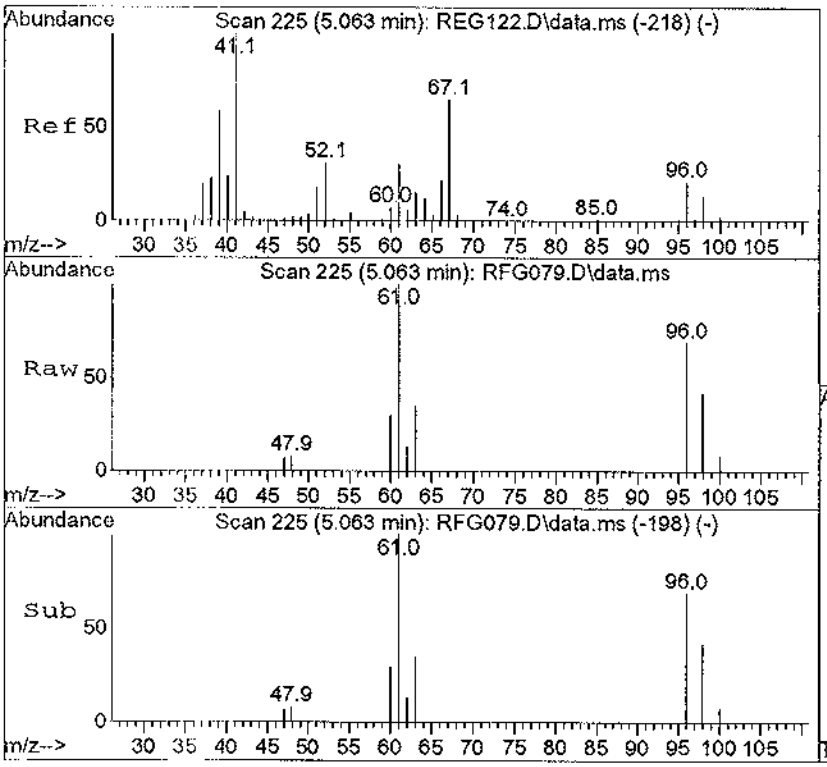



#22
trans-1,2-Dichloroethene
Concen: 0.14 ug/l
RT: 4.370 min Scan# 162
Delta R.T. -0.000 min
Lab File: RFG079.D
Acq: 10 Jun 2024 23:10

Tgt Ion: 96 Resp: 3231

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 48.3 | 34.4 | 94.4 |

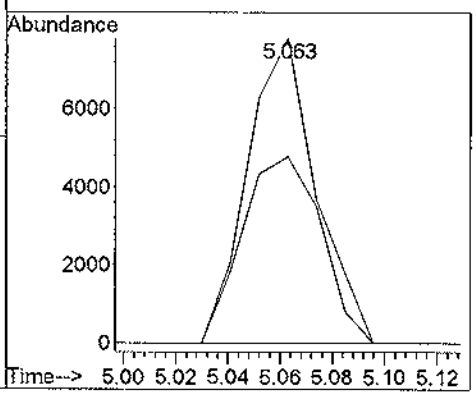


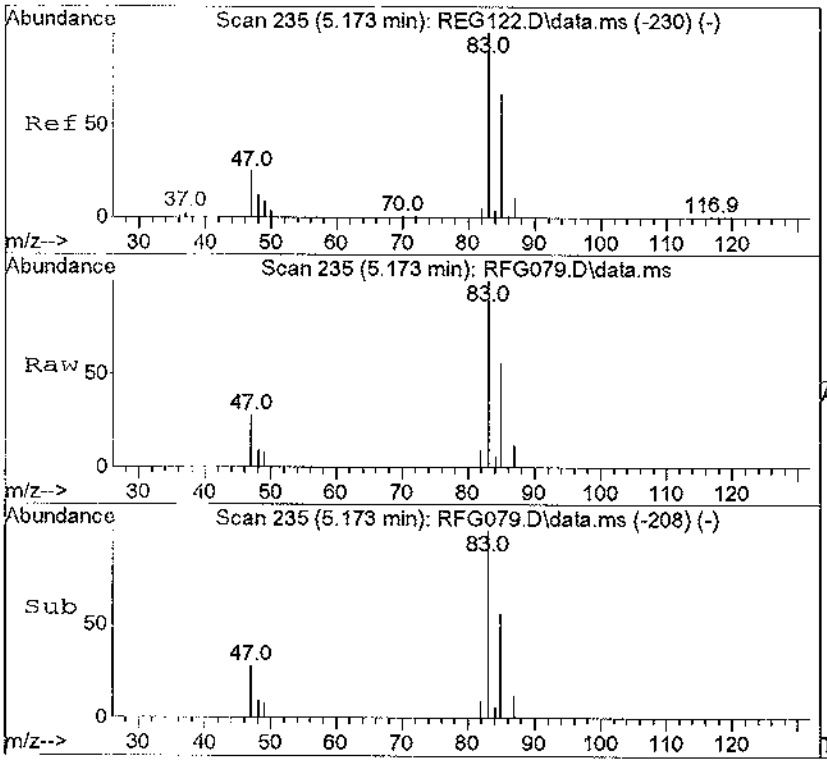




#32
cis-1,2-Dichloroethene
Concen: 0.56 ug/l
RT: 5.063 min Scan# 225
Delta R.T. -0.000 min
Lab File: RFG079.D
Acq: 10 Jun 2024 23:10

Tgt Ion: 96 Resp: 14281

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 70.6 | 33.9 | 93.9 |

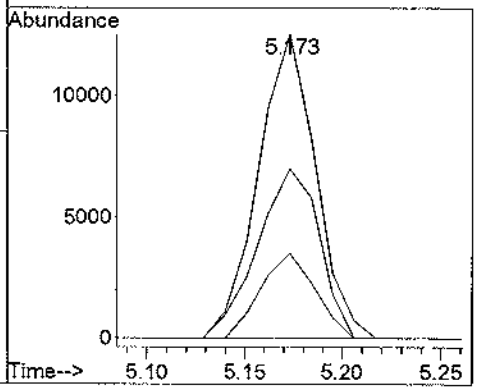


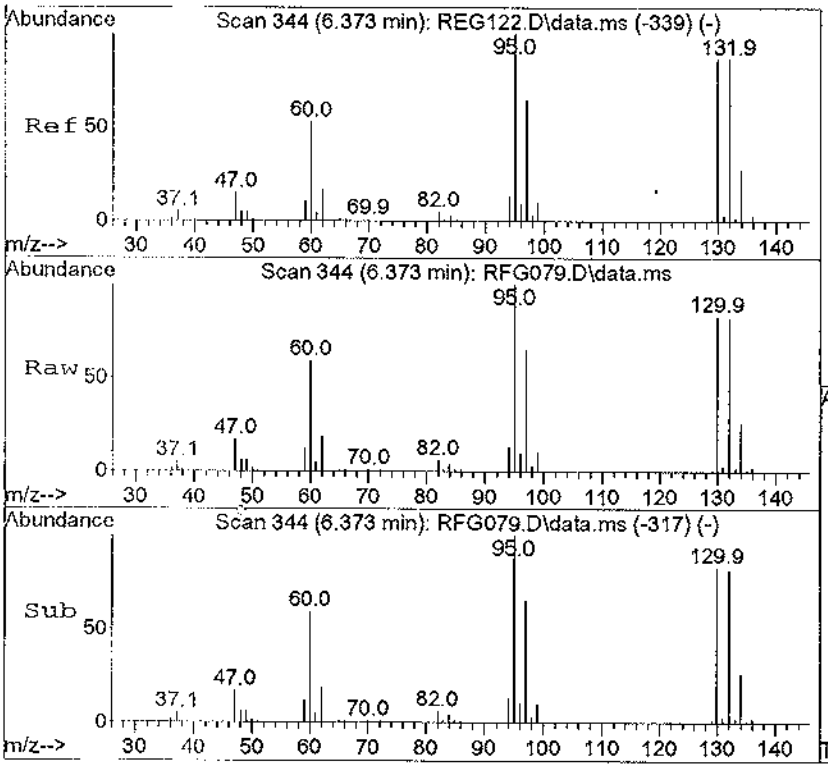



#33
Chloroform
Concen: 0.46 ug/l
RT: 5.173 min Scan# 235
Delta R.T. -0.000 min
Lab File: RFG079.D
Acq: 10 Jun 2024 23:10

Tgt Ion: 83 Resp: 25668

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 60.1 | 35.4 | 95.4 |
| 47 | 26.6 | 0.0 | 55.4 |

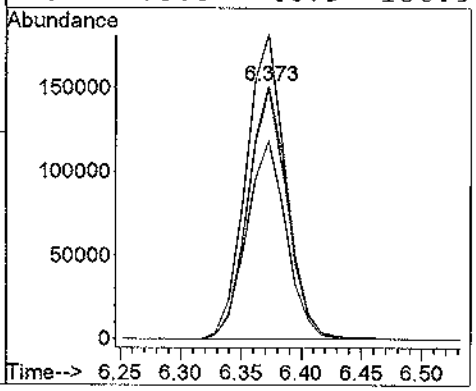



#45
Trichloroethene
Concen: 14.48 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG079.D
Acq: 10 Jun 2024 23:10

Tgt Ion:130 Resp: 342747

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 98.5 | 67.6 | 127.6 |
| 95 | 121.6 | 82.6 | 142.6 |
| 97 | 78.8 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 14:14 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 23:33 |
| Sample ID | : T1AMF-MW052-MAY24 | Date Analyzed: | 06/10/24 23:33 |
| Lab Samp ID: | 24F003-06N | Dilution Factor: | 1 |
| Lab File ID: | RFG080 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.42J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.31J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 5.0 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.2 | 10.0 | 112 | 81-118 |
| 4-Bromofluorobenzene | 10.2 | 10.0 | 102 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 9.76 | 10.0 | 98 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG080.D
Acq On : 10 Jun 2024 23:33
Sample : 24F003-06N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:41:15 2024
Quant Results File: VOE2E17.RES

Vial: 20
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 476344 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 367398 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 172504 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 284696 | 9.76 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 97.60% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 433062 | 11.23 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 112.30% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 769805 | 10.54 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.40% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 278035 | 10.15 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 101.50% | | | |
| Target Compounds | | | | | | Qvalue |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 7107 | 0.31 | ug/l | 95 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 10964 | 0.42 | ug/l | 97 |
| 33) Chloroform | 5.173 | 83 | 5901 | 0.10 | ug/l | 91 |
| 45) Trichloroethene | 6.373 | 130 | 119940 | 4.99 | ug/L | 97 |

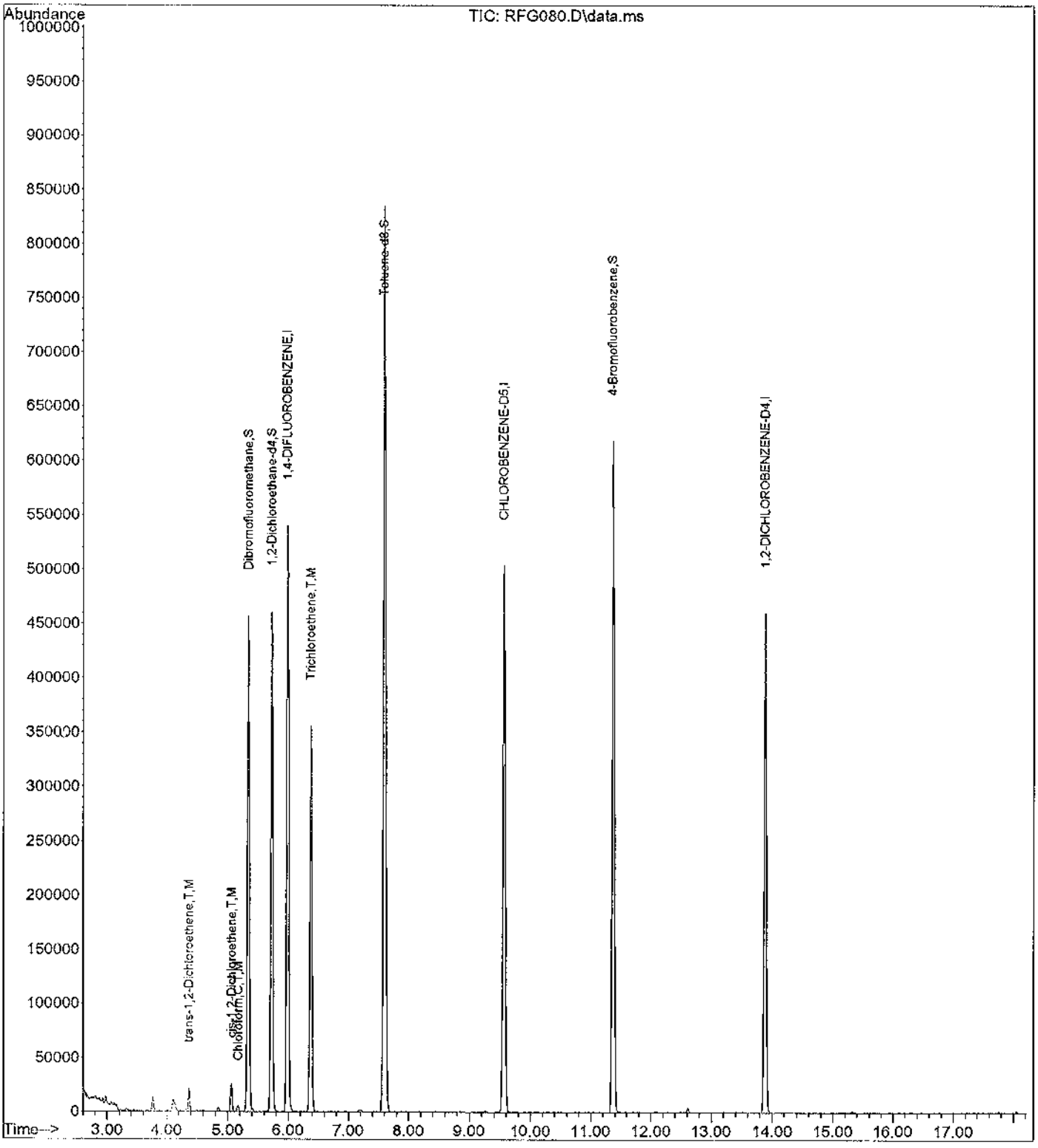
(#) = qualifier out of range (m) = manual integration (+) = signals summed

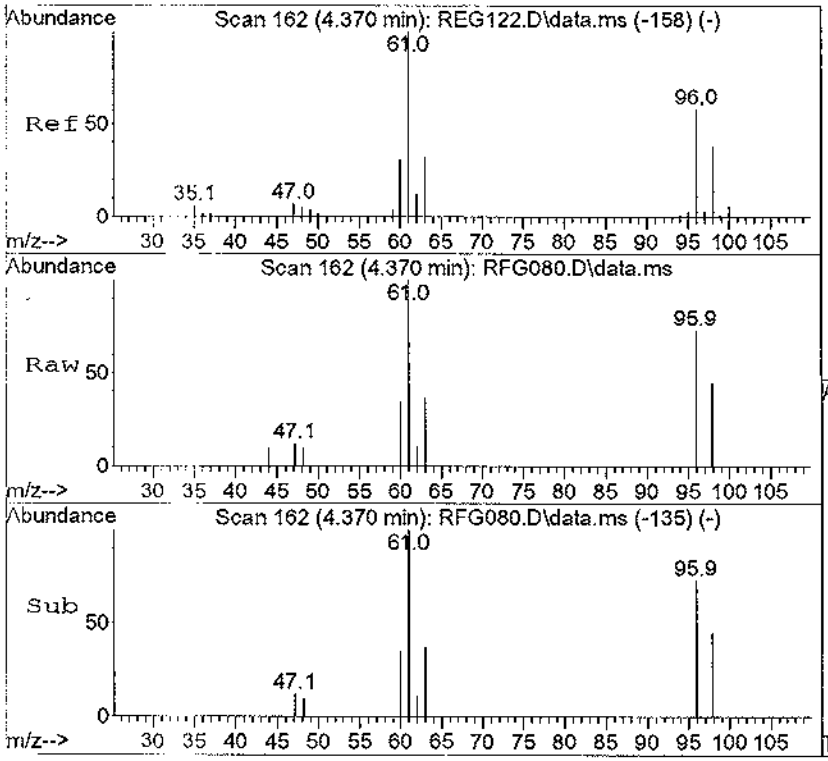
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG080.D
Acq On : 10 Jun 2024 23:33
Sample : 24F003-06N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:41:15 2024
Quant Results File: VOE2E17.RES

Vial: 20
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

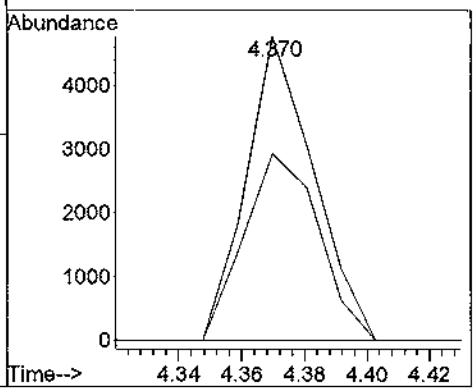


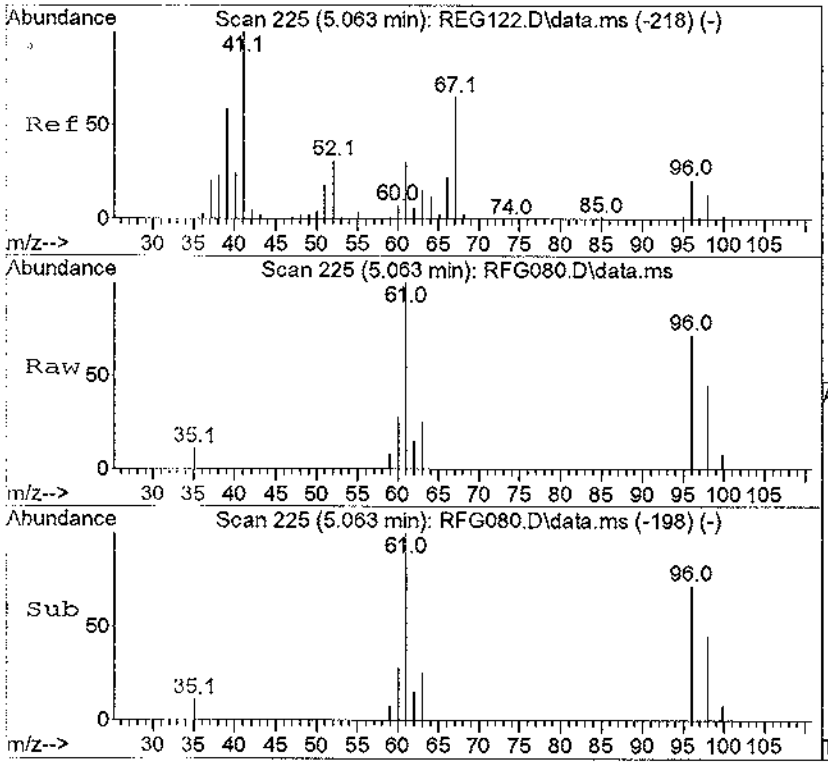



#22
trans-1,2-Dichloroethene
Concen: 0.31 ug/l
RT: 4.370 min Scan# 162
Delta R.T. -0.000 min
Lab File: RFG080.D
Acq: 10 Jun 2024 23:33

Tgt Ion: 96 Resp: 7107

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 68.1 | 34.4 | 94.4 |

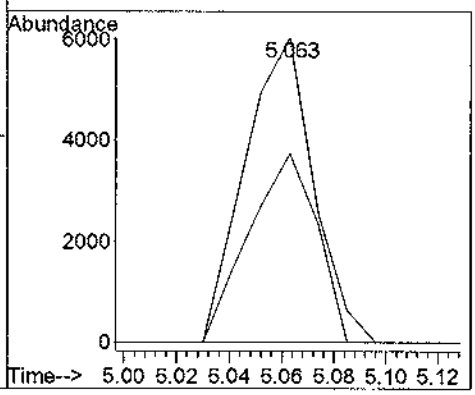


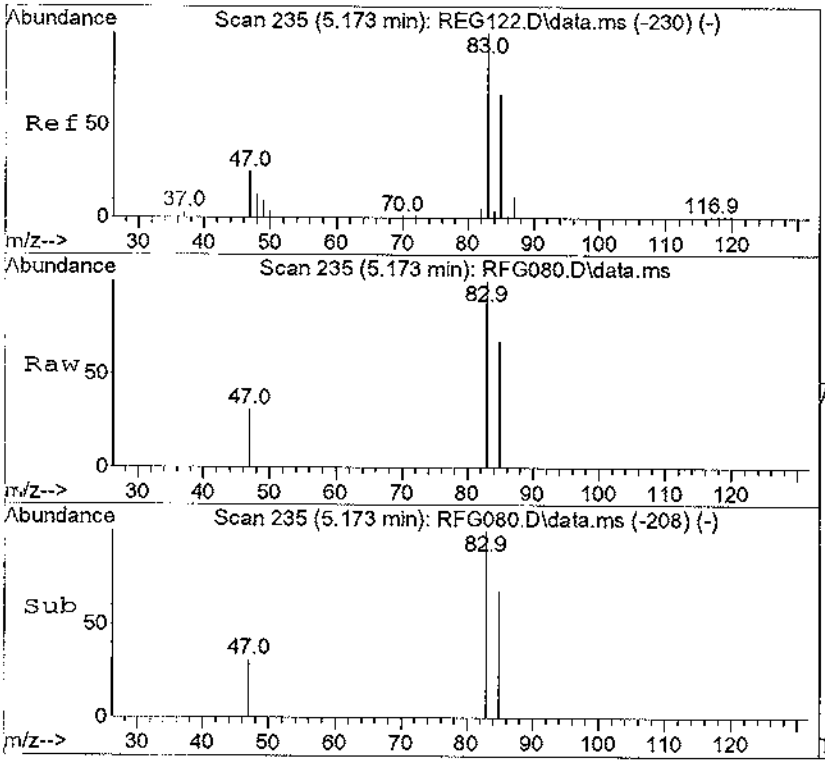




#32
cis-1,2-Dichloroethene
Concen: 0.42 ug/l
RT: 5.063 min Scan# 225
Delta R.T. 0.000 min
Lab File: RFG080.D
Acq: 10 Jun 2024 23:33

Tgt Ion: 96 Resp: 10964

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 61.4 | 33.9 | 93.9 |

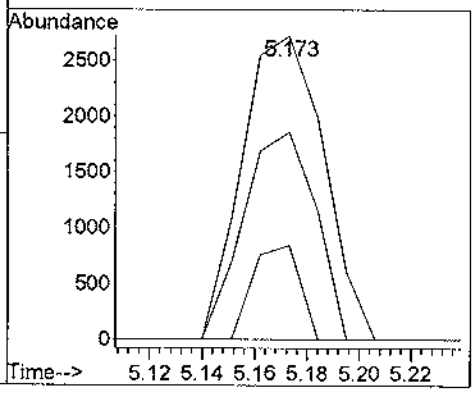


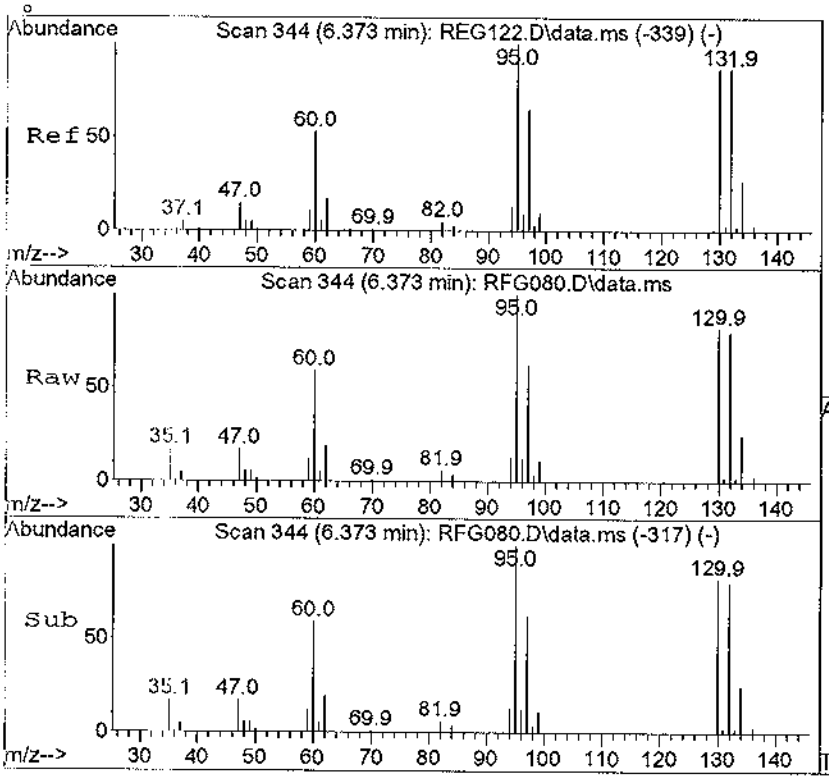



#33
Chloroform
Concen: 0.10 ug/l
RT: 5.173 min Scan# 235
Delta R.T. 0.000 min
Lab File: RFG080.D
Acq: 10 Jun 2024 23:33

Tgt Ion: 83 Resp: 5901

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 60.3 | 35.4 | 95.4 |
| 47 | 17.9 | 0.0 | 55.4 |

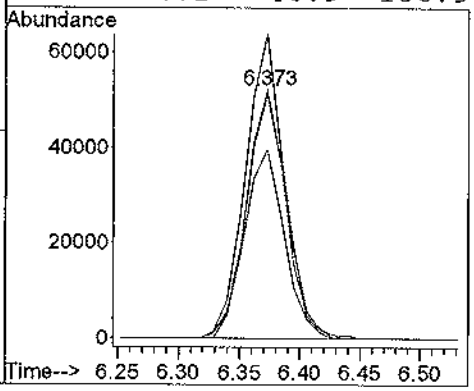



#45
Trichloroethene
Concen: 4.99 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG080.D
Acq: 10 Jun 2024 23:33

Tgt Ion:130 Resp: 119940

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 95.2 | 67.6 | 127.6 |
| 95 | 119.1 | 82.6 | 142.6 |
| 97 | 76.1 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 14:19 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 23:57 |
| Sample ID | : T1AMF-MW052-MAY24_FD | Date Analyzed: | 06/10/24 23:57 |
| Lab Samp ID: | 24F003-07N | Dilution Factor: | 1 |
| Lab File ID: | RFG081 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.37J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.34J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 5.3 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.6 | 10.0 | 116 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 10.1 | 10.0 | 101 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG081.D
Acq On : 10 Jun 2024 23:57
Sample : 24F003-07N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:55:11 2024
Quant Results File: VOE2E17.RES

Vial: 21
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 466794 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 360921 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.878 | 152 | 173390 | 10.00 | ug/l | -0.01 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 289194 | 10.12 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.20% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 438895 | 11.62 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 116.20% | | |
| 56) Toluene-d8 | 7.594 | 98 | 769343 | 10.73 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.30% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 292466 | 10.63 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.30% | | |
| Target Compounds | | | | | | Qvalue |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 7527 | 0.34 | ug/l | 92 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 9298 | 0.37 | ug/l | 90 |
| 33) Chloroform | 5.173 | 83 | 6356 | 0.11 | ug/l | 82 |
| 45) Trichloroethene | 6.373 | 130 | 123938 | 5.26 | ug/L | 98 |

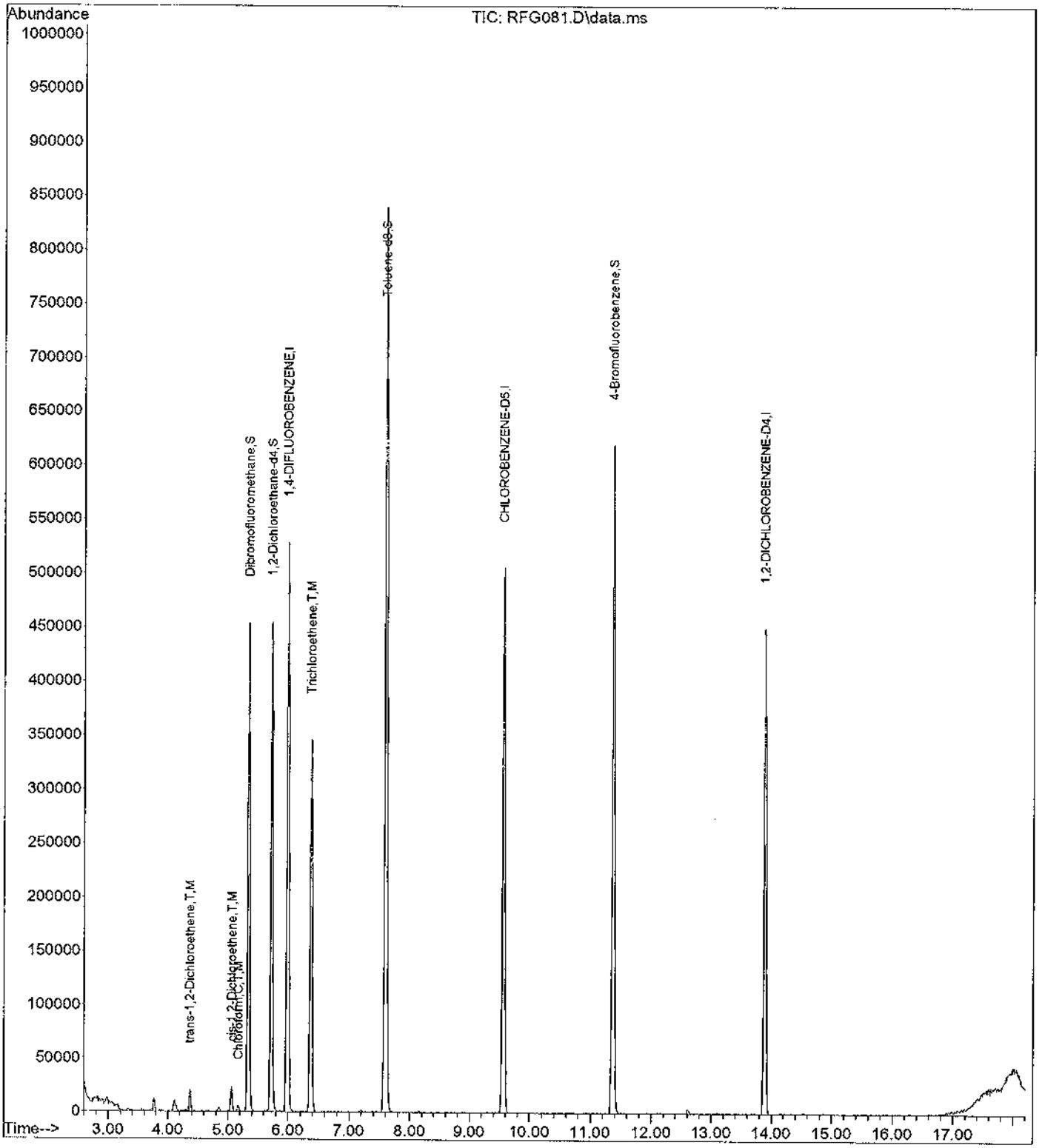
(#) = qualifier out of range (m) = manual integration (+) = signals summed

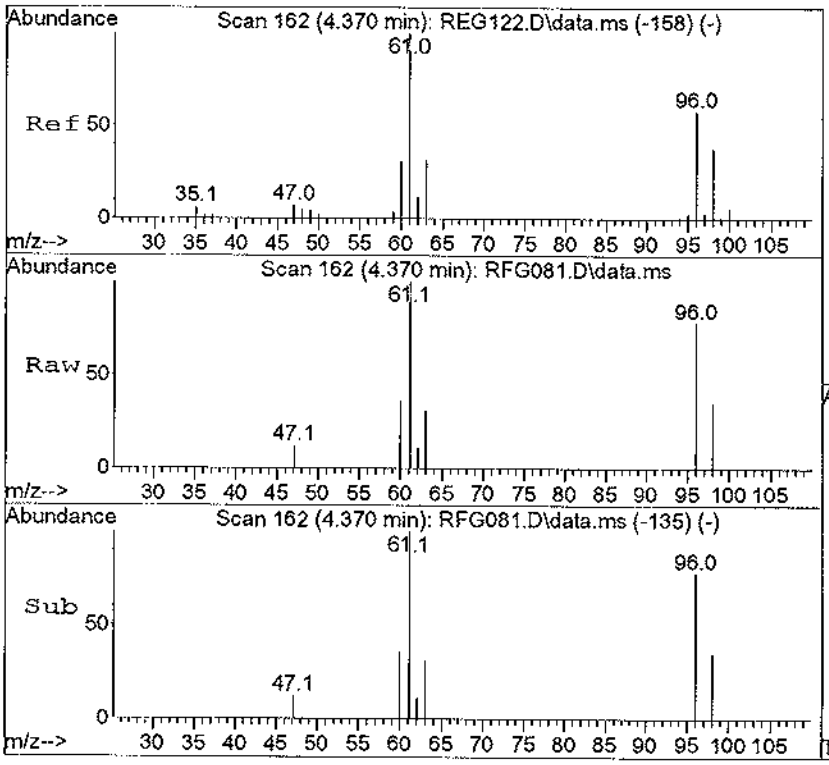
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG081.D
Acq On : 10 Jun 2024 23:57
Sample : 24F003-07N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:55:11 2024
Quant Results File: VOE2E17.RES

Vial: 21
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

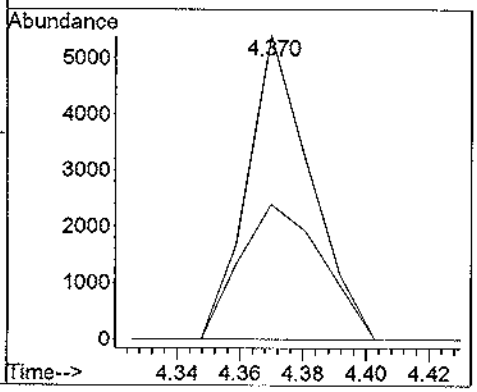


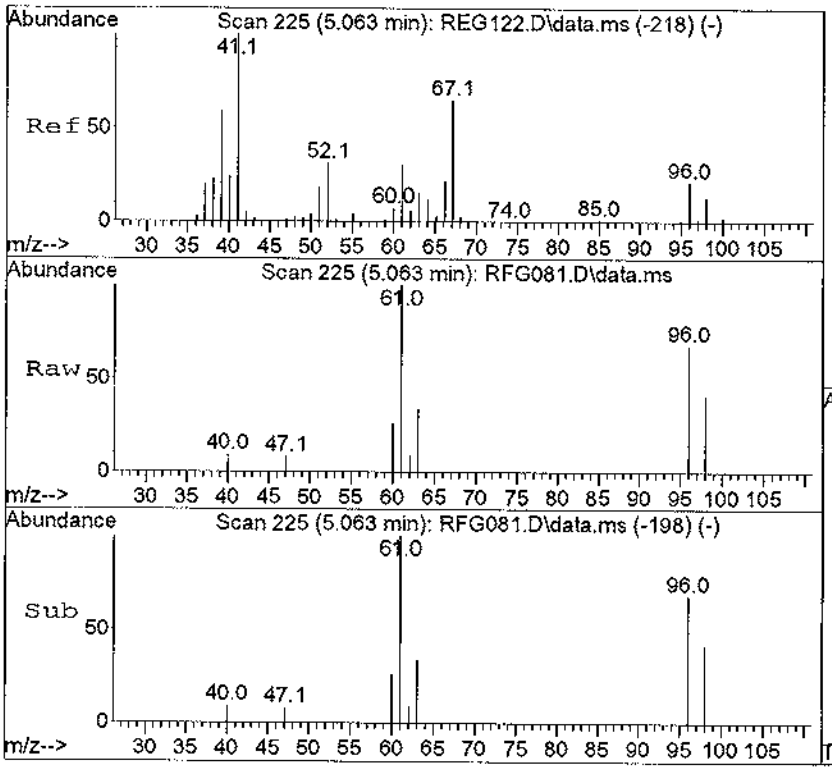



#22
trans-1,2-Dichloroethene
Concen: 0.34 ug/l
RT: 4.370 min Scan# 162
Delta R.T. 0.000 min
Lab File: RFG081.D
Acq: 10 Jun 2024 23:57

Tgt Ion: 96 Resp: 7527

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 57.8 | 34.4 | 94.4 |

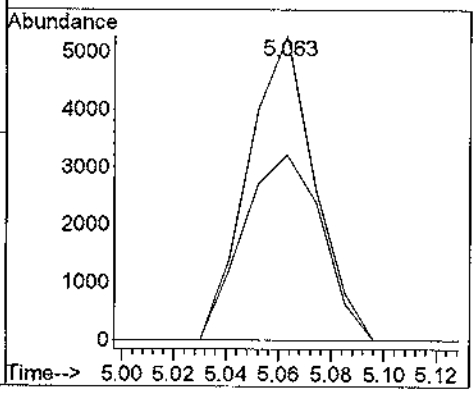


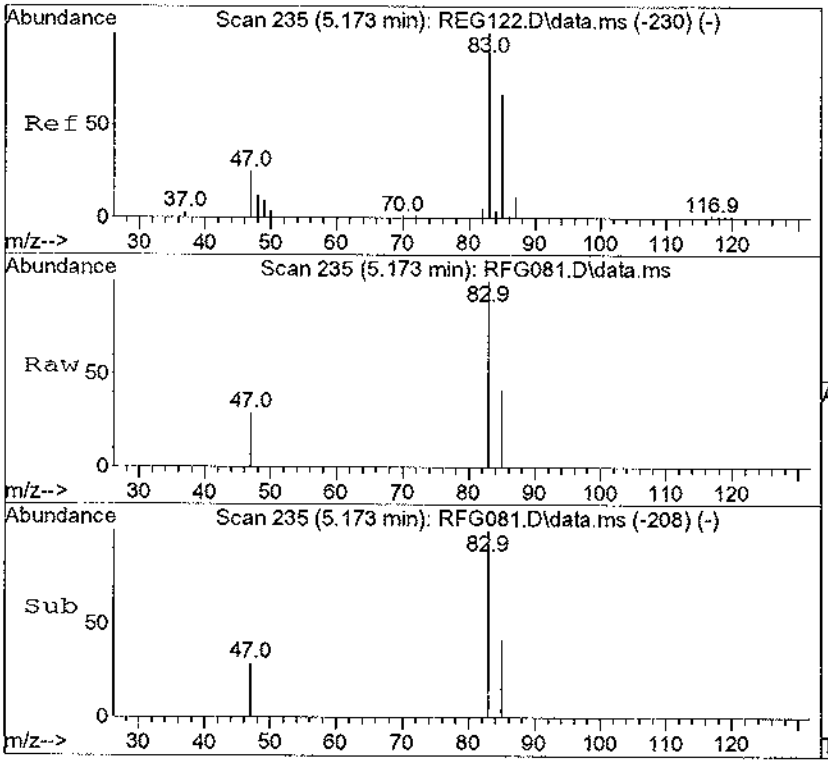




#32
cis-1,2-Dichloroethene
Concen: 0.37 ug/l
RT: 5.063 min Scan# 225
Delta R.T. 0.000 min
Lab File: RFG081.D
Acq: 10 Jun 2024 23:57

Tgt Ion: 96 Resp: 9298

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 72.0 | 33.9 | 93.9 |

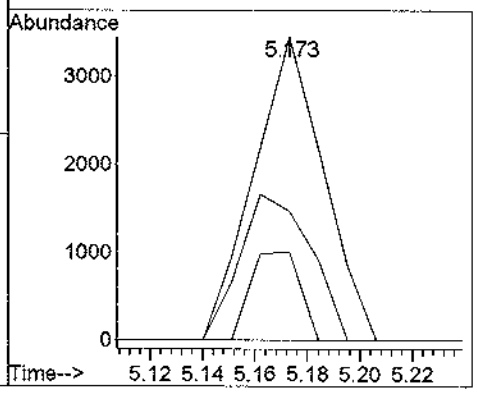


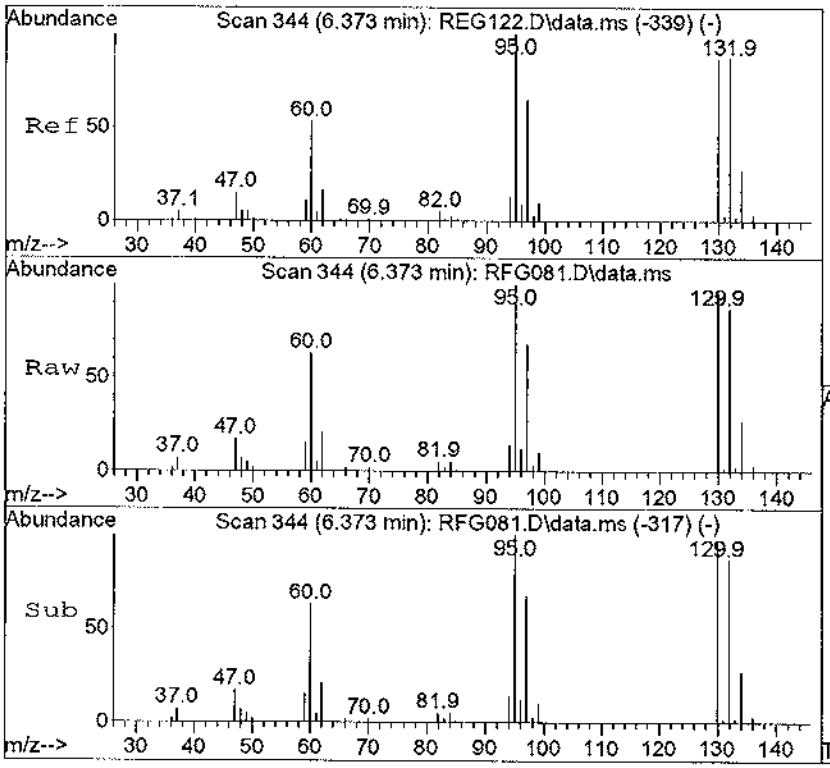



#33
Chloroform
Concen: 0.11 ug/l
RT: 5.173 min Scan# 235
Delta R.T. 0.000 min
Lab File: RFG081.D
Acq: 10 Jun 2024 23:57

Tgt Ion: 83 Resp: 6356

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 48.8 | 35.4 | 95.4 |
| 47 | 20.6 | 0.0 | 55.4 |

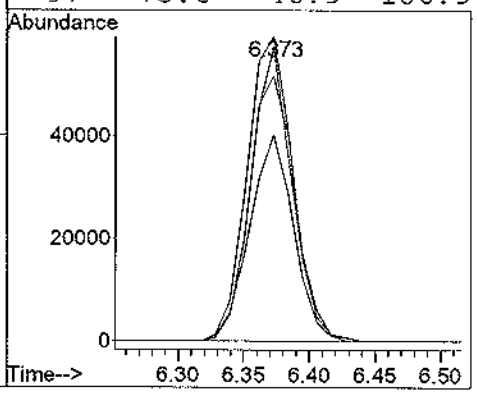



#45
Trichloroethene
Concen: 5.26 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG081.D
Acq: 10 Jun 2024 23:57

Tgt Ion:130 Resp: 123938

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 100.3 | 67.6 | 127.6 |
| 95 | 114.9 | 82.6 | 142.6 |
| 97 | 75.6 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 15:21 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 00:20 |
| Sample ID | : T1AMF-MW060-MAY24 | Date Analyzed: | 06/11/24 00:20 |
| Lab Samp ID: | 24F003-08N | Dilution Factor: | 1 |
| Lab File ID: | RFG082 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 2.0 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.3 | 10.0 | 113 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.0 | 100 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 10.2 | 10.0 | 102 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG082.D
Acq On : 11 Jun 2024 00:20
Sample : 24F003-08N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:56:46 2024
Quant Results File: VOE2E17.RES

Vial: 22
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 482092 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 384233 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 184090 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 301672 | 10.22 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.20% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 440695 | 11.29 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 112.90% | | |
| 56) Toluene-d8 | 7.594 | 98 | 785204 | 10.28 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.80% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 293537 | 10.04 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.40% | | |
| Target Compounds | | | | | | Qvalue |
| 45) Trichloroethene | 6.373 | 130 | 49122 | 2.02 | ug/L | 94 |

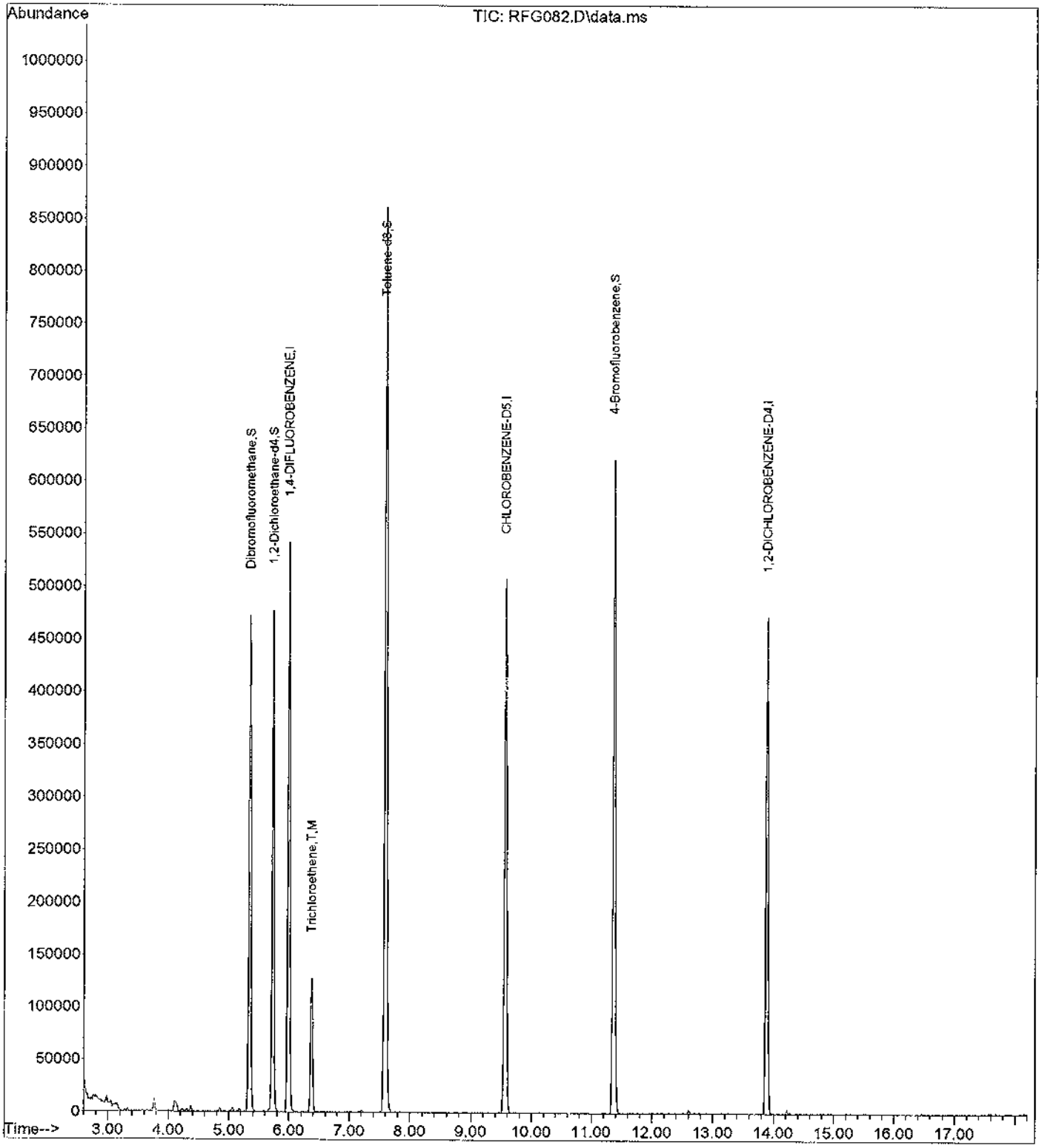
(#) = qualifier out of range (m) = manual integration (+) = signals summed

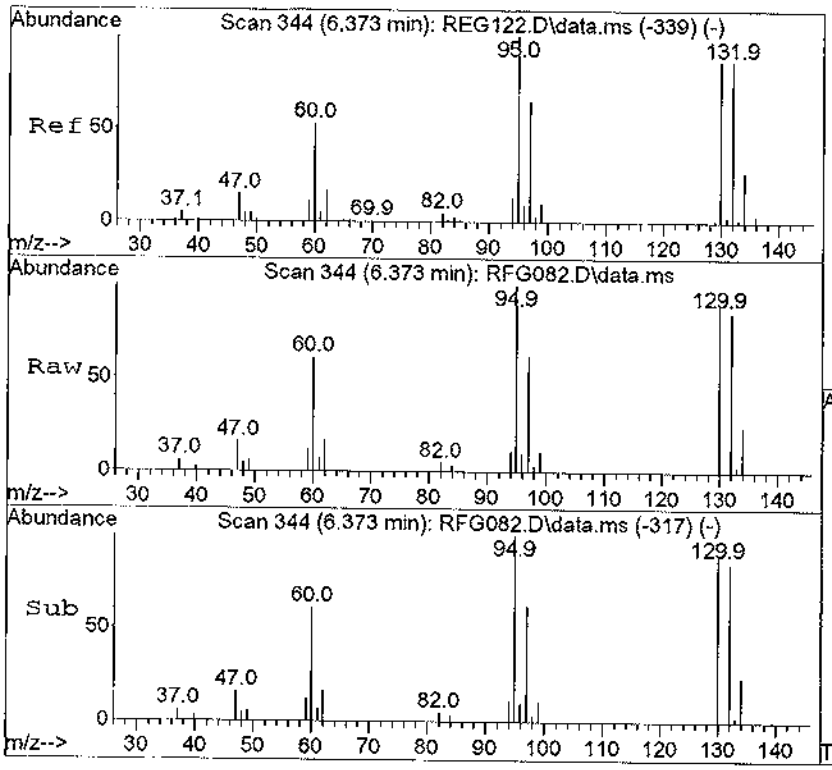
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG082.D
Acq On : 11 Jun 2024 00:20
Sample : 24F003-08N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 15:56:46 2024
Quant Results File: VOE2E17.RES

Vial: 22
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

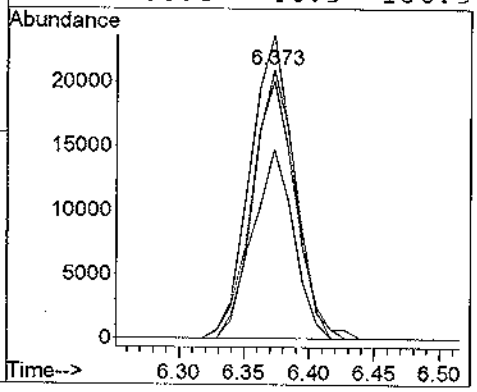





#45
Trichloroethene
Concen: 2.02 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG082.D
Acq: 11 Jun 2024 00:20

Tgt Ion:130 Resp: 49122

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 91.5 | 67.6 | 127.6 |
| 95 | 113.3 | 82.6 | 142.6 |
| 97 | 66.6 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 08:29 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 00:44 |
| Sample ID | : T1ANF-MW017-MAY24 | Date Analyzed: | 06/11/24 00:44 |
| Lab Samp ID: | 24F003-09N | Dilution Factor: | 1 |
| Lab File ID: | RFG083 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.19J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 3.9 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.7 | 10.0 | 117 | 81-118 |
| 4-Bromofluorobenzene | 10.2 | 10.0 | 102 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.94 | 10.0 | 99 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG083.D
Acq On : 11 Jun 2024 00:44
Sample : 24F003-09N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 16:03:58 2024
Quant Results File: VOE2E17.RES

Vial: 23
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 468845 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 366412 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 177214 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 285535 | 9.94 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.40% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 442326 | 11.66 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 116.60% | | |
| 56) Toluene-d8 | 7.594 | 98 | 769232 | 10.57 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.70% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 285730 | 10.16 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.60% | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 4827 | 0.19 | ug/l | 83 |
| 33) Chloroform | 5.173 | 83 | 16263 | 0.29 | ug/l | 94 |
| 45) Trichloroethene | 6.373 | 130 | 91979 | 3.88 | ug/L | 96 |

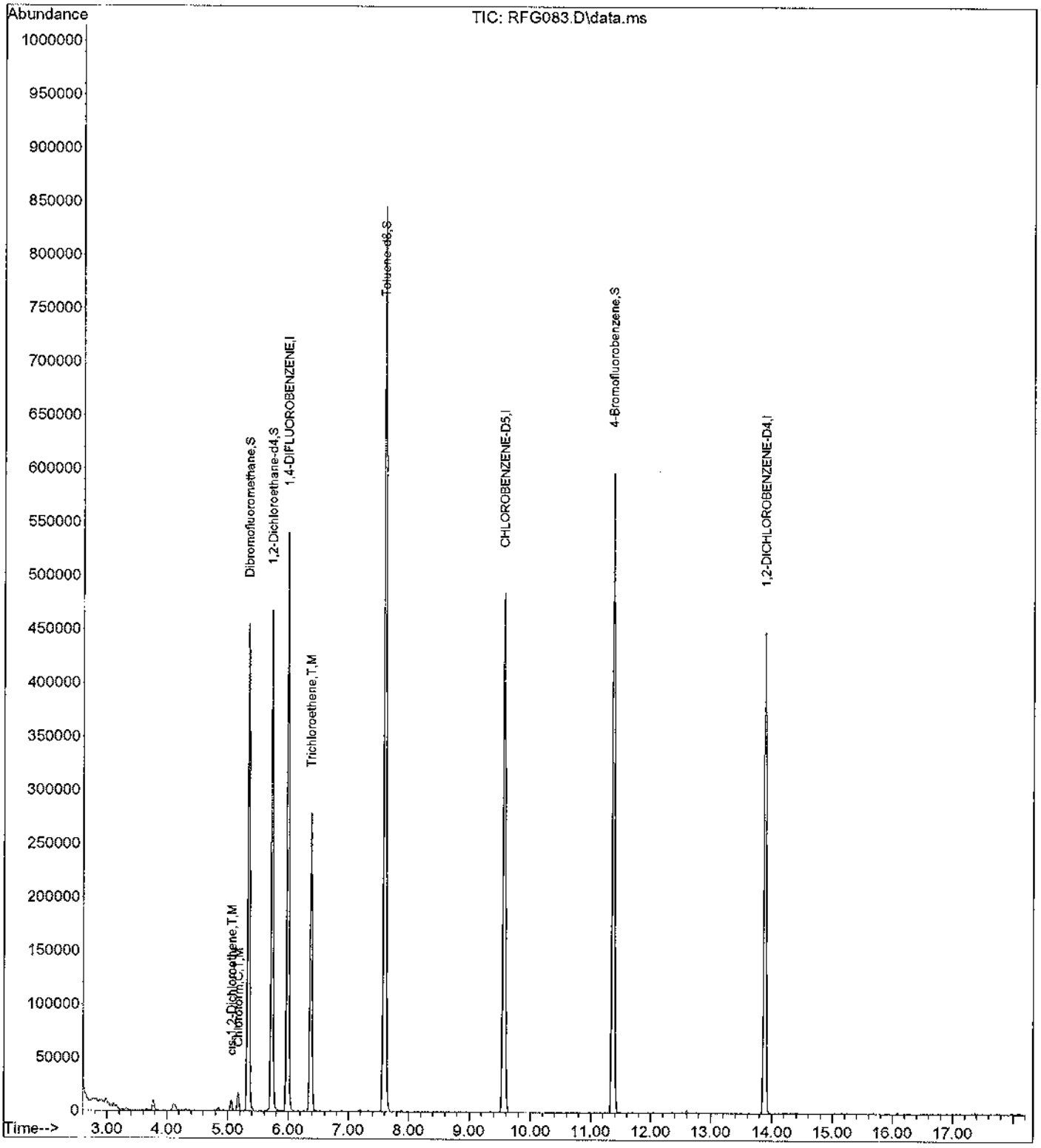
(#) = qualifier out of range (m) = manual integration (+) = signals summed

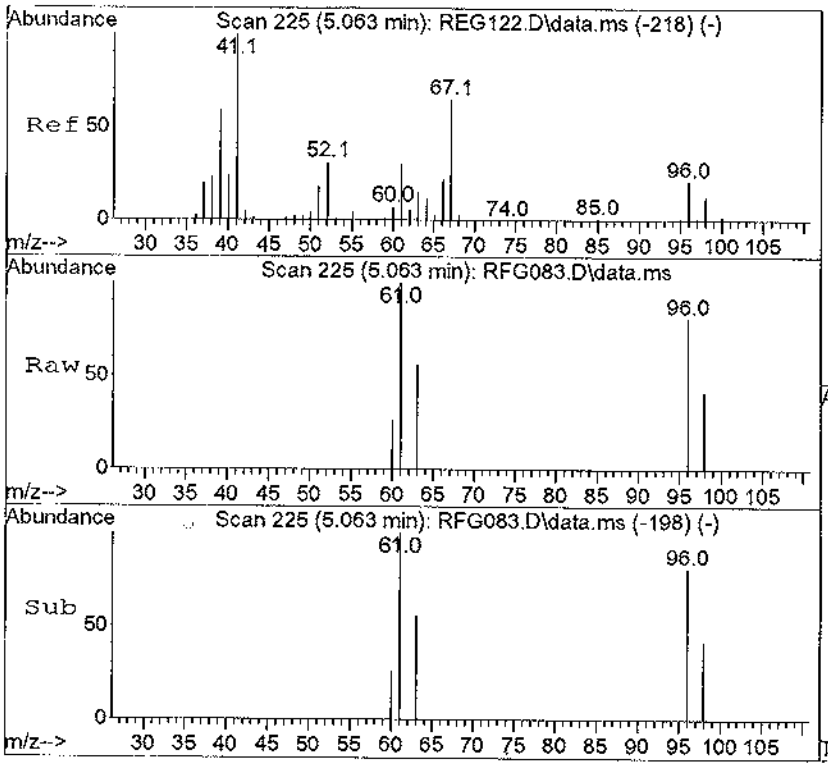
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG083.D
Acq On : 11 Jun 2024 00:44
Sample : 24F003-09N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 16:03:58 2024
Quant Results File: VOE2E17.RES

Vial: 23
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

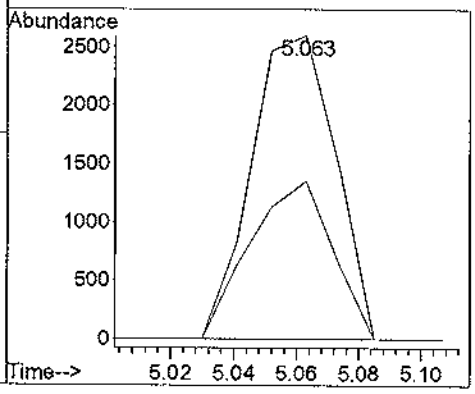


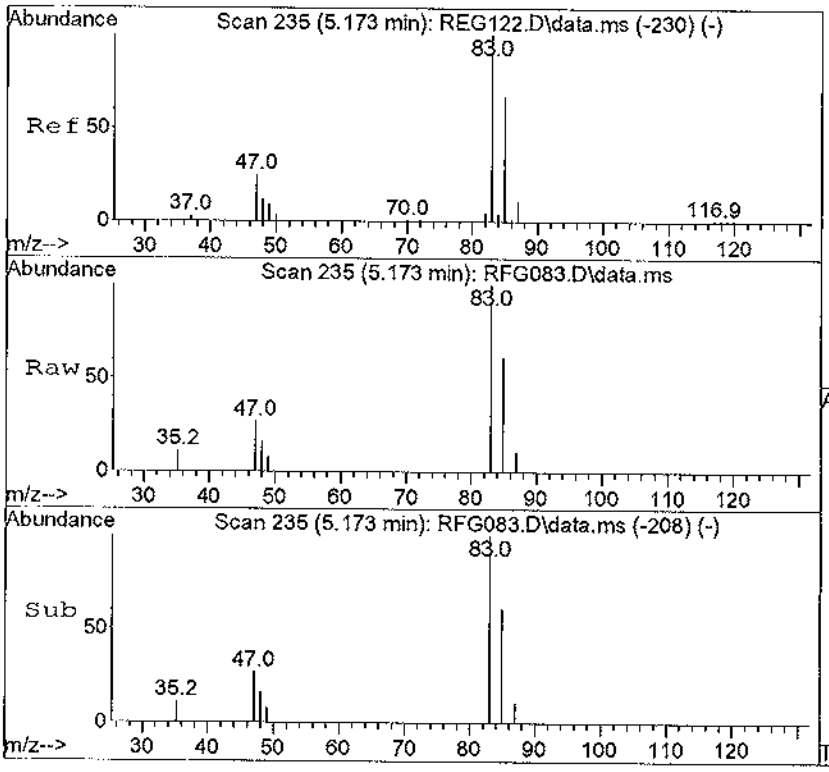



#32
cis-1,2-Dichloroethene
Concen: 0.19 ug/l
RT: 5.063 min Scan# 225
Delta R.T. 0.000 min
Lab File: RFG083.D
Acq: 11 Jun 2024 00:44

Tgt Ion: 96 Resp: 4827

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 50.9 | 33.9 | 93.9 |

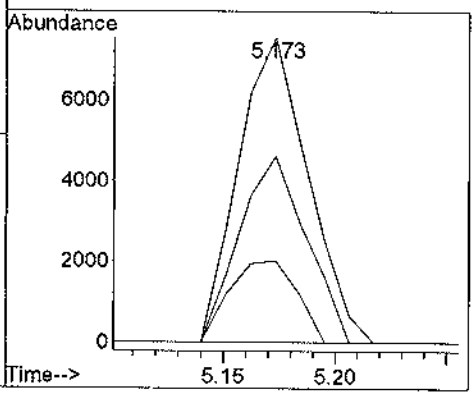


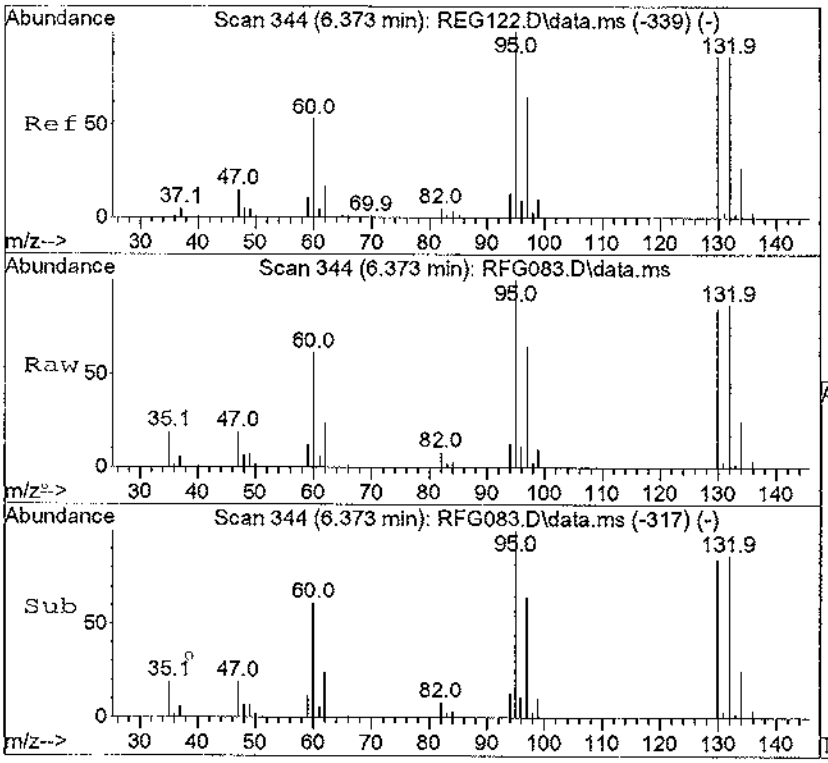




#33
Chloroform
Concen: 0.29 ug/l
RT: 5.173 min Scan# 235
Delta R.T. 0.000 min
Lab File: RFG083.D
Acq: 11 Jun 2024 00:44

Tgt Ion: 83 Resp: 16263

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 58.7 | 35.4 | 95.4 |
| 47 | 25.6 | 0.0 | 55.4 |

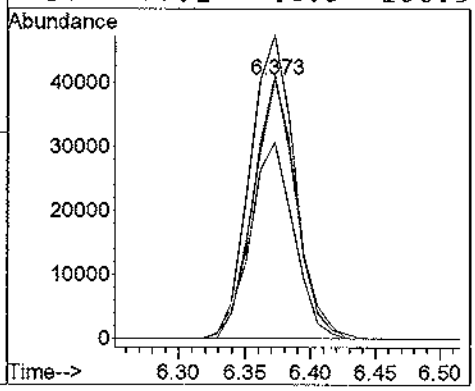





#45
Trichloroethene
Concen: 3.88 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG083.D
Acq: 11 Jun 2024 00:44

Tgt Ion:130 Resp: 91979

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 99.1 | 67.6 | 127.6 |
| 95 | 122.4 | 82.6 | 142.6 |
| 97 | 77.1 | 46.9 | 106.9 |



METHOD SW5030C/B260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 09:27 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 01:08 |
| Sample ID | : T1AMF-MW011-MAY24 | Date Analyzed: | 06/11/24 01:08 |
| Lab Samp ID: | 24F003-10N | Dilution Factor: | 1 |
| Lab File ID: | RFG084 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.62J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 5.4 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.3 | 10.0 | 113 | 81-118 |
| 4-Bromofluorobenzene | 10.7 | 10.0 | 107 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 9.94 | 10.0 | 99 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG084.D
Acq On : 11 Jun 2024 1:08
Sample : 24F003-10N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 16:06:06 2024
Quant Results File: VOE2E17.RES

Vial: 24
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 457705 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 362030 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 168731 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 278530 | 9.94 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.40% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 419697 | 11.33 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 113.30% | | |
| 56) Toluene-d8 | 7.594 | 98 | 766457 | 10.65 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.50% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 286939 | 10.71 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.10% | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.052 | 96 | 15417 | 0.62 | ug/l | 94 |
| 45) Trichloroethene | 6.372 | 130 | 124000 | 5.36 | ug/L | 95 |
| 67) Chlorobenzene | 9.619 | 112 | 15313 | 0.28 | ug/l | 91 |

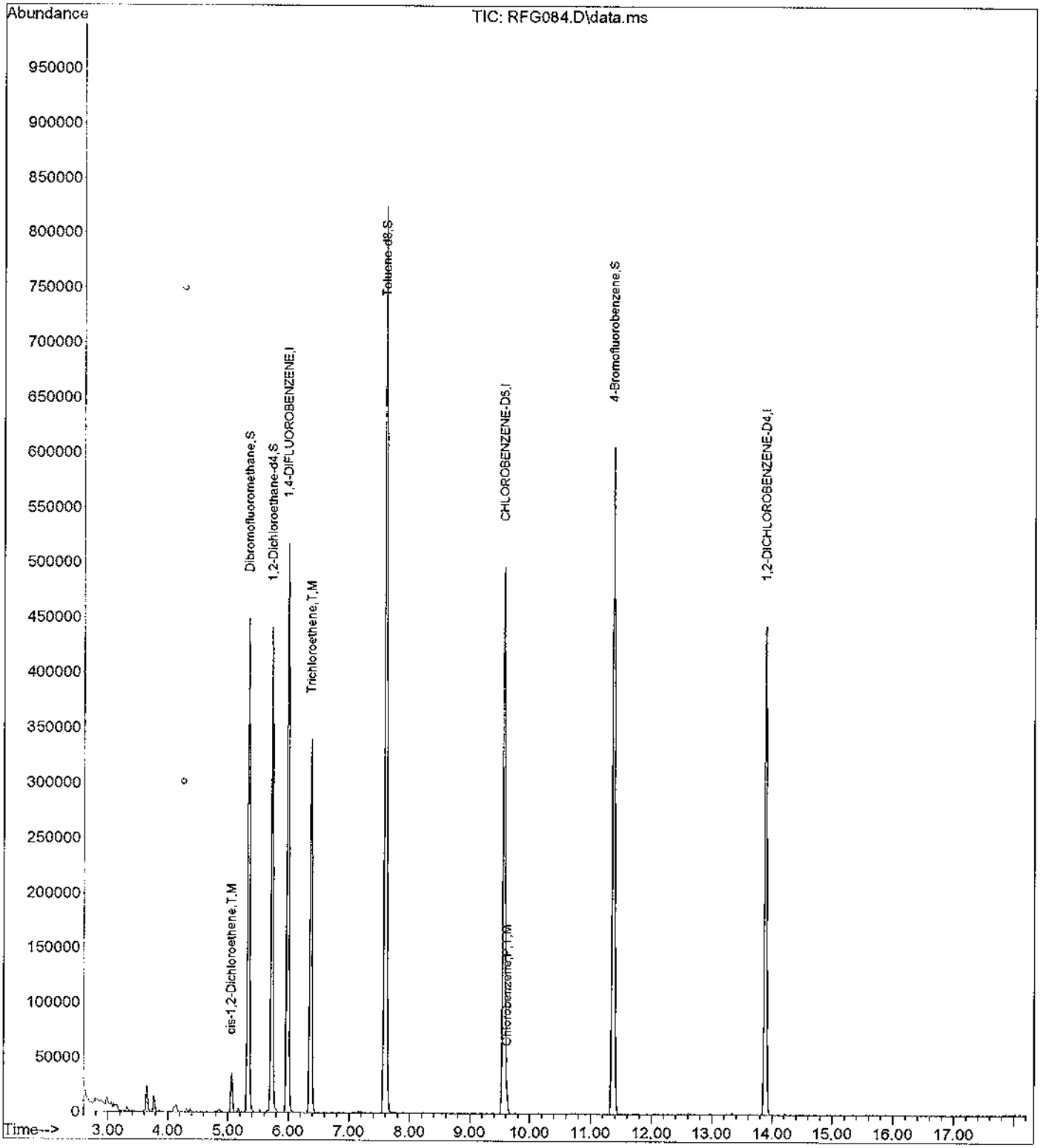
(#) = qualifier out of range (m) = manual integration (+) = signals summed

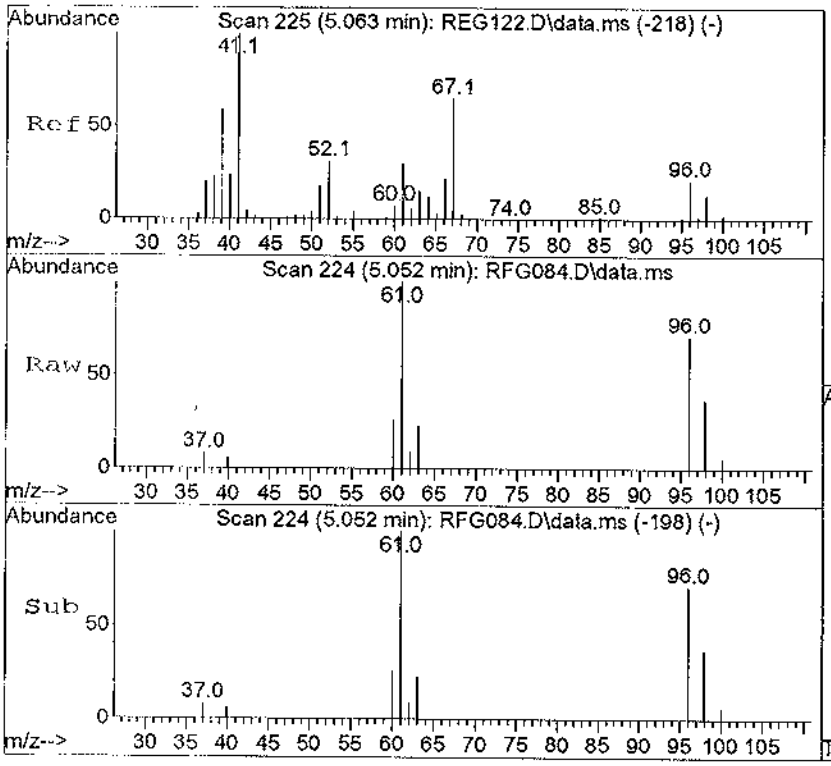
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG084.D
Acq On : 11 Jun 2024 1:08
Sample : 24F003-10N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 16:06:06 2024
Quant Results File: VOE2E17.RES

Vial: 24
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

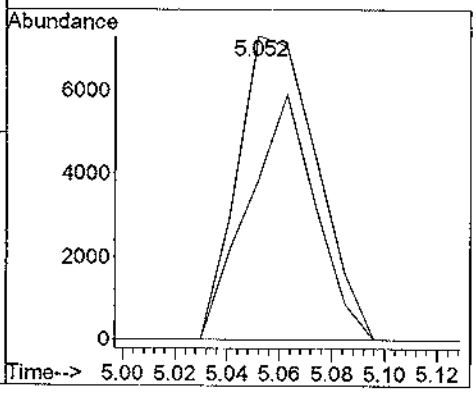


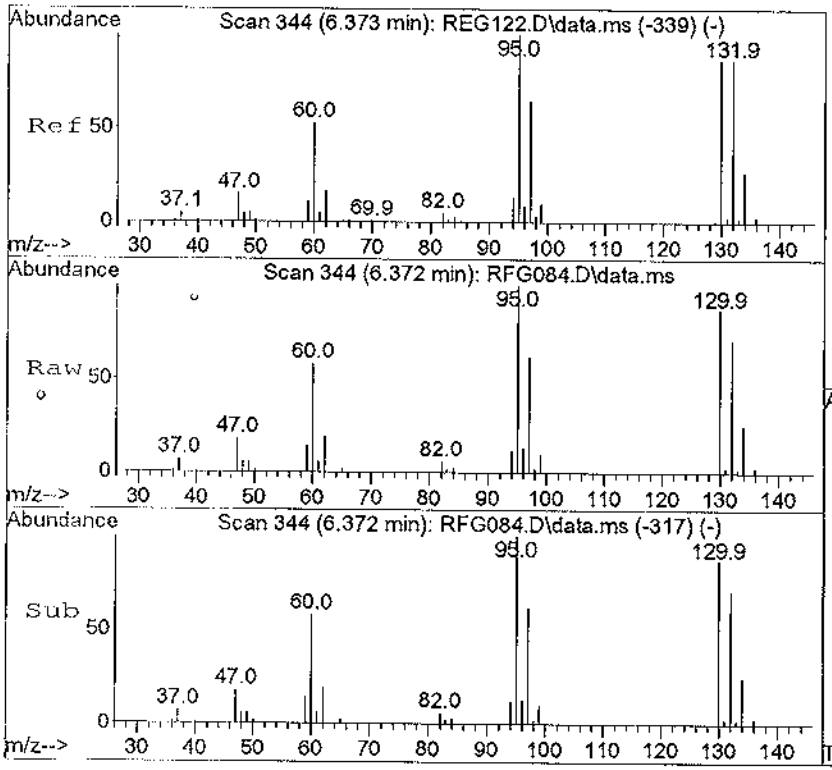



#32
cis-1,2-Dichloroethene
Concen: 0.62 ug/l
RT: 5.052 min Scan# 224
Delta R.T. -0.011 min
Lab File: RFG084.D
Acq: 11 Jun 2024 1:08

Tgt Ion: 96 Resp: 15417

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 68.5 | 33.9 | 93.9 |

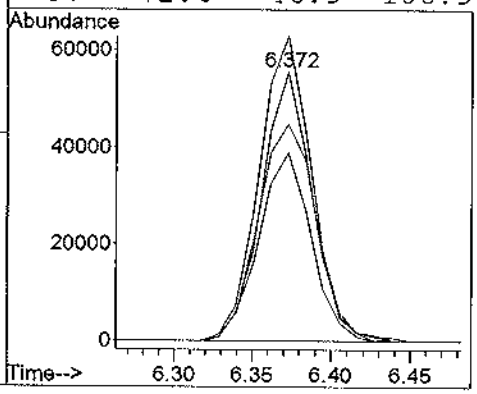


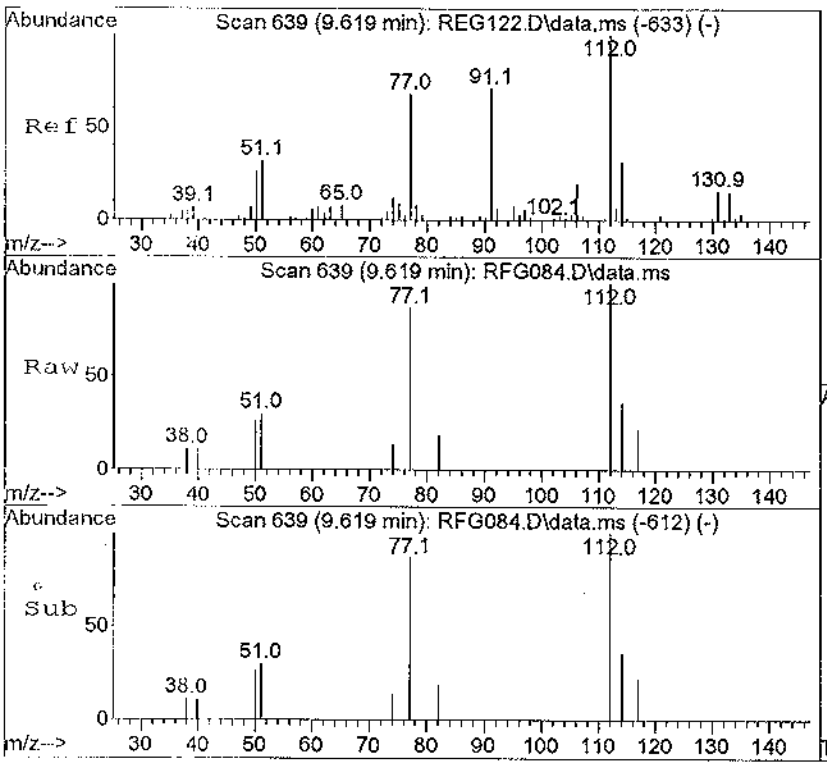




#45
Trichloroethene
Concen: 5.36 ug/L
RT: 6.372 min Scan# 344
Delta R.T. -0.001 min
Lab File: RFG084.D
Acq: 11 Jun 2024 1:08

Tgt Ion:130 Resp: 124000

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 92.6 | 67.6 | 127.6 |
| 95 | 118.0 | 82.6 | 142.6 |
| 97 | 72.6 | 46.9 | 106.9 |

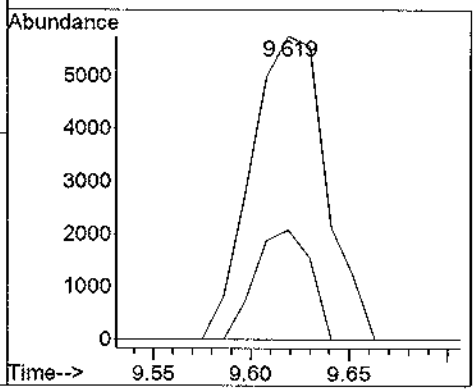





#67
Chlorobenzene
Concen: 0.28 ug/l
RT: 9.619 min Scan# 639
Delta R.T. -0.000 min
Lab File: RFG084.D
Acq: 11 Jun 2024 1:08

Tgt Ion:112 Resp: 15313

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 112 | 100 | | |
| 114 | 26.8 | 2.0 | 62.0 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 10:35 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 01:32 |
| Sample ID | : T1AMF-NW016-MAY24 | Date Analyzed: | 06/11/24 01:32 |
| Lab Samp ID: | 24F003-11 | Dilution Factor: | 1 |
| Lab File ID: | RFG085 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.60J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 2.9 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.5 | 10.0 | 115 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.0 | 100 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 10.2 | 10.0 | 102 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG085.D
Acq On : 11 Jun 2024 1:32
Sample : 24F003-11
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 18:01:09 2024
Quant Results File: VOE2E17.RES

Vial: 25
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 457099 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 363853 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 174264 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 286873 | 10.25 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 102.50% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 426227 | 11.52 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 115.20% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 762629 | 10.55 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.50% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 277824 | 10.04 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 100.40% | | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 14956 | 0.60 | ug/l | 98 |
| 45) Trichloroethene | 6.372 | 130 | 67461 | 2.92 | ug/L | 98 |

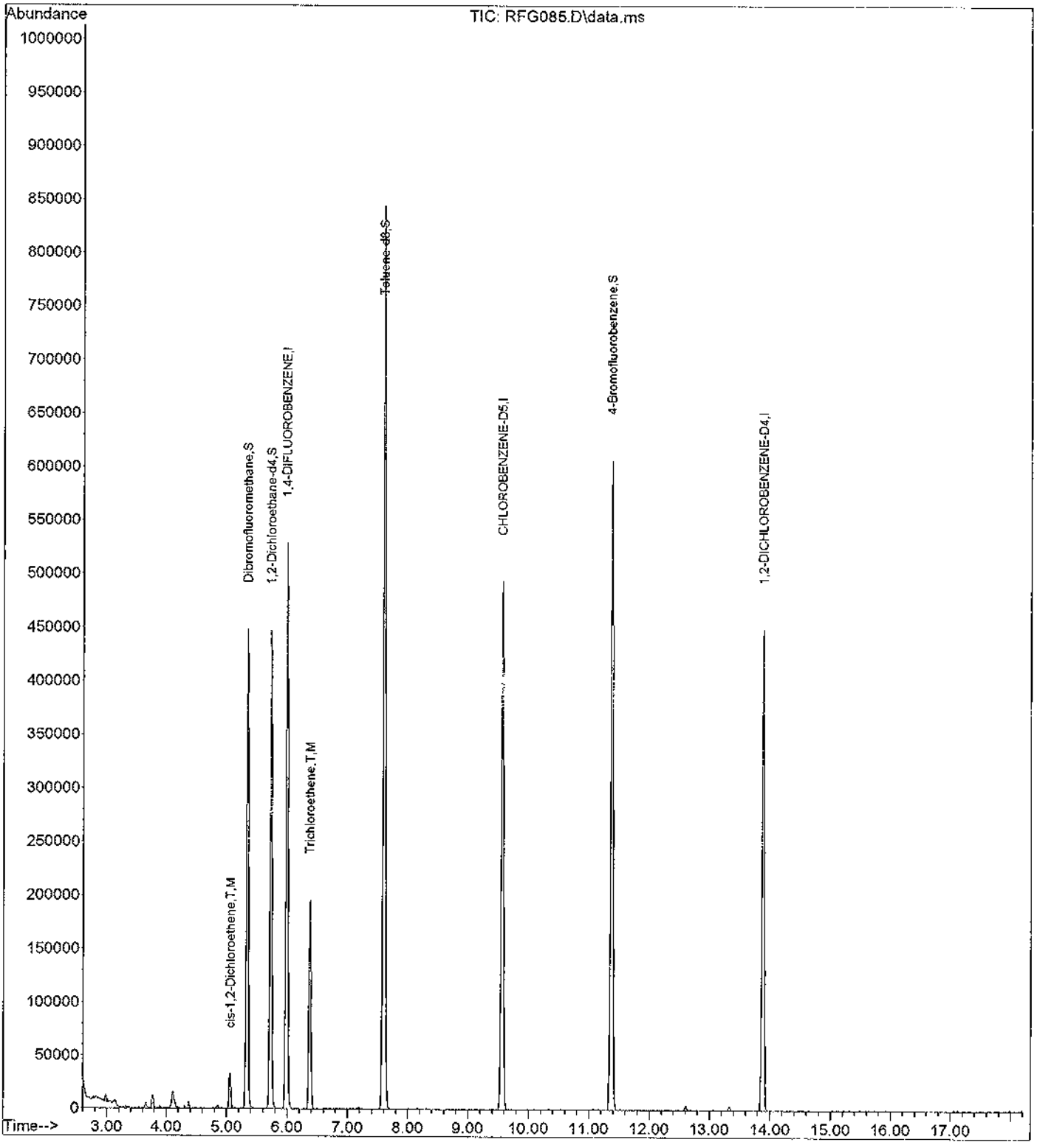
(#) = qualifier out of range (m) = manual integration (+) = signals summed

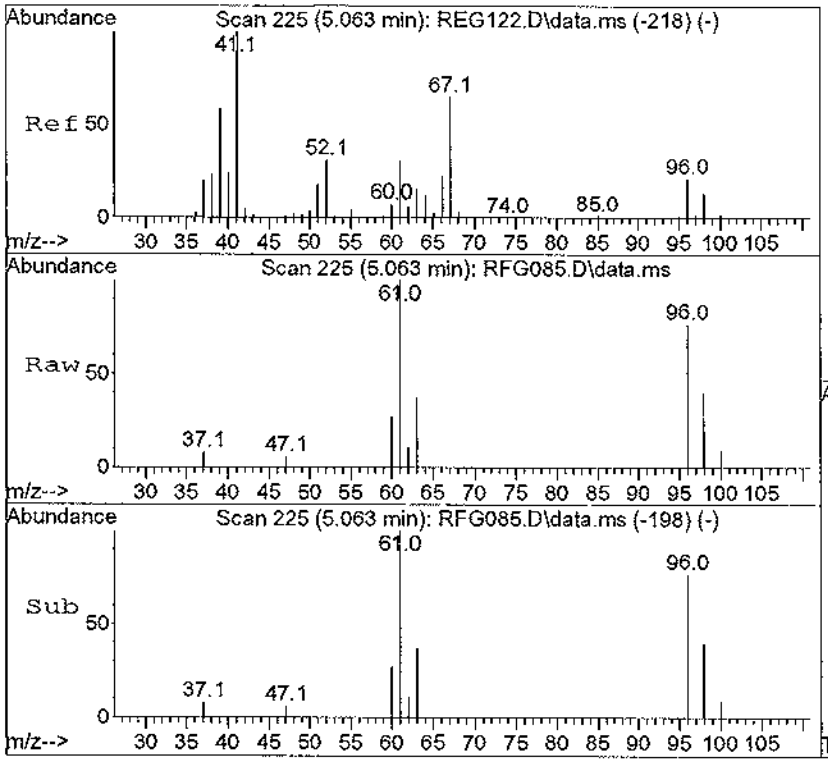
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG085.D
Acq On : 11 Jun 2024 1:32
Sample : 24F003-11
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 18:01:09 2024
Quant Results File: VOE2E17.RES

Vial: 25
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

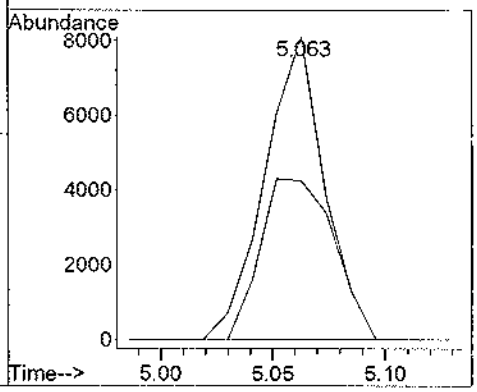


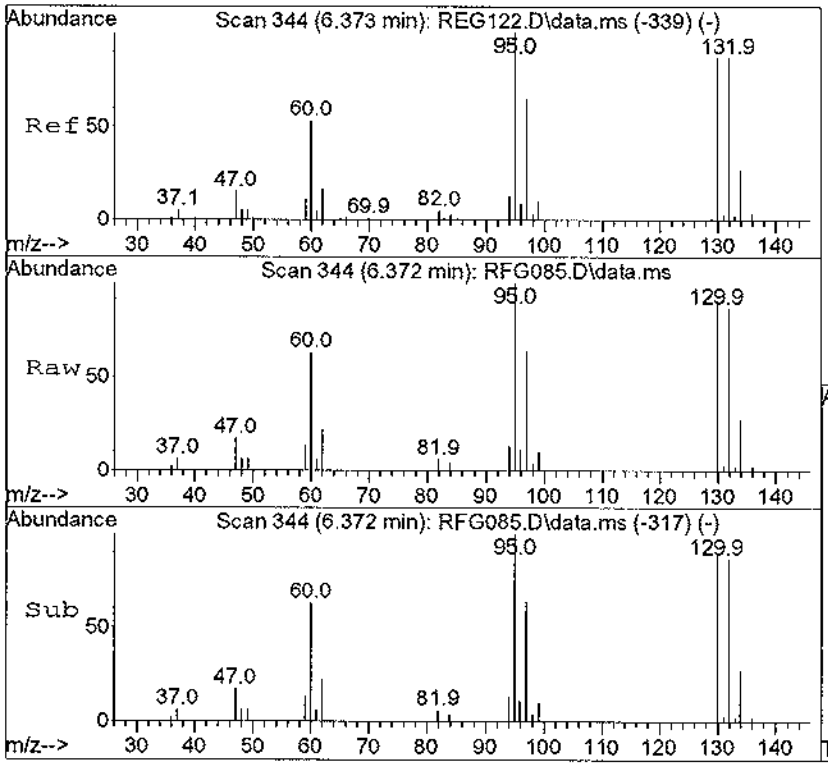



#32
cis-1,2-Dichloroethene
Concen: 0.60 ug/l
RT: 5.063 min Scan# 225
Delta R.T. -0.000 min
Lab File: RFG085.D
Acq: 11 Jun 2024 1:32

Tgt Ion: 96 Resp: 14956

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 65.6 | 33.9 | 93.9 |

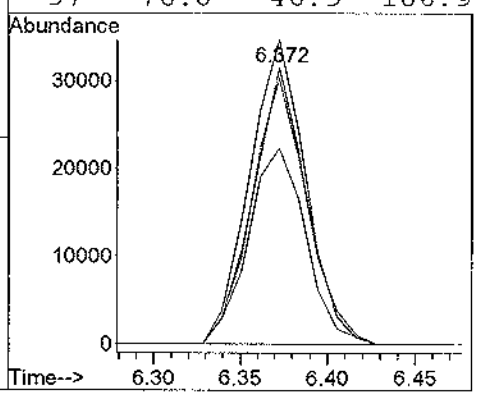



#45
Trichloroethene
Concen: 2.92 ug/L
RT: 6.372 min Scan# 344
Delta R.T. -0.001 min
Lab File: RFG085.D
Acq: 11 Jun 2024 1:32

Tgt Ion:130 Resp: 67461

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 99.0 | 67.6 | 127.6 |
| 95 | 114.8 | 82.6 | 142.6 |
| 97 | 76.0 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 10:40 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 01:56 |
| Sample ID | : T1AMF-MW016-MAY24_FD | Date Analyzed: | 06/11/24 01:56 |
| Lab Samp ID: | 24F003-12 | Dilution Factor: | 1 |
| Lab File ID: | RFG086 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.63J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 2.8 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.4 | 10.0 | 114 | 81-118 |
| 4-Bromofluorobenzene | 9.86 | 10.0 | 99 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 10.0 | 10.0 | 100 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG086.D
Acq On : 11 Jun 2024 1:56
Sample : 24F003-12
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 16:07:58 2024
Quant Results File: VOE2E17.RES

Vial: 26
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 466426 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 362719 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 175336 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 285817 | 10.01 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.10% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 431046 | 11.42 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 114.20% | | |
| 56) Toluene-d8 | 7.594 | 98 | 770036 | 10.68 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.80% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 274312 | 9.86 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.60% | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 15936 | 0.63 | ug/l | 99 |
| 45) Trichloroethene | 6.373 | 130 | 65697 | 2.79 | ug/L | 96 |

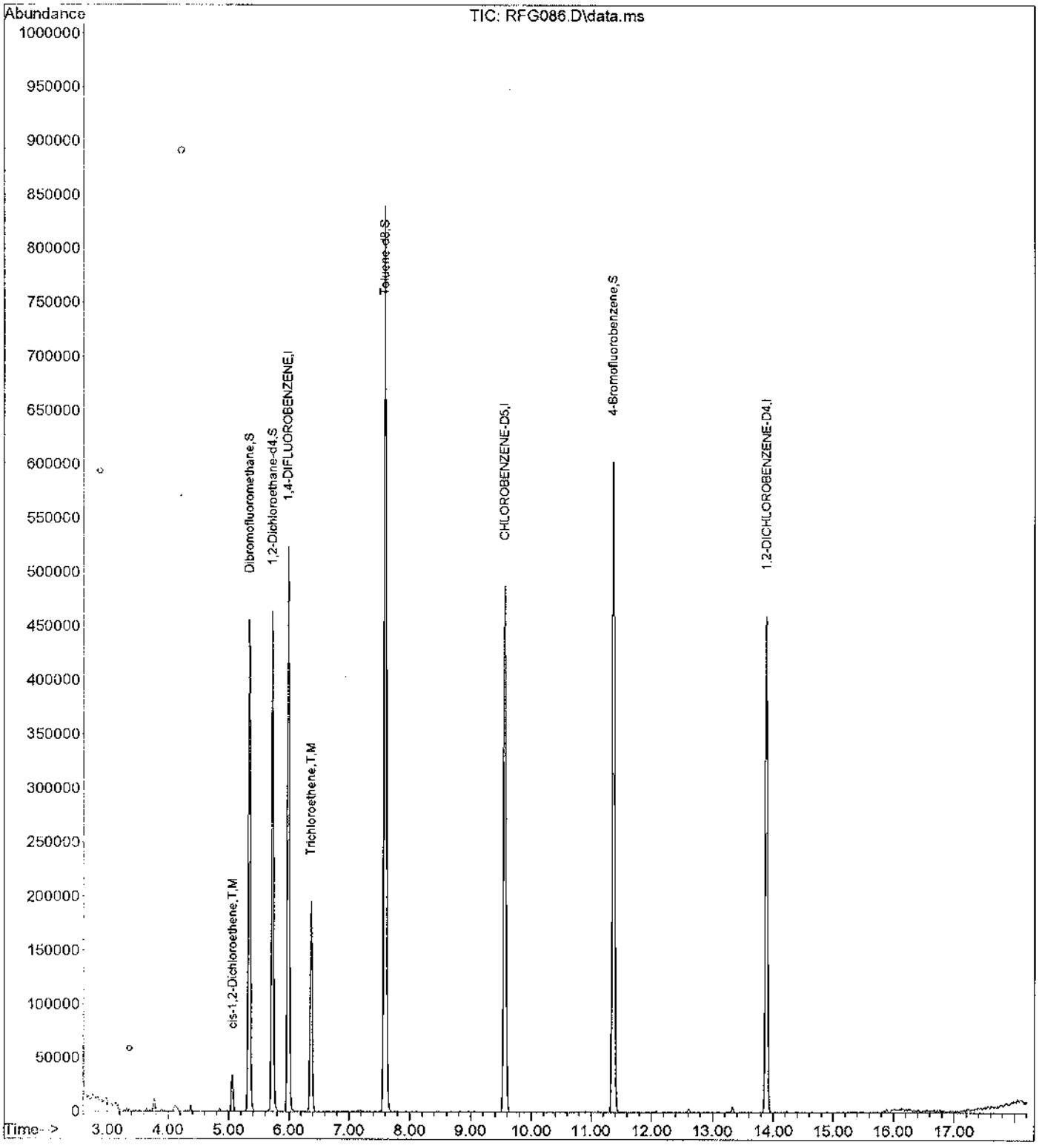
(#) = qualifier out of range (m) = manual integration (+) = signals summed

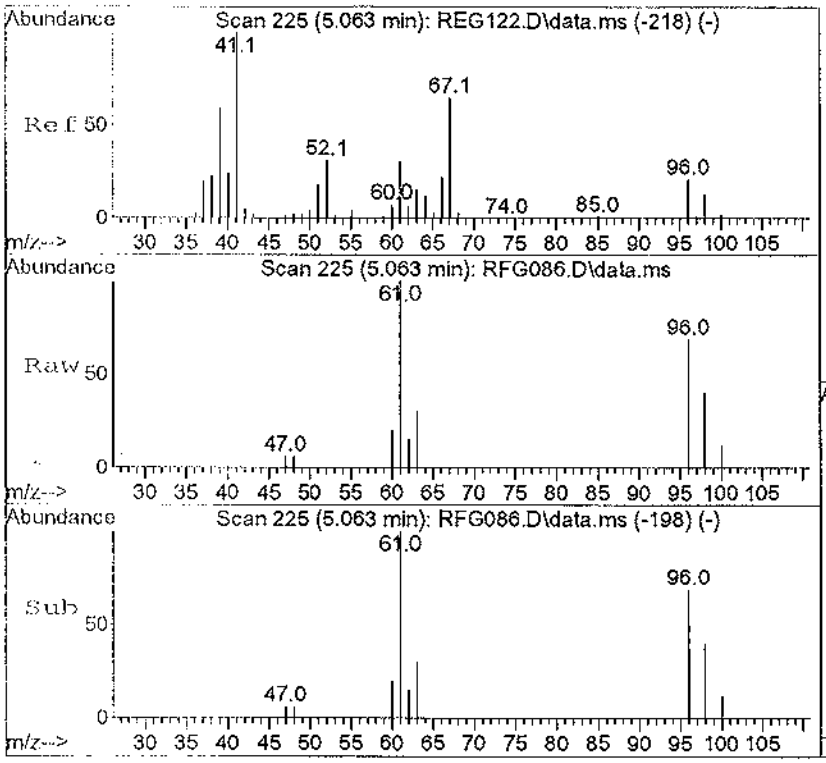
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG086.D
Acq On : 11 Jun 2024 1:56
Sample : 24F003-12
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 16:07:58 2024
Quant Results File: VOE2E17.RES

Vial: 26
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

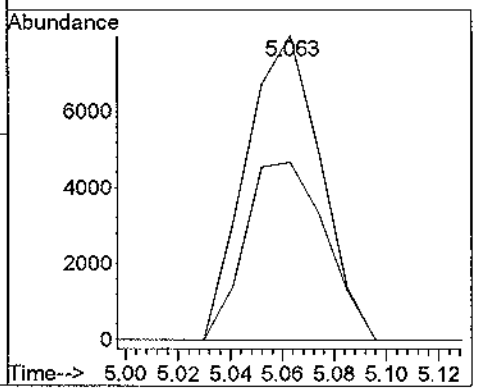


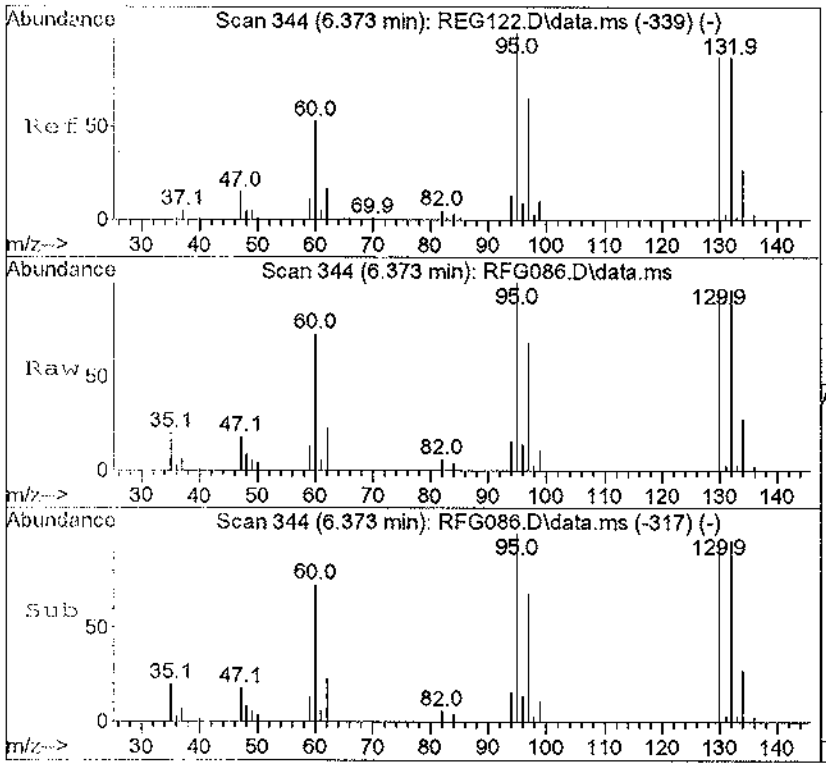



#32
cis-1,2-Dichloroethene
Concen: 0.63 ug/l
RT: 5.063 min Scan# 225
Delta R.T. -0.000 min
Lab File: RFG086.D
Acq: 11 Jun 2024 1:56

Tgt Ion: 96 Resp: 15936

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 63.3 | 33.9 | 93.9 |

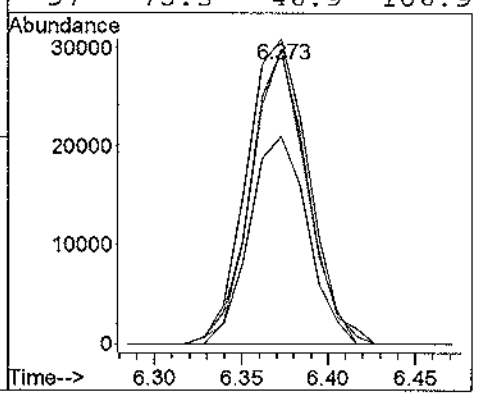



#45
Trichloroethene
Concen: 2.79 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG086.D
Acq: 11 Jun 2024 1:56

Tgt Ion:130 Resp: 65697

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 103.6 | 67.6 | 127.6 |
| 95 | 116.5 | 82.6 | 142.6 |
| 97 | 75.3 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 12:24 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 02:19 |
| Sample ID | : T1AMF-MW049-MAY24 | Date Analyzed: | 06/11/24 02:19 |
| Lab Samp ID: | 24F003-13 | Dilution Factor: | 1 |
| Lab File ID: | RFG087 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.1 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 71 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.5 | 10.0 | 115 | 81-118 |
| 4-Bromofluorobenzene | 10.1 | 10.0 | 101 | 85-114 |
| Toluene-d8 | 10.4 | 10.0 | 104 | 89-112 |
| Dibromofluoromethane | 10.1 | 10.0 | 101 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG087.D
Acq On : 11 Jun 2024 2:19
Sample : 24F003-13
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 16:09:23 2024
Quant Results File: VOE2E17.RES

Vial: 27
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 455017 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 364511 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 174043 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 282622 | 10.14 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.40% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 422023 | 11.46 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 114.60% | | |
| 56) Toluene-d8 | 7.594 | 98 | 750660 | 10.36 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 103.60% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 279853 | 10.13 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.30% | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.052 | 96 | 27667 | 1.12 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 78977 | 1.45 | ug/l | 95 |
| 43) 1,2-Dichloroethane | 5.988 | 62 | 23942 | 0.57 | ug/L | 47 |
| 45) Trichloroethene | 6.373 | 130 | 1637762 | 71.26 | ug/L | 98 |

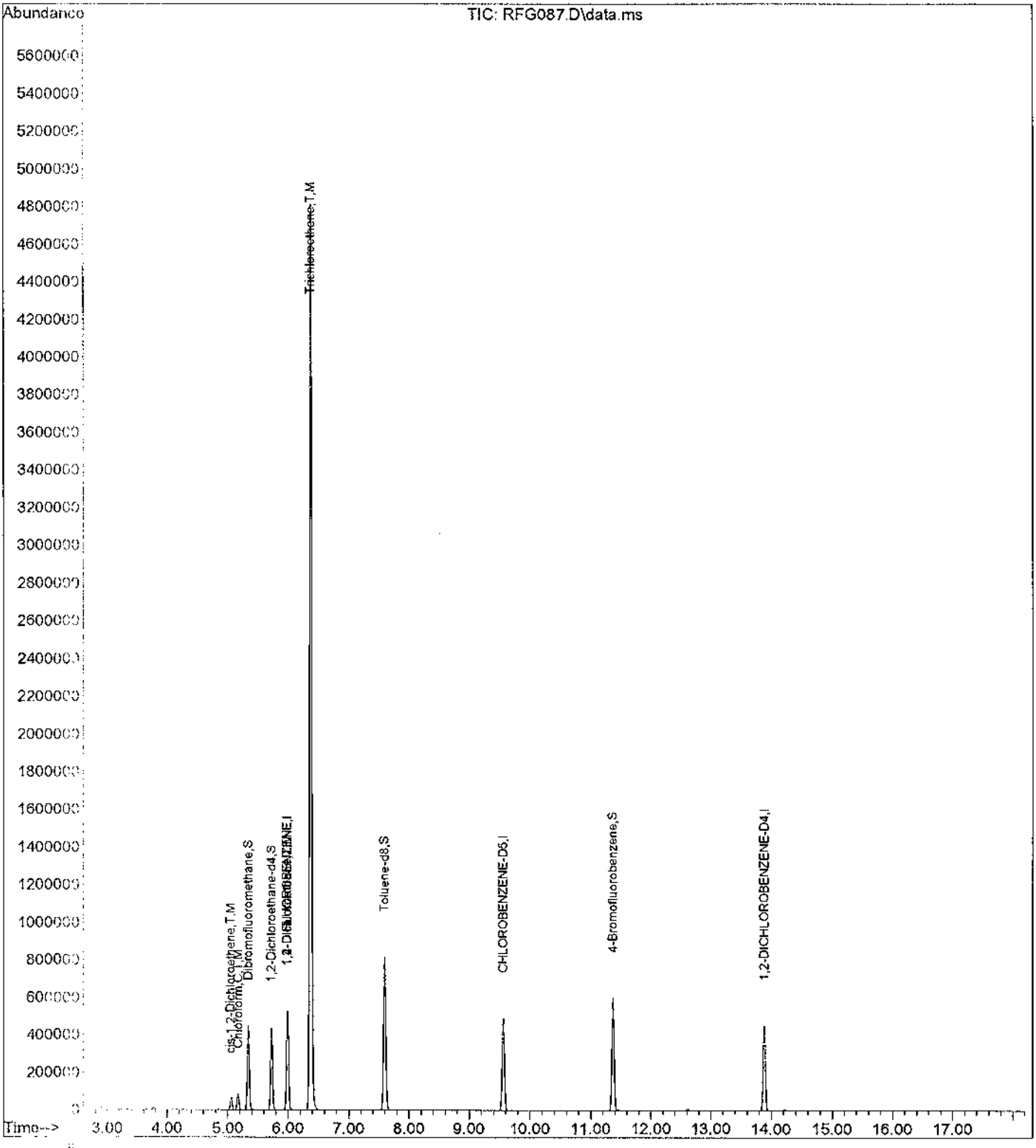
(#) = qualifier out of range (m) = manual integration (+) = signals summed

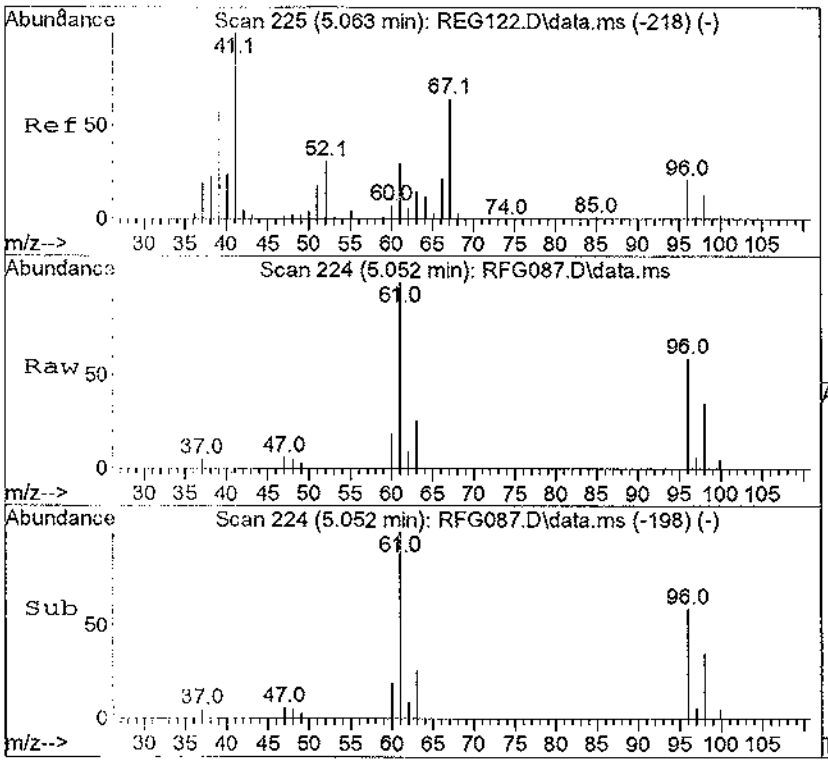
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG087.D
Acq On : 11 Jun 2024 2:19
Sample : 24F003-13
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 16:09:23 2024
Quant Results File: VOE2E17.RES

Vial: 27
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

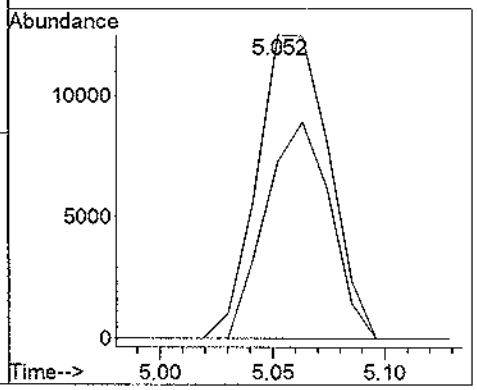


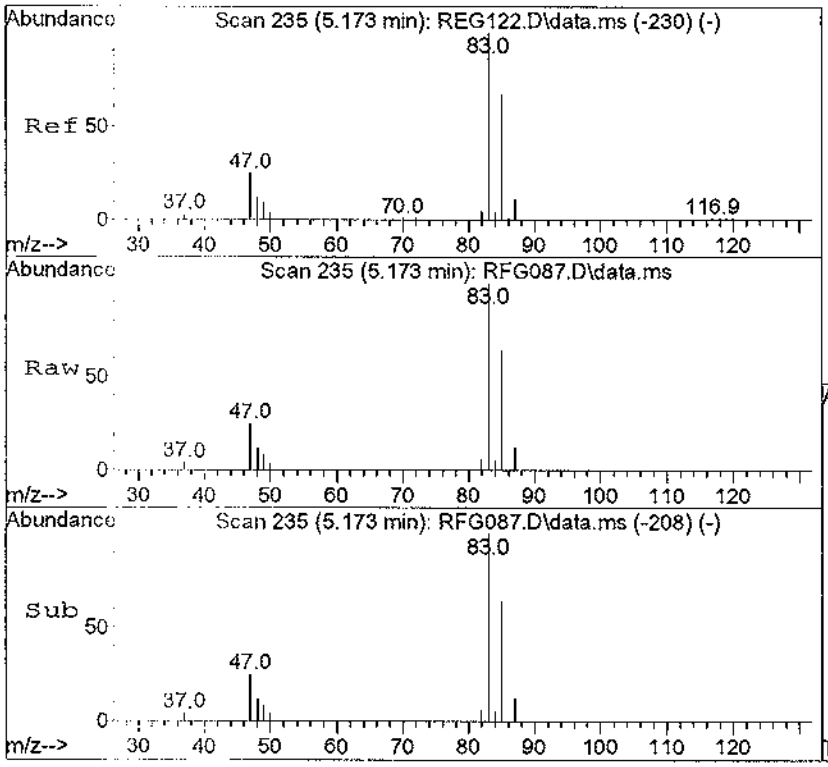



#32
cis-1,2-Dichloroethene
Concen: 1.12 ug/l
RT: 5.052 min Scan# 224
Delta R.T. -0.011 min
Lab File: RFG087.D
Acq: 11 Jun 2024 2:19

Tgt Ion: 96 Resp: 27667

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 64.4 | 33.9 | 93.9 |

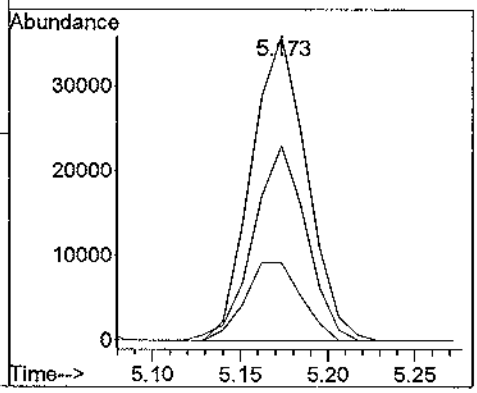


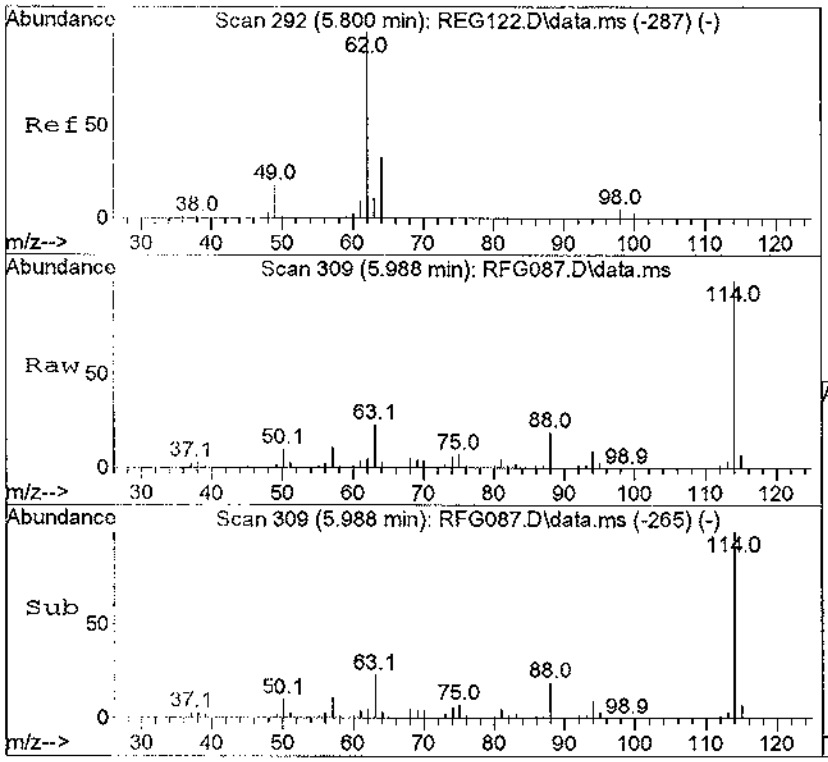




#33
Chloroform
Concen: 1.45 ug/l
RT: 5.173 min Scan# 235
Delta R.T. 0.000 min
Lab File: RFG087.D
Acq: 11 Jun 2024 2:19

Tgt Ion: 83 Resp: 78977

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 60.7 | 35.4 | 95.4 |
| 47 | 25.8 | 0.0 | 55.4 |

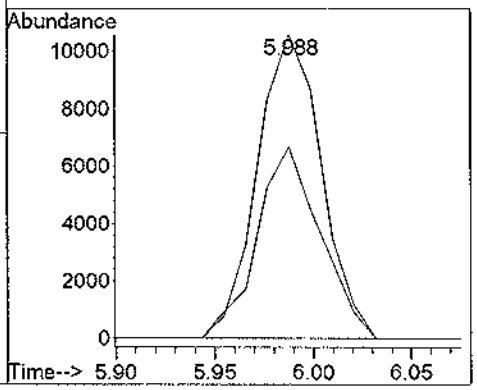


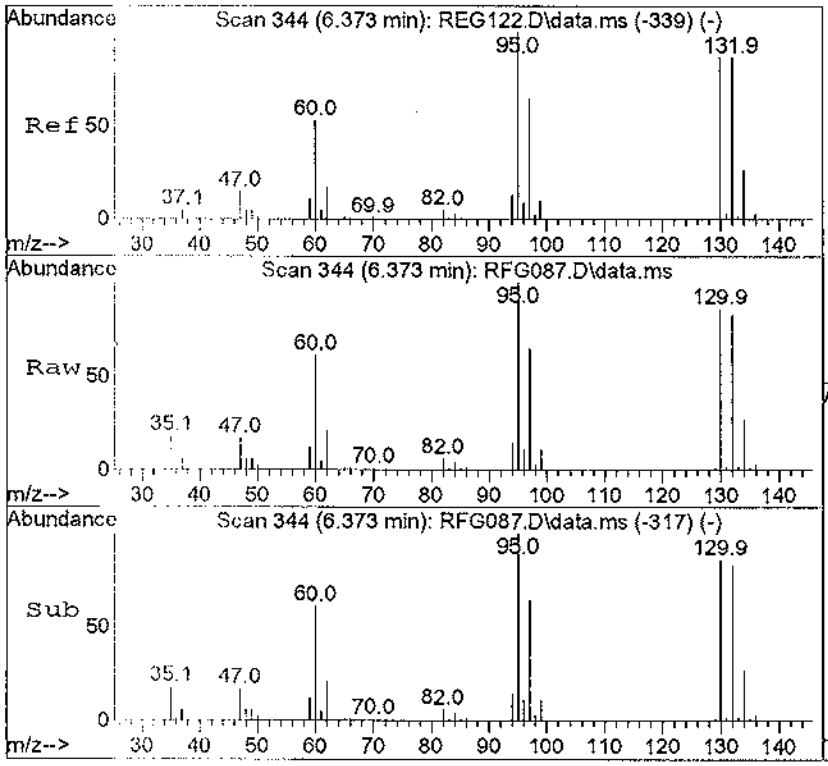



#43
1,2-Dichloroethane
Concen: 0.57 ug/L
RT: 5.988 min Scan# 309
Delta R.T. 0.188 min
Lab File: RFG087.D
Acq: 11 Jun 2024 2:19

Tgt Ion: 62 Resp: 23942

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 62 | 100 | | |
| 64 | 62.5 | 2.5 | 62.5 |

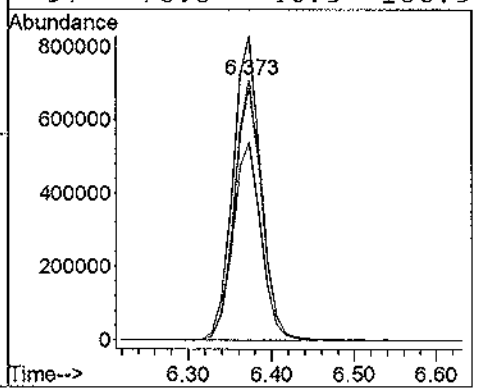



#45
Trichloroethene
Concen: 71.26 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG087.D
Acq: 11 Jun 2024 2:19

Tgt Ion:130 Resp: 1637762

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.2 | 67.6 | 127.6 |
| 95 | 117.0 | 82.6 | 142.6 |
| 97 | 76.8 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 13:16 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 17:25 |
| Sample ID | : T1AMF-MW029-MAY24 | Date Analyzed: | 06/11/24 17:25 |
| Lab Samp ID: | 24F003-14 | Dilution Factor: | 1 |
| Lab File ID: | RFG101 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.3 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 33 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 9.83 | 10.0 | 98 | 85-114 |
| Toluene-d8 | 10.4 | 10.0 | 104 | 89-112 |
| Dibromofluoromethane | 9.92 | 10.0 | 99 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG101.D
Acq On : 11 Jun 2024 17:25
Sample : 24F003-14
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 17:44:06 2024
Quant Results File: VOE2E17.RES

Vial: 11
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 496966 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 393665 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 192105 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 302000 | 9.92 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 99.20% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 446192 | 11.09 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 110.90% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 817377 | 10.45 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 104.50% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 299727 | 9.83 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 98.30% | | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 34012 | 1.26 | ug/l | 96 |
| 33) Chloroform | 5.173 | 83 | 14984 | 0.25 | ug/l | 91 |
| 45) Trichloroethene | 6.373 | 130 | 840120 | 33.47 | ug/L | 97 |

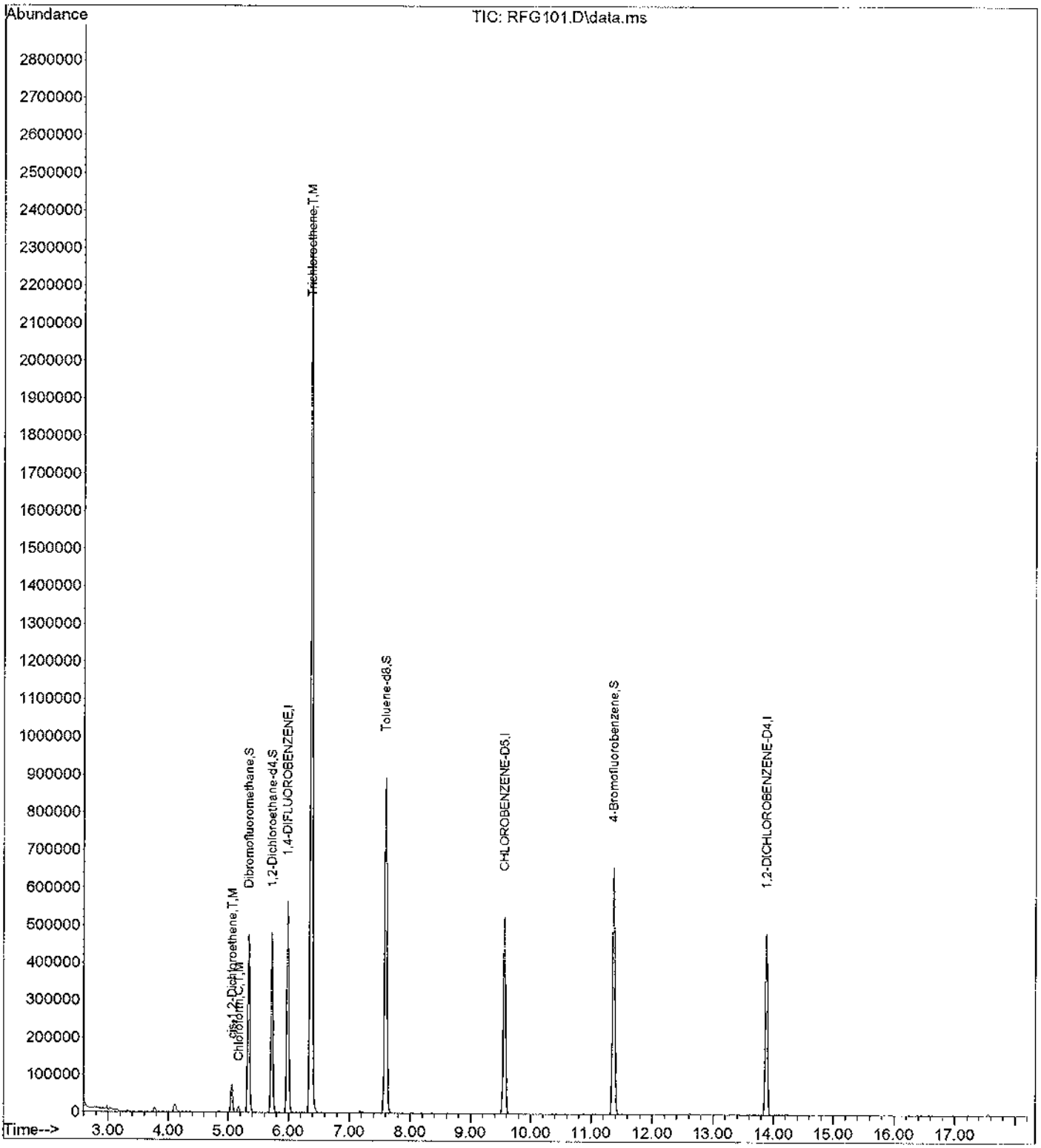
(#) = qualifier out of range (m) = manual integration (+) = signals summed

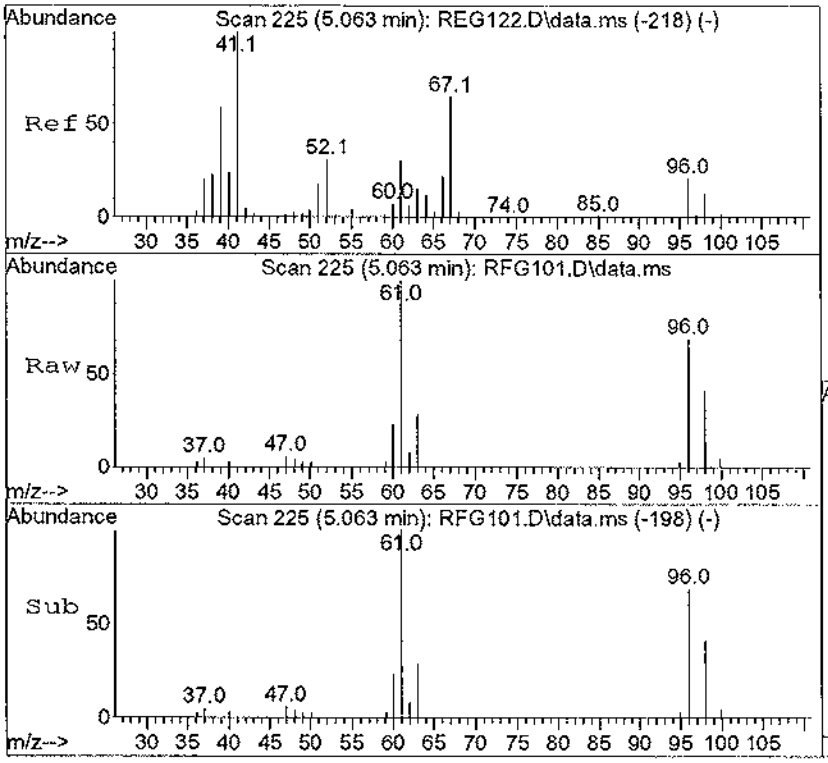
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG101.D
Acq On : 11 Jun 2024 17:25
Sample : 24F003-14
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 17:44:06 2024
Quant Results File: VOE2E17.RES

Vial: 11
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

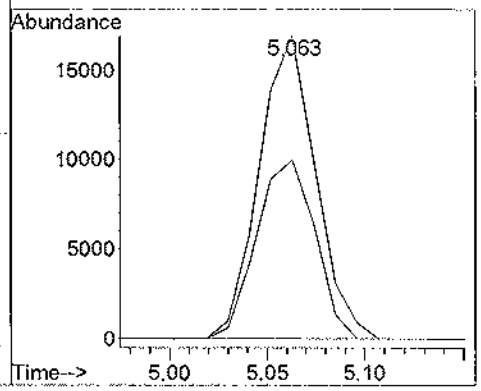


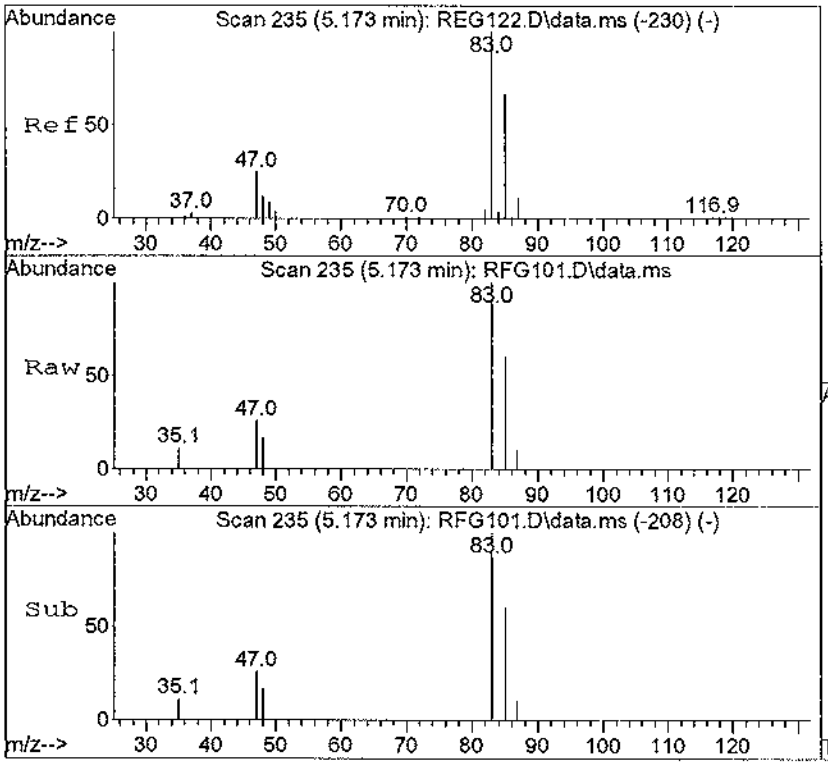



#32
cis-1,2-Dichloroethene
Concen: 1.26 ug/l
RT: 5.063 min Scan# 225
Delta R.T. -0.000 min
Lab File: RFG101.D
Acq: 11 Jun 2024 17:25

Tgt Ion: 96 Resp: 34012

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 60.8 | 33.9 | 93.9 |

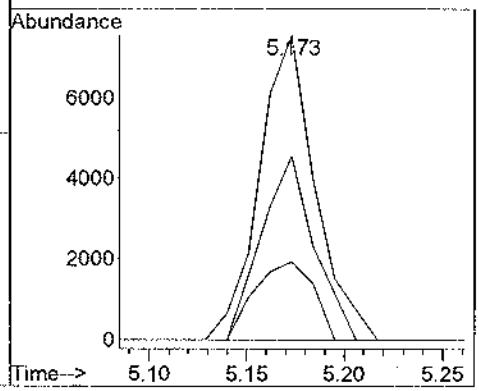


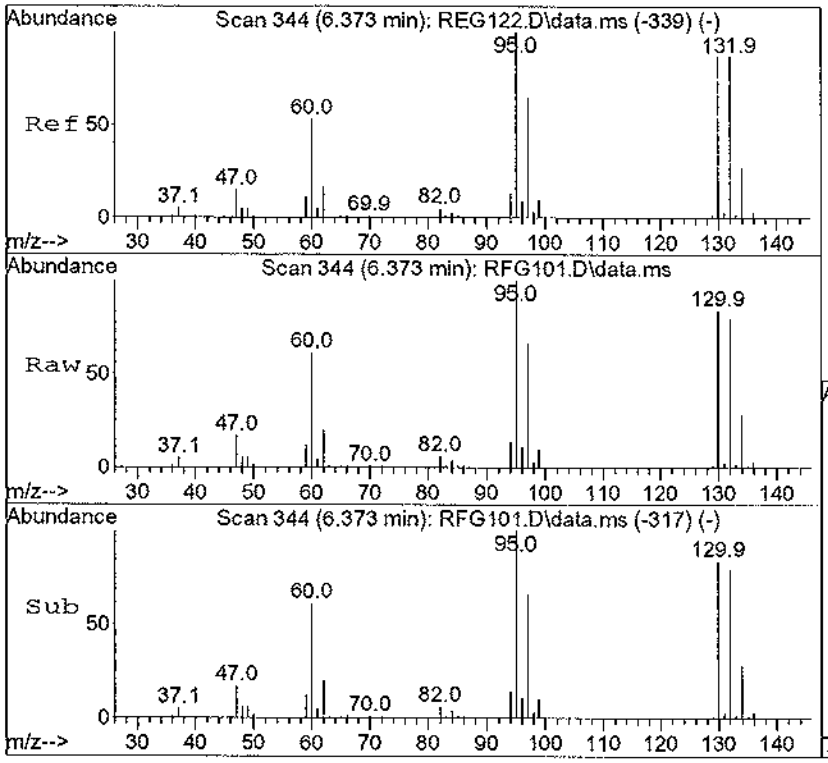




#33
Chloroform
Concen: 0.25 ug/l
RT: 5.173 min Scan# 235
Delta R.T. 0.000 min
Lab File: RFG101.D
Acq: 11 Jun 2024 17:25

Tgt Ion: 83 Resp: 14984

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 56.8 | 35.4 | 95.4 |
| 47 | 26.6 | 0.0 | 55.4 |

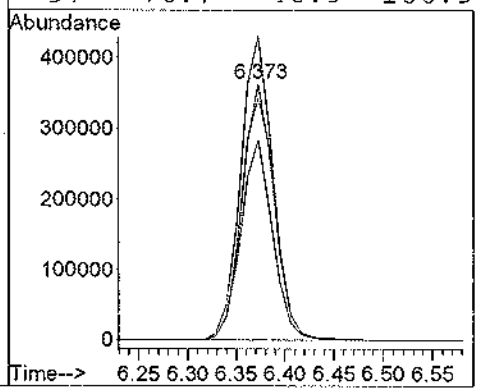





#45
Trichloroethene
Concen: 33.47 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG101.D
Acq: 11 Jun 2024 17:25

Tgt Ion:130 Resp: 840120

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 98.2 | 67.6 | 127.6 |
| 95 | 119.0 | 82.6 | 142.6 |
| 97 | 76.7 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 14:21 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 17:49 |
| Sample ID | : T1AMF-MW030-MAY24 | Date Analyzed: | 06/11/24 17:49 |
| Lab Samp ID: | 24F003-15 | Dilution Factor: | 1 |
| Lab File ID: | RFG102 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.6 | 10.0 | 116 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 10.1 | 10.0 | 101 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG102.D
Acq On : 11 Jun 2024 17:49
Sample : 24F003-15
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 17:45:25 2024
Quant Results File: VOE2E17.RES

Vial: 12
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 484161 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 392148 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 178457 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 299145 | 10.09 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 100.90% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 453110 | 11.56 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 115.60% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 795101 | 10.20 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 102.00% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 298357 | 10.53 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.30% | | | |
| Target Compounds | | | | | | Qvalue |

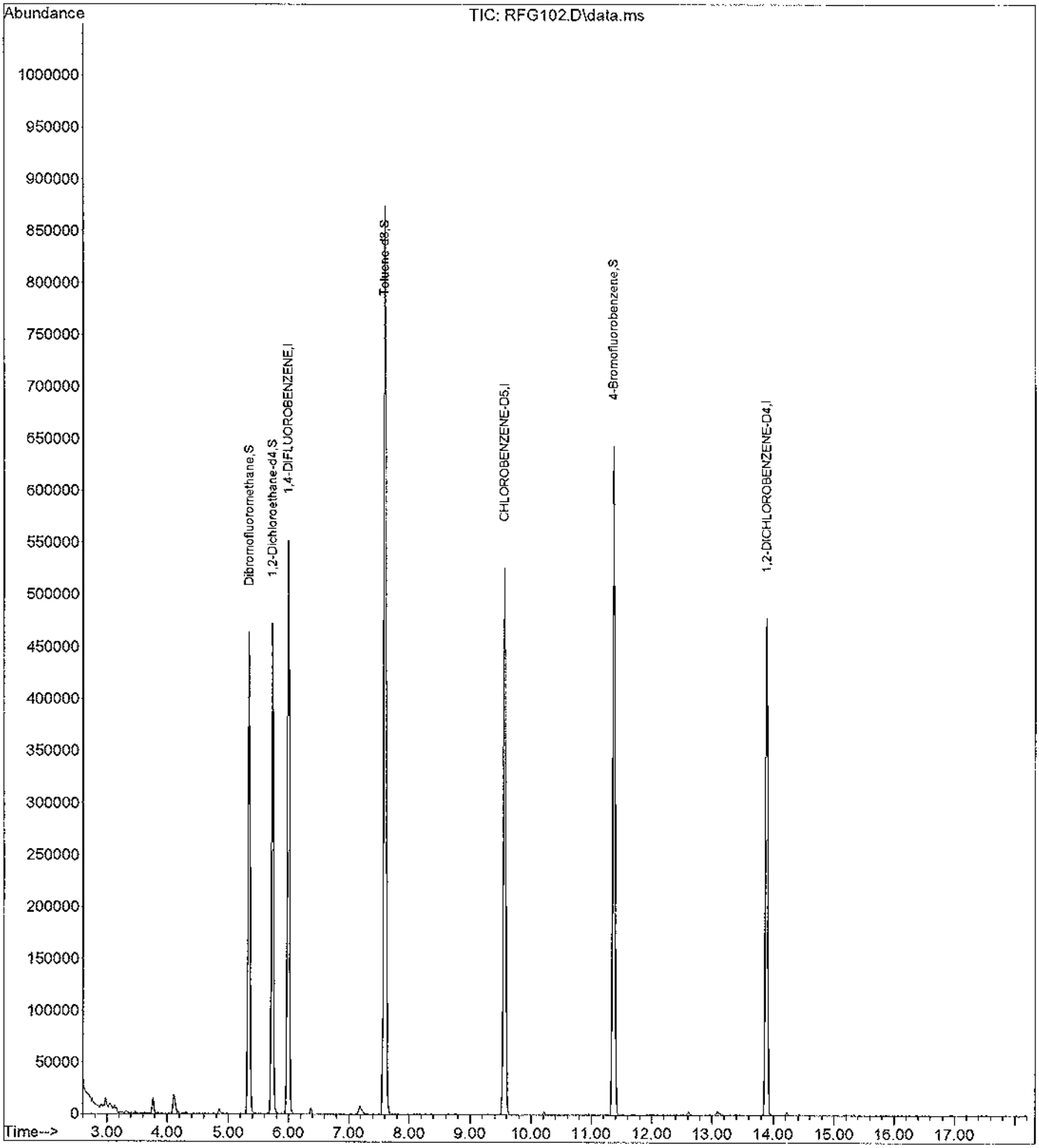
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG102.D
Acq On : 11 Jun 2024 17:49
Sample : 24F003-15
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 17:45:25 2024
Quant Results File: VOE2E17.RES

Vial: 12
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 14:26 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 18:13 |
| Sample ID | : T1AMF-MW030-MAY24_FD | Date Analyzed: | 06/11/24 18:13 |
| Lab Samp ID: | 24F003-16 | Dilution Factor: | 1 |
| Lab File ID: | RFG103 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.2 | 10.0 | 102 | 85-114 |
| Toluene-d8 | 10.4 | 10.0 | 104 | 89-112 |
| Dibromofluoromethane | 10.2 | 10.0 | 102 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG103.D
Acq On : 11 Jun 2024 18:13
Sample : 24F003-16
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 17:54:23 2024
Quant Results File: VOE2E17.RES

Vial: 13
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 468619 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 374980 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 178942 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 291618 | 10.16 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.60% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 421676 | 11.12 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 111.20% | | |
| 56) Toluene-d8 | 7.594 | 98 | 775119 | 10.40 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.00% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 289800 | 10.20 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.00% | | |
| Target Compounds | | | | | | Qvalue |

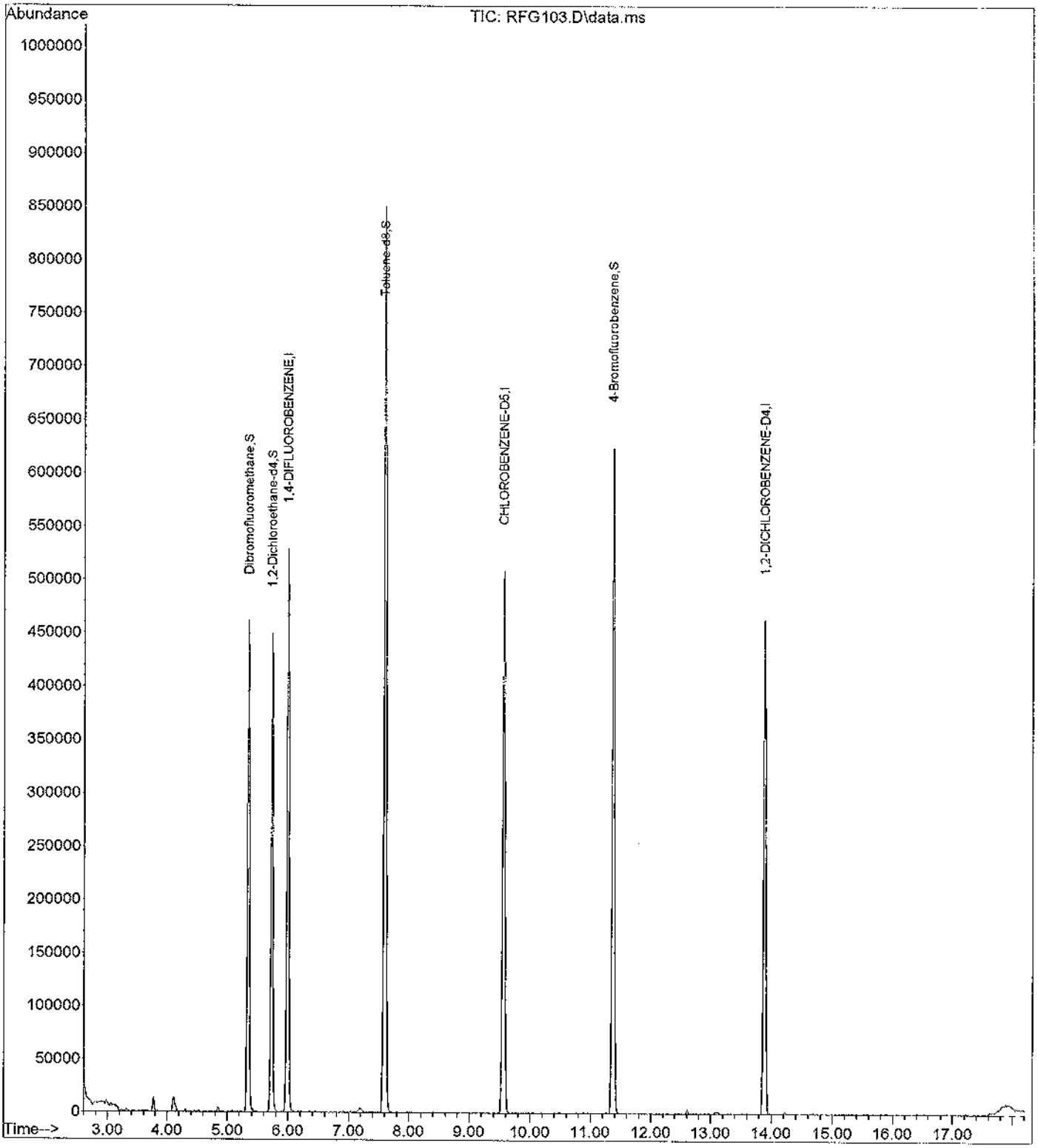
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG103.D
Acq On : 11 Jun 2024 18:13
Sample : 24F003-16
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 17:54:23 2024
Quant Results File: VOE2E17.RES

Vial: 13
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/30/24 15:20 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 18:37 |
| Sample ID | : T1AMF-MW057-MAY24 | Date Analyzed: | 06/11/24 18:37 |
| Lab Samp ID: | 24F003-17 | Dilution Factor: | 1 |
| Lab File ID: | RFG104 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 10.3 | 10.0 | 103 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG104.D
Acq On : 11 Jun 2024 18:37
Sample : 24F003-17
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 17:47:03 2024
Quant Results File: VOE2E17.RES

Vial: 14
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 462451 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 362871 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 175655 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 292759 | 10.34 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 103.40% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 417302 | 11.15 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 111.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 764190 | 10.60 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.00% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 288585 | 10.35 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 103.50% | | |
| Target Compounds | | | | | | Qvalue |
| 33) Chloroform | 5.173 | 83 | 49485 | 0.89 | ug/l | 97 |

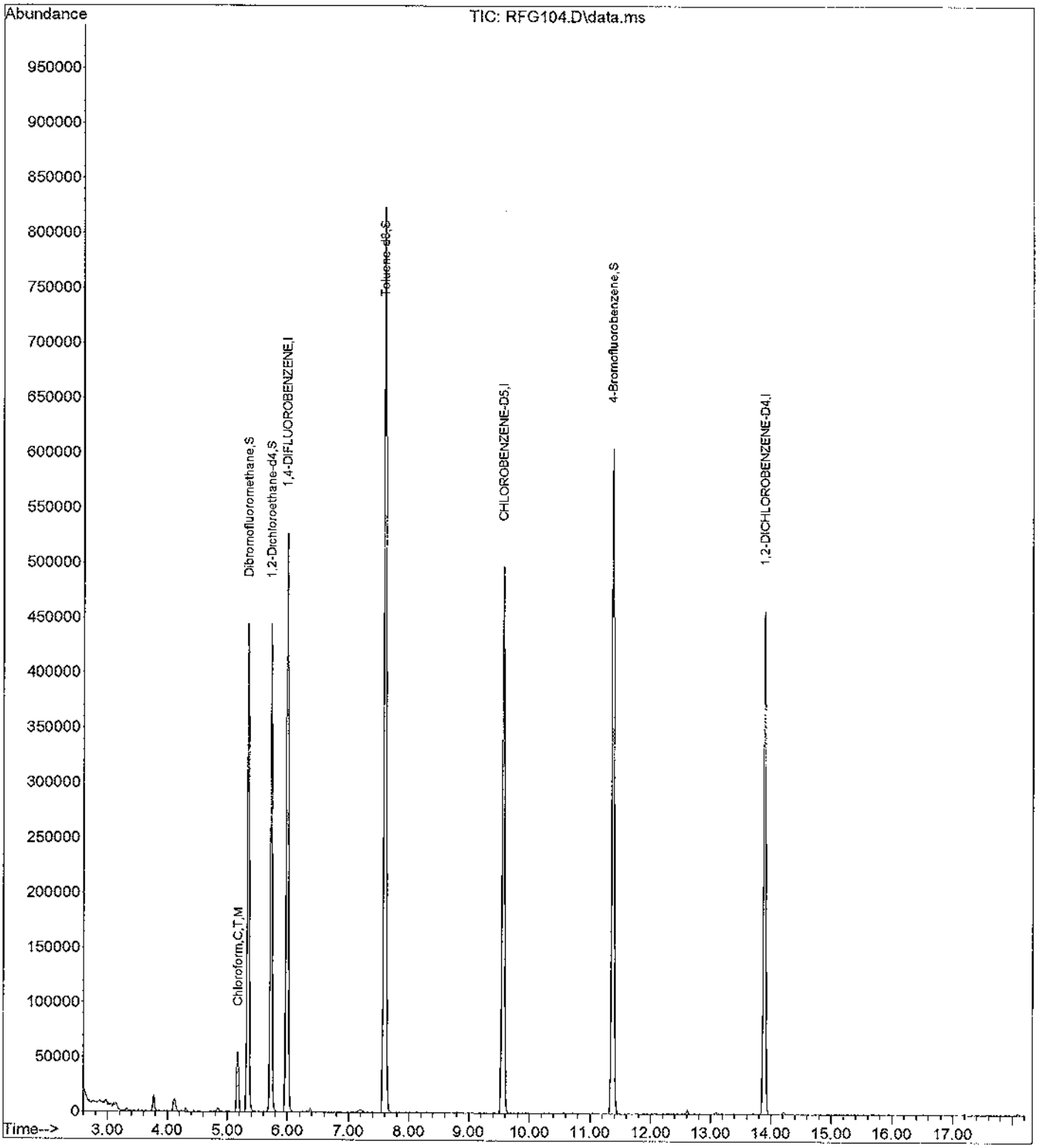
(#) = qualifier out of range (m) = manual integration (+) = signals summed

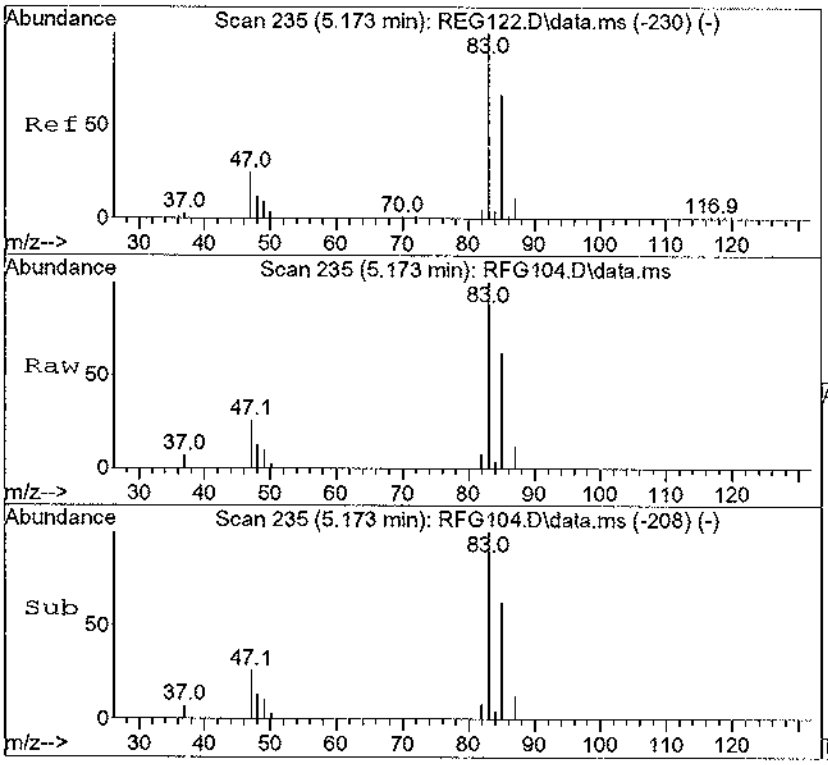
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG104.D
Acq On : 11 Jun 2024 18:37
Sample : 24F003-17
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 17:47:03 2024
Quant Results File: VOE2E17.RES

Vial: 14
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

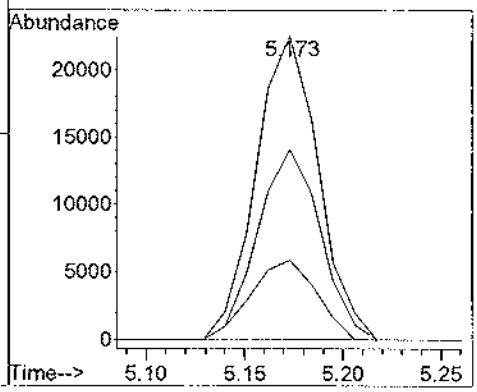





#33
Chloroform
Concen: 0.89 ug/l
RT: 5.173 min Scan# 235
Delta R.T. 0.000 min
Lab File: RFG104.D
Acq: 11 Jun 2024 18:37

Tgt Ion: 83 Resp: 49485

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 62.9 | 35.4 | 95.4 |
| 47 | 27.4 | 0.0 | 55.4 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 08:30 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 20:48 |
| Sample ID | : TB-1_MAY24 | Date Analyzed: | 06/10/24 20:48 |
| Lab Samp ID: | 24F003-18 | Dilution Factor: | 1 |
| Lab File ID: | RFG073 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | 0.33J | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.9 | 10.0 | 109 | 81-118 |
| 4-Bromofluorobenzene | 10.4 | 10.0 | 104 | 85-114 |
| Toluene-d8 | 10.8 | 10.0 | 108 | 89-112 |
| Dibromofluoromethane | 9.92 | 10.0 | 99 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG073.D
Acq On : 10 Jun 2024 20:48
Sample : 24F003-18
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 14:38:36 2024
Quant Results File: VOE2E17.RES

Vial: 13
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 558266 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 422620 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 206204 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 339318 | 9.92 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 99.20% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 493608 | 10.92 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 109.20% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 906465 | 10.79 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 107.90% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 339922 | 10.38 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 103.80% | | | |
| Target Compounds | | | | | | Qvalue |
| 58) Toluene | 7.693 | 91 | 31439 | 0.33 | ug/l | 100 |

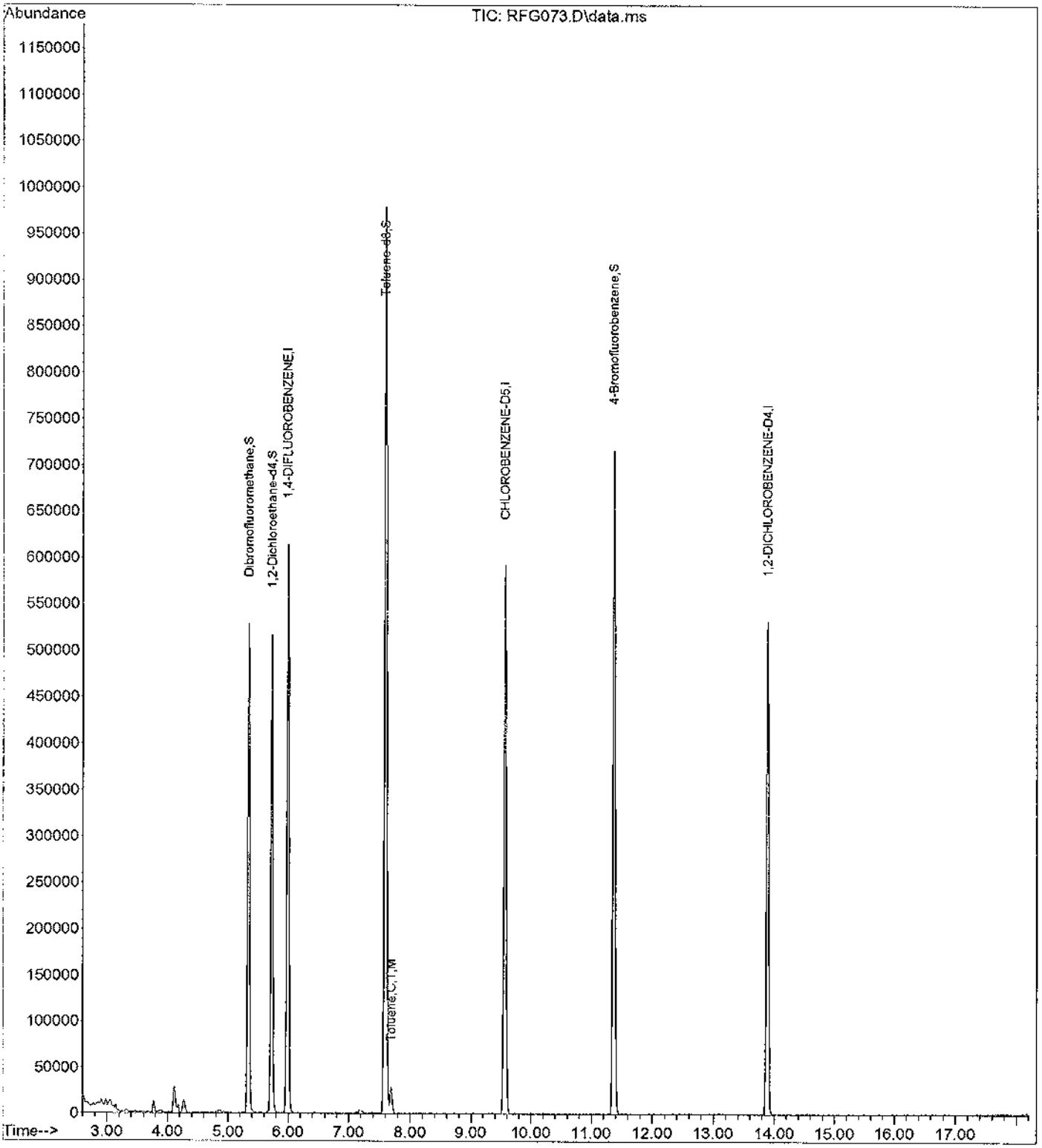
(#) = qualifier out of range (m) = manual integration (+) = signals summed

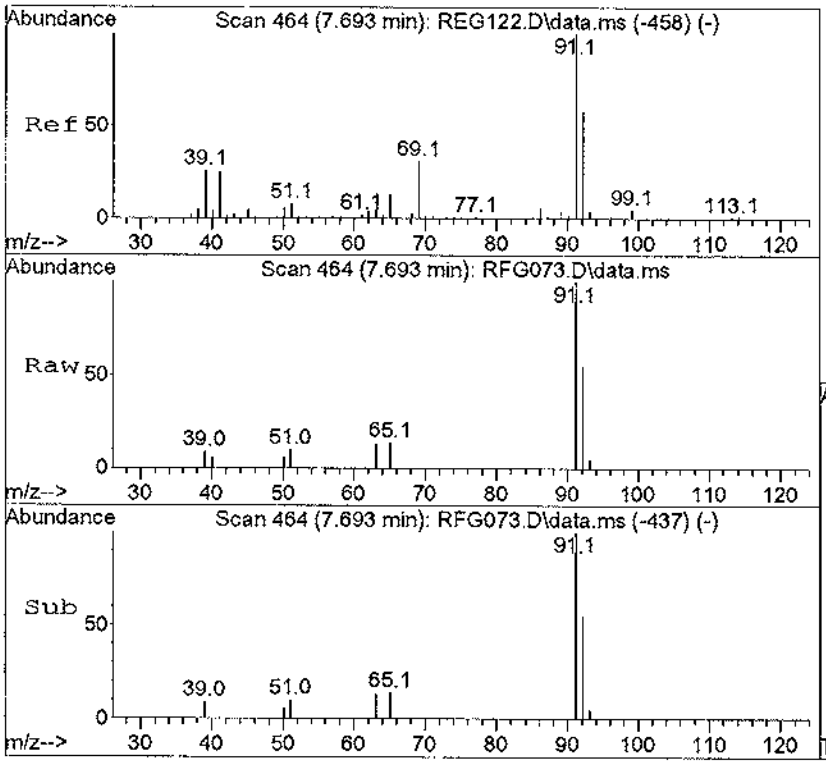
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG073.D
Acq On : 10 Jun 2024 20:48
Sample : 24F003-18
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 14:38:36 2024
Quant Results File: VOE2E17.RES

Vial: 13
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

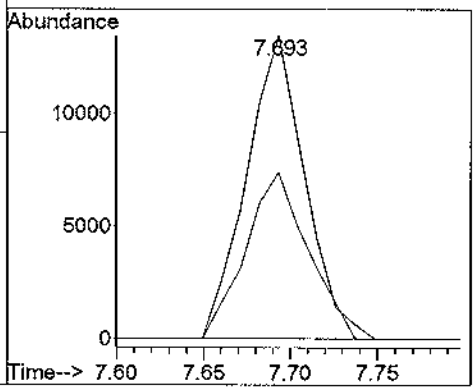





#58
Toluene
Concen: 0.33 ug/l
RT: 7.693 min Scan# 464
Delta R.T. -0.000 min
Lab File: RFG073.D
Acq: 10 Jun 2024 20:48

Tgt Ion: 91 Resp: 31439

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 92 | 58.4 | 28.5 | 88.5 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 07:45 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 21:11 |
| Sample ID | : TB-2 MAY24 | Date Analyzed: | 06/10/24 21:11 |
| Lab Samp ID: | 24F003-19 | Dilution Factor: | 1 |
| Lab File ID: | RFG074 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | 0.29J | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.8 | 10.0 | 108 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 9.79 | 10.0 | 98 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG074.D
Acq On : 10 Jun 2024 21:11
Sample : 24F003-19
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 14:43:02 2024
Quant Results File: VOE2E17.RES

Vial: 14
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 532753 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 414099 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 187690 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 319434 | 9.79 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 97.90% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 476701 | 11.06 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 110.60% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 864763 | 10.51 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.10% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 321868 | 10.80 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 108.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 58) Toluene | 7.693 | 91 | 27694 | 0.29 | ug/l | 96 |

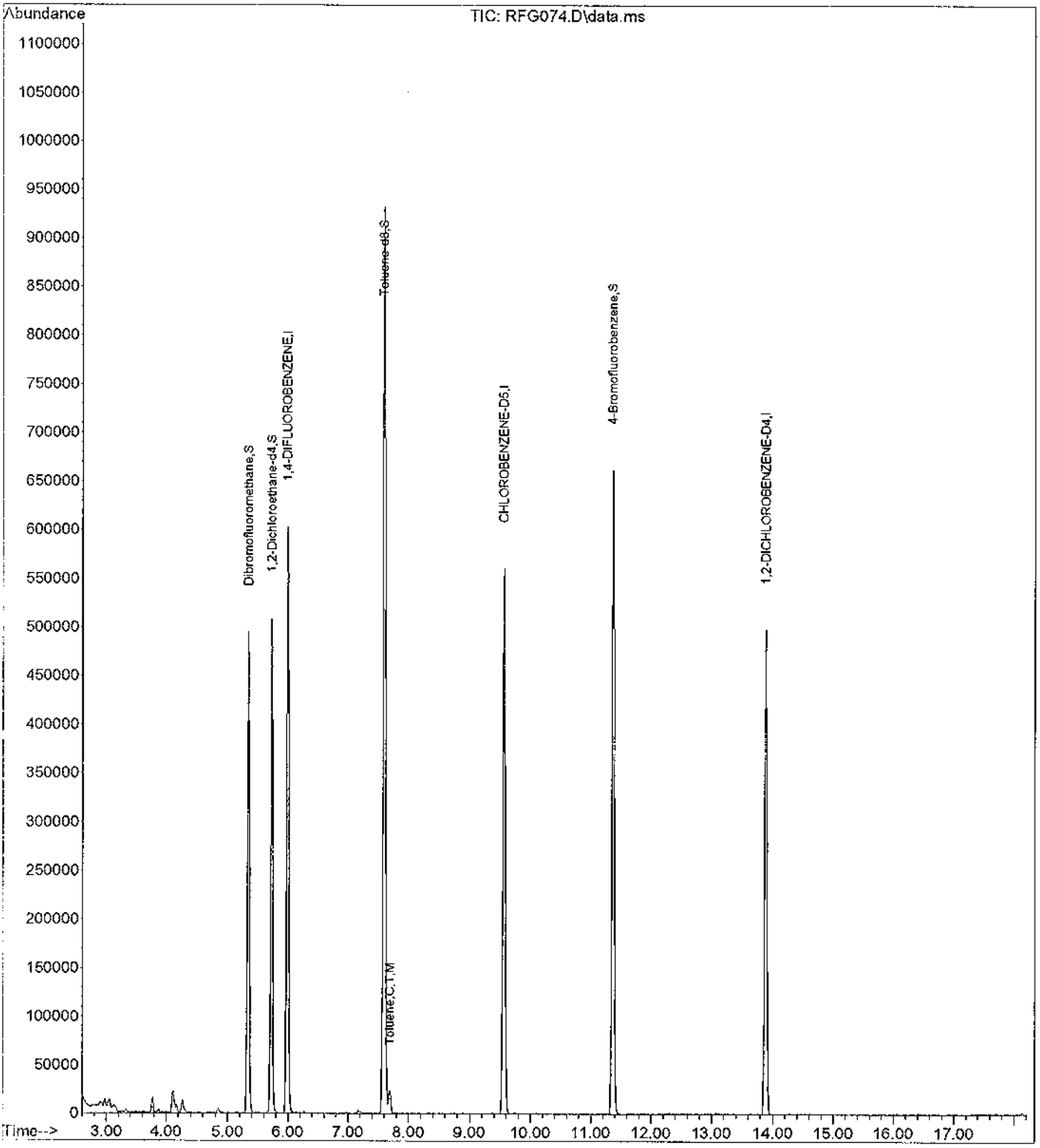
(#) = qualifier out of range (m) = manual integration (+) = signals summed

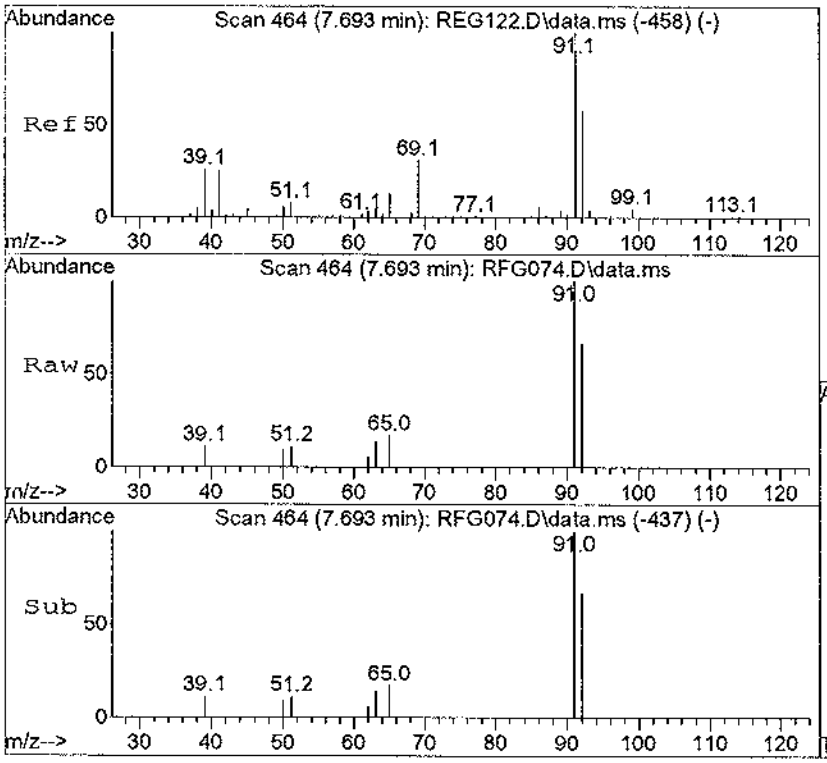
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG074.D
Acq On : 10 Jun 2024 21:11
Sample : 24F003-19
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 14:43:02 2024
Quant Results File: VOE2E17.RES

Vial: 14
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

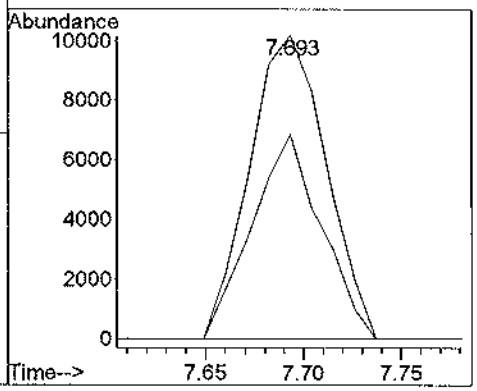





#58
Toluene
Concen: 0.29 ug/l
RT: 7.693 min Scan# 464
Delta R.T. -0.000 min
Lab File: RFG074.D
Acq: 10 Jun 2024 21:11

Tgt Ion: 91 Resp: 27694

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 92 | 61.2 | 28.5 | 88.5 |



# QC SUMMARIES

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/10/24 18:25 |
| Project | : TITAN 1-A | Date Received: | 06/10/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/10/24 18:25 |
| Sample ID | : MBLK1W | Date Analyzed: | 06/10/24 18:25 |
| Lab Samp ID: | VOE2F03B | Dilution Factor: | 1 |
| Lab File ID: | RFG067 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.3 | 10.0 | 103 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.8 | 10.0 | 108 | 89-112 |
| Dibromofluoromethane | 9.60 | 10.0 | 96 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F003
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK1W | LCS1W | LCD1W |
| LAB SAMPLE ID | : VOE2F03B | VOE2F03L | VOE2F03C |
| LAB FILE ID | : RFG067 | RFG063 | RFG064 |
| DATE PREPARED | : 06/10/24 18:25 | 06/10/24 17:13 | 06/10/24 17:37 |
| DATE ANALYZED | : 06/10/24 18:25 | 06/10/24 17:13 | 06/10/24 17:37 |
| PREP BATCH | : VOE2F03 | VOE2F03 | VOE2F03 |
| CALIBRATION REF: | REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 10.3 | 103 | 10.0 | 10.6 | 106 | 3 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.9 | 109 | 10.0 | 11.5 | 115 | 5 | 79-118 | 20 |
| Benzene | ND | 10.0 | 10.7 | 107 | 10.0 | 11.1 | 111 | 4 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 10.2 | 102 | 10.0 | 10.6 | 106 | 4 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.7 | 107 | 10.0 | 11.4 | 114 | 6 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 20.8 | 104 | 20.0 | 22.2 | 111 | 7 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.9 | 109 | 10.0 | 11.8 | 118 | 8 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.8 | 108 | 10.0 | 11.7 | 117 | 8 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 10.1 | 101 | 10.0 | 10.2 | 102 | 1 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.31 | 93 | 10.0 | 9.74 | 97 | 5 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 10.1 | 101 | 10.0 | 9.12 | 91 | 10 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 9.95 | 100 | 10.0 | 9.88 | 99 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.4 | 104 | 10.0 | 10.8 | 108 | 85-114 |
| Toluene-d8 | 10.0 | 10.5 | 105 | 10.0 | 10.5 | 105 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.84 | 98 | 10.0 | 9.40 | 94 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/11/24 15:26 |
| Project | : TITAN 1-A | Date Received: | 06/11/24 |
| Batch No. | : 24F003 | Date Extracted: | 06/11/24 15:26 |
| Sample ID | : MBLK2W | Date Analyzed: | 06/11/24 15:26 |
| Lab Samp ID: | VOE2F04B | Dilution Factor: | 1 |
| Lab File ID: | RFG096 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.8 | 10.0 | 108 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.95 | 10.0 | 100 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F003
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK2W | LCS2W | LCD2W |
| LAB SAMPLE ID | : VOE2F04B | VOE2F04L | VOE2F04C |
| LAB FILE ID | : RFG096 | RFG093 | RFG094 |
| DATE PREPARED | : 06/11/24 15:26 | 06/11/24 14:15 | 06/11/24 14:39 |
| DATE ANALYZED | : 06/11/24 15:26 | 06/11/24 14:15 | 06/11/24 14:39 |
| PREP BATCH | : VOE2F04 | VOE2F04 | VOE2F04 |
| CALIBRATION REF: | REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 9.69 | 97 | 10.0 | 9.34 | 93 | 4 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.7 | 107 | 10.0 | 10.3 | 103 | 4 | 79-118 | 20 |
| Benzene | ND | 10.0 | 9.98 | 100 | 10.0 | 9.74 | 97 | 2 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 9.91 | 99 | 10.0 | 9.49 | 95 | 4 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.5 | 105 | 10.0 | 10.4 | 104 | 1 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 20.4 | 102 | 20.0 | 20.2 | 101 | 1 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.7 | 107 | 10.0 | 10.6 | 106 | 1 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.4 | 104 | 10.0 | 10.3 | 103 | 1 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 9.39 | 94 | 10.0 | 9.07 | 91 | 3 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.00 | 90 | 10.0 | 8.65 | 87 | 4 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 11.0 | 110 | 10.0 | 10.4 | 104 | 6 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.6 | 106 | 10.0 | 10.1 | 101 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 11.1 | 111 | 10.0 | 10.6 | 106 | 85-114 |
| Toluene-d8 | 10.0 | 10.6 | 106 | 10.0 | 10.6 | 106 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.84 | 98 | 10.0 | 9.56 | 96 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

# QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG067.D
Acq On : 10 Jun 2024 18:25
Sample : VOE2F03B
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 13:49:41 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 727124 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 552730 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 266282 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 427619 | 9.60 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 96.00% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 605141 | 10.28 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.80% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1181499 | 10.76 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.60% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 441902 | 10.45 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.50% | | |
| Target Compounds | | | | | | Qvalue |

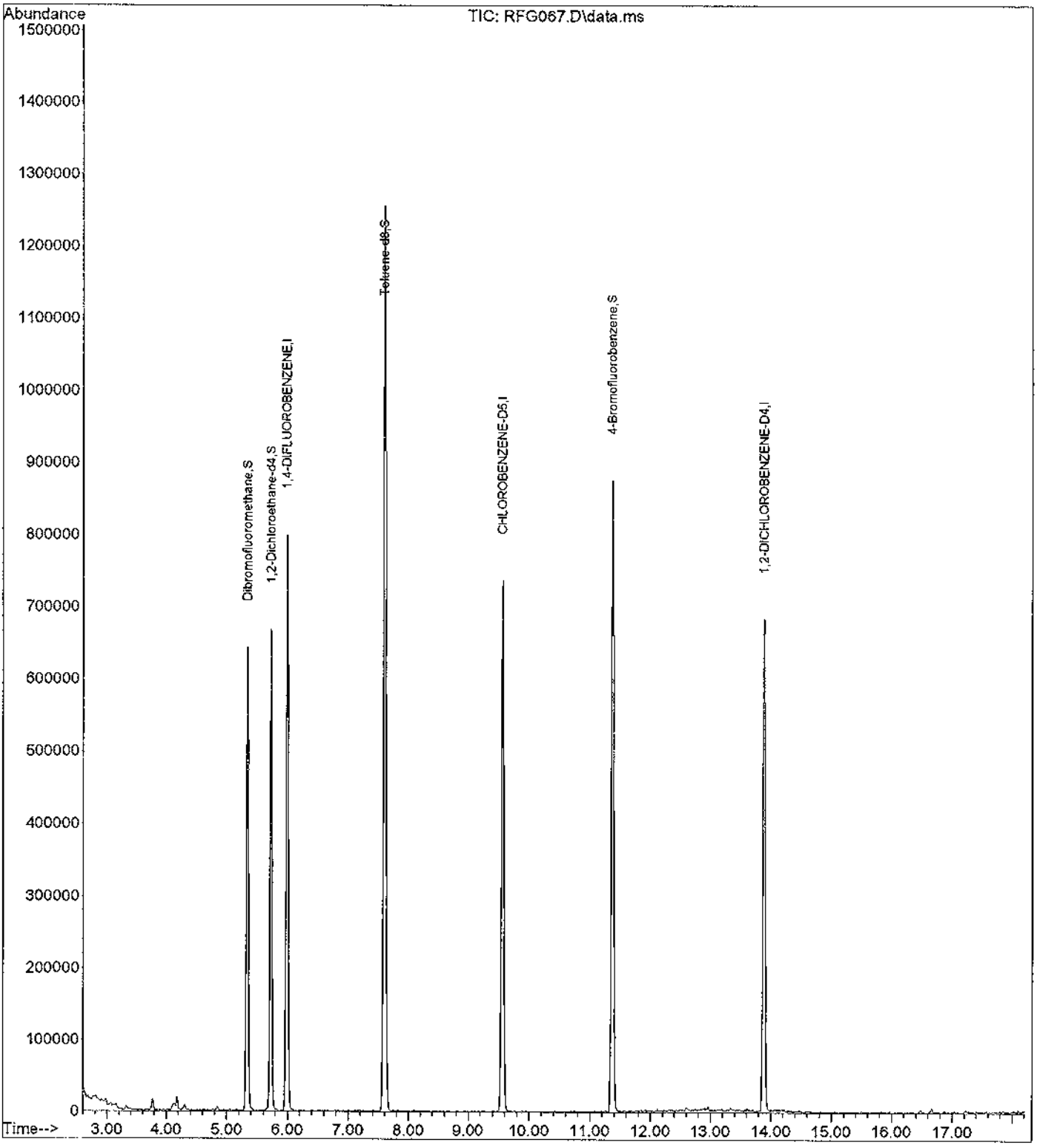
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG067.D
Acq On : 10 Jun 2024 18:25
Sample : VOE2F03B
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 13:49:41 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG063.D Vial: 3
Acq On : 10 Jun 2024 17:13 Operator: DNguye
Sample : VOE2F03L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:51:42 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 792750 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 646227 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 321378 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 477546 | 9.84 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.40% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 638295 | 9.95 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1343222 | 10.46 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.60% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 531007 | 10.41 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.10% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 478859 | 10.53 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 233171 | 7.14 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 348108 | 10.10 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 181644 | 7.79 | ug/l | 94 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 832894 | 10.57 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 155704 | 9.22 | ug/l | 97 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 617653 | 7.97 | ug/l | 99 |
| 9) Acrolein | 3.753 | 56 | 205312 | 39.82 | ug/l | 100 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 332677 | 9.85 | ug/l | 98 |
| 11) Acetone | 3.775 | 43 | 489540 | 47.77 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 1100962 | 228.38 | ug/L | 100 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 727261 | 10.26 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 219682 | 91.83 | ug/L | 97 |
| 15) Allyl chloride | 4.105 | 76 | 207943 | 11.11 | ug/L | 99 |
| 16) Iodomethane | 4.149 | 142 | 374701 | 9.96 | ug/l | 99 |
| 18) Methylene chloride | 4.182 | 49 | 535107 | 10.59 | ug/l | 95 |
| 19) Acrylonitrile | 4.215 | 53 | 513308 | 43.07 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 1253699 | 10.58 | ug/L | 97 |
| 21) Carbon disulfide | 4.315 | 76 | 1128646 | 10.39 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 381609 | 10.09 | ug/l | 97 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1226107 | 10.17 | ug/l | 98 |
| 24) Vinyl acetate | 4.546 | 43 | 414166 | 6.03 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 784954 | 10.26 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1370234 | 9.36 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 172408 | 46.35 | ug/l | 94 |
| 28) Propionitrile | 4.909 | 54 | 436654 | 99.63 | ug/L | 95 |
| 29) Isobutyl alcohol | 5.030 | 43 | 285794 | 184.55 | ug/L | 92 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 851307 | 11.12 | ug/l | 100 |
| 31) Methacrylonitrile | 5.063 | 52 | 680896 | 94.62 | ug/L | 86 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 438573 | 10.19 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 942656 | 9.94 | ug/l | 96 |
| 34) Bromochloromethane | 5.327 | 130 | 235437 | 9.31 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.327 | 42 | 95717 | 9.58 | ug/L | 94 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 911404 | 10.66 | ug/l | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 286008 | 10.95 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 183599 | 9.81 | ug/L | 97 |
| 42) Carbon tetrachloride | 5.734 | 119 | 744710 | 10.29 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 770942 | 10.58 | ug/L | 99 |
| 44) Benzene | 5.866 | 78 | 1552522 | 10.70 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG063.D
Acq On : 10 Jun 2024 17:13
Sample : VOE2F03L
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:51:42 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

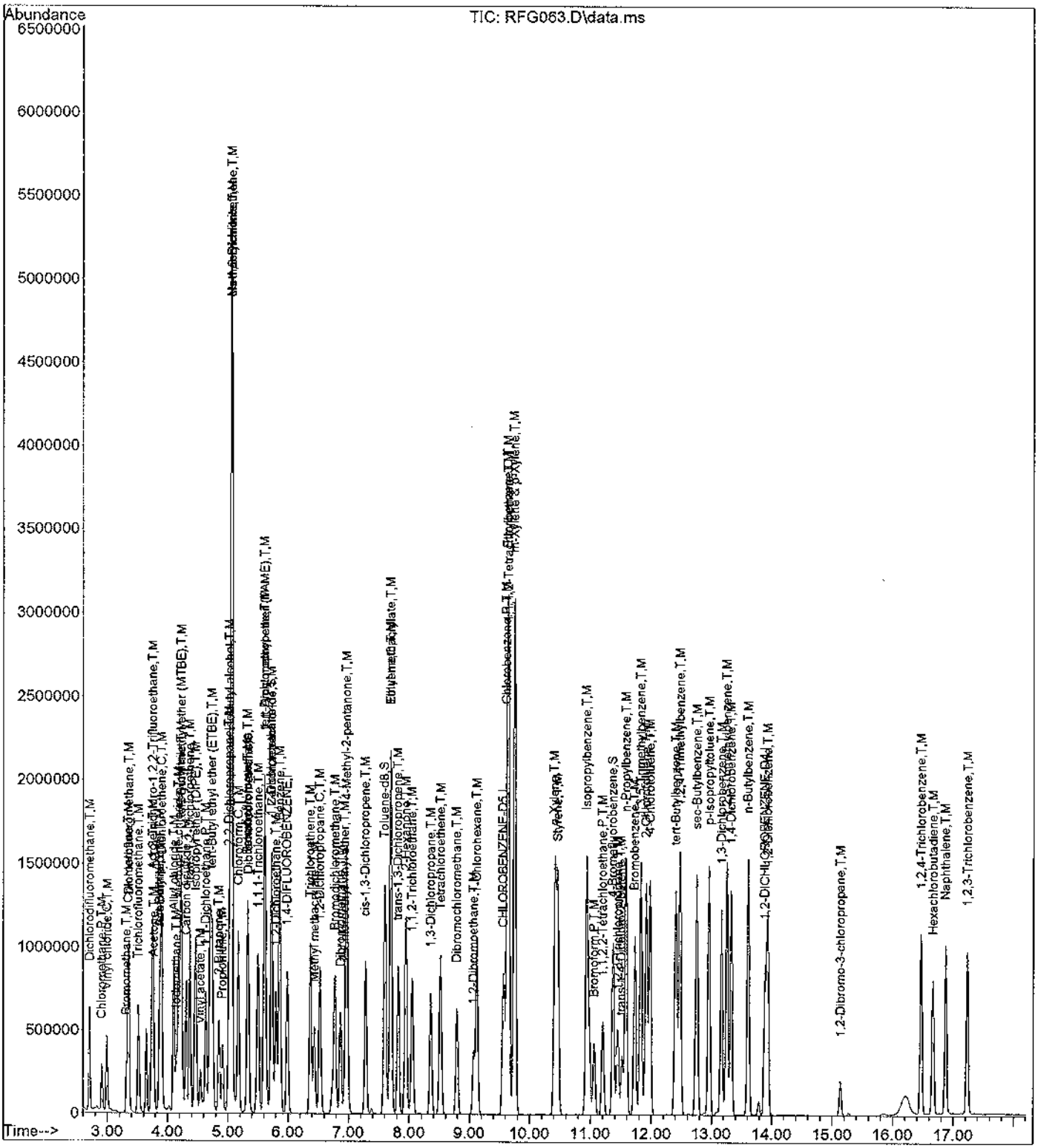
| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.372 | 130 | 372826 | 9.31 | ug/L | | 96 |
| 46) | Methyl methacrylate | 6.439 | 69 | 247156 | 6.97 | ug/L | # | 75 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 378642 | 10.23 | ug/L | | 97 |
| 50) | Bromodichloromethane | 6.780 | 83 | 735082 | 10.49 | ug/L | | 97 |
| 51) | Dibromomethane | 6.868 | 93 | 285885 | 9.49 | ug/L | | 97 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 133183 | 7.26 | ug/L | | 99 |
| 53) | 4-Methyl-2-pentanone | 6.967 | 43 | 1765852 | 43.54 | ug/L | | 98 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 686899 | 10.61 | ug/L | | 99 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 468696 | 10.63 | ug/L | | 94 |
| 58) | Toluene | 7.693 | 91 | 1588600 | 10.84 | ug/l | | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 687479 | 10.96 | ug/l | | 96 |
| 60) | 2-Hexanone | 7.946 | 43 | 1204034 | 45.44 | ug/l | | 100 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 351436 | 10.10 | ug/l | | 96 |
| 62) | 1,3-Dichloropropane | 8.353 | 76 | 563627 | 10.91 | ug/l | | 98 |
| 63) | Tetrachloroethene | 8.518 | 164 | 320887 | 10.02 | ug/l | | 98 |
| 64) | Dibromochloromethane | 8.783 | 129 | 484738 | 9.29 | ug/l | | 100 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 354988 | 9.47 | ug/l | | 97 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 525115 | 10.83 | ug/l | | 92 |
| 67) | Chlorobenzene | 9.619 | 112 | 989338 | 10.22 | ug/l | | 99 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 419449 | 10.18 | ug/l | | 99 |
| 69) | Ethylbenzene | 9.641 | 91 | 1896279 | 10.70 | ug/l | | 99 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 3005719 | 20.80 | ug/l | | 97 |
| 71) | o-Xylene | 10.411 | 91 | 1488798 | 10.88 | ug/l | | 99 |
| 72) | Styrene | 10.466 | 104 | 1007131 | 10.53 | ug/l | | 95 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1676815 | 10.76 | ug/L | | 99 |
| 75) | Bromoform | 11.061 | 173 | 312344 | 8.91 | ug/l | | 99 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 446381 | 9.97 | ug/l | | 94 |
| 78) | 1,2,3-Trichloropropane | 11.457 | 110 | 124811 | 10.09 | ug/l | | 100 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 123107 | 9.84 | ug/l | | 98 |
| 80) | n-Propylbenzene | 11.589 | 91 | 2135717 | 10.48 | ug/l | | 98 |
| 81) | Bromobenzene | 11.732 | 156 | 438689 | 9.81 | ug/l | | 97 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 1439701 | 10.28 | ug/l | | 97 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 1363566 | 10.84 | ug/l | | 91 |
| 84) | 4-Chlorotoluene | 11.985 | 91 | 1241041 | 11.70 | ug/l | | 98 |
| 85) | tert-Butylbenzene | 12.414 | 134 | 223517 | 10.31 | ug/l | | 91 |
| 86) | 1,2,4-Trimethylbenzene | 12.480 | 105 | 1456697 | 10.63 | ug/l | | 94 |
| 87) | sec-Butylbenzene | 12.755 | 105 | 1649768 | 10.39 | ug/l | | 99 |
| 88) | p-Isopropyltoluene | 12.965 | 119 | 1339055 | 10.05 | ug/l | | 98 |
| 89) | 1,3-Dichlorobenzene | 13.174 | 146 | 715813 | 11.19 | ug/l | | 98 |
| 90) | 1,2,3-Trimethylbenzene | 13.262 | 105 | 1396943 | 10.29 | ug/L | | 98 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 726522 | 10.93 | ug/l | | 98 |
| 92) | n-Butylbenzene | 13.614 | 91 | 1336368 | 10.55 | ug/l | | 98 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 680865 | 9.70 | ug/l | | 98 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 78629 | 8.63 | ug/l | | 100 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 449545 | 10.54 | ug/l | | 98 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 249558 | 10.28 | ug/l | | 99 |
| 97) | Naphthalene | 16.871 | 128 | 1024859 | 9.44 | ug/l | | 99 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 417961 | 10.31 | ug/l | | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG063.D Vial: 3
Acq On : 10 Jun 2024 17:13 Operator: DNguye
Sample : VOE2F03L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:51:42 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG064.D
Acq On : 10 Jun 2024 17:37
Sample : VOE2F03C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:52:36 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 821664 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 645570 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 324769 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 472839 | 9.40 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 94.00% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 656812 | 9.88 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.80% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1349262 | 10.52 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 556714 | 10.80 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 108.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 453005 | 9.61 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 237268 | 7.01 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 326070 | 9.12 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 192889 | 7.98 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 895959 | 10.97 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 148891 | 8.50 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 586245 | 7.30 | ug/l | 100 |
| 9) Acrolein | 3.753 | 56 | 220691 | 41.30 | ug/l | 95 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 347771 | 9.94 | ug/l | 100 |
| 11) Acetone | 3.775 | 43 | 535937 | 50.74 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.875 | 59 | 1287593 | 257.70 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 776635 | 10.57 | ug/l | 98 |
| 14) Acetonitrile | 3.875 | 41 | 246403 | 99.37 | ug/L | 96 |
| 15) Allyl chloride | 4.106 | 76 | 224772 | 11.59 | ug/L | 97 |
| 16) Iodomethane | 4.150 | 142 | 421560 | 10.78 | ug/l | 98 |
| 18) Methylene chloride | 4.183 | 49 | 576729 | 11.04 | ug/l | 97 |
| 19) Acrylonitrile | 4.216 | 53 | 557291 | 45.11 | ug/l | 97 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1375786 | 11.21 | ug/L | 98 |
| 21) Carbon disulfide | 4.315 | 76 | 1235125 | 10.98 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 401252 | 10.24 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 1306484 | 10.46 | ug/l | 95 |
| 24) Vinyl acetate | 4.546 | 43 | 462515 | 6.50 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 848741 | 10.71 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1475247 | 9.72 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 179219 | 46.48 | ug/l | 98 |
| 28) Propionitrile | 4.909 | 54 | 485890 | 106.96 | ug/L | 96 |
| 29) Isobutyl alcohol | 5.030 | 43 | 337014 | 209.97 | ug/L | 99 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 903272 | 11.38 | ug/l | 99 |
| 31) Methacrylonitrile | 5.063 | 52 | 780905 | 104.70 | ug/L | 87 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 471856 | 10.58 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 1017866 | 10.36 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 259303 | 9.90 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.327 | 42 | 106402 | 10.28 | ug/L | 98 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 981117 | 11.07 | ug/l | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 301193 | 11.12 | ug/l | 96 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 199530 | 10.28 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 800823 | 10.68 | ug/L | 100 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 835542 | 11.06 | ug/L | 100 |
| 44) Benzene | 5.866 | 78 | 1668033 | 11.10 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG064.D
Acq On : 10 Jun 2024 17:37
Sample : VOE2F03C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:52:36 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.373 | 130 | 404017 | 9.74 | ug/L | | 97 |
| 46) | Methyl methacrylate | 6.439 | 69 | 283019 | 7.70 | ug/L | # | 75 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 421811 | 10.99 | ug/L | | 98 |
| 50) | Bromodichloromethane | 6.769 | 83 | 801790 | 11.04 | ug/L | | 95 |
| 51) | Dibromomethane | 6.857 | 93 | 311905 | 9.99 | ug/L | | 98 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 146731 | 7.72 | ug/L | | 99 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 1865373 | 44.38 | ug/L | | 97 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 733120 | 10.93 | ug/L | | 98 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 527493 | 11.97 | ug/L | | 95 |
| 58) | Toluene | 7.693 | 91 | 1716084 | 11.72 | ug/l | | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 753010 | 12.02 | ug/l | | 95 |
| 60) | 2-Hexanone | 7.935 | 43 | 1318604 | 49.81 | ug/l | | 99 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 388988 | 11.19 | ug/l | | 95 |
| 62) | 1,3-Dichloropropane | 8.354 | 76 | 626456 | 12.14 | ug/l | | 100 |
| 63) | Tetrachloroethene | 8.508 | 164 | 347732 | 10.86 | ug/l | | 97 |
| 64) | Dibromochloromethane | 8.783 | 129 | 532052 | 10.21 | ug/l | | 99 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 398916 | 10.65 | ug/l | | 98 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 564298 | 11.65 | ug/l | | 90 |
| 67) | Chlorobenzene | 9.619 | 112 | 1074970 | 11.12 | ug/l | | 99 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 442460 | 10.75 | ug/l | | 99 |
| 69) | Ethylbenzene | 9.641 | 91 | 2020341 | 11.41 | ug/l | | 99 |
| 70) | m-Xylene & p-Xylene | 9.740 | 91 | 3208719 | 22.23 | ug/l | | 99 |
| 71) | o-Xylene | 10.412 | 91 | 1614283 | 11.81 | ug/l | | 98 |
| 72) | Styrene | 10.456 | 104 | 1088636 | 11.39 | ug/l | | 96 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1816420 | 11.67 | ug/L | | 98 |
| 75) | Bromoform | 11.061 | 173 | 352673 | 9.95 | ug/l | | 99 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 505707 | 11.17 | ug/l | | 96 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 136147 | 10.89 | ug/l | | 98 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 152024 | 12.02 | ug/l | | 97 |
| 80) | n-Propylbenzene | 11.578 | 91 | 2285053 | 11.10 | ug/l | | 99 |
| 81) | Bromobenzene | 11.732 | 156 | 482356 | 10.67 | ug/l | | 97 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 1549813 | 10.95 | ug/l | | 98 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 1352671 | 10.64 | ug/l | | 96 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 1454780 | 13.64 | ug/l | | 96 |
| 85) | tert-Butylbenzene | 12.415 | 134 | 228460 | 10.43 | ug/l | | 90 |
| 86) | 1,2,4-Trimethylbenzene | 12.470 | 105 | 1521336 | 10.99 | ug/l | | 96 |
| 87) | sec-Butylbenzene | 12.756 | 105 | 1765384 | 11.00 | ug/l | | 98 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 1447830 | 10.76 | ug/l | | 99 |
| 89) | 1,3-Dichlorobenzene | 13.163 | 146 | 768869 | 11.93 | ug/l | | 98 |
| 90) | 1,2,3-Trimethylbenzene | 13.251 | 105 | 1489959 | 10.86 | ug/L | | 99 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 772346 | 11.52 | ug/l | | 98 |
| 92) | n-Butylbenzene | 13.614 | 91 | 1416978 | 11.07 | ug/l | | 98 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 721227 | 10.17 | ug/l | | 100 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 88450 | 9.61 | ug/l | | 98 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 457454 | 10.62 | ug/l | | 99 |
| 96) | Hexachlorobutadiene | 16.663 | 225 | 259621 | 10.59 | ug/l | | 99 |
| 97) | Naphthalene | 16.872 | 128 | 1123046 | 10.24 | ug/l | | 98 |
| 98) | 1,2,3-Trichlorobenzene | 17.224 | 180 | 430678 | 10.52 | ug/l | | 97 |

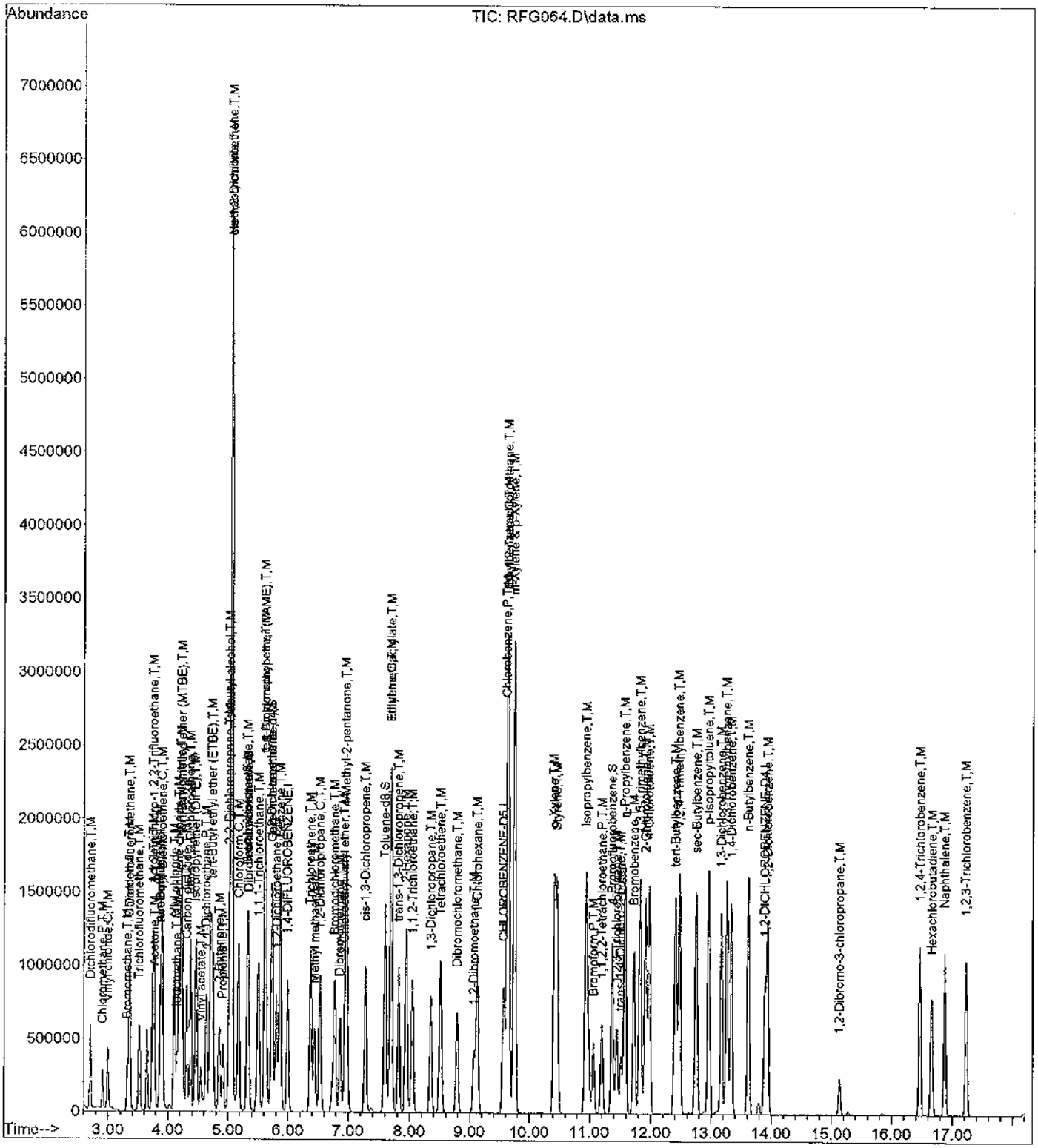
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG064.D
Acq On : 10 Jun 2024 17:37
Sample : VOE2F03C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:52:36 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG096.D
Acq On : 11 Jun 2024 15:26
Sample : VOE2F04B
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 17:06:01 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 600187 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 469288 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 222326 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 365937 | 9.95 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 99.50% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 524716 | 10.80 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 108.00% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 987879 | 10.59 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.90% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 374680 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 106.20% | | | |
| Target Compounds | | | | | | Qvalue |

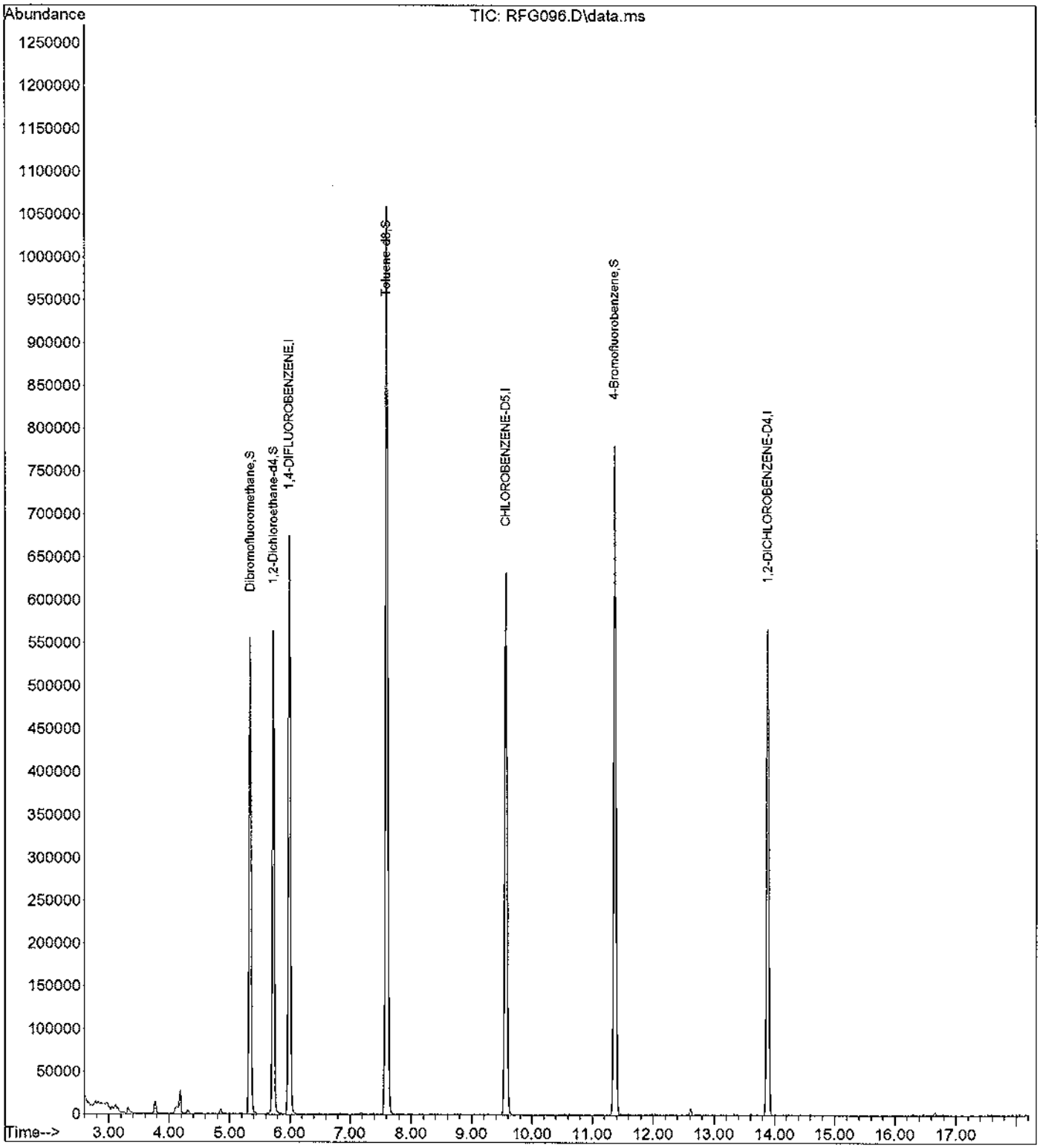
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG096.D
Acq On : 11 Jun 2024 15:26
Sample : VOE2F04B
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 17:06:01 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG093.D
Acq On : 11 Jun 2024 14:15
Sample : VOE2F04L
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 17:00:17 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 700127 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 552821 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 279028 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 421921 | 9.84 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.40% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 600152 | 10.59 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.90% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1166618 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 489887 | 11.06 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 110.60% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 454089 | 11.30 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 263643 | 9.14 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 333714 | 10.96 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 252289 | 12.25 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 719907 | 10.35 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 140485 | 9.42 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 603142 | 8.82 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 174984 | 38.43 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 283991 | 9.52 | ug/l | 99 |
| 11) Acetone | 3.765 | 43 | 420709 | 46.35 | ug/l | 98 |
| 12) tert-Butyl alcohol | 3.875 | 59 | 880251 | 206.75 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 606508 | 9.69 | ug/l | 98 |
| 14) Acetonitrile | 3.875 | 41 | 179260 | 84.84 | ug/L | 92 |
| 15) Allyl chloride | 4.106 | 76 | 172916 | 10.46 | ug/L | 99 |
| 16) Iodomethane | 4.150 | 142 | 405519 | 12.14 | ug/l | 93 |
| 18) Methylene chloride | 4.183 | 49 | 505043 | 11.37 | ug/l | 97 |
| 19) Acrylonitrile | 4.216 | 53 | 426217 | 40.49 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1076360 | 10.29 | ug/L | 97 |
| 21) Carbon disulfide | 4.304 | 76 | 936457 | 9.77 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 313496 | 9.39 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1010133 | 9.49 | ug/l | 97 |
| 24) Vinyl acetate | 4.546 | 43 | 453098 | 7.47 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 666915 | 9.88 | ug/l | 98 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1176130 | 9.10 | ug/l | 90 |
| 27) 2-Butanone | 4.854 | 72 | 140045 | 42.63 | ug/l | 96 |
| 28) Propionitrile | 4.909 | 54 | 340372 | 87.93 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 213474 | 156.09 | ug/L | 87 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 739363 | 10.94 | ug/l | 98 |
| 31) Methacrylonitrile | 5.052 | 52 | 600892 | 94.55 | ug/L | 92 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 376607 | 9.91 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 822837 | 9.83 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 201585 | 9.03 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.316 | 42 | 76582 | 8.68 | ug/L | 97 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 793370 | 10.51 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 237534 | 10.30 | ug/l | 98 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 157738 | 9.54 | ug/L | 100 |
| 42) Carbon tetrachloride | 5.734 | 119 | 658836 | 10.31 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 683149 | 10.61 | ug/L | 99 |
| 44) Benzene | 5.866 | 78 | 1278445 | 9.98 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG093.D Vial: 3
Acq On : 11 Jun 2024 14:15 Operator: DNguye
Sample : VOE2F04L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 17:00:17 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.373 | 130 | 318340 | 9.00 | ug/L | | 97 |
| 46) | Methyl methacrylate | 6.439 | 69 | 212881 | 6.79 | ug/L | # | 71 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 309313 | 9.46 | ug/L | | 90 |
| 50) | Bromodichloromethane | 6.769 | 83 | 641238 | 10.36 | ug/L | | 97 |
| 51) | Dibromomethane | 6.868 | 93 | 247594 | 9.31 | ug/L | | 95 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 108876 | 6.72 | ug/L | | 96 |
| 53) | 4-Methyl-2-pentanone | 6.967 | 43 | 1489659 | 41.59 | ug/L | | 98 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 569407 | 9.96 | ug/L | | 98 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 384317 | 10.19 | ug/L | | 98 |
| 58) | Toluene | 7.693 | 91 | 1307264 | 10.43 | ug/l | | 99 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 582395 | 10.86 | ug/l | | 99 |
| 60) | 2-Hexanone | 7.935 | 43 | 1022146 | 45.09 | ug/l | | 99 |
| 61) | 1,1,2-Trichloroethane | 8.046 | 97 | 294632 | 9.90 | ug/l | | 98 |
| 62) | 1,3-Dichloropropane | 8.354 | 76 | 463223 | 10.48 | ug/l | | 99 |
| 63) | Tetrachloroethene | 8.508 | 164 | 273046 | 9.96 | ug/l | | 98 |
| 64) | Dibromochloromethane | 8.783 | 129 | 406992 | 9.12 | ug/l | | 100 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 298958 | 9.32 | ug/l | | 99 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 421550 | 10.16 | ug/l | | 100 |
| 67) | Chlorobenzene | 9.619 | 112 | 826544 | 9.98 | ug/l | | 97 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 363656 | 10.32 | ug/l | | 98 |
| 69) | Ethylbenzene | 9.641 | 91 | 1585307 | 10.46 | ug/l | | 99 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 2524452 | 20.42 | ug/l | | 98 |
| 71) | o-Xylene | 10.412 | 91 | 1249901 | 10.68 | ug/l | | 97 |
| 72) | Styrene | 10.467 | 104 | 864317 | 10.56 | ug/l | | 96 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1400137 | 10.50 | ug/L | | 98 |
| 75) | Bromoform | 11.061 | 173 | 269912 | 8.86 | ug/l | | 98 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 369729 | 9.51 | ug/l | | 97 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 105995 | 9.87 | ug/l | | 94 |
| 79) | trans-1,4-Dichloro-2-b... | 11.523 | 53 | 113616 | 10.46 | ug/l | | 97 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1759863 | 9.95 | ug/l | | 98 |
| 81) | Bromobenzene | 11.732 | 156 | 372634 | 9.60 | ug/l | | 98 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 1202750 | 9.89 | ug/l | | 98 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 1155247 | 10.58 | ug/l | | 90 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 1040173 | 11.28 | ug/l | | 98 |
| 85) | tert-Butylbenzene | 12.415 | 134 | 183905 | 9.77 | ug/l | | 95 |
| 86) | 1,2,4-Trimethylbenzene | 12.481 | 105 | 1189538 | 10.00 | ug/l | | 97 |
| 87) | sec-Butylbenzene | 12.756 | 105 | 1353899 | 9.82 | ug/l | | 100 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 1115672 | 9.65 | ug/l | | 98 |
| 89) | 1,3-Dichlorobenzene | 13.174 | 146 | 604225 | 10.87 | ug/l | | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.262 | 105 | 1154202 | 9.79 | ug/L | | 99 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 620279 | 10.74 | ug/l | | 99 |
| 92) | n-Butylbenzene | 13.614 | 91 | 1095185 | 9.96 | ug/l | | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 573597 | 9.41 | ug/l | | 98 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 66232 | 8.38 | ug/l | | 99 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 372683 | 10.05 | ug/l | | 97 |
| 96) | Hexachlorobutadiene | 16.663 | 225 | 214530 | 10.18 | ug/l | | 98 |
| 97) | Naphthalene | 16.872 | 128 | 856628 | 9.09 | ug/l | | 99 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 344018 | 9.75 | ug/l | | 98 |

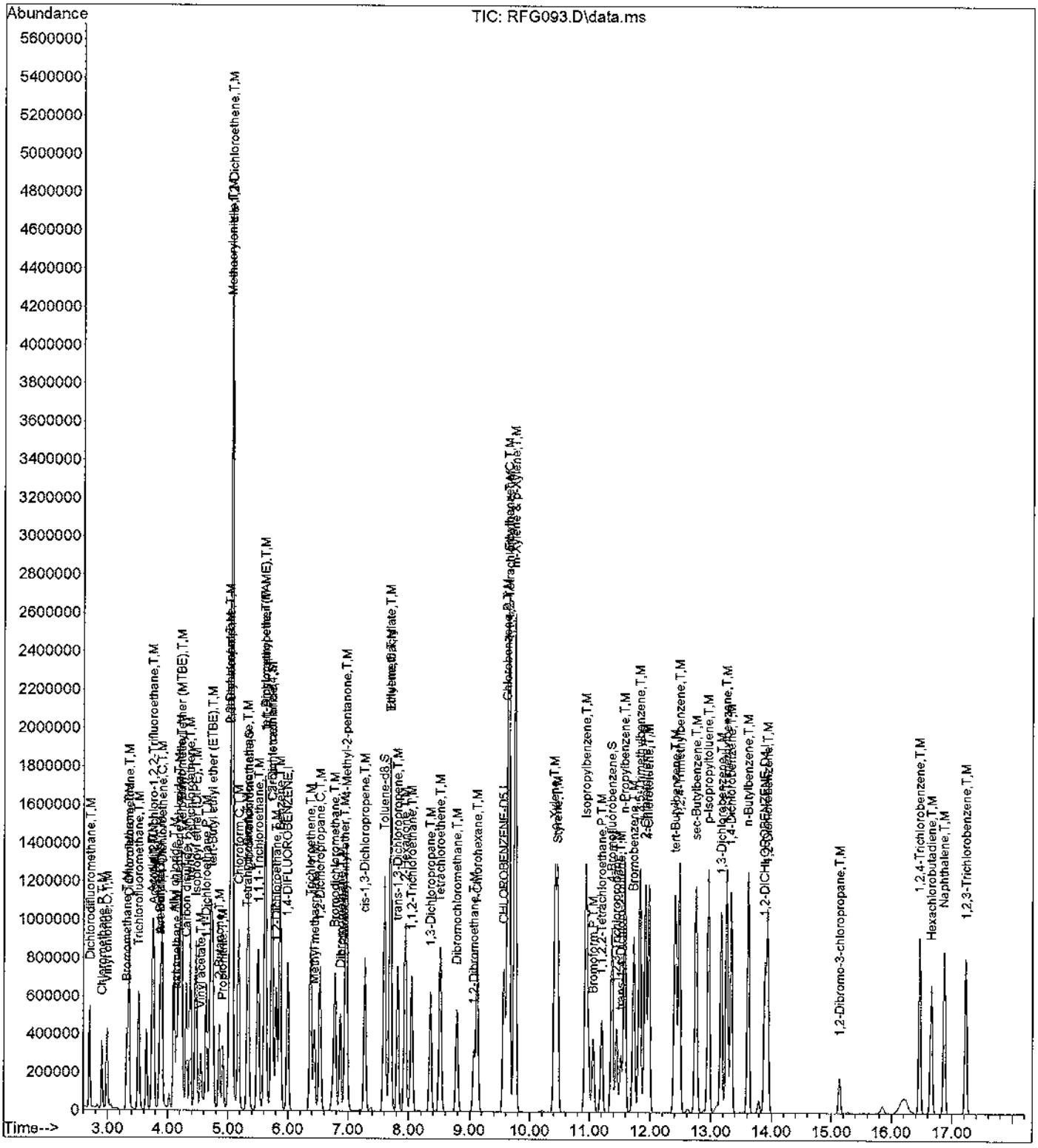
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG093.D
Acq On : 11 Jun 2024 14:15
Sample : VOE2F04L
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 17:00:17 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG094.D Vial: 4
Acq On : 11 Jun 2024 14:39 Operator: DNguye
Sample : VOE2F04C Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:21:10 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 703905 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 550837 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 285241 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 412093 | 9.56 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 95.60% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 576775 | 10.12 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.20% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1162432 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 480962 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.20% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 429087 | 10.62 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 257185 | 8.87 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 319492 | 10.44 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 265338 | 12.82 | ug/l | 99 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 691592 | 9.89 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 140113 | 9.34 | ug/l | 94 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 588714 | 8.56 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 154395 | 33.73 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 270239 | 9.01 | ug/l | 99 |
| 11) Acetone | 3.775 | 43 | 371678 | 40.12 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 781645 | 182.61 | ug/L | 100 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 587741 | 9.34 | ug/l | 98 |
| 14) Acetonitrile | 3.874 | 41 | 159832 | 75.24 | ug/L | 97 |
| 15) Allyl chloride | 4.105 | 76 | 170855 | 10.28 | ug/L | 98 |
| 16) Iodomethane | 4.149 | 142 | 392698 | 11.70 | ug/l | 92 |
| 18) Methylene chloride | 4.183 | 49 | 491995 | 10.99 | ug/l | 96 |
| 19) Acrylonitrile | 4.216 | 53 | 391830 | 37.02 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1042482 | 9.91 | ug/L | 96 |
| 21) Carbon disulfide | 4.304 | 76 | 921603 | 9.56 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 304388 | 9.07 | ug/l | 97 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 997004 | 9.32 | ug/l | 97 |
| 24) Vinyl acetate | 4.546 | 43 | 408897 | 6.71 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 632418 | 9.31 | ug/l | 100 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1121655 | 8.63 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 126722 | 38.36 | ug/l | 95 |
| 28) Propionitrile | 4.909 | 54 | 306274 | 78.70 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 197729 | 143.80 | ug/L | 91 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 719885 | 10.59 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 555765 | 86.98 | ug/L | 92 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 362567 | 9.49 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 793893 | 9.43 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 194225 | 8.65 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.316 | 42 | 65118 | 7.34 | ug/L | 96 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 774383 | 10.20 | ug/l | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 233970 | 10.09 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 148685 | 8.95 | ug/L | 94 |
| 42) Carbon tetrachloride | 5.734 | 119 | 645169 | 10.04 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 669808 | 10.35 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 1254363 | 9.74 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG094.D
Acq On : 11 Jun 2024 14:39
Sample : VOE2F04C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 18 18:21:10 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

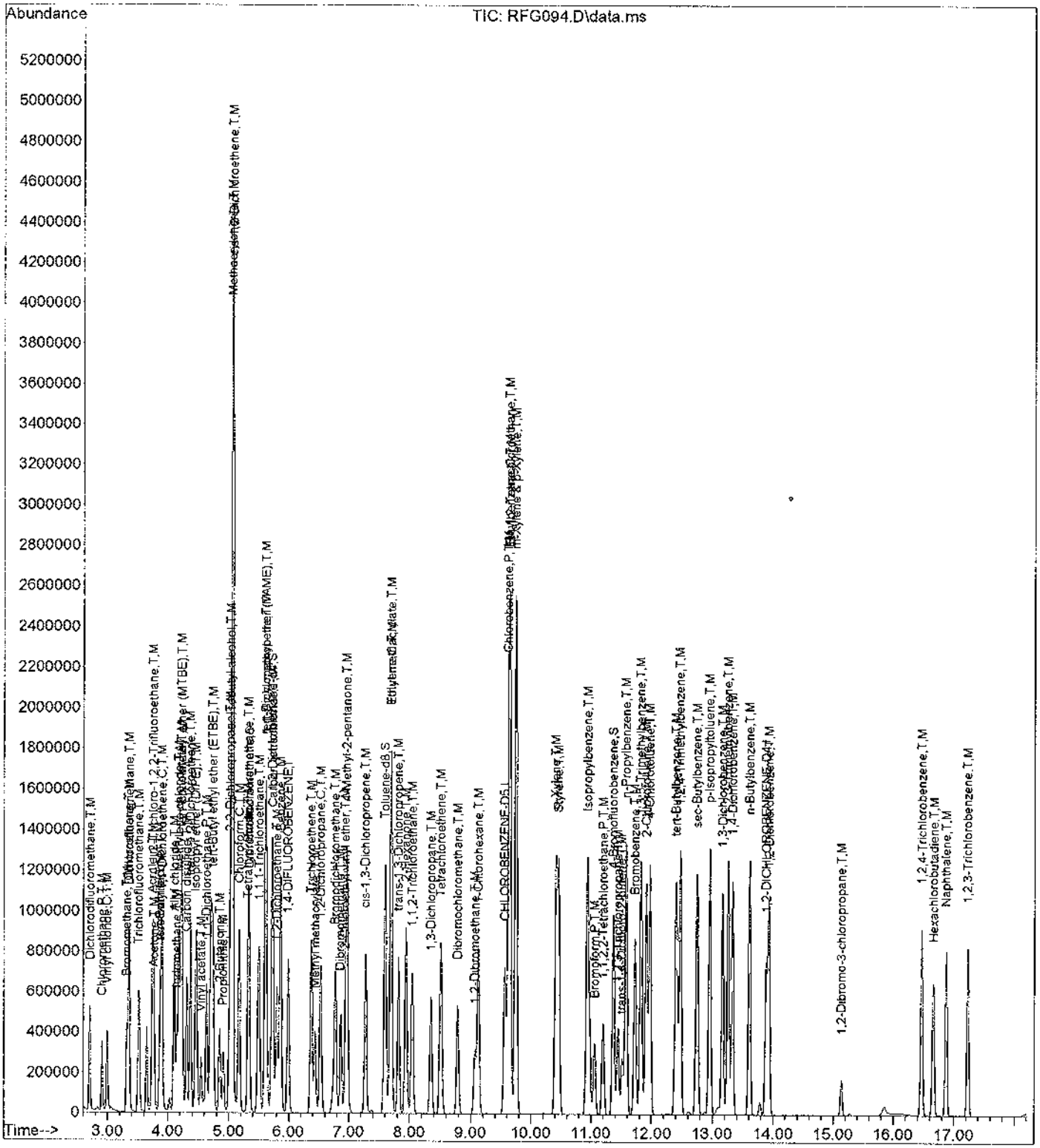
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.373 | 130 | 307489 | 8.65 | ug/L | 98 |
| 46) | Methyl methacrylate | 6.439 | 69 | 188126 | 5.97 | ug/L | 78 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 309948 | 9.43 | ug/L | 91 |
| 50) | Bromodichloromethane | 6.769 | 83 | 630062 | 10.13 | ug/L | 97 |
| 51) | Dibromomethane | 6.857 | 93 | 235423 | 8.80 | ug/L | 97 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 102188 | 6.28 | ug/L | 99 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 1367442 | 37.97 | ug/L | 97 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 558773 | 9.72 | ug/L | 98 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 377587 | 10.04 | ug/L | 95 |
| 58) | Toluene | 7.693 | 91 | 1291225 | 10.34 | ug/l | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 571984 | 10.70 | ug/l | 99 |
| 60) | 2-Hexanone | 7.935 | 43 | 934321 | 41.37 | ug/l | 100 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 284396 | 9.59 | ug/l | 96 |
| 62) | 1,3-Dichloropropane | 8.353 | 76 | 450358 | 10.23 | ug/l | 99 |
| 63) | Tetrachloroethene | 8.508 | 164 | 265229 | 9.71 | ug/l | 98 |
| 64) | Dibromochloromethane | 8.783 | 129 | 402619 | 9.05 | ug/l | 98 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 289885 | 9.07 | ug/l | 99 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 429380 | 10.39 | ug/l | 99 |
| 67) | Chlorobenzene | 9.619 | 112 | 829948 | 10.06 | ug/l | 100 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 352598 | 10.04 | ug/l | 99 |
| 69) | Ethylbenzene | 9.641 | 91 | 1564560 | 10.36 | ug/l | 98 |
| 70) | m-Xylene & p-Xylene | 9.740 | 91 | 2486658 | 20.19 | ug/l | 98 |
| 71) | o-Xylene | 10.411 | 91 | 1230876 | 10.56 | ug/l | 100 |
| 72) | Styrene | 10.455 | 104 | 841026 | 10.32 | ug/l | 95 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1404173 | 10.57 | ug/L | 99 |
| 75) | Bromoform | 11.061 | 173 | 252254 | 8.10 | ug/l | 98 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 353612 | 8.89 | ug/l | 95 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 103207 | 9.40 | ug/l | 92 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 98217 | 8.84 | ug/l | 94 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1746437 | 9.66 | ug/l | 98 |
| 81) | Bromobenzene | 11.732 | 156 | 360780 | 9.09 | ug/l | 98 |
| 82) | 1,3,5-Trimethylbenzene | 11.820 | 105 | 1203026 | 9.68 | ug/l | 97 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 1047325 | 9.38 | ug/l | 96 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 1126160 | 11.97 | ug/l | 96 |
| 85) | tert-Butylbenzene | 12.403 | 134 | 181405 | 9.43 | ug/l | 97 |
| 86) | 1,2,4-Trimethylbenzene | 12.469 | 105 | 1192047 | 9.80 | ug/l | 97 |
| 87) | sec-Butylbenzene | 12.745 | 105 | 1337130 | 9.49 | ug/l | 99 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 1112699 | 9.41 | ug/l | 98 |
| 89) | 1,3-Dichlorobenzene | 13.163 | 146 | 600613 | 10.56 | ug/l | 98 |
| 90) | 1,2,3-Trimethylbenzene | 13.251 | 105 | 1168204 | 9.70 | ug/L | 98 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 609827 | 10.32 | ug/l | 98 |
| 92) | n-Butylbenzene | 13.614 | 91 | 1101247 | 9.79 | ug/l | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 570193 | 9.15 | ug/l | 99 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 61363 | 7.59 | ug/l | 99 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 363876 | 9.58 | ug/l | 97 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 211631 | 9.83 | ug/l | 98 |
| 97) | Naphthalene | 16.871 | 128 | 805049 | 8.36 | ug/l | 99 |
| 98) | 1,2,3-Trichlorobenzene | 17.224 | 180 | 343180 | 9.50 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG094.D Vial: 4
Acq On : 11 Jun 2024 14:39 Operator: DNguye
Sample : VOE2F04C Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:21:10 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



# INITIAL CALIBRATION(S)

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: REG116 BFB Injection Date: 05/17/24

Instrument ID: E2 BFB Injection Time: 11:23

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.276 |
| 75 | 30 - 60% of mass 95 | 50.050 |
| 95 | Base Peak, 100% relative Abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.720 |
| 173 | Less than 2% of mass 174 | 0.804(.96)1 |
| 174 | Greater than 50% of mass 95 | 83.334 |
| 175 | 5 - 9% of mass 174 | 6.219(7.49)1 |
| 176 | 95 - 101% % of mass 174 | 81.293(97.55)1 |
| 177 | 5 - 9% % of mass 176 | 5.264(6.48)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD0.5 | VOE2E172 | REG118 | 05/17/24 | 12:33 |
| 2 | VSTD1 | VOE2E173 | REG119 | 05/17/24 | 12:57 |
| 3 | VSTD2 | VOE2E174 | REG120 | 05/17/24 | 13:21 |
| 4 | VSTD5 | VOE2E175 | REG121 | 05/17/24 | 13:45 |
| 5 | VSTD10 | VOE2E176 | REG122 | 05/17/24 | 14:09 |
| 6 | VSTD30 | VOE2E177 | REG123 | 05/17/24 | 14:33 |
| 7 | VSTD50 | VOE2E178 | REG124 | 05/17/24 | 14:57 |
| 8 | VSTD100 | VOE2E179 | REG125 | 05/17/24 | 15:21 |
| 9 | VSTD200 | VOE2E1710 | REG126 | 05/17/24 | 15:44 |

Sw

5/24/24

INITIAL_CALIBRATION - RELATIVE RESPONSE_FACTOR

Instrument_ID :E2
Beginning DateTime :05/17/24 12:33
Spike Units :PPB
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :05/17/24 15:44
HPChem Method :VOE2E17

| M | IDX | Parameters | .5<br>12:33<br>REG118 | 1<br>12:57<br>REG119 | 2<br>13.21<br>REG120 | 5<br>13:45<br>REG121 | 10<br>14:09<br>REG122 | 30<br>14:33<br>REG123 | 50<br>14:57<br>REG124 | 100<br>15:22<br>REG125 | 200<br>15:44<br>REG126 | Av_RRF | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4 DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 5.9874 |
| | 2 | Dichlorodifluoromethane | 0.621 | 0.637 | 0.579 | 0.504 | 0.509 | 0.610 | 0.570 | 0.578 | 0.556 | 0.574 | 8.06 | 2.7078 |
| | 3 | Chloromethane | 0.526 | 0.465 | 0.434 | 0.380 | 0.373 | 0.377 | 0.368 | 0.382 | 0.398 | 0.412 | 13.00 | 2.9059 |
| | 4 | Vinyl chloride | 0.419 | 0.490 | 0.461 | 0.376 | 0.416 | 0.439 | 0.449 | 0.449 | 0.415 | 0.435 | 7.58 | 2.9903 |
| | 5 | Bromomethane | 0.348 | 0.325 | 0.293 | 0.268 | 0.264 | 0.267 | 0.278 | 0.296 | 0.330 | 0.294 | 11.62 | 3.3131 |
| | 6 | Dichlorofluoromethane | 1.071 | 1.087 | 0.974 | 1.099 | 0.990 | 1.025 | 0.930 | 0.904 | 0.865 | 0.994 | 8.41 | 3.3523 |
| | 7 | Chloroethane | 0.222 | 0.255 | 0.216 | 0.196 | 0.204 | 0.219 | 0.205 | 0.207 | 0.193 | 0.215 | 8.74 | 3.3461 |
| | 8 | Trichlorofluoromethane | 1.076 | 1.027 | 0.981 | 0.846 | 0.898 | 1.033 | 0.988 | 0.997 | 0.949 | 0.977 | 7.24 | 3.5112 |
| 5 | 9 | Acrolein | 0.074 | 0.076 | 0.063 | 0.070 | 0.064 | 0.060 | 0.059 | 0.060 | 0.059 | 0.065 | 10.21 | 3.7423 |
| | 10 | 1,1,2 Trichloro-1,2,2-Trifluoroethane | 0.510 | 0.445 | 0.389 | 0.475 | 0.409 | 0.418 | 0.409 | 0.396 | 0.383 | 0.426 | 10.04 | 3.7521 |
| 5 | 11 | Acetone | 0.325 | 0.240 | 0.182 | 0.149 | 0.137 | 0.118 | 0.119 | ------ | ------ | 0.181 | 42.17 | 3.7690 |
| 25 | 12 | tert-Butyl alcohol | 0.075 | 0.070 | 0.063 | 0.057 | 0.061 | 0.056 | 0.057 | 0.055 | 0.054 | 0.061 | 11.83 | 3.8744 |
| | 13 | 1,1-Dichloroethene | 0.972 | 0.970 | 0.870 | 1.007 | 0.889 | 0.901 | 0.818 | 0.823 | 0.795 | 0.894 | 8.46 | 3.9025 |
| 10 | 14 | Acetonitrile | ------ | 0.037 | 0.031 | 0.030 | 0.031 | 0.026 | 0.027 | ------ | ------ | 0.030 | 12.37 | 3.8744 |
| | 15 | Allyl chloride | 0.262 | 0.270 | 0.227 | 0.265 | 0.239 | 0.241 | 0.223 | 0.204 | 0.194 | 0.236 | 11.27 | 4.1055 |
| | 16 | Iodomethane | 0.335 | 0.312 | 0.310 | 0.409 | 0.432 | 0.563 | 0.530 | 0.509 | 0.459 | 0.429 | 22.23 | 4.1434 |
| | 17 | Methyl acetate | ------ | 0.410 | 0.337 | 0.344 | 0.341 | 0.293 | 0.304 | ------ | ------ | 0.338 | 12.15 | 4.0285 |
| | 18 | Methylene chloride | 1.122 | 1.095 | 0.930 | 0.852 | 0.731 | 0.698 | 0.612 | 0.596 | 0.570 | 0.801 | 26.33 | 4.1825 |
| 5 | 19 | Acrylonitrile | 0.187 | 0.165 | 0.144 | 0.156 | 0.158 | 0.140 | 0.134 | 0.135 | 0.136 | 0.150 | 11.69 | 4.2156 |
| | 20 | tert-Butyl methyl ether (MTBE) | 1.687 | 1.599 | 1.508 | 1.603 | 1.504 | 1.453 | 1.377 | 1.365 | 1.352 | 1.494 | 7.94 | 4.2266 |
| | 21 | Carbon disulfide | 1.587 | 1.493 | 1.289 | 1.218 | 1.375 | 1.338 | 1.287 | ------ | ------ | 1.370 | 9.42 | 4.3052 |
| | 22 | trans-1,2-Dichloroethene | 0.536 | 0.534 | 0.472 | 0.542 | 0.468 | 0.442 | 0.442 | 0.426 | 0.429 | 0.477 | 10.07 | 4.3696 |
| | 23 | Isopropyl ether (DIPE) | 1.738 | 1.638 | 1.535 | 1.682 | 1.513 | 1.489 | 1.394 | 1.379 | 1.317 | 1.520 | 9.47 | 4.4601 |
| | 24 | Vinyl acetate | 0.905 | 0.932 | 0.893 | 0.899 | 0.928 | 0.816 | 0.810 | 0.820 | 0.793 | 0.866 | 6.41 | 4.5457 |
| | 25 | 1,1-Dichloroethane | 1.123 | 1.084 | 0.958 | 1.041 | 0.935 | 0.964 | 0.901 | 0.851 | 0.823 | 0.965 | 10.57 | 4.6338 |
| | 26 | tert Butyl ethyl ether (ETBE) | 2.025 | 2.049 | 1.829 | 2.024 | 1.854 | 1.711 | 1.759 | 1.666 | 1.701 | 1.846 | 8.21 | 4.7328 |
| 5 | 27 | 2-Butanone | ------ | 0.059 | 0.048 | 0.048 | 0.049 | 0.043 | 0.043 | 0.042 | 0.042 | 0.047 | 12.56 | 4.8539 |
| 10 | 28 | Propionitrile | 0.067 | 0.061 | 0.059 | 0.057 | 0.053 | 0.051 | 0.051 | 0.048 | 0.050 | 0.055 | 11.17 | 4.9101 |
| 20 | 29 | Isobutyl alcohol | ------ | 0.024 | 0.020 | 0.019 | 0.020 | 0.018 | 0.019 | 0.017 | ------ | 0.020 | 12.47 | 5.0299 |
| | 30 | 2,2-Dichloropropane | 1.070 | 1.031 | 0.913 | 1.100 | 0.993 | 0.952 | 0.921 | 0.878 | 0.831 | 0.966 | 9.30 | 5.0202 |
| 10 | 31 | Methacrylonitrile | 0.105 | 0.103 | 0.092 | 0.099 | 0.089 | 0.088 | 0.084 | 0.080 | 0.076 | 0.091 | 11.02 | 5.0568 |
| | 32 | cis-1,2-Dichloroethene | 0.592 | 0.622 | 0.541 | 0.585 | 0.519 | 0.520 | 0.508 | 0.491 | 0.507 | 0.543 | 8.40 | 5.0630 |
| | 33 | Chloroform | 1.500 | 1.398 | 1.172 | 1.238 | 1.117 | 1.090 | 1.041 | 1.012 | ------ | 1.196 | 14.51 | 5.1730 |
| | 34 | Bromochloromethane | 0.354 | 0.366 | 0.325 | 0.348 | 0.326 | 0.321 | 0.296 | 0.275 | 0.259 | 0.319 | 11.29 | 5.3271 |
| | 35 | Tetrahydrofuran | ------ | 0.140 | 0.129 | 0.132 | 0.124 | 0.122 | 0.118 | 0.116 | ------ | 0.126 | 6.67 | 5.3192 |
| | 36 | Dibromofluoromethane | 0.677 | 0.642 | 0.571 | 0.613 | 0.624 | 0.588 | 0.573 | ------ | ------ | 0.612 | 6.30 | 5.3381 |
| | 37 | 1,1,1-Trichloroethane | 1.191 | 1.165 | 1.010 | 1.192 | 1.074 | 1.094 | 1.020 | 0.999 | 0.960 | 1.079 | 8.19 | 5.4971 |
| | 38 | Cyclohexane | 0.684 | 0.625 | 0.466 | 0.628 | 0.461 | 0.515 | 0.544 | 0.500 | 0.528 | 0.550 | 14.22 | 5.5484 |
| | 39 | tert-Amyl methyl ether (TAME) | 0.340 | 0.348 | 0.314 | 0.372 | 0.345 | 0.297 | 0.329 | 0.313 | 0.306 | 0.329 | 7.33 | 5.6144 |
| | 40 | 1,1-Dichloropropene | 0.262 | 0.251 | 0.222 | 0.266 | 0.242 | 0.218 | 0.228 | 0.219 | 0.217 | 0.236 | 8.29 | 5.6132 |
| | 41 | 1,2-Dichloroethane-d4 | 0.972 | 0.902 | 0.780 | 0.802 | 0.781 | 0.709 | 0.720 | ------ | ------ | 0.809 | 11.80 | 5.7233 |
| | 42 | Carbon tetrachloride | 0.945 | 0.992 | 0.834 | 1.044 | 0.930 | 0.901 | 0.890 | 0.840 | 0.838 | 0.913 | 8.01 | 5.7343 |
| | 43 | 1,2-Dichloroethane | 1.036 | 1.026 | 0.936 | 1.027 | 0.937 | 0.846 | 0.859 | 0.810 | 0.796 | 0.919 | 10.41 | 5.8003 |
| | 44 | Benzene | 2.100 | 2.054 | 1.772 | 1.904 | 1.819 | 1.719 | 1.753 | 1.684 | 1.662 | 1.830 | 8.64 | 5.8663 |
| | 45 | Trichloroethene | 0.573 | 0.564 | 0.458 | 0.553 | 0.494 | 0.496 | 0.481 | 0.460 | 0.468 | 0.505 | 9.09 | 6.3714 |
| | 46 | Methyl methacrylate | 0.521 | 0.497 | 0.421 | 0.494 | 0.427 | 0.401 | 0.430 | 0.422 | 0.415 | 0.448 | 9.77 | 6.4386 |
| | 47 | Methylcyclohexane | ------ | 0.701 | 0.528 | 0.712 | 0.530 | 0.546 | 0.606 | 0.586 | 0.600 | 0.601 | 11.92 | 6.4537 |
| | 48 | 1,2-Dichloropropane | 0.559 | 0.532 | 0.465 | 0.483 | 0.464 | 0.418 | 0.437 | 0.427 | 0.418 | 0.467 | 10.74 | 6.5266 |
| 20 | 49 | 1,4-Dioxane | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 50 | Bromodichloromethane | ------ | 1.077 | 0.909 | 0.968 | 0.886 | 0.841 | 0.821 | 0.796 | 0.773 | 0.884 | 11.38 | 6.7687 |
| | 51 | Dibromomethane | 0.454 | 0.430 | 0.373 | 0.417 | 0.371 | 0.368 | 0.349 | 0.344 | 0.315 | 0.380 | 11.79 | 6.8568 |
| | 52 | 2-Chloroethyl vinyl ether | 0.233 | 0.250 | 0.232 | 0.253 | 0.238 | 0.229 | 0.224 | 0.216 | 0.206 | 0.231 | 6.45 | 6.9338 |
| 5 | 53 | 4-Methyl-2-pentanone | 0.581 | 0.572 | 0.495 | 0.557 | 0.534 | 0.467 | 0.473 | 0.467 | 0.447 | 0.512 | 10.35 | 6.9571 |
| | 54 | cis-1,3-Dichloropropene | 0.921 | 0.873 | 0.791 | 0.882 | 0.822 | 0.782 | 0.775 | 0.759 | 0.743 | 0.817 | 7.57 | 7.2750 |
| | 55 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9.5641 |
| | 56 | Toluene-d8 | ------ | 2.328 | 1.900 | 1.960 | 2.006 | 1.860 | 1.868 | ------ | ------ | 1.987 | 8.88 | 7.5941 |
| | 57 | Ethyl methacrylate | 0.687 | 0.714 | 0.662 | 0.753 | 0.707 | 0.647 | 0.685 | 0.635 | 0.651 | 0.682 | 5.59 | 7.6932 |
| | 58 | Toluene | 2.522 | 2.598 | 2.196 | 2.483 | 2.250 | 2.053 | 2.185 | 2.012 | 2.114 | 2.268 | 9.46 | 7.6932 |
| | 59 | trans-1,3-Dichloropropene | 1.019 | 1.031 | 0.921 | 1.072 | 0.988 | 0.969 | 0.957 | 0.878 | 0.899 | 0.970 | 6.61 | 7.8143 |
| 5 | 60 | 2-Hexanone | 0.494 | 0.448 | 0.391 | 0.437 | 0.433 | 0.389 | 0.385 | 0.352 | 0.362 | 0.410 | 11.13 | 7.9378 |
| | 61 | 1,1,2-Trichloroethane | 0.616 | 0.606 | 0.548 | 0.580 | 0.535 | 0.538 | 0.494 | 0.461 | 0.466 | 0.538 | 10.51 | 8.0454 |
| | 62 | 1,3-Dichloropropane | 0.881 | 0.932 | 0.787 | 0.866 | 0.785 | 0.770 | 0.765 | 0.707 | 0.701 | 0.799 | 9.83 | 8.3535 |
| | 63 | Tetrachloroethene | 0.591 | 0.595 | 0.434 | 0.529 | 0.477 | 0.495 | 0.463 | 0.431 | 0.448 | 0.496 | 12.71 | 8.5088 |
| | 64 | Dibromochloromethane | ------ | 1.038 | 0.826 | 0.858 | 0.788 | 0.824 | 0.742 | 0.693 | 0.690 | 0.807 | 13.87 | 8.7827 |
| | 65 | 1,2-Dibromoethane | 0.651 | 0.619 | 0.556 | 0.621 | 0.592 | 0.594 | 0.549 | 0.522 | 0.516 | 0.580 | 8.08 | 9.0688 |
| | 66 | 1-Chlorohexane | 0.844 | 0.848 | 0.651 | 0.843 | 0.747 | 0.751 | 0.722 | 0.671 | 0.677 | 0.751 | 10.45 | 9.1239 |
| | 67 | Chlorobenzene | 1.802 | 1.685 | 1.395 | 1.599 | 1.466 | 1.486 | 1.389 | 1.323 | 1.338 | 1.498 | 11.00 | 9.6191 |
| | 68 | 1,1,1,2-Tetrachloroethane | 0.713 | 0.709 | 0.595 | 0.685 | 0.647 | 0.654 | 0.606 | 0.565 | 0.563 | 0.637 | 9.12 | 9.6460 |
| | 69 | Ethylbenzene | 3.192 | 3.179 | 2.449 | 2.920 | 2.662 | 2.734 | 2.599 | 2.475 | 2.468 | 2.742 | 10.66 | 9.6411 |
| 2 | 70 | m-Xylene & p-Xylene | 2.549 | 2.503 | 1.987 | 2.323 | 2.078 | 2.117 | 2.094 | ------ | ------ | 2.236 | 9.97 | 9.7496 |
| | 71 | o-Xylene | 2.536 | 2.361 | 1.926 | 2.321 | 2.112 | 1.978 | 2.058 | 1.894 | 1.863 | 2.117 | 11.21 | 10.4127 |
| | 72 | Styrene | 1.648 | 1.724 | 1.354 | 1.615 | 1.493 | 1.415 | 1.441 | 1.328 | 1.303 | 1.480 | 10.19 | 10.4580 |
| | 73 | Isopropylbenzene | 2.835 | 2.945 | 2.240 | 2.644 | 2.424 | 2.142 | 2.250 | 2.149 | 2.077 | 2.412 | 13.33 | 10.9397 |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 13.8891 |
| | 75 | Bromoform | 1.246 | 1.192 | 1.112 | 1.177 | 1.072 | 1.033 | 1.055 | 0.974 | 0.961 | 1.091 | 9.03 | 11.0608 |
| | 76 | 1,1,2,2-Tetrachloroethane | 1.731 | 1.658 | 1.370 | 1.490 | 1.349 | 1.248 | 1.296 | 1.218 | 1.184 | 1.394 | 13.93 | 11.2026 |
| | 77 | 4-Bromofluorobenzene | ------ | 1.901 | 1.601 | 1.620 | 1.559 | 1.327 | 1.516 | ------ | ------ | 1.587 | 11.73 | 11.3689 |
| | 78 | 1,2,3-Trichloropropane | 0.441 | 0.449 | 0.384 | 0.439 | 0.374 | 0.344 | 0.366 | 0.344 | 0.322 | 0.385 | 12.26 | 11.4460 |
| | 79 | trans-1,4-Dichloro-2-butene | 0.345 | 0.390 | 0.351 | 0.456 | 0.395 | 0.395 | 0.414 | 0.380 | 0.379 | 0.389 | 8.47 | 11.5132 |
| | 80 | n-Propylbenzene | 7.684 | 7.739 | 5.851 | 7.164 | 6.006 | 5.607 | 5.968 | 5.582 | 5.465 | 6.341 | 14.55 | 11.5780 |
| | 81 | Bromobenzene | 1.646 | 1.681 | 1.348 | 1.563 | 1.386 | 1.206 | 1.293 | 1.208 | 1.192 | 1.392 | 13.87 | 11.7321 |
| | 82 | 1,3,5 Trimethylbenzene | 5.366 | 5.227 | 4.073 | 4.881 | 4.205 | 3.892 | 4.064 | 3.785 | 3.738 | 4.359 | 14.43 | 11.8287 |
| | 83 | 2-Chlorotoluene | ------ | 4.800 | 3.579 | 4.665 | 3.673 | 3.653 | 3.858 | 3.598 | 3.483 | 3.914 | 13.23 | 11.9192 |
| | 84 | 4-Chlorotoluene | 4.791 | 5.151 | 3.841 | 3.940 | 3.868 | 3.881 | 3.359 | 3.161 | 3.176 | 3.796 | 20.12 | 11.9754 |
| | 85 | tert-Butylbenzene | 0.747 | 0.829 | 0.605 | 0.740 | 0.648 | 0.561 | 0.592 | ------ | ------ | 0.675 | 14.63 | 12.4081 |
| | 86 | 1,2,4-Trimethylbenzene | 5.058 | 5.235 | 4.012 | 4.761 | 4.182 | 3.747 | 3.973 | 3.721 | 3.680 | 4.263 | 14.07 | 12.4780 |
| | 87 | sec-Butylbenzene | ------ | 6.256 | 4.523 | 5.517 | 4.832 | 4.450 | 4.638 | 4.362 | ------ | 4.940 | 14.11 | 12.7493 |
| | 88 | p-Isopropyltoluene | 5.045 | 5.046 | 3.819 | 4.703 | 3.968 | 3.664 | 3.821 | 3.689 | 3.551 | 4.145 | 14.69 | 12.9549 |
| | 89 | 1,3-Dichlorobenzene | 3.020 | 2.992 | 2.191 | 2.485 | 2.182 | 2.011 | 2.088 | 1.908 | 1.849 | 2.303 | 19.08 | 13.1652 |
| | 90 | 1,2,3-Trimethylbenzene | 4.849 | 5.175 | 3.973 | 4.777 | 4.170 | 3.766 | 3.928 | 3.729 | 3.652 | 4.224 | 13.33 | 13.2545 |
| | 91 | 1,4-Dichlorobenzene | 3.022 | 3.108 | 2.117 | 2.540 | 2.221 | 2.073 | 2.138 | 1.953 | 1.965 | 2.349 | 18.81 | 13.3278 |
| | 92 | n-Butylbenzene | 4.979 | 4.820 | 3.500 | 4.168 | 3.792 | 3.621 | 3.712 | 3.405 | 3.483 | 3.942 | 14.93 | 13.6140 |
| | 93 | 1,2-Dichlorobenzene | ------ | 2.697 | 2.183 | 2.392 | 2.013 | 1.895 | 1.926 | ------ | ------ | 2.184 | 14.28 | 13.9331 |
| | 94 | 1,2-Dibromo-3-chloropropane | 0.324 | 0.328 | 0.262 | 0.286 | 0.265 | 0.273 | 0.269 | 0.273 | 0.271 | 0.283 | 8.87 | 15.1339 |
| | 95 | 1,2,4-Trichlorobenzene | 2.154 | 2.073 | 1.349 | 1.477 | 1.289 | 1.277 | 1.274 | 1.228 | 1.317 | 1.493 | 24.05 | 16.4643 |
| | 96 | Hexachlorobutadiene | ------ | 0.968 | 0.705 | 0.840 | 0.750 | 0.697 | 0.696 | 0.668 | 0.717 | 0.755 | 13.33 | 16.6624 |
| | 97 | Naphthalene | ------ | 4.357 | 3.062 | 3.424 | 3.316 | 3.128 | 3.237 | 3.113 | 3.378 | 3.377 | 12.35 | 16.8715 |
| | 98 | 1,2,3-Trichlorobenzene | 2.077 | 1.941 | 1.298 | 1.377 | 1.232 | 1.225 | 1.192 | 1.180 | 1.249 | 1.419 | 24.06 | 17.2310 |

Spike Amount = Nominal Amount * M
Ave_%RSD = 11.8 Max_%RSD = 42.2

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp Ratio = x0 + x1 * Amt_Ratio

| IDX | Parameter | x0 | x1 | CCF |
|---|---|---|---|---|
| 11 | Acetone | 0.05832 | 0.11706 | 0.9992 |
| 16 | Iodomethane | -0.01197 | 0.48870 | 0.9969 |
| 18 | Methylene chloride | 0.04858 | 0.59178 | 0.9974 |
| 84 | 4-Chlorotoluene | 0.14395 | 3.17771 | 0.9987 |
| 89 | 1,3-Dichlorobenzene | 0.09201 | 1.90749 | 0.9986 |
| 91 | 1,4-Dichlorobenzene | 0.08306 | 1.99157 | 0.9991 |
| 95 | 1,2,4-Trichlorobenzene | 0.04972 | 1.27956 | 0.9993 |
| 98 | 1,2,3 Trichlorobenzene | 0.04722 | 1.21614 | 0.9995 |

5/24/24

Instrument ID :E2
Beginning DateTime :05/17/24 12:33
Spike Units :PPB
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :05/17/24 15:44
HPChem Method :VOE2E17

| M | IDX | Parameters | .5<br>12:33<br>REG118 | 1<br>12:57<br>REG119 | 2<br>13:21<br>REG120 | 5<br>13:45<br>REG121 | 10<br>14:09<br>REG122 | 30<br>14:33<br>REG123 | 50<br>14:57<br>REG124 | 100<br>15:21<br>REG125 | 200<br>15:44<br>REG126 | AvDRec | %_RSD | AV_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 5.9874 |
| | 2 | Dichlorodifluoromethane | 108 | 111 | 101 | 88 | 89 | 106 | 99 | 101 | 97 | 6 | 8.06 | 2.7078 |
| | 3 | Chloromethane | 128 | 113 | 105 | 93 | 91 | 92 | 89 | 93 | 97 | 10.2 | 13.00 | 2.9059 |
| | 4 | Vinyl chloride | 96 | 113 | 106 | 86 | 96 | 101 | 103 | 103 | 95 | 5.8 | 7.58 | 2.9903 |
| | 5 | Bromomethane | 118 | 111 | 99 | 91 | 83 | 91 | 95 | 101 | 112 | 9.3 | 11.62 | 3.3131 |
| | 6 | Dichlorofluoromethane | 108 | 109 | 98 | 111 | 100 | 103 | 94 | 91 | 87 | 6.9 | 8.41 | 3.3523 |
| | 7 | Chloroethane | 104 | 120 | 101 | 92 | 96 | 103 | 96 | 97 | 91 | 6.3 | 8.74 | 3.3461 |
| | 8 | Trichlorofluoromethane | 110 | 105 | 100 | 87 | 92 | 106 | 101 | 102 | 97 | 5.4 | 7.24 | 3.5112 |
| 5 | 9 | Acrolein | 114 | 117 | 97 | 108 | 98 | 92 | 91 | 92 | 91 | 8.5 | 10.21 | 3.7423 |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 120 | 104 | 91 | 112 | 96 | 98 | 96 | 93 | 90 | 7.9 | 10.04 | 3.7521 |
| 5 | 11 | Acetone | 78 | 105 | 105 | 107 | 107 | 97 | 99 | ------ | ------ | 31.9 | 42.17 | 3.7690 |
| 25 | 12 | tert-Butyl alcohol | 123 | 115 | 103 | 93 | 100 | 92 | 93 | 90 | 89 | 9.3 | 11.83 | 3.8744 |
| | 13 | 1,1 Dichloroethene | 109 | 109 | 97 | 113 | 99 | 101 | 91 | 92 | 89 | 6.8 | 8.46 | 3.9025 |
| 10 | 14 | Acetonitrile | ------ | 123 | 103 | 100 | 103 | 87 | 90 | ------ | ------ | 8.9 | 12.37 | 3.8744 |
| | 15 | Allyl chloride | 111 | 114 | 96 | 112 | 101 | 102 | 94 | 86 | 82 | 9.1 | 11.27 | 4.1055 |
| | 16 | Iodomethane | 126 | 92 | 78 | 89 | 91 | 116 | 109 | 104 | 94 | 18.1 | 22.23 | 4.1434 |
| | 17 | Methyl acetate | ------ | 121 | 100 | 102 | 101 | 87 | 90 | ------ | ------ | 7.9 | 12.15 | 4.0285 |
| | 18 | Methylene chloride | 26 | 103 | 116 | 128 | 115 | 115 | 102 | 100 | 96 | 22.1 | 26.33 | 4.1825 |
| 5 | 19 | Acrylonitrile | 125 | 110 | 96 | 103 | 105 | 93 | 89 | 90 | 91 | 9.3 | 11.69 | 4.2156 |
| | 20 | tert-Butyl methyl ether (MTBE) | 113 | 107 | 101 | 107 | 101 | 97 | 92 | 91 | 90 | 6.4 | 7.94 | 4.2266 |
| | 21 | Carbon disulfide | 116 | 109 | 94 | 89 | 100 | 98 | 94 | ------ | ------ | 7.2 | 9.42 | 4.3052 |
| | 22 | trans-1,2-Dichloroethene | 112 | 112 | 99 | 114 | 98 | 93 | 93 | 89 | 90 | 8.5 | 10.07 | 4.3696 |
| | 23 | Isopropyl ether (DIPE) | 114 | 108 | 101 | 111 | 100 | 98 | 92 | 91 | 87 | 7.5 | 9.47 | 4.4601 |
| | 24 | Vinyl acetate | 105 | 108 | 103 | 104 | 107 | 94 | 94 | 95 | 92 | 5.8 | 6.41 | 4.5457 |
| | 25 | 1,1-Dichloroethane | 116 | 112 | 99 | 108 | 97 | 100 | 93 | 88 | 85 | 8.2 | 10.57 | 4.6338 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 110 | 111 | 99 | 110 | 100 | 93 | 95 | 90 | 92 | 6.8 | 8.21 | 4.7328 |
| 5 | 27 | 2-Butanone | ------ | 126 | 102 | 102 | 104 | 91 | 91 | 89 | 89 | 9 | 12.56 | 4.8539 |
| 10 | 28 | Propionitrile | 122 | 111 | 107 | 104 | 96 | 93 | 93 | 87 | 91 | 9.3 | 11.17 | 4.9101 |
| 20 | 29 | Isobutyl alcohol | ------ | 120 | 100 | 95 | 100 | 90 | 95 | 85 | ------ | 7.9 | 12.47 | 5.0299 |
| | 30 | 2,2-Dichloropropane | 111 | 107 | 95 | 114 | 103 | 99 | 95 | 91 | 86 | 7.6 | 9.30 | 5.0202 |
| 10 | 31 | Methacrylonitrile | 115 | 113 | 101 | 109 | 98 | 97 | 92 | 88 | 84 | 8.9 | 11.02 | 5.0568 |
| | 32 | cis-1,2-Dichloroethene | 109 | 115 | 100 | 108 | 96 | 96 | 94 | 90 | 93 | 7 | 8.40 | 5.0630 |
| | 33 | Chloroform | 125 | 117 | 98 | 104 | 93 | 91 | 87 | 85 | ------ | 11.5 | 14.51 | 5.1730 |
| | 34 | Bromochloromethane | 111 | 115 | 102 | 109 | 102 | 101 | 93 | 86 | 81 | 8.8 | 11.29 | 5.3271 |
| | 35 | Tetrahydrofuran | ------ | 111 | 102 | 105 | 98 | 97 | 94 | 92 | ------ | 5.3 | 6.67 | 5.3192 |
| | 36 | Dibromofluoromethane | 111 | 105 | 93 | 100 | 102 | 96 | 94 | ------ | ------ | 4.9 | 6.30 | 5.3381 |
| | 37 | 1,1,1-Trichloroethane | 111 | 108 | 94 | 110 | 100 | 101 | 95 | 93 | 89 | 6.8 | 8.19 | 5.4971 |
| | 38 | Cyclohexane | 124 | 114 | 85 | 114 | 84 | 94 | 99 | 91 | 96 | 11.6 | 14.22 | 5.5484 |
| | 39 | tert-Amyl methyl ether (TAME) | 103 | 106 | 95 | 113 | 105 | 90 | 100 | 95 | 93 | 5.9 | 7.33 | 5.6144 |
| | 40 | 1,1-Dichloropropene | 111 | 106 | 94 | 113 | 103 | 92 | 97 | 93 | 92 | 7.2 | 8.29 | 5.6132 |
| | 41 | 1,2-Dichloroethane-d4 | 120 | 111 | 96 | 99 | 97 | 88 | 89 | ------ | ------ | 9 | 11.80 | 5.7233 |
| | 42 | Carbon tetrachloride | 104 | 109 | 91 | 114 | 102 | 99 | 97 | 92 | 92 | 6.3 | 8.01 | 5.7343 |
| | 43 | 1,2-Dichloroethane | 113 | 112 | 102 | 112 | 102 | 92 | 93 | 88 | 87 | 8.9 | 10.41 | 5.8003 |
| | 44 | Benzene | 115 | 112 | 97 | 104 | 99 | 94 | 96 | 92 | 91 | 6.9 | 8.64 | 5.8663 |
| | 45 | Trichloroethene | 113 | 112 | 91 | 110 | 98 | 98 | 95 | 91 | 93 | 7.7 | 9.09 | 6.3714 |
| | 46 | Methyl methacrylate | 116 | 111 | 94 | 110 | 95 | 90 | 96 | 94 | 93 | 8.4 | 9.77 | 6.4386 |
| | 47 | Methylcyclohexane | ------ | 117 | 88 | 118 | 88 | 91 | 101 | 98 | 100 | 9 | 11.92 | 6.4537 |
| | 48 | 1,2-Dichloropropane | 120 | 114 | 100 | 103 | 99 | 90 | 94 | 91 | 90 | 8.2 | 10.74 | 6.5266 |
| 20 | 49 | 1,4-Dioxane | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 50 | Bromodichloromethane | ------ | 122 | 103 | 110 | 100 | 95 | 93 | 90 | 87 | 8.6 | 11.38 | 6.7687 |
| | 51 | Dibromomethane | 119 | 113 | 98 | 110 | 98 | 97 | 92 | 91 | 83 | 9.4 | 11.79 | 6.8568 |
| | 52 | 2-Chloroethyl vinyl ether | 101 | 108 | 100 | 110 | 103 | 99 | 97 | 94 | 89 | 4.8 | 6.45 | 6.9338 |
| 5 | 53 | 4-Methyl-2-pentanone | 115 | 112 | 97 | 109 | 104 | 91 | 92 | 91 | 87 | 9 | 10.35 | 6.9571 |
| | 54 | cis-1,3-Dichloropropene | 113 | 107 | 97 | 108 | 101 | 96 | 95 | 93 | 91 | 6.3 | 7.57 | 7.2750 |
| | 55 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9.5641 |
| | 56 | Toluene-d8 | ------ | 117 | 96 | 99 | 101 | 94 | 94 | ------ | ------ | 6 | 8.88 | 7.5941 |
| | 57 | Ethyl methacrylate | 101 | 105 | 97 | 110 | 104 | 95 | 100 | 93 | 95 | 4.4 | 5.59 | 7.6932 |
| | 58 | Toluene | 111 | 115 | 97 | 109 | 99 | 91 | 96 | 89 | 93 | 7.8 | 9.46 | 7.6932 |
| | 59 | trans-1,3-Dichloropropene | 105 | 106 | 95 | 111 | 102 | 100 | 99 | 91 | 93 | 5.2 | 6.61 | 7.8143 |
| 5 | 60 | 2-Hexanone | 120 | 109 | 95 | 107 | 106 | 95 | 94 | 86 | 88 | 9.3 | 11.13 | 7.9378 |
| | 61 | 1,1,2-Trichloroethane | 114 | 113 | 102 | 108 | 99 | 100 | 92 | 86 | 87 | 8.1 | 10.51 | 8.0454 |
| | 62 | 1,3-Dichloropropane | 110 | 117 | 98 | 108 | 98 | 96 | 96 | 88 | 88 | 7.8 | 9.83 | 8.3535 |
| | 63 | Tetrachloroethene | 119 | 120 | 88 | 107 | 96 | 100 | 93 | 87 | 90 | 10.2 | 12.71 | 8.5088 |
| | 64 | Dibromochloromethane | ------ | 129 | 102 | 106 | 98 | 102 | 92 | 86 | 86 | 9.8 | 13.87 | 8.7827 |
| | 65 | 1,2-Dibromoethane | 112 | 107 | 96 | 107 | 102 | 102 | 95 | 90 | 89 | 6.8 | 8.08 | 9.0688 |
| | 66 | 1-Chlorohexane | 112 | 113 | 87 | 112 | 99 | 100 | 96 | 89 | 90 | 8.4 | 10.45 | 9.1239 |
| | 67 | Chlorobenzene | 120 | 112 | 93 | 107 | 98 | 99 | 93 | 88 | 89 | 8.8 | 11.00 | 9.6191 |
| | 68 | 1,1,1,2-Tetrachloroethane | 112 | 111 | 93 | 108 | 102 | 103 | 95 | 89 | 88 | 7.7 | 9.12 | 9.6460 |
| | 69 | Ethylbenzene | 116 | 116 | 89 | 106 | 97 | 100 | 95 | 90 | 90 | 8.6 | 10.66 | 9.6411 |
| 2 | 70 | m-Xylene & p-Xylene | 114 | 112 | 89 | 104 | 93 | 95 | 94 | ------ | ------ | 8.5 | 9.97 | 9.7496 |
| | 71 | o-Xylene | 120 | 112 | 91 | 110 | 100 | 93 | 97 | 89 | 88 | 9.1 | 11.21 | 10.4127 |
| | 72 | Styrene | 111 | 116 | 91 | 109 | 101 | 96 | 97 | 90 | 88 | 8.4 | 10.19 | 10.4580 |
| | 73 | Isopropylbenzene | 118 | 122 | 93 | 110 | 100 | 89 | 93 | 89 | 86 | 11.1 | 13.33 | 10.9397 |
| | 74 | 1,2-DICHLOROBENZENE D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 13.8891 |
| | 75 | Bromoform | 114 | 109 | 102 | 108 | 98 | 95 | 97 | 89 | 88 | 7.4 | 9.03 | 11.0608 |
| | 76 | 1,1,2,2-Tetrachloroethane | 124 | 119 | 98 | 107 | 97 | 90 | 93 | 87 | 85 | 11.1 | 13.93 | 11.2026 |
| | 77 | 4-Bromofluorobenzene | ------ | 120 | 101 | 102 | 98 | 84 | 96 | ------ | ------ | 7.6 | 11.73 | 11.3689 |
| | 78 | 1,2,3-Trichloropropane | 115 | 117 | 100 | 114 | 97 | 89 | 95 | 89 | 84 | 10.1 | 12.26 | 11.4460 |
| | 79 | trans-1,4-Dichloro-2-butene | 89 | 100 | 90 | 117 | 102 | 102 | 106 | 98 | 97 | 5.9 | 8.47 | 11.5132 |
| | 80 | n-Propylbenzene | 121 | 122 | 92 | 113 | 95 | 88 | 94 | 88 | 86 | 12.5 | 14.55 | 11.5780 |
| | 81 | Bromobenzene | 118 | 121 | 97 | 112 | 100 | 87 | 93 | 87 | 86 | 11.4 | 13.87 | 11.7321 |
| | 82 | 1,3,5-Trimethylbenzene | 123 | 120 | 93 | 112 | 96 | 89 | 93 | 87 | 86 | 12.2 | 14.43 | 11.8287 |
| | 83 | 2-Chlorotoluene | ------ | 123 | 91 | 119 | 94 | 93 | 99 | 92 | 89 | 10.5 | 13.23 | 11.9192 |
| | 84 | 4-Chlorotoluene | 60 | 117 | 98 | 115 | 117 | 89 | 105 | 99 | 100 | 15.3 | 20.12 | 11.9754 |
| | 85 | tert-Butylbenzene | 111 | 123 | 90 | 110 | 96 | 83 | 88 | ------ | ------ | 12.4 | 14.63 | 12.4081 |
| | 86 | 1,2,4-Trimethylbenzene | 119 | 123 | 94 | 112 | 98 | 88 | 93 | 87 | 86 | 11.8 | 14.07 | 12.4780 |
| | 87 | sec-Butylbenzene | ------ | 127 | 92 | 112 | 98 | 90 | 94 | 88 | ------ | 11 | 14.11 | 12.7493 |
| | 88 | p-Isopropyltoluene | 122 | 122 | 92 | 113 | 96 | 88 | 92 | 89 | 86 | 12.6 | 14.69 | 12.9549 |
| | 89 | 1,3-Dichlorobenzene | 62 | 109 | 90 | 120 | 110 | 104 | 108 | 100 | 97 | 15.3 | 19.08 | 13.1652 |
| | 90 | 1,2,3-Trimethylbenzene | 115 | 123 | 94 | 113 | 99 | 89 | 93 | 88 | 86 | 11.2 | 13.33 | 13.2545 |
| | 91 | 1,4-Dichlorobenzene | 126 | 114 | 86 | 119 | 107 | 103 | 106 | 98 | 98 | 15.4 | 18.81 | 13.3278 |
| | 92 | n-Butylbenzene | 126 | 122 | 89 | 106 | 96 | 92 | 94 | 86 | 88 | 12.1 | 14.93 | 13.6140 |
| | 93 | 1,2-Dichlorobenzene | ------ | 123 | 100 | 110 | 92 | 87 | 88 | ------ | ------ | 11 | 14.28 | 13.9331 |
| | 94 | 1,2-Dibromo-3-chloropropane | 114 | 116 | 93 | 101 | 94 | 96 | 95 | 96 | 96 | 6.8 | 8.87 | 15.1339 |
| | 95 | 1,2,4-Trichlorobenzene | 90 | 123 | 86 | 108 | 97 | 98 | 99 | 90 | 103 | 18.5 | 24.05 | 16.4643 |
| | 96 | Hexachlorobutadiene | ------ | 128 | 93 | 111 | 99 | 92 | 92 | 88 | 95 | 9.9 | 13.33 | 16.6624 |
| | 97 | Naphthalene | ------ | 129 | 91 | 101 | 98 | 93 | 96 | 92 | 100 | 7.6 | 12.35 | 16.8715 |
| | 98 | 1,2,3-Trichlorobenzene | 94 | 121 | 88 | 105 | 97 | 97 | 97 | 97 | 102 | 18.5 | 24.06 | 17.2310 |

For 8260C
SCC
5/24/24

Compound List Report E2

Method Path : C:\MSDCHEM\1\METHODS\
Method File : VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024
Response Via : Initial Calibration

Total Cpnds : 98

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 114 | 5.987 | 1.000 | A | 1 | A | B |
| 2 | T | Dichlorodifluoromethane | 85 | 2.708 | 0.452 | A | 1 | A | B |
| 3 | T | Chloromethane | 50 | 2.906 | 0.485 | A | 1 | A | B |
| 4 | T | Vinyl chloride | 62 | 2.994 | 0.500 | A | 1 | A | B |
| 5 | T | Bromomethane | 94 | 3.313 | 0.553 | A | 1 | A | B |
| 6 | T | Dichlorofluoromethane | 67 | 3.357 | 0.561 | A | 1 | A | B |
| 7 | T | Chloroethane | 64 | 3.346 | 0.559 | A | 1 | A | B |
| 8 | T | Trichlorofluoromethane | 101 | 3.511 | 0.586 | A | 1 | A | B |
| 9 | T | Acrolein | 56 | 3.742 | 0.625 | A | 1 | A | B |
| 10 | T | 1,1,2-Trichloro-1,2,2-Trifl... | 151 | 3.753 | 0.627 | A | 1 | A | B |
| 11 | T | Acetone | 43 | 3.764 | 0.629 | L | 1 | A | B |
| 12 | T | tert-Butyl alcohol | 59 | 3.874 | 0.647 | A | 1 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 3.908 | 0.653 | A | 2 | A | B |
| 14 | T | Acetonitrile | 41 | 3.874 | 0.647 | A | 1 | A | B |
| 15 | T | Allyl chloride | 76 | 4.106 | 0.686 | A | 1 | A | B |
| 16 | T | Iodomethane | 142 | 4.150 | 0.693 | I | 1 | A | B |
| 17 | T | Methyl acetate | 43 | 4.029 | 0.673 | A | 1 | A | B |
| 18 | T | Methylene chloride | 49 | 4.183 | 0.699 | I | 2 | A | B |
| 19 | T | Acrylonitrile | 53 | 4.216 | 0.704 | A | 2 | A | B |
| 20 | T | tert-Butyl methyl ether (MTBE) | 73 | 4.227 | 0.706 | A | 1 | A | B |
| 21 | T | Carbon disulfide | 76 | 4.304 | 0.719 | A | 1 | A | B |
| 22 | T | trans-1,2-Dichloroethene | 96 | 4.370 | 0.730 | A | 1 | A | B |
| 23 | T | Isopropyl ether (DIPE) | 45 | 4.458 | 0.745 | A | 1 | A | B |
| 24 | T | Vinyl acetate | 43 | 4.546 | 0.759 | A | 1 | A | B |
| 25 | T | 1,1-Dichloroethane | 63 | 4.634 | 0.774 | A | 2 | A | B |
| 26 | T | tert-Butyl ethyl ether (ETBE) | 59 | 4.733 | 0.791 | A | 1 | A | B |
| 27 | T | 2-Butanone | 72 | 4.854 | 0.811 | A | 1 | A | B |
| 28 | T | Propionitrile | 54 | 4.909 | 0.820 | A | 1 | A | B |
| 29 | T | Isobutyl alcohol | 43 | 5.030 | 0.840 | A | 1 | A | B |
| 30 | T | 2,2-Dichloropropane | 77 | 5.019 | 0.838 | A | 2 | A | B |
| 31 | T | Methacrylonitrile | 52 | 5.052 | 0.844 | A | 1 | A | B |
| 32 | T | cis-1,2-Dichloroethene | 96 | 5.063 | 0.846 | A | 1 | A | B |
| 33 | T | Chloroform | 83 | 5.173 | 0.864 | A | 2 | A | B |
| 34 | T | Bromochloromethane | 130 | 5.327 | 0.890 | A | 1 | A | B |
| 35 | T | Tetrahydrofuran | 42 | 5.327 | 0.890 | A | 2 | A | B |
| 36 | S | Dibromofluoromethane | 111 | 5.338 | 0.892 | A | 1 | A | B |
| 37 | T | 1,1,1-Trichloroethane | 97 | 5.492 | 0.917 | A | 2 | A | B |
| 38 | T | Cyclohexane | 84 | 5.547 | 0.927 | A | 1 | A | B |
| 39 | T | tert-Amyl methyl ether (TAME) | 87 | 5.613 | 0.938 | A | 1 | A | B |
| 40 | T | 1,1-Dichloropropene | 110 | 5.613 | 0.938 | A | 1 | A | B |
| 41 | S | 1,2-Dichloroethane-d4 | 65 | 5.723 | 0.956 | A | 1 | A | B |
| 42 | T | Carbon tetrachloride | 119 | 5.734 | 0.958 | A | 1 | A | B |
| 43 | T | 1,2-Dichloroethane | 62 | 5.800 | 0.969 | A | 1 | A | B |
| 44 | T | Benzene | 78 | 5.866 | 0.980 | A | 2 | A | B |
| 45 | T | Trichloroethene | 130 | 6.373 | 1.064 | A | 3 | A | B |
| 46 | T | Methyl methacrylate | 69 | 6.439 | 1.075 | A | 1 | A | B |
| 47 | T | Methylcyclohexane | 83 | 6.450 | 1.077 | A | 2 | A | B |
| 48 | T | 1,2-Dichloropropane | 63 | 6.527 | 1.090 | A | 1 | A | B |
| 49 | T | 1,4-Dioxane | 88 | 6.725 | 1.123 | A | 1 | A | B |
| 50 | T | Bromodichloromethane | 83 | 6.769 | 1.131 | A | 1 | A | B |
| 51 | T | Dibromomethane | 93 | 6.857 | 1.145 | A | 2 | A | B |
| 52 | T | 2-Chloroethyl vinyl ether | 63 | 6.934 | 1.158 | A | 1 | A | B |
| 53 | T | 4-Methyl-2-pentanone | 43 | 6.956 | 1.162 | A | 3 | A | B |
| 54 | T | cis-1,3-Dichloropropene | 75 | 7.275 | 1.215 | A | 3 | A | B |
| 55 | I | CHLOROBENZENE-D5 | 117 | 9.564 | 1.000 | A | 2 | A | B |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 56 | S | Toluene-d8 | 98 | 7.594 | 0.794 | A | 1 | A | B |
| 57 | T | Ethyl methacrylate | 69 | 7.693 | 0.804 | A | 1 | A | B |
| 58 | T | Toluene | 91 | 7.693 | 0.804 | A | 1 | A | B |
| 59 | T | trans-1,3-Dichloropropene | 75 | 7.814 | 0.817 | A | 1 | A | B |
| 60 | T | 2-Hexanone | 43 | 7.935 | 0.830 | A | 1 | A | B |
| 61 | T | 1,1,2-Trichloroethane | 97 | 8.045 | 0.841 | A | 2 | A | B |
| 62 | T | 1,3-Dichloropropane | 76 | 8.354 | 0.873 | A | 1 | A | B |
| 63 | T | Tetrachloroethene | 164 | 8.508 | 0.890 | A | 3 | A | B |
| 64 | T | Dibromochloromethane | 129 | 8.783 | 0.918 | A | 1 | A | B |
| 65 | T | 1,2-Dibromoethane | 107 | 9.069 | 0.948 | A | 1 | A | B |
| 66 | T | 1-Chlorohexane | 91 | 9.124 | 0.954 | A | 1 | A | B |
| 67 | T | Chlorobenzene | 112 | 9.619 | 1.006 | A | 1 | A | B |
| 68 | T | 1,1,1,2-Tetrachloroethane | 131 | 9.652 | 1.009 | A | 1 | A | B |
| 69 | T | Ethylbenzene | 91 | 9.641 | 1.008 | A | 1 | A | B |
| 70 | T | m-Xylene & p-Xylene | 91 | 9.740 | 1.018 | A | 1 | A | B |
| 71 | T | o-Xylene | 91 | 10.412 | 1.089 | A | 1 | A | B |
| 72 | T | Styrene | 104 | 10.456 | 1.093 | A | 2 | A | B |
| 73 | T | Isopropylbenzene | 105 | 10.940 | 1.144 | A | 3 | A | B |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 152 | 13.889 | 1.000 | A | 1 | A | B |
| 75 | T | Bromoform | 173 | 11.061 | 0.796 | A | 2 | A | B |
| 76 | T | 1,1,2,2-Tetrachloroethane | 83 | 11.204 | 0.807 | A | 1 | A | B |
| 77 | S | 4-Bromofluorobenzene | 95 | 11.369 | 0.819 | A | 2 | A | B |
| 78 | T | 1,2,3-Trichloropropane | 110 | 11.446 | 0.824 | A | 1 | A | B |
| 79 | T | trans-1,4-Dichloro-2-butene | 53 | 11.512 | 0.829 | A | 1 | A | B |
| 80 | T | n-Propylbenzene | 91 | 11.578 | 0.834 | A | 2 | A | B |
| 81 | T | Bromobenzene | 156 | 11.732 | 0.845 | A | 1 | A | B |
| 82 | T | 1,3,5-Trimethylbenzene | 105 | 11.831 | 0.852 | A | 2 | A | B |
| 83 | T | 2-Chlorotoluene | 91 | 11.919 | 0.858 | A | 1 | A | B |
| 84 | T | 4-Chlorotoluene | 91 | 11.974 | 0.862 | L | 1 | A | B |
| 85 | T | tert-Butylbenzene | 134 | 12.415 | 0.894 | A | 1 | A | B |
| 86 | T | 1,2,4-Trimethylbenzene | 105 | 12.470 | 0.898 | A | 1 | A | B |
| 87 | T | sec-Butylbenzene | 105 | 12.745 | 0.918 | A | 1 | A | B |
| 88 | T | p-Isopropyltoluene | 119 | 12.954 | 0.933 | A | 2 | A | B |
| 89 | T | 1,3-Dichlorobenzene | 146 | 13.163 | 0.948 | L | 2 | A | B |
| 90 | T | 1,2,3-Trimethylbenzene | 105 | 13.251 | 0.954 | A | 2 | A | B |
| 91 | T | 1,4-Dichlorobenzene | 146 | 13.328 | 0.960 | L | 2 | A | B |
| 92 | T | n-Butylbenzene | 91 | 13.614 | 0.980 | A | 2 | A | B |
| 93 | T | 1,2-Dichlorobenzene | 146 | 13.933 | 1.003 | A | 1 | A | B |
| 94 | T | 1,2-Dibromo-3-chloropropane | 157 | 15.133 | 1.090 | A | 1 | A | B |
| 95 | T | 1,2,4-Trichlorobenzene | 180 | 16.464 | 1.185 | L | 2 | A | B |
| 96 | T | Hexachlorobutadiene | 225 | 16.663 | 1.200 | A | 2 | A | B |
| 97 | T | Naphthalene | 128 | 16.872 | 1.215 | A | 1 | A | B |
| 98 | T | 1,2,3-Trichlorobenzene | 180 | 17.224 | 1.240 | L | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

---

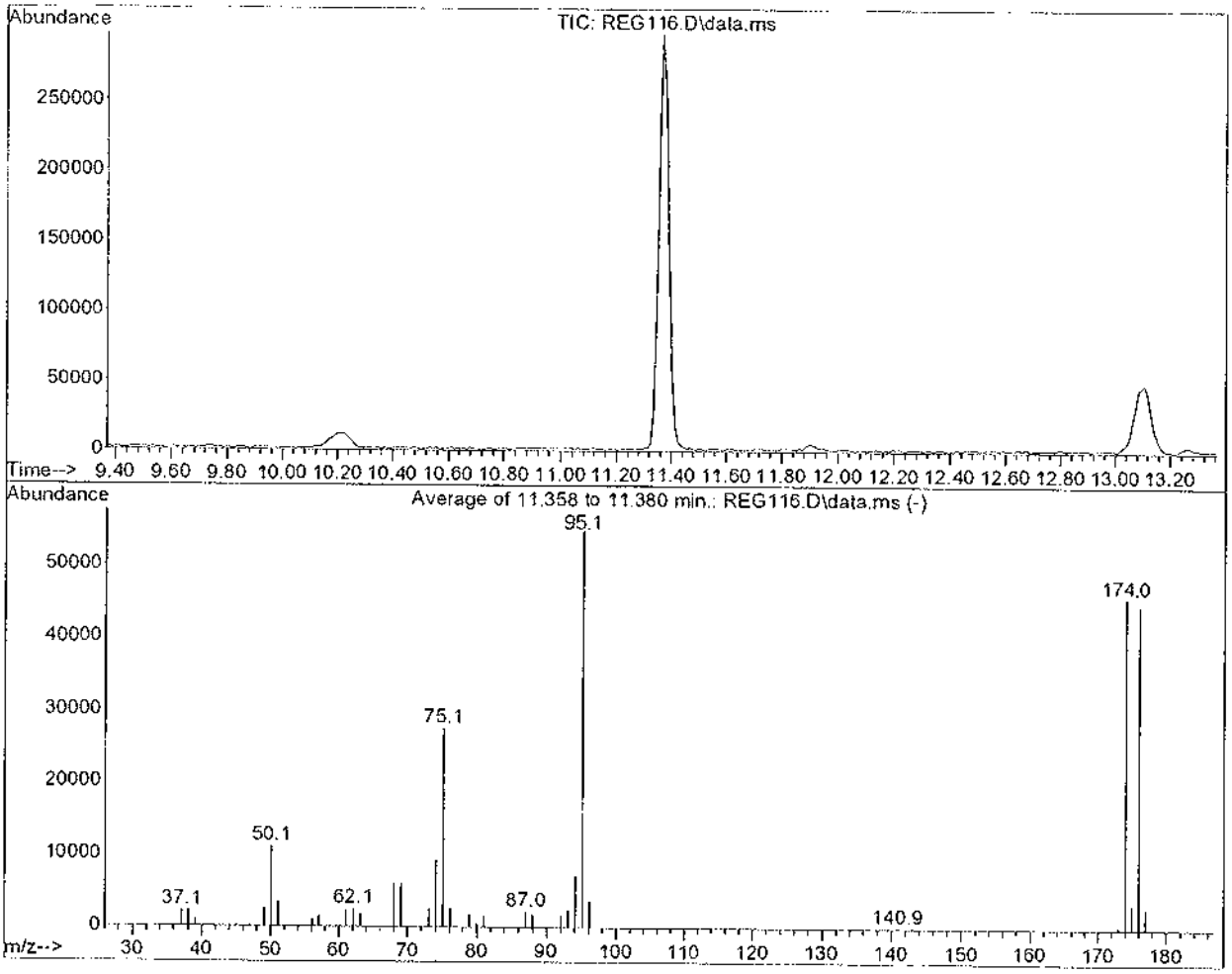
VOE2E17.M Tue May 21 20:46:28 2024

5/24/24

Data Path : D:\Data\24E17\
Data File : REG116.D
Acq On : 17 May 2024 11:23
Operator : DNguye
Sample : BFBE2E09
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




AutoFind: Scans 797, 798, 799; Background Corrected with Scan 791

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 20.3 | 11125 | PASS |
| 75 | 95 | 30 | 60 | 50.1 | 27461 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 54867 | PASS |
| 96 | 95 | 5 | 9 | 6.7 | 3687 | PASS |
| 173 | 174 | 0.00 | 2 | 1.0 | 441 | PASS |
| 174 | 95 | 50 | 100 | 83.3 | 45723 | PASS |
| 175 | 174 | 5 | 9 | 7.5 | 3423 | PASS |
| 176 | 174 | 95 | 101 | 97.6 | 44603 | PASS |
| 177 | 176 | 5 | 9 | 6.5 | 2888 | PASS |

SU 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG118.D
Acq On : 17 May 2024 12:33
Sample : VOE2E172 0.02
Misc : 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 549104 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 464476 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 212499 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 18576 | 0.55 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 5.50% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 26686 | 0.60 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 6.00% | | |
| 56) Toluene-d8 | 7.594 | 98 | 57312 | 0.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 6.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 22723 | 0.67 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 6.70% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 17056 | 0.54 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 14446 | 0.64 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 11508 | 0.48 | ug/l | 73 |
| 5) Bromomethane | 3.313 | 94 | 9554 | 0.59 | ug/l | 94 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 29410 | 0.54 | ug/L | 96 |
| 7) Chloroethane | 3.346 | 64 | 6087 | 0.52 | ug/l | 85 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 29529 | 0.55 | ug/l | 98 |
| 9) Acrolein | 3.742 | 56 | 10194 | 2.85 | ug/l | 91 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 14012 | 0.60 | ug/l | 91 |
| 11) Acetone | 3.764 | 43 | 44639 | 1.96 | ug/l | 96 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 51406 | 15.40 | ug/L | 97 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 26690 | 0.54 | ug/l | 96 |
| 14) Acetonitrile | 3.874 | 41 | 10893 | 6.57 | ug/L | 98 |
| 15) Allyl chloride | 4.106 | 76 | 7180 | 0.55 | ug/L | 98 |
| 16) Iodomethane | 4.139 | 142 | 9193 | 0.63 | ug/l | 87 |
| 17) Methyl acetate | 4.029 | 43 | 14730 | 0.79 | ug/L | 85 |
| 18) Methylene chloride | 4.183 | 49 | 30803 | 0.13 | ug/l | 98 |
| 19) Acrylonitrile | 4.216 | 53 | 25634 | 3.11 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 46315 | 0.56 | ug/L | 96 |
| 21) Carbon disulfide | 4.304 | 76 | 43578 | 0.58 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 14728 | 0.56 | ug/l | 97 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 47724 | 0.57 | ug/l | 94 |
| 24) Vinyl acetate | 4.546 | 43 | 24849 | 0.52 | ug/l | 95 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 30845 | 0.58 | ug/l | 92 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 55588 | 0.55 | ug/l | 98 |
| 27) 2-Butanone | 4.854 | 72 | 11165 | 4.33 | ug/l | 86 |
| 28) Propionitrile | 4.909 | 54 | 18460 | 6.08 | ug/L | 91 |
| 29) Isobutyl alcohol | 5.030 | 43 | 14416 | 13.44 | ug/L | 87 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 29380 | 0.55 | ug/l | 97 |
| 31) Methacrylonitrile | 5.052 | 52 | 28918 | 5.80 | ug/L | 100 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 16247 | 0.54 | ug/l | 98 |
| 33) Chloroform | 5.173 | 83 | 41179 | 0.63 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 9713 | 0.55 | ug/l | 96 |
| 35) Tetrahydrofuran | 5.316 | 42 | 5046 | 0.73 | ug/L | 71 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 32762 | 0.55 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 18767 | 0.62 | ug/L | 95 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 9348 | 0.52 | ug/l | 84 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 7182 | 0.55 | ug/L | 93 |
| 42) Carbon tetrachloride | 5.734 | 119 | 25943 | 0.52 | ug/L | 94 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG118.D
Acq On : 17 May 2024 12:33
Sample : VOE2E172 0.02
Misc : 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 28450 | 0.56 ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 57665 | 0.57 ug/L | 99 |
| 45) Trichloroethene | 6.362 | 130 | 15745 | 0.57 ug/L | 92 |
| 46) Methyl methacrylate | 6.439 | 69 | 14294 | 0.58 ug/L | 92 |
| 47) Methylcyclohexane | 6.450 | 83 | 24801 | 0.75 ug/L | 98 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 15344 | 0.60 ug/L | 87 |
| 50) Bromodichloromethane | 6.769 | 83 | 36002 | 0.74 ug/L | 94 |
| 51) Dibromomethane | 6.857 | 93 | 12457 | 0.60 ug/L | 89 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 6395 | 0.50 ug/L | 87 |
| 53) 4-Methyl-2-pentanone | 6.967 | 43 | 81159 | 2.89 ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 25278 | 0.56 ug/L | 99 |
| 57) Ethyl methacrylate | 7.693 | 69 | 15961 | 0.50 ug/L | 97 |
| 58) Toluene | 7.693 | 91 | 58579 | 0.56 ug/l | 98 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 23673 | 0.53 ug/l | 98 |
| 60) 2-Hexanone | 7.946 | 43 | 57309 | 3.01 ug/l | 96 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 14308 | 0.57 ug/l | 96 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 20459 | 0.55 ug/l | 96 |
| 63) Tetrachloroethene | 8.508 | 164 | 13727 | 0.60 ug/l | 96 |
| 64) Dibromochloromethane | 8.783 | 129 | 29407 | 0.78 ug/l | 97 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 15125 | 0.56 ug/l | 99 |
| 66) 1-Chlorohexane | 9.124 | 91 | 19608 | 0.56 ug/l | 96 |
| 67) Chlorobenzene | 9.619 | 112 | 41842 | 0.60 ug/l | 98 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 16551 | 0.56 ug/l | 98 |
| 69) Ethylbenzene | 9.641 | 91 | 74129 | 0.58 ug/l | 99 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 118397 | 1.14 ug/l | 100 |
| 71) o-Xylene | 10.423 | 91 | 58892 | 0.60 ug/l | 99 |
| 72) Styrene | 10.467 | 104 | 38267 | 0.56 ug/l | 96 |
| 73) Isopropylbenzene | 10.940 | 105 | 65839 | 0.59 ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 13240 | 0.57 ug/l | 96 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 18390 | 0.62 ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 4683 | 0.57 ug/l | 89 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 3669 | 0.44 ug/l | 65 |
| 80) n-Propylbenzene | 11.578 | 91 | 81637 | 0.61 ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 17493 | 0.59 ug/l | 90 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 57014 | 0.62 ug/l | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 55924 | 0.67 ug/l | 97 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 50900 | 0.30 ug/l | 88 |
| 85) tert-Butylbenzene | 12.414 | 134 | 7933 | 0.55 ug/l | 81 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 53741 | 0.59 ug/l | 100 |
| 87) sec-Butylbenzene | 12.756 | 105 | 65405 | 0.62 ug/l | 99 |
| 88) p-Isopropyltoluene | 12.965 | 119 | 53602 | 0.61 ug/l | 97 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 32090 | 0.31 ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 51524 | 0.57 ug/L | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 32107 | 0.34 ug/l | 100 |
| 92) n-Butylbenzene | 13.614 | 91 | 52899 | 0.63 ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 31197 | 0.67 ug/l | 99 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 3444 | 0.57 ug/l | 77 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 22885 | 0.45 ug/l | 96 |
| 96) Hexachlorobutadiene | 16.651 | 225 | 14673 | 0.91 ug/l | 99 |
| 97) Naphthalene | 16.872 | 128 | 48991 | 0.68 ug/l | 95 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 22069 | 0.47 ug/l | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed



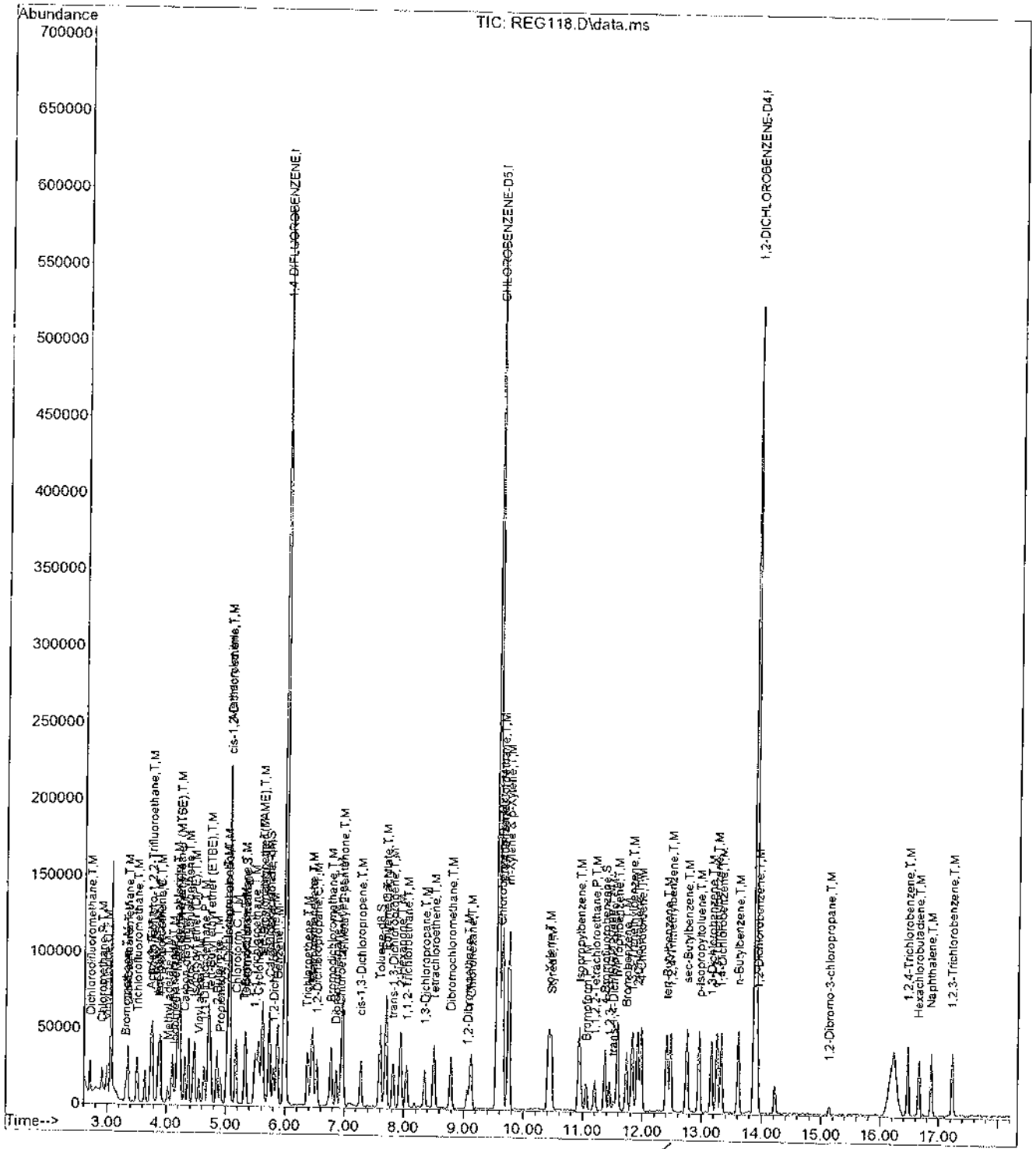
SA 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG118.D
Acq On : 17 May 2024 12:33
Sample : VOE2E1?2 0.02
Misc : 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:44:53 2024

SM 5/24/24

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Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG119.D Vial: 4
Acq On : 17 May 2024 12:57 Operator: DNguye
Sample : VOE2E173 0.04 Inst : E2
Misc : 1.0ppb 8260/5.0ppb KET-AA/25ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:47 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 528810 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 434355 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 203881 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 33928 | 1.05 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 10.50% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 47681 | 1.11 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 11.10% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 101137 | 1.17 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 11.70% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 38761 | 1.20 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 12.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 33711 | 1.11 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 24615 | 1.13 | ug/l | 97 |
| 4) Vinyl chloride | 2.994 | 62 | 25933 | 1.13 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 17186 | 1.10 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 57478 | 1.09 | ug/L | 98 |
| 7) Chloroethane | 3.346 | 64 | 13510 | 1.20 | ug/l | 94 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 54306 | 1.05 | ug/l | 91 |
| 9) Acrolein | 3.742 | 56 | 20066 | 5.83 | ug/l | 93 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 23511 | 1.04 | ug/l | 98 |
| 11) Acetone | 3.775 | 43 | 63395 | 5.26 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 92364 | 28.72 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 51276 | 1.08 | ug/l | 98 |
| 14) Acetonitrile | 3.874 | 41 | 19387 | 12.15 | ug/L | 92 |
| 15) Allyl chloride | 4.105 | 76 | 14259 | 1.14 | ug/L | 90 |
| 16) Iodomethane | 4.149 | 142 | 16513 | 0.92 | ug/l | 95 |
| 17) Methyl acetate | 4.028 | 43 | 21690 | 1.21 | ug/L | 99 |
| 18) Methylene chloride | 4.183 | 49 | 57918 | 1.03 | ug/l | 99 |
| 19) Acrylonitrile | 4.216 | 53 | 43571 | 5.48 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 84545 | 1.07 | ug/L | 98 |
| 21) Carbon disulfide | 4.304 | 76 | 78967 | 1.09 | ug/l | 98 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 28258 | 1.12 | ug/l | 93 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 86599 | 1.08 | ug/l | 100 |
| 24) Vinyl acetate | 4.546 | 43 | 49261 | 1.08 | ug/l | 97 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 57329 | 1.12 | ug/l | 96 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 108334 | 1.11 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 15702 | 6.33 | ug/l | 98 |
| 28) Propionitrile | 4.909 | 54 | 32216 | 11.02 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 25893 | 25.07 | ug/L | 94 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 54501 | 1.07 | ug/l | 99 |
| 31) Methacrylonitrile | 5.063 | 52 | 54305 | 11.31 | ug/L | 99 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 32895 | 1.15 | ug/l | 94 |
| 33) Chloroform | 5.173 | 83 | 73903 | 1.17 | ug/l | 96 |
| 34) Bromochloromethane | 5.327 | 130 | 19362 | 1.15 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.327 | 42 | 7423 | 1.11 | ug/L | 88 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 61622 | 1.08 | ug/l | 99 |
| 38) Cyclohexane | 5.558 | 84 | 33028 | 1.14 | ug/L | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 18421 | 1.06 | ug/l | 94 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 13272 | 1.06 | ug/L | 97 |
| 42) Carbon tetrachloride | 5.734 | 119 | 52471 | 1.09 | ug/L | 99 |



SH 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG119.D Vial: 4
Acq On : 17 May 2024 12:57 Operator: DNguye
Sample : VOE2E173 0.04 Inst : E2
Misc : 1.0ppb 8260/5.0ppb KET-AA/25ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:47 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

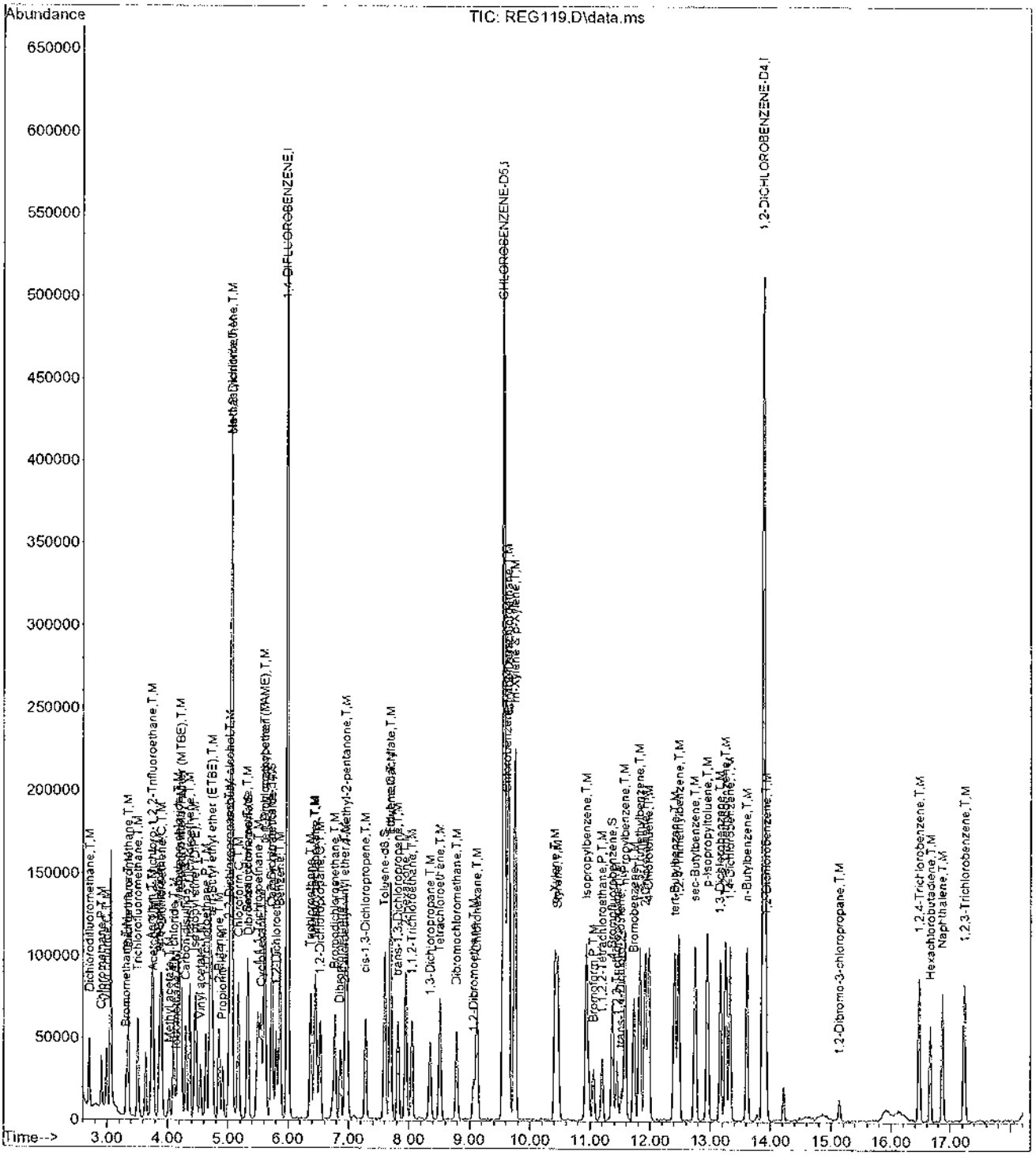
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 54277 | 1.12 | ug/L | 96 |
| 44) Benzene | 5.866 | 78 | 108613 | 1.12 | ug/L | 99 |
| 45) Trichloroethene | 6.373 | 130 | 29804 | 1.12 | ug/L | 97 |
| 46) Methyl methacrylate | 6.439 | 69 | 26306 | 1.11 | ug/L | 98 |
| 47) Methylcyclohexane | 6.450 | 83 | 37063 | 1.17 | ug/L | 98 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 28108 | 1.14 | ug/L | 100 |
| 50) Bromodichloromethane | 6.769 | 83 | 56931 | 1.22 | ug/L | 98 |
| 51) Dibromomethane | 6.857 | 93 | 22728 | 1.13 | ug/L | 92 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 13231 | 1.08 | ug/L | 90 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 151354 | 5.59 | ug/L | 99 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 46187 | 1.07 | ug/L | 99 |
| 57) Ethyl methacrylate | 7.693 | 69 | 31012 | 1.05 | ug/L | 98 |
| 58) Toluene | 7.693 | 91 | 112834 | 1.15 | ug/l | 97 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 44780 | 1.06 | ug/l | 97 |
| 60) 2-Hexanone | 7.935 | 43 | 97204 | 5.46 | ug/l | 98 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 26335 | 1.13 | ug/l | 98 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 40485 | 1.17 | ug/l | 97 |
| 63) Tetrachloroethene | 8.508 | 164 | 25854 | 1.20 | ug/l | 93 |
| 64) Dibromochloromethane | 8.783 | 129 | 45093 | 1.29 | ug/l | 97 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 26886 | 1.07 | ug/l | 93 |
| 66) 1-Chlorohexane | 9.124 | 91 | 36853 | 1.13 | ug/l | 94 |
| 67) Chlorobenzene | 9.619 | 112 | 73176 | 1.12 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 30816 | 1.11 | ug/l | 100 |
| 69) Ethylbenzene | 9.641 | 91 | 138084 | 1.16 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 217417 | 2.24 | ug/l | 99 |
| 71) o-Xylene | 10.411 | 91 | 102543 | 1.12 | ug/l | 99 |
| 72) Styrene | 10.455 | 104 | 74867 | 1.16 | ug/l | 96 |
| 73) Isopropylbenzene | 10.940 | 105 | 127896 | 1.22 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 24303 | 1.09 | ug/l | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 33812 | 1.19 | ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 9149 | 1.17 | ug/l | 96 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 7950 | 1.00 | ug/l | 84 |
| 80) n-Propylbenzene | 11.578 | 91 | 157786 | 1.22 | ug/l | 98 |
| 81) Bromobenzene | 11.732 | 156 | 34281 | 1.21 | ug/l | 98 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 106571 | 1.20 | ug/l | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 97870 | 1.23 | ug/l | 99 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 105023 | 1.17 | ug/l | 98 |
| 85) tert-Butylbenzene | 12.414 | 134 | 16901 | 1.23 | ug/l | 88 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 106726 | 1.23 | ug/l | 99 |
| 87) sec-Butylbenzene | 12.745 | 105 | 127554 | 1.27 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 102878 | 1.22 | ug/l | 98 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 61010 | 1.09 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 105503 | 1.22 | ug/L | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 63367 | 1.14 | ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 98269 | 1.22 | ug/l | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 54994 | 1.23 | ug/l | 94 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 6688 | 1.16 | ug/l | 90 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 42271 | 1.23 | ug/l | 95 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 19735 | 1.28 | ug/l | 96 |
| 97) Naphthalene | 16.871 | 128 | 88837 | 1.29 | ug/l | 100 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 39581 | 1.21 | ug/l | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG119.D Vial: 4
Acq On : 17 May 2024 12:57 Operator: DNguye
Sample : VOE2E173 0.04 Inst : E2
Misc : 1.0ppb 8260/5.0ppb KET-AA/25ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:47 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:45:03 2024 5/24/24 Page: 3

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG120.D
Acq On : 17 May 2024 13:21
Sample : VOE2E174 0.08
Misc : 2.0ppb 8260/10ppb KET-AA/50ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:50 2024
Quant Results File: VOE2E17.RES

Vial: 5
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 504172 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 426041 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 198013 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 57595 | 1.87 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 18.70% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 78644 | 1.93 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 19.30% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 161890 | 1.91 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 19.10% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 63415 | 2.02 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 20.20% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 58393 | 2.02 | ug/l | 96 |
| 3) Chloromethane | 2.906 | 50 | 43714 | 2.11 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 46513 | 2.12 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 29298 | 1.98 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 98226 | 1.96 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 21773 | 2.03 | ug/l | 96 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 98938 | 2.01 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 31812 | 9.70 | ug/l | 96 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 39243 | 1.83 | ug/l | 92 |
| 11) Acetone | 3.764 | 43 | 91425 | 10.51 | ug/l | 95 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 158265 | 51.62 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 87690 | 1.95 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 31277 | 20.56 | ug/L | 94 |
| 15) Allyl chloride | 4.106 | 76 | 22925 | 1.93 | ug/L | 99 |
| 16) Iodomethane | 4.150 | 142 | 31220 | 1.55 | ug/l | 89 |
| 17) Methyl acetate | 4.028 | 43 | 33958 | 1.99 | ug/L | 99 |
| 18) Methylene chloride | 4.183 | 49 | 93752 | 2.32 | ug/l | 95 |
| 19) Acrylonitrile | 4.216 | 53 | 72852 | 9.61 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 152103 | 2.02 | ug/L | 99 |
| 21) Carbon disulfide | 4.304 | 76 | 130016 | 1.88 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 47642 | 1.98 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 154819 | 2.02 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 90028 | 2.06 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 96551 | 1.99 | ug/l | 97 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 184438 | 1.98 | ug/l | 97 |
| 27) 2-Butanone | 4.854 | 72 | 24326 | 10.28 | ug/l | 96 |
| 28) Propionitrile | 4.909 | 54 | 59115 | 21.21 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 40617 | 41.24 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 92101 | 1.89 | ug/l | 98 |
| 31) Methacrylonitrile | 5.063 | 52 | 93184 | 20.36 | ug/L | 99 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 54578 | 1.99 | ug/l | 97 |
| 33) Chloroform | 5.173 | 83 | 118215 | 1.96 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 32779 | 2.04 | ug/l | 93 |
| 35) Tetrahydrofuran | 5.316 | 42 | 13038 | 2.05 | ug/L | 90 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 101793 | 1.87 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 46966 | 1.69 | ug/L | 97 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 31686 | 1.91 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 22400 | 1.88 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 84046 | 1.83 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG120.D
Acq On : 17 May 2024 13:21
Sample : VOE2E174 0.08
Misc : 2.0ppb 8260/10ppb KET-AA/50ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:50 2024
Quant Results File: VOE2E17.RES

Vial: 5
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 94348 | 2.04 | ug/L | 97 |
| 44) Benzene | 5.866 | 78 | 178713 | 1.94 | ug/L | 99 |
| 45) Trichloroethene | 6.373 | 130 | 46157 | 1.81 | ug/L | 99 |
| 46) Methyl methacrylate | 6.439 | 69 | 42439 | 1.88 | ug/L | 99 |
| 47) Methylcyclohexane | 6.450 | 83 | 53240 | 1.76 | ug/L | 98 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 46865 | 1.99 | ug/L | 96 |
| 50) Bromodichloromethane | 6.769 | 83 | 91675 | 2.06 | ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 37625 | 1.96 | ug/L | 98 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 23373 | 2.00 | ug/L | 93 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 249599 | 9.68 | ug/L | 99 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 79803 | 1.94 | ug/L | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 56408 | 1.94 | ug/L | 95 |
| 58) Toluene | 7.693 | 91 | 187086 | 1.94 | ug/l | 97 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 78497 | 1.90 | ug/l | 99 |
| 60) 2-Hexanone | 7.935 | 43 | 166637 | 9.54 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 46722 | 2.04 | ug/l | 94 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 67082 | 1.97 | ug/l | 99 |
| 63) Tetrachloroethene | 8.519 | 164 | 36950 | 1.75 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 70358 | 2.05 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 47406 | 1.92 | ug/l | 95 |
| 66) 1-Chlorohexane | 9.124 | 91 | 55496 | 1.74 | ug/l | 97 |
| 67) Chlorobenzene | 9.619 | 112 | 118853 | 1.86 | ug/l | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 50691 | 1.87 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 208714 | 1.79 | ug/l | 97 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 338673 | 3.56 | ug/l | 98 |
| 71) o-Xylene | 10.411 | 91 | 164095 | 1.82 | ug/l | 100 |
| 72) Styrene | 10.466 | 104 | 115396 | 1.83 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 190859 | 1.86 | ug/L | 98 |
| 75) Bromoform | 11.061 | 173 | 44022 | 2.04 | ug/l | 95 |
| 76) 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 54240 | 1.97 | ug/l | 97 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 15209 | 2.00 | ug/l | 95 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 13882 | 1.80 | ug/l | 85 |
| 80) n-Propylbenzene | 11.578 | 91 | 231734 | 1.85 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 53404 | 1.94 | ug/l | 100 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 161315 | 1.87 | ug/l | 100 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 141734 | 1.83 | ug/l | 97 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 152101 | 1.96 | ug/l | 97 |
| 85) tert-Butylbenzene | 12.403 | 134 | 23967 | 1.79 | ug/l | 96 |
| 86) 1,2,4-Trimethylbenzene | 12.469 | 105 | 158867 | 1.88 | ug/l | 98 |
| 87) sec-Butylbenzene | 12.745 | 105 | 179127 | 1.83 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 151252 | 1.84 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 86761 | 1.81 | ug/l | 98 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 157347 | 1.88 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 83842 | 1.71 | ug/l | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 138593 | 1.78 | ug/l | 97 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 86457 | 2.00 | ug/l | 94 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 10369 | 1.85 | ug/l | 98 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 53437 | 1.72 | ug/l | 96 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 27904 | 1.87 | ug/l | 93 |
| 97) Naphthalene | 16.872 | 128 | 121259 | 1.81 | ug/l | 98 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 51397 | 1.75 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed



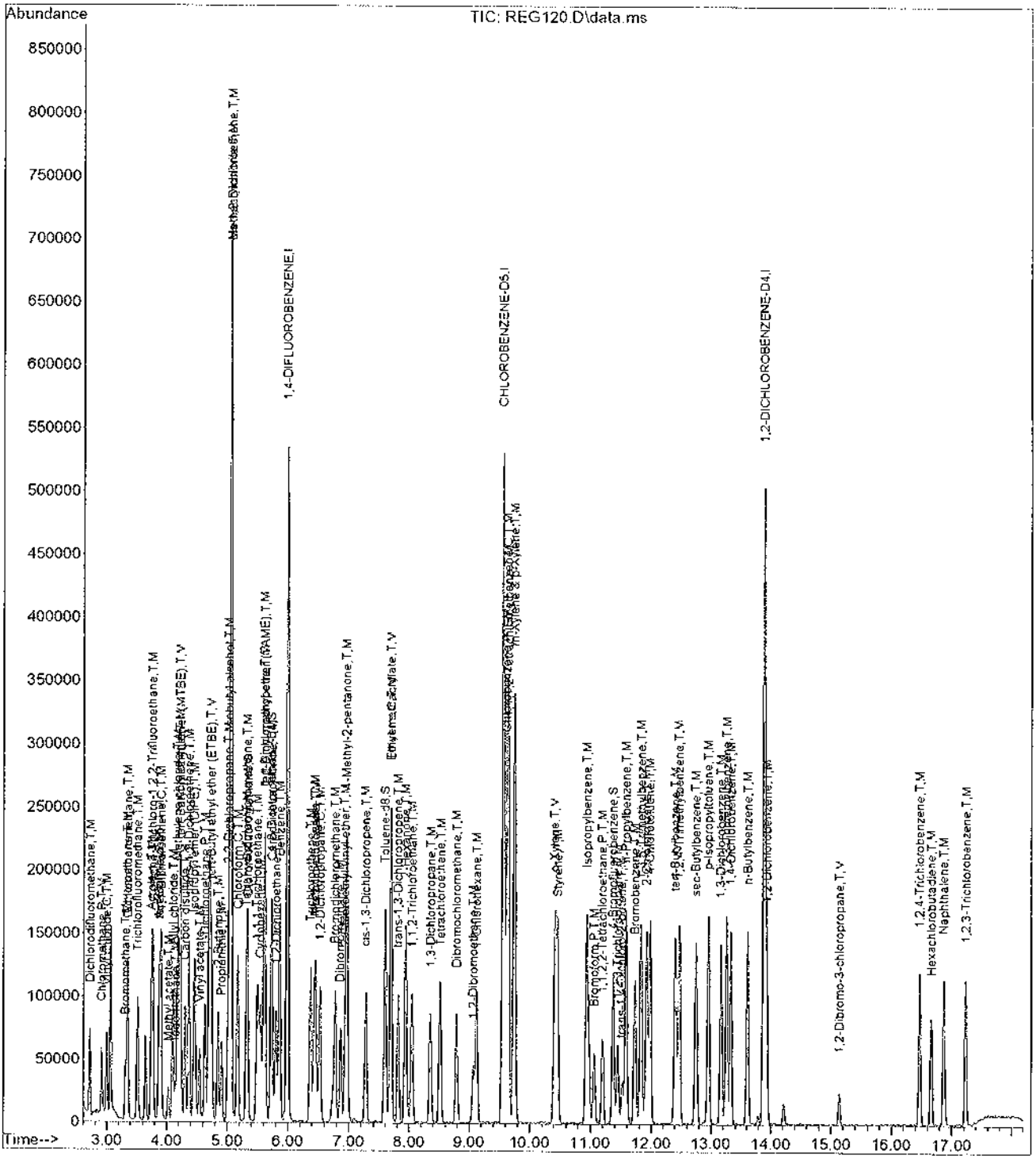
5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG120.D
Acq On : 17 May 2024 13:21
Sample : VOE2E174 0.08
Misc : 2.0ppb 8260/10ppb KET-AA/50ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:50 2024
Quant Results File: VOE2E17.RES

Vial: 5
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:45:26 2024 Page: 3

5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG121.D
Acq On : 17 May 2024 13:45
Sample : VOE2E175 0.2
Misc : 5.0ppb 8260/25ppb KET-AA/125ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:53 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 487048 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 411703 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 191679 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 149306 | 5.01 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 50.10% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 195277 | 4.95 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 49.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 403502 | 4.93 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 49.30% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 155282 | 5.10 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 51.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 122648 | 4.39 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 93317 | 4.65 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 91465 | 4.32 | ug/l | 100 |
| 5) Bromomethane | 3.313 | 94 | 65335 | 4.56 | ug/l | 94 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 267634 | 5.53 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 47747 | 4.60 | ug/l | 99 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 206005 | 4.33 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 85202 | 26.90 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 115708 | 5.58 | ug/l | 99 |
| 11) Acetone | 3.775 | 43 | 181295 | 26.82 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 344659 | 116.37 | ug/L | 98 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 245176 | 5.63 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 72381 | 49.24 | ug/L | 98 |
| 15) Allyl chloride | 4.106 | 76 | 64414 | 5.60 | ug/L | 96 |
| 16) Iodomethane | 4.150 | 142 | 99500 | 4.47 | ug/l | 98 |
| 17) Methyl acetate | 4.028 | 43 | 83812 | 5.09 | ug/L | 98 |
| 18) Methylene chloride | 4.183 | 49 | 207529 | 6.38 | ug/l | 99 |
| 19) Acrylonitrile | 4.216 | 53 | 188186 | 25.70 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 390334 | 5.36 | ug/L | 99 |
| 21) Carbon disulfide | 4.315 | 76 | 296530 | 4.45 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 131904 | 5.68 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 409571 | 5.53 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 218833 | 5.19 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 253600 | 5.40 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 492810 | 5.48 | ug/l | 98 |
| 27) 2-Butanone | 4.854 | 72 | 58944 | 25.79 | ug/l | 99 |
| 28) Propionitrile | 4.909 | 54 | 138597 | 51.47 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 91136 | 95.79 | ug/L | 90 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 267884 | 5.70 | ug/l | 100 |
| 31) Methacrylonitrile | 5.052 | 52 | 241029 | 54.52 | ug/L | 98 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 142504 | 5.39 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 301423 | 5.17 | ug/l | 100 |
| 34) Bromochloromethane | 5.327 | 130 | 84672 | 5.45 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 32093 | 5.23 | ug/L | 97 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 290344 | 5.53 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 153001 | 5.71 | ug/L | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 90625 | 5.65 | ug/l | 97 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 64894 | 5.64 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 254324 | 5.72 | ug/L | 99 |



5/29/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG121.D
Acq On : 17 May 2024 13:45
Sample : VOE2E175 0.2
Misc : 5.0ppb 8260/25ppb KET-AA/125ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:53 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 249997 | 5.58 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 463725 | 5.20 | ug/L | 99 |
| 45) Trichloroethene | 6.373 | 130 | 134582 | 5.47 | ug/L | 99 |
| 46) Methyl methacrylate | 6.439 | 69 | 120215 | 5.52 | ug/L | 98 |
| 47) Methylcyclohexane | 6.461 | 83 | 173338 | 5.92 | ug/L | 100 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 117555 | 5.17 | ug/L | 98 |
| 50) Bromodichloromethane | 6.769 | 83 | 235788 | 5.48 | ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 101452 | 5.48 | ug/L | 97 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 61615 | 5.47 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 678153 | 27.22 | ug/L | 99 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 214825 | 5.40 | ug/L | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 155089 | 5.52 | ug/L | 99 |
| 58) Toluene | 7.693 | 91 | 511175 | 5.47 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 220626 | 5.52 | ug/l | 97 |
| 60) 2-Hexanone | 7.935 | 43 | 449735 | 26.64 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 119322 | 5.38 | ug/l | 99 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 178297 | 5.42 | ug/l | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 108809 | 5.33 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 176521 | 5.31 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 127798 | 5.35 | ug/l | 96 |
| 66) 1-Chlorohexane | 9.124 | 91 | 173438 | 5.61 | ug/l | 98 |
| 67) Chlorobenzene | 9.619 | 112 | 329167 | 5.34 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 141011 | 5.37 | ug/l | 97 |
| 69) Ethylbenzene | 9.641 | 91 | 601100 | 5.32 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 956464 | 10.39 | ug/l | 100 |
| 71) o-Xylene | 10.411 | 91 | 477831 | 5.48 | ug/l | 100 |
| 72) Styrene | 10.456 | 104 | 332459 | 5.46 | ug/l | 98 |
| 73) Isopropylbenzene | 10.940 | 105 | 544298 | 5.48 | ug/L | 100 |
| 75) Bromoform | 11.061 | 173 | 112822 | 5.39 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 142828 | 5.35 | ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 42035 | 5.70 | ug/l | 97 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 43660 | 5.85 | ug/l | 88 |
| 80) n-Propylbenzene | 11.578 | 91 | 686564 | 5.65 | ug/l | 100 |
| 81) Bromobenzene | 11.732 | 156 | 149808 | 5.62 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 467836 | 5.60 | ug/l | 99 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 447056 | 5.96 | ug/l | 93 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 377625 | 5.75 | ug/l | 93 |
| 85) tert-Butylbenzene | 12.403 | 134 | 70940 | 5.49 | ug/l | 98 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 456338 | 5.58 | ug/l | 99 |
| 87) sec-Butylbenzene | 12.756 | 105 | 528792 | 5.58 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 450688 | 5.67 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 238171 | 6.03 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 457826 | 5.65 | ug/L | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 243444 | 5.96 | ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 399502 | 5.29 | ug/l | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 229291 | 5.48 | ug/l | 97 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 27435 | 5.05 | ug/l | 92 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 141573 | 5.38 | ug/l | 98 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 80493 | 5.56 | ug/l | 98 |
| 97) Naphthalene | 16.872 | 128 | 328141 | 5.07 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 131993 | 5.27 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed



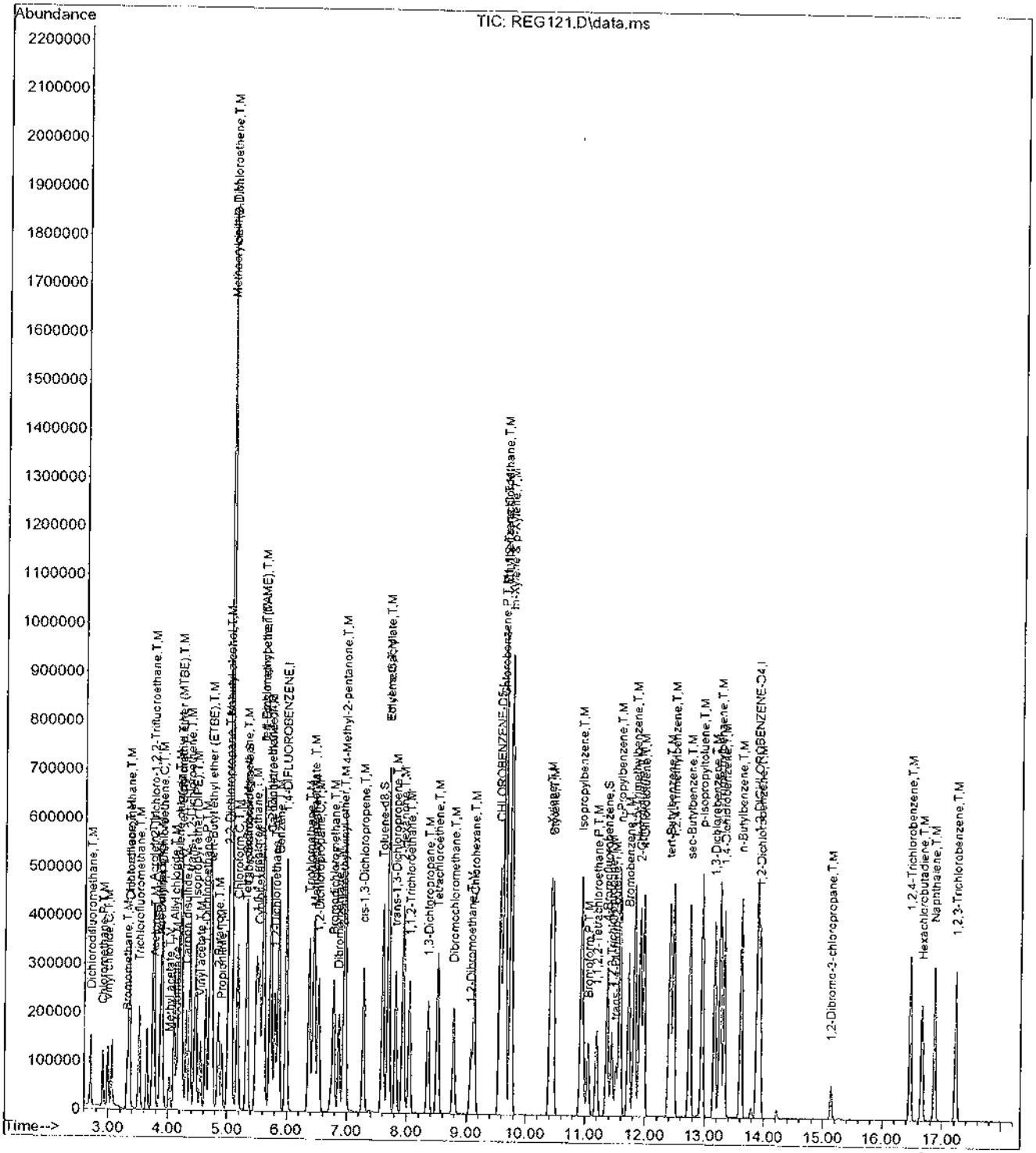
5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG121.D
Acq On : 17 May 2024 13:45
Sample : VOE2E175 0.2
Misc : 5.0ppb 8260/25ppb KET-AA/125ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:53 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:45:41 2024 5/24/24 Page: 3

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG122.D Vial: 7
Acq On : 17 May 2024 14:09 Operator: DNguyc
Sample : VOE2E176 0.4 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:56 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 483746 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 409470 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 197951 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 301711 | 10.18 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.80% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 377680 | 9.65 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 96.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 821380 | 10.10 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.00% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 308588 | 9.82 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.20% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 246373 | 8.87 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 180605 | 9.07 | ug/l | 100 |
| 4) Vinyl chloride | 2.994 | 62 | 201033 | 9.56 | ug/l | 100 |
| 5) Bromomethane | 3.313 | 94 | 118097 | 8.30 | ug/l | 100 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 478884 | 9.96 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 98570 | 9.56 | ug/l | 100 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 434256 | 9.19 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 154311 | 49.05 | ug/l | 100 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 197908 | 9.60 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 331949 | 53.64 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 735955 | 250.18 | ug/L | 100 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 429898 | 9.94 | ug/l | 100 |
| 14) Acetonitrile | 3.874 | 41 | 147981 | 101.37 | ug/L | 100 |
| 15) Allyl chloride | 4.106 | 76 | 115842 | 10.15 | ug/L | 100 |
| 16) Iodomethane | 4.150 | 142 | 208961 | 9.12 | ug/l | 100 |
| 17) Methyl acetate | 4.029 | 43 | 164848 | 10.08 | ug/L | 100 |
| 18) Methylene chloride | 4.183 | 49 | 353501 | 11.53 | ug/l | 100 |
| 19) Acrylonitrile | 4.216 | 53 | 382339 | 52.57 | ug/l | 100 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 727615 | 10.07 | ug/L | 100 |
| 21) Carbon disulfide | 4.304 | 76 | 664916 | 10.04 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 226218 | 9.81 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 731712 | 9.95 | ug/l | 100 |
| 24) Vinyl acetate | 4.546 | 43 | 449067 | 10.72 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 452304 | 9.69 | ug/l | 100 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 897009 | 10.04 | ug/l | 100 |
| 27) 2-Butanone | 4.854 | 72 | 119149 | 52.49 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 258325 | 96.59 | ug/L | 100 |
| 29) Isobutyl alcohol | 5.030 | 43 | 190070 | 201.14 | ug/L | 100 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 480537 | 10.29 | ug/l | 100 |
| 31) Methacrylonitrile | 5.052 | 52 | 430956 | 98.15 | ug/L | 100 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 250974 | 9.56 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 540252 | 9.34 | ug/l | 100 |
| 34) Bromochloromethane | 5.327 | 130 | 157824 | 10.23 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.327 | 42 | 59974 | 9.84 | ug/L | 100 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 519526 | 9.96 | ug/l | 100 |
| 38) Cyclohexane | 5.547 | 84 | 222928 | 8.38 | ug/L | 100 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 167095 | 10.48 | ug/l | 100 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 116920 | 10.24 | ug/L | 100 |
| 42) Carbon tetrachloride | 5.734 | 119 | 449910 | 10.19 | ug/L | 100 |



5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG122.D Vial: 7
Acq On : 17 May 2024 14:09 Operator: DNguye
Sample : VOE2E176 0.4 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:56 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 453385 | 10.20 | ug/L | 100 |
| 44) Benzene | 5.866 | 78 | 879735 | 9.94 | ug/L | 100 |
| 45) Trichloroethene | 6.373 | 130 | 238953 | 9.78 | ug/L | 100 |
| 46) Methyl methacrylate | 6.439 | 69 | 206743 | 9.55 | ug/L | 100 |
| 47) Methylcyclohexane | 6.450 | 83 | 256180 | 8.81 | ug/L | 100 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 224657 | 9.94 | ug/L | 100 |
| 50) Bromodichloromethane | 6.769 | 83 | 428587 | 10.02 | ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 179645 | 9.77 | ug/L | 100 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 115157 | 10.29 | ug/L | 100 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1291475 | 52.18 | ug/L | 100 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 397661 | 10.07 | ug/L | 100 |
| 57) Ethyl methacrylate | 7.693 | 69 | 289621 | 10.36 | ug/L | 100 |
| 58) Toluene | 7.693 | 91 | 921140 | 9.92 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 404411 | 10.18 | ug/l | 100 |
| 60) 2-Hexanone | 7.935 | 43 | 885849 | 52.76 | ug/l | 100 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 219004 | 9.94 | ug/l | 100 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 321452 | 9.82 | ug/l | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 195205 | 9.62 | ug/l | 100 |
| 64) Dibromochloromethane | 8.783 | 129 | 322653 | 9.76 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 242214 | 10.20 | ug/l | 100 |
| 66) 1-Chlorohexane | 9.124 | 91 | 305963 | 9.96 | ug/l | 100 |
| 67) Chlorobenzene | 9.619 | 112 | 600211 | 9.79 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 264761 | 10.14 | ug/l | 100 |
| 69) Ethylbenzene | 9.641 | 91 | 1089978 | 9.71 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 1701702 | 18.59 | ug/l | 100 |
| 71) o-Xylene | 10.412 | 91 | 864880 | 9.98 | ug/l | 100 |
| 72) Styrene | 10.456 | 104 | 611307 | 10.09 | ug/l | 100 |
| 73) Isopropylbenzene | 10.940 | 105 | 992355 | 10.05 | ug/L | 100 |
| 75) Bromoform | 11.061 | 173 | 212173 | 9.82 | ug/l | 100 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 266964 | 9.68 | ug/l | 100 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 74100 | 9.73 | ug/l | 100 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 78273 | 10.15 | ug/l | 100 |
| 80) n-Propylbenzene | 11.578 | 91 | 1188848 | 9.47 | ug/l | 100 |
| 81) Bromobenzene | 11.732 | 156 | 274398 | 9.96 | ug/l | 100 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 832454 | 9.65 | ug/l | 100 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 727012 | 9.38 | ug/l | 100 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 765752 | 11.72 | ug/l | 100 |
| 85) tert-Butylbenzene | 12.415 | 134 | 128240 | 9.60 | ug/l | 100 |
| 86) 1,2,4-Trimethylbenzene | 12.470 | 105 | 827835 | 9.81 | ug/l | 100 |
| 87) sec-Butylbenzene | 12.745 | 105 | 956488 | 9.78 | ug/l | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 785422 | 9.57 | ug/l | 100 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 431882 | 10.96 | ug/l | 100 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 825411 | 9.87 | ug/L | 100 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 439674 | 10.74 | ug/l | 100 |
| 92) n-Butylbenzene | 13.614 | 91 | 750645 | 9.62 | ug/l | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 398438 | 9.21 | ug/l | 100 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 52427 | 9.34 | ug/l | 100 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 255192 | 9.69 | ug/l | 100 |
| 96) Hexachlorobutadiene | 16.663 | 225 | 148449 | 9.93 | ug/l | 100 |
| 97) Naphthalene | 16.872 | 128 | 656492 | 9.82 | ug/l | 100 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 243924 | 9.74 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed



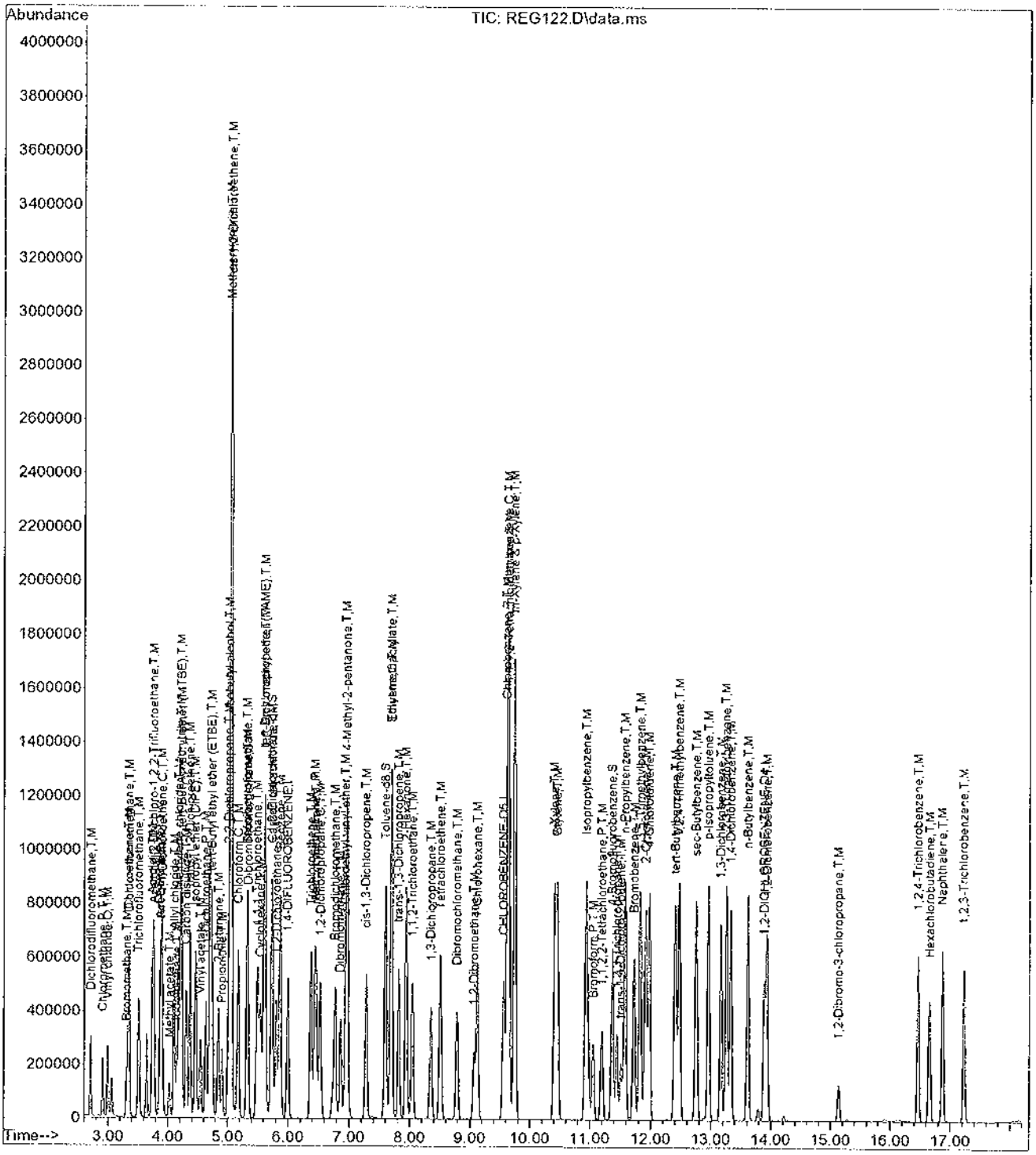
SV 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG122.D
Acq On : 17 May 2024 14:09
Sample : VOE2E176 0.4
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:56 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:46:00 2024 Page: 3

5W 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG123.D
Acq On : 17 May 2024 14:33
Sample : VOE2E177 1.2uL
Misc : 30ppb 8260/150ppb KET-AA/750ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:59 2024
Quant Results File: VOE2E17.RES

Vial: 8
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 462286 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 374024 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 201423 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 815119 | 28.79 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 287.90% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 982827 | 26.27 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 262.70% | | |
| 56) Toluene-d8 | 7.594 | 98 | 2087230 | 28.08 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 280.80% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 802113 | 25.09 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 250.90% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 846669 | 31.91 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 522797 | 27.46 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 609327 | 30.31 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 369689 | 27.19 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.346 | 67 | 1420838 | 30.93 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 303543 | 30.82 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 1432296 | 31.71 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 417245 | 138.78 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 579513 | 29.43 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 817529 | 146.08 | ug/l | 98 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 1936975 | 689.03 | ug/L | 98 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 1249367 | 30.24 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 365485 | 261.98 | ug/L | 96 |
| 15) Allyl chloride | 4.105 | 76 | 333837 | 30.59 | ug/L | 100 |
| 16) Iodomethane | 4.138 | 142 | 780631 | 34.84 | ug/l | 100 |
| 17) Methyl acetate | 4.028 | 43 | 406413 | 26.00 | ug/L | 99 |
| 18) Methylene chloride | 4.182 | 49 | 967460 | 34.54 | ug/l | 100 |
| 19) Acrylonitrile | 4.215 | 53 | 969202 | 139.45 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 2015467 | 29.18 | ug/L | 99 |
| 21) Carbon disulfide | 4.304 | 76 | 1855534 | 29.31 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 612820 | 27.80 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 2064589 | 29.37 | ug/l | 100 |
| 24) Vinyl acetate | 4.546 | 43 | 1131522 | 28.26 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 1337320 | 29.99 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 2373481 | 27.81 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 300066 | 138.32 | ug/l | 99 |
| 28) Propionitrile | 4.909 | 54 | 714086 | 279.39 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 493388 | 546.37 | ug/L | 95 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 1320182 | 29.57 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 1220341 | 290.82 | ug/L | 99 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 721585 | 28.75 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 1512101 | 27.35 | ug/l | 99 |
| 34) Bromochloromethane | 5.327 | 130 | 444977 | 30.18 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.316 | 42 | 169251 | 29.05 | ug/L | 99 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 1516650 | 30.42 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 713565 | 28.07 | ug/L | 100 |
| 39) tert-Amyl methyl ether... | 5.624 | 87 | 411481 | 27.01 | ug/l | 97 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 302266 | 27.69 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 1249927 | 29.62 | ug/L | 100 |



5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG123.D Vial: 8
Acq On : 17 May 2024 14:33 Operator: DNguye
Sample : VOE2E177 1.2uL Inst : E2
Misc : 30ppb 8260/150ppb KET-AA/750ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:59 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 1173740 | 27.62 ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 2384286 | 28.19 ug/L | 99 |
| 45) Trichloroethene | 6.372 | 130 | 687887 | 29.46 ug/L | 99 |
| 46) Methyl methacrylate | 6.439 | 69 | 555814 | 26.87 ug/L | 98 |
| 47) Methylcyclohexane | 6.450 | 83 | 757727 | 27.27 ug/L | 99 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 580328 | 26.88 ug/L | 99 |
| 50) Bromodichloromethane | 6.769 | 83 | 1166514 | 28.55 ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 509682 | 29.01 ug/L | 99 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 318157 | 29.75 ug/L | 98 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 3236906 | 136.87 ug/L | 99 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 1085125 | 28.74 ug/L | 99 |
| 57) Ethyl methacrylate | 7.693 | 69 | 725765 | 28.43 ug/L | 99 |
| 58) Toluene | 7.693 | 91 | 2303744 | 27.16 ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 1087593 | 29.96 ug/l | 96 |
| 60) 2-Hexanone | 7.935 | 43 | 2184077 | 142.41 ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 603118 | 29.96 ug/l | 98 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 863785 | 28.89 ug/l | 99 |
| 63) Tetrachloroethene | 8.508 | 164 | 555090 | 29.93 ug/l | 99 |
| 64) Dibromochloromethane | 8.783 | 129 | 924244 | 30.61 ug/l | 99 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 666966 | 30.74 ug/l | 99 |
| 66) 1-Chlorohexane | 9.124 | 91 | 842844 | 30.02 ug/l | 99 |
| 67) Chlorobenzene | 9.619 | 112 | 1667775 | 29.77 ug/l | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 734053 | 30.79 ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 3067459 | 29.91 ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 4750507 | 56.81 ug/l | 100 |
| 71) o-Xylene | 10.411 | 91 | 2219339 | 28.03 ug/l | 100 |
| 72) Styrene | 10.455 | 104 | 1588178 | 28.69 ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 2403503 | 26.65 ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 624115 | 28.39 ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 753832 | 26.85 ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 208161 | 26.86 ug/l | 97 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 238944 | 30.47 ug/l | 94 |
| 80) n-Propylbenzene | 11.578 | 91 | 3388197 | 26.53 ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 728501 | 25.99 ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 2352083 | 26.79 ug/l | 99 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 2207144 | 28.00 ug/l | 95 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 1740784 | 26.74 ug/l | 92 |
| 85) tert-Butylbenzene | 12.403 | 134 | 339280 | 24.97 ug/l | 96 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 2264161 | 26.37 ug/l | 97 |
| 87) sec-Butylbenzene | 12.745 | 105 | 2689041 | 27.03 ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 2214069 | 26.52 ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 1215294 | 31.15 ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 2275474 | 26.74 ug/L | 100 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 1252767 | 30.81 ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 2188046 | 27.56 ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 1144996 | 26.02 ug/l | 97 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 164843 | 28.88 ug/l | 98 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 771713 | 29.55 ug/l | 97 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 421350 | 27.70 ug/l | 98 |
| 97) Naphthalene | 16.871 | 128 | 1890327 | 27.79 ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 740467 | 29.84 ug/l | 99 |

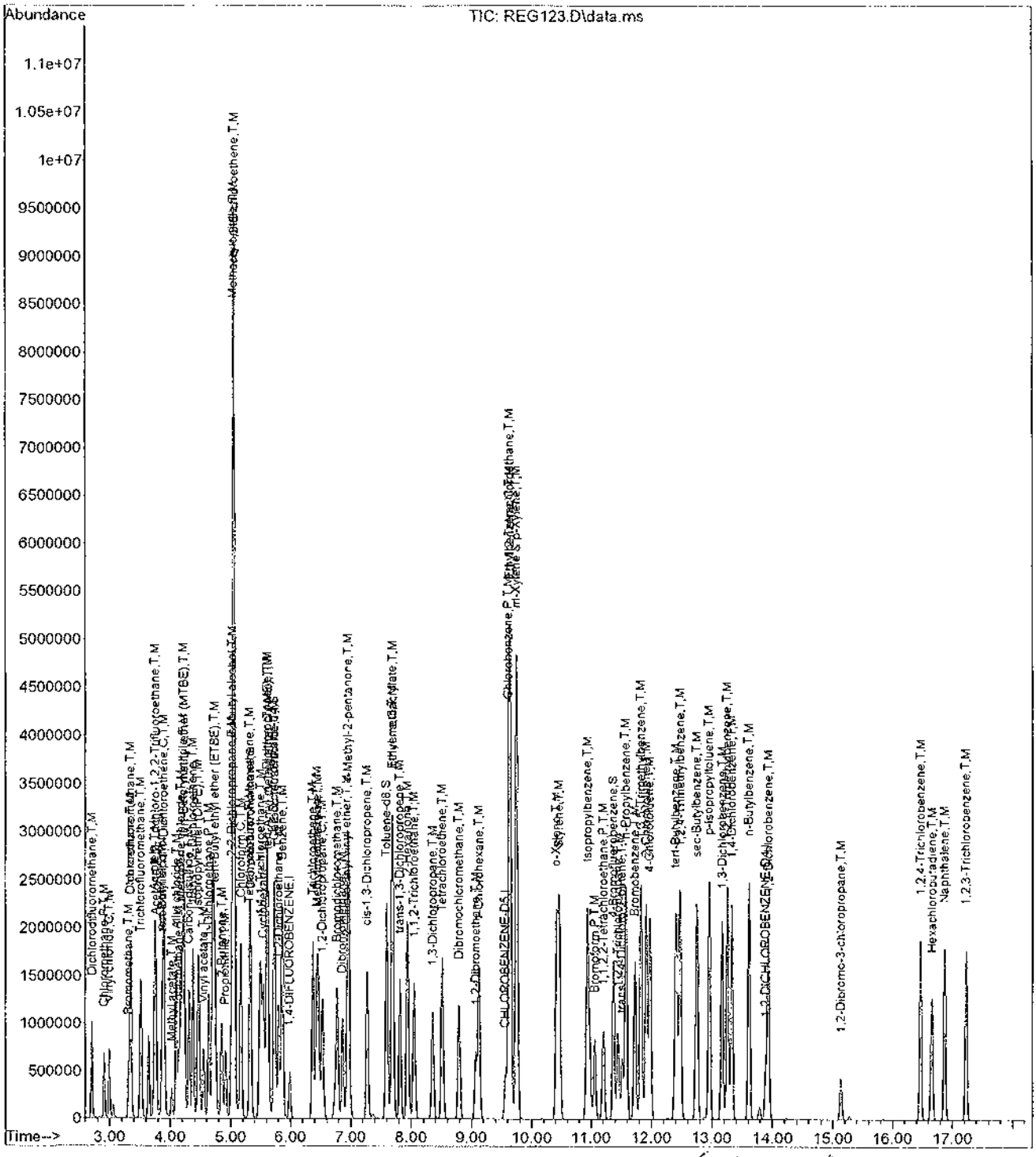
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SW 5/29/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG123.D Vial: 8
Acq On : 17 May 2024 14:33 Operator: DNguye
Sample : VOE2E177 1.2uL Inst : E2
Misc : 30ppb 8260/150ppb KET-AA/750ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:59 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 14:09:59 2024 Page: 3

5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG124.D
Acq On : 17 May 2024 14:57
Sample : VOE2E178 2uL
Misc : 50ppb 8260/250pb KET-AA/1250ppb TBA
Integrator: RTE
Quant Time: May 21 20:53:02 2024
Quant Results File: VOE2E17.RES

Vial: 9
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 519193 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 435004 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 207868 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 1488511 | 46.81 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 468.10% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 1870338 | 44.51 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 445.10% | | |
| 56) Toluene-d8 | 7.594 | 98 | 4062552 | 47.00 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 470.00% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 1575222 | 47.74 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 477.40% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 1479243 | 49.64 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 955064 | 44.67 | ug/l | 100 |
| 4) Vinyl chloride | 2.983 | 62 | 1164938 | 51.59 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 722857 | 47.33 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.346 | 67 | 2413767 | 46.78 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 533177 | 48.20 | ug/l | 97 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 2564523 | 50.55 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 769072 | 227.77 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 1060995 | 47.97 | ug/l | 99 |
| 11) Acetone | 3.775 | 43 | 1539021 | 248.23 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 3674847 | 1163.95 | ug/L | 97 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 2124315 | 45.78 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 693695 | 442.74 | ug/L | 94 |
| 15) Allyl chloride | 4.105 | 76 | 579274 | 47.27 | ug/L | 99 |
| 16) Iodomethane | 4.138 | 142 | 1375743 | 54.51 | ug/l | 100 |
| 17) Methyl acetate | 4.028 | 43 | 788773 | 44.93 | ug/L | 98 |
| 18) Methylene chloride | 4.182 | 49 | 1589617 | 50.92 | ug/l | 100 |
| 19) Acrylonitrile | 4.215 | 53 | 1740099 | 222.92 | ug/l | 100 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 3575082 | 46.08 | ug/L | 99 |
| 21) Carbon disulfide | 4.303 | 76 | 3342224 | 47.00 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 1147795 | 46.36 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 3617921 | 45.83 | ug/l | 100 |
| 24) Vinyl acetate | 4.546 | 43 | 2102404 | 46.76 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 2339494 | 46.71 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 4566707 | 47.64 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 553401 | 227.15 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 1317994 | 459.16 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 988293 | 974.46 | ug/L | 99 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 2391738 | 47.71 | ug/l | 98 |
| 31) Methacrylonitrile | 5.052 | 52 | 2175906 | 461.71 | ug/L | 97 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 1319898 | 46.82 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 2702356 | 43.52 | ug/l | 100 |
| 34) Bromochloromethane | 5.327 | 130 | 769499 | 46.47 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 306572 | 46.86 | ug/L | 98 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 2648310 | 47.29 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 1410911 | 49.43 | ug/L | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 853815 | 49.91 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 592546 | 48.33 | ug/L | 100 |
| 42) Carbon tetrachloride | 5.734 | 119 | 2310426 | 48.76 | ug/L | 100 |



SW 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG124.D
Acq On : 17 May 2024 14:57
Sample : VOE2E178 2uL
Misc : 50ppb 8260/250pb KET-AA/1250ppb TBA
Integrator: RTE
Quant Time: May 21 20:53:02 2024
Quant Results File: VOE2E17.RES

Vial: 9
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | Qlon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 2230254 | 46.73 ug/L | 100 |
| 44) Benzene | 5.866 | 78 | 4549753 | 47.89 ug/L | 100 |
| 45) Trichloroethene | 6.372 | 130 | 1248919 | 47.63 ug/L | 98 |
| 46) Methyl methacrylate | 6.438 | 69 | 1116578 | 48.06 ug/L | 99 |
| 47) Methylcyclohexane | 6.460 | 83 | 1574183 | 50.44 ug/L | 99 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 1135307 | 46.83 ug/L | 99 |
| 50) Bromodichloromethane | 6.769 | 83 | 2131356 | 46.45 ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 905758 | 45.91 ug/L | 98 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 580351 | 48.33 ug/L | 100 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 6139474 | 231.14 ug/L | 99 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 2011227 | 47.44 ug/L | 100 |
| 57) Ethyl methacrylate | 7.693 | 69 | 1490762 | 50.22 ug/L | 98 |
| 58) Toluene | 7.693 | 91 | 4751397 | 48.16 ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 2080692 | 49.29 ug/l | 95 |
| 60) 2-Hexanone | 7.935 | 43 | 4186045 | 234.68 ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 1074823 | 45.90 ug/l | 99 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 1663404 | 47.84 ug/l | 100 |
| 63) Tetrachloroethene | 8.507 | 164 | 1006550 | 46.67 ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 1614400 | 45.97 ug/l | 99 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 1193470 | 47.30 ug/l | 97 |
| 66) 1-Chlorohexane | 9.124 | 91 | 1569873 | 48.08 ug/l | 90 |
| 67) Chlorobenzene | 9.619 | 112 | 3021039 | 46.36 ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 1317171 | 47.50 ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 5652766 | 47.39 ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 9107135 | 93.64 ug/l | 99 |
| 71) o-Xylene | 10.411 | 91 | 4475134 | 48.61 ug/l | 100 |
| 72) Styrene | 10.455 | 104 | 3133556 | 48.67 ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 4893403 | 46.64 ug/L | 100 |
| 75) Bromoform | 11.061 | 173 | 1096997 | 48.36 ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 1347228 | 46.50 ug/l | 100 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 380448 | 47.56 ug/l | 100 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 430046 | 53.13 ug/l | 97 |
| 80) n-Propylbenzene | 11.578 | 91 | 6203059 | 47.06 ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 1344022 | 46.46 ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 4223916 | 46.62 ug/l | 100 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 4010267 | 49.30 ug/l | 94 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 3491289 | 52.40 ug/l | 94 |
| 85) tert-Butylbenzene | 12.403 | 134 | 615516 | 43.89 ug/l | 97 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 4129361 | 46.60 ug/l | 97 |
| 87) sec-Butylbenzene | 12.755 | 105 | 4820712 | 46.95 ug/l | 99 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 3971026 | 46.09 ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 2170399 | 54.26 ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 4082930 | 46.50 ug/L | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 2222053 | 53.26 ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 3858008 | 47.08 ug/l | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 2002007 | 44.09 ug/l | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 279717 | 47.48 ug/l | 99 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 1324327 | 49.40 ug/l | 98 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 723810 | 46.11 ug/l | 100 |
| 97) Naphthalene | 16.871 | 128 | 3364432 | 47.93 ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 1238496 | 48.60 ug/l | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed



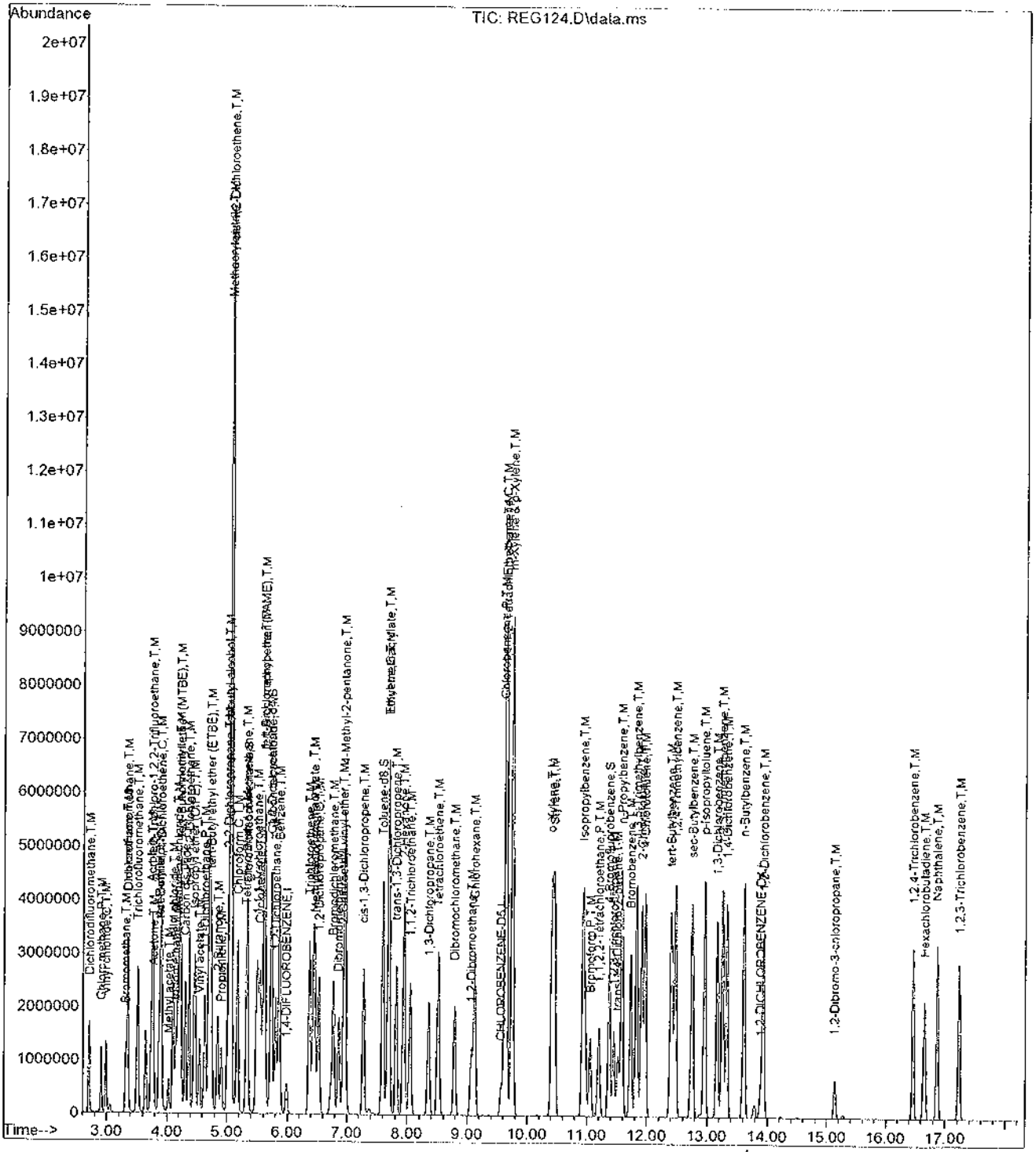
5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG124.D
Acq On : 17 May 2024 14:57
Sample : VOE2E178 2uL
Misc : 50ppb 8260/250pb KET-AA/1250ppb TBA
Integrator: RTE
Quant Time: May 21 20:53:02 2024
Quant Results File: VOE2E17.RES

Vial: 9
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:46:39 2024 Page: 3

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG125.D
Acq On : 17 May 2024 15:21
Sample : VOE2E179 4uL
Misc : 100ppb 8260/500ppb KET-AA/2500ppb TBA
Integrator: RTE
Quant Time: May 21 21:04:40 2024
Quant Results File: VOE2E17.RES

Vial: 10
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 530663 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 467581 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 221369 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 0.000 | 111 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 41) 1,2-Dichloroethane-d4 | 0.000 | 65 | 0d | 0.00 | ug/L | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 56) Toluene-d8 | 0.000 | 98 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 77) 4-Bromofluorobenzene | 0.000 | 95 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 3067931 | 100.74 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 2028894 | 92.84 | ug/l | 100 |
| 4) Vinyl chloride | 2.983 | 62 | 2380759 | 103.16 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 1571626 | 100.69 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.346 | 67 | 4798406 | 90.99 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 1099847 | 97.27 | ug/l | 95 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 5289775 | 102.02 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 1588198 | 460.20 | ug/l | 100 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 2101530 | 92.96 | ug/l | 100 |
| 11) Acetone | 3.775 | 43 | 3043527 | 484.95 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 7338860 | 2274.23 | ug/L | 96 |
| 13) 1,1-Dichloroethene | 3.897 | 61 | 4369062 | 92.11 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 1342024 | 838.01 | ug/L | 93 |
| 15) Allyl chloride | 4.106 | 76 | 1084703 | 86.60 | ug/L | 100 |
| 16) Iodomethane | 4.139 | 142 | 2702905 | 104.51 | ug/l | 99 |
| 17) Methyl acetate | 4.029 | 43 | 1545614 | 86.14 | ug/L | 97 |
| 18) Methylene chloride | 4.183 | 49 | 3160599 | 99.82 | ug/l | 99 |
| 19) Acrylonitrile | 4.216 | 53 | 3580875 | 448.82 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 7241359 | 91.32 | ug/L | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 2262018 | 89.39 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 7317542 | 90.69 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 4349944 | 94.65 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 4518247 | 88.27 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 8843448 | 90.25 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 1115192 | 447.84 | ug/l | 98 |
| 28) Propionitrile | 4.909 | 54 | 2553924 | 870.50 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 1797348 | 1733.89 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 4661696 | 90.97 | ug/l | 98 |
| 31) Methacrylonitrile | 5.063 | 52 | 4255107 | 883.38 | ug/L | 91 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 2606989 | 90.49 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 5369253 | 84.60 | ug/l | 99 |
| 34) Bromochloromethane | 5.327 | 130 | 1457459 | 86.12 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.316 | 42 | 618202 | 92.45 | ug/L | 98 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 5302638 | 92.64 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 2651727 | 90.88 | ug/L | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 1661857 | 95.04 | ug/l | 97 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 1162092 | 92.74 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 4455455 | 91.99 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 4297408 | 88.09 | ug/L | 100 |



5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG125.D
Acq On : 17 May 2024 15:21
Sample : VOE2E179 4uL
Misc : 100ppb 8260/500ppb KET-AA/2500ppb TBA
Integrator: RTE
Quant Time: May 21 21:04:40 2024
Quant Results File: VOE2E17.RES

Vial: 10
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 44) Benzene | 5.866 | 78 | 8937713 | 92.05 | ug/L | 100 |
| 45) Trichloroethene | 6.373 | 130 | 2438563 | 90.98 | ug/L | 99 |
| 46) Methyl methacrylate | 6.439 | 69 | 2241240 | 94.37 | ug/L | 99 |
| 47) Methylcyclohexane | 6.461 | 83 | 3107286 | 97.41 | ug/L | 99 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 2264058 | 91.36 | ug/L | 99 |
| 50) Bromodichloromethane | 6.769 | 83 | 4222210 | 90.02 | ug/L | 99 |
| 51) Dibromomethane | 6.857 | 93 | 1826509 | 90.58 | ug/L | 99 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 1147941 | 93.52 | ug/L | 100 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 12403774 | 456.89 | ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 4029626 | 92.99 | ug/L | 99 |
| 57) Ethyl methacrylate | 7.693 | 69 | 2968033 | 93.01 | ug/L | 95 |
| 58) Toluene | 7.693 | 91 | 9406948 | 88.71 | ug/l | 99 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 4103485 | 90.43 | ug/l | 95 |
| 60) 2-Hexanone | 7.935 | 43 | 8232244 | 429.36 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 2157642 | 85.73 | ug/l | 98 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 3303675 | 88.39 | ug/l | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 2015675 | 86.95 | ug/l | 99 |
| 64) Dibromochloromethane | 8.783 | 129 | 3239932 | 85.83 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 2441979 | 90.04 | ug/l | 98 |
| 66) 1-Chlorohexane | 9.124 | 91 | 3137545 | 89.40 | ug/l | 99 |
| 67) Chlorobenzene | 9.619 | 112 | 6186547 | 88.32 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 2643624 | 88.70 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 11573797 | 90.27 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 17534518 | 167.73 | ug/l | 99 |
| 71) o-Xylene | 10.412 | 91 | 8856439 | 89.49 | ug/l | 100 |
| 72) Styrene | 10.456 | 104 | 6210039 | 89.73 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 10049530 | 89.12 | ug/L | 100 |
| 75) Bromoform | 11.061 | 173 | 2156497 | 89.26 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 2695878 | 87.38 | ug/l | 100 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 761761 | 89.43 | ug/l | 98 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 840320 | 97.49 | ug/l | 98 |
| 80) n-Propylbenzene | 11.578 | 91 | 12355923 | 88.03 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 2673805 | 86.79 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 8378024 | 86.82 | ug/l | 100 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 7964931 | 91.94 | ug/l | 93 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 6997858 | 99.03 | ug/l | 94 |
| 85) tert-Butylbenzene | 12.415 | 134 | 1260545 | 84.40 | ug/l | 92 |
| 86) 1,2,4-Trimethylbenzene | 12.481 | 105 | 8236098 | 87.27 | ug/l | 97 |
| 87) sec-Butylbenzene | 12.756 | 105 | 9656129 | 88.30 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 8166087 | 89.00 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 4224212 | 99.56 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 8254841 | 88.27 | ug/L | 100 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 4323656 | 97.65 | ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 7538294 | 86.38 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 4025253 | 83.24 | ug/l | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 603619 | 96.21 | ug/l | 100 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 2718505 | 95.58 | ug/l | 98 |
| 96) Hexachlorobutadiene | 16.663 | 225 | 1478191 | 88.43 | ug/l | 99 |
| 97) Naphthalene | 16.872 | 128 | 6891495 | 92.19 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 2612770 | 96.66 | ug/l | 100 |

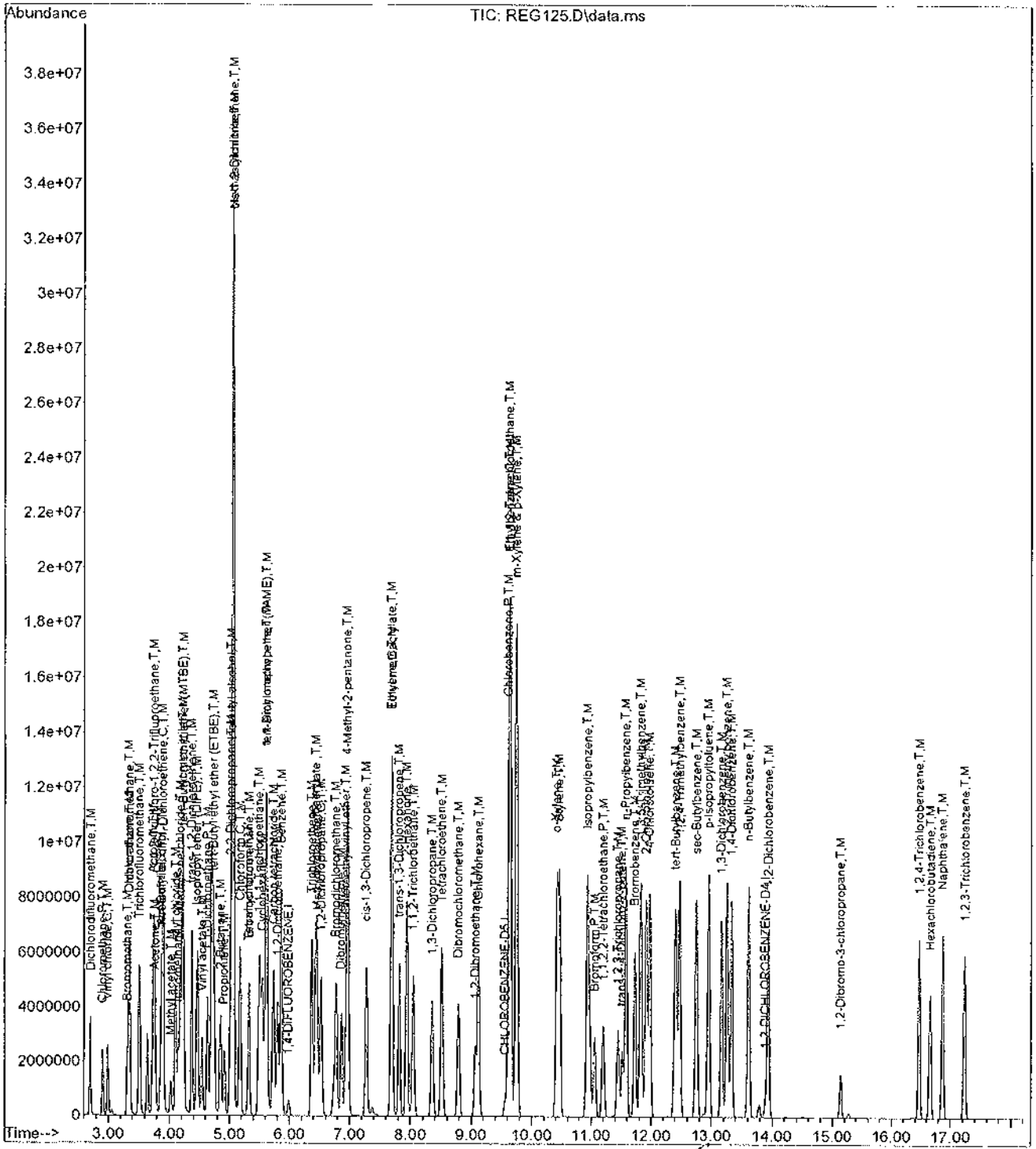
(#) = qualifier out of range (m) = manual integration (+) = signals summed

5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG125.D Vial: 10
Acq On : 17 May 2024 15:21 Operator: DNguye
Sample : VOE2E179 4uL Inst : E2
Misc : 100ppb 8260/500ppb KET-AA/2500ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:04:40 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:47:14 2024 SU 5/24/24 Page: 3

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG126.D
Acq On : 17 May 2024 15:44
Sample : VOE2E1710 8uL
Misc : 200ppb 8260/1000ppb KET-AA/5000ppb TBA
Integrator: RTE
Quant Time: May 21 21:00:50 2024
Quant Results File: VOE2E17.RES

Vial: 11
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 568040 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 471885 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 217867 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 3002 | 0.09 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 0.90% | | |
| 41) 1,2-Dichloroethane-d4 | 0.000 | 65 | 0d | 0.00 | ug/L | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 56) Toluene-d8 | 0.000 | 98 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 77) 4-Bromofluorobenzene | 0.000 | 95 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 6316101 | 193.74 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 4516405 | 193.06 | ug/l | 99 |
| 4) Vinyl chloride | 2.983 | 62 | 4720259 | 191.07 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 3750895 | 224.49 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.346 | 67 | 9822700 | 174.00 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 2195455 | 181.39 | ug/l | 94 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 10783113 | 194.28 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 3351589 | 907.26 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.742 | 151 | 4350512 | 179.79 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 6603563 | 988.07 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 15471302 | 4478.91 | ug/L | 95 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 9033271 | 177.91 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 2754507 | 1606.85 | ug/L | 93 |
| 15) Allyl chloride | 4.106 | 76 | 2199904 | 164.07 | ug/L | 99 |
| 16) Iodomethane | 4.139 | 142 | 5209397 | 187.95 | ug/l | 97 |
| 17) Methyl acetate | 4.029 | 43 | 3232214 | 168.28 | ug/L | 97 |
| 18) Methylene chloride | 4.183 | 49 | 6476225 | 191.83 | ug/l | 97 |
| 19) Acrylonitrile | 4.216 | 53 | 7708060 | 902.54 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 15360383 | 180.97 | ug/L | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 4873441 | 179.91 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 14962789 | 173.25 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 9004493 | 183.04 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 9351400 | 170.66 | ug/l | 100 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 19320797 | 184.21 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 2394701 | 898.39 | ug/l | 98 |
| 28) Propionitrile | 4.920 | 54 | 5691397 | 1812.25 | ug/L | 97 |
| 29) Isobutyl alcohol | 5.030 | 43 | 3586105 | 3231.85 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 9444935 | 172.19 | ug/l | 99 |
| 31) Methacrylonitrile | 5.063 | 52 | 8684556 | 1684.31 | ug/L | 89 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 5762701 | 186.86 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 11032078 | 162.40 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 2946762 | 162.66 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.316 | 42 | 1229234 | 171.73 | ug/L | 96 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 10907828 | 178.03 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 5994629 | 191.94 | ug/L | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 3477493 | 185.79 | ug/l | 98 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 2466827 | 183.91 | ug/L | 100 |
| 42) Carbon tetrachloride | 5.734 | 119 | 9523903 | 183.70 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 9046789 | 173.24 | ug/L | 99 |



5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG126.D Vial: 11
Acq On : 17 May 2024 15:44 Operator: DNguye
Sample : VOE2E1710 8uL Inst : E2
Misc : 200ppb 8260/1000ppb KET-AA/5000ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:00:50 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 44) Benzene | 5.866 | 78 | 18878615 | 181.64 | ug/L | 99 |
| 45) Trichloroethene | 6.373 | 130 | 5312995 | 185.18 | ug/L | 98 |
| 46) Methyl methacrylate | 6.439 | 69 | 4709153 | 185.24 | ug/L | 97 |
| 47) Methylcyclohexane | 6.450 | 83 | 6821475 | 199.77 | ug/L | 99 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 4750541 | 179.08 | ug/L | 98 |
| 50) Bromodichloromethane | 6.769 | 83 | 8780457 | 174.89 | ug/L | 99 |
| 51) Dibromomethane | 6.857 | 93 | 3575305 | 165.64 | ug/L | 98 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 2345513 | 178.52 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 25417872 | 874.65 | ug/L | 96 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 8445639 | 182.07 | ug/L | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 6144909 | 190.81 | ug/L | 93 |
| 58) Toluene | 7.693 | 91 | 19948069 | 186.39 | ug/l | 99 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 8489181 | 185.38 | ug/l | 94 |
| 60) 2-Hexanone | 7.946 | 43 | 17094335 | 883.44 | ug/l | 98 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 4397367 | 173.13 | ug/l | 98 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 6618515 | 175.47 | ug/l | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 4231743 | 180.87 | ug/l | 99 |
| 64) Dibromochloromethane | 8.783 | 129 | 6516219 | 171.04 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 4870080 | 177.93 | ug/l | 98 |
| 66) 1-Chlorohexane | 9.124 | 91 | 6393588 | 180.51 | ug/l | 100 |
| 67) Chlorobenzene | 9.619 | 112 | 12624825 | 178.60 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 5312112 | 176.61 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 23292033 | 180.01 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 28701191 | 272.04 | ug/l | 84 |
| 71) o-Xylene | 10.412 | 91 | 17586293 | 176.08 | ug/l | 99 |
| 72) Styrene | 10.456 | 104 | 12296252 | 176.06 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 19602688 | 172.25 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 4187827 | 176.13 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 5159996 | 169.93 | ug/l | 100 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 1403346 | 167.39 | ug/l | 96 |
| 79) trans-1,4-Dichloro-2-b... | 11.523 | 53 | 1650960 | 194.61 | ug/l | 98 |
| 80) n-Propylbenzene | 11.578 | 91 | 23810922 | 172.37 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 5195205 | 171.35 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 16287234 | 171.50 | ug/l | 99 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 15174863 | 177.98 | ug/l | 93 |
| 84) 4-Chlorotoluene | 11.985 | 91 | 13838106 | 199.43 | ug/l | 95 |
| 85) tert-Butylbenzene | 12.414 | 134 | 2339593 | 159.17 | ug/l | 91 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 16036674 | 172.66 | ug/l | 97 |
| 87) sec-Butylbenzene | 12.756 | 105 | 18845003 | 175.10 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 15471204 | 171.32 | ug/l | 98 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 8054938 | 193.34 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 15911955 | 172.89 | ug/L | 100 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 8560916 | 196.89 | ug/l | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 15176896 | 176.71 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 7971920 | 167.50 | ug/l | 97 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 1180945 | 191.26 | ug/l | 99 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 5739206 | 205.48 | ug/l | 97 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 3124401 | 189.92 | ug/l | 99 |
| 97) Naphthalene | 16.872 | 128 | 14719954 | 200.07 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 5440683 | 204.95 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

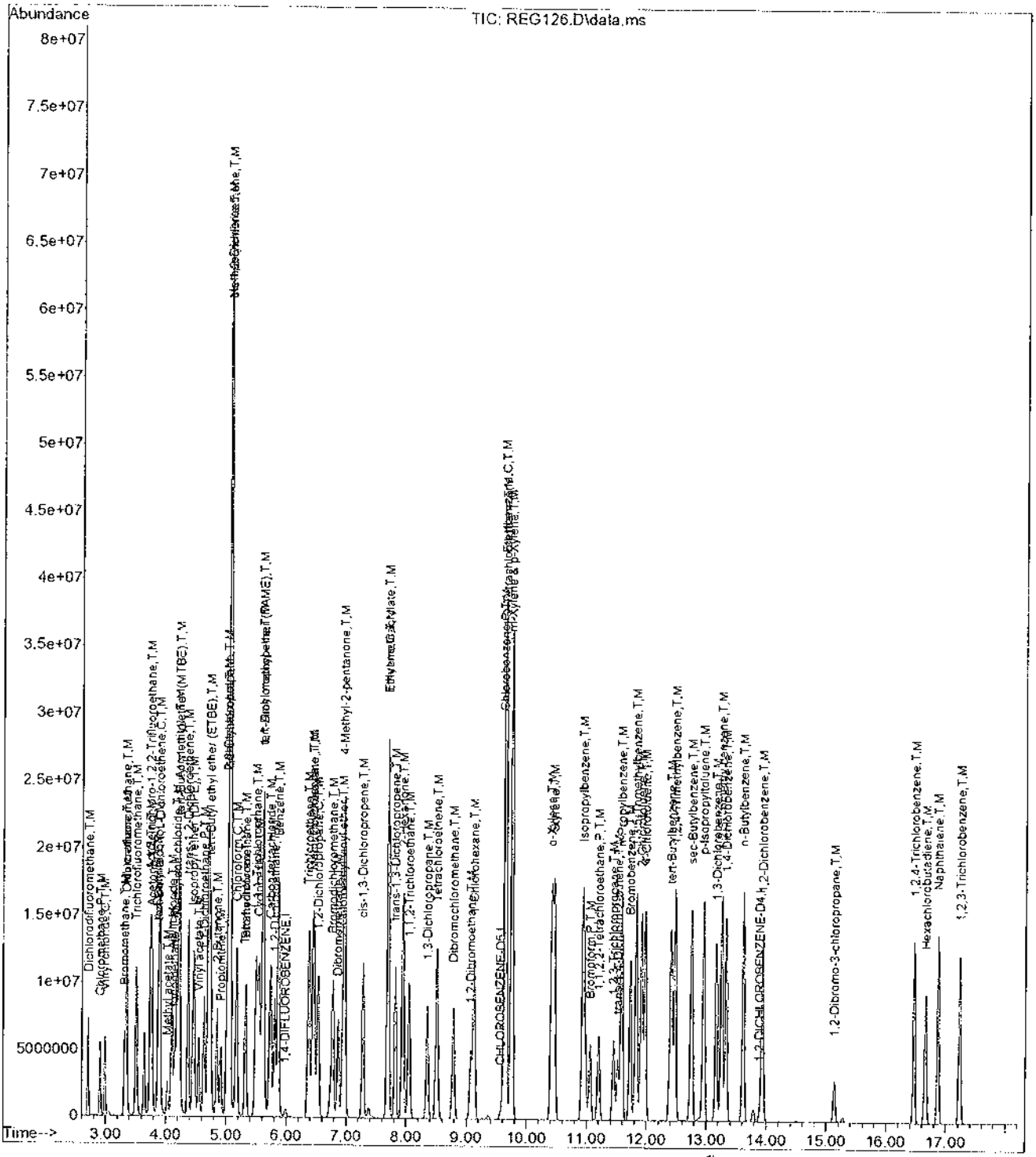
VOE2E17.M Thu May 23 12:47:29 2024 5/24/24 Page: 2

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG126.D
Acq On : 17 May 2024 15:44
Sample : VOE2E1710 8uL
Misc : 200ppb 8260/1000ppb KET-AA/5000ppb TBA
Integrator: RTE
Quant Time: May 21 21:00:50 2024
Quant Results File: VOE2E17.RES

Vial: 11
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:47:29 2024 Page: 3

5/24/24

# SECOND SOURCE VERIFICATION

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: REG130 BFB Injection Date: 05/18/24

Instrument ID: E2 BFB Injection Time: 09:16

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 19.254 |
| 75 | 30 - 60% of mass 95 | 50.320 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.311 |
| 173 | Less than 2% of mass 174 | 0.912(.61)1 |
| 174 | Greater than 50% of mass 95 | 84.221 |
| 175 | 5 - 9% of mass 174 | 6.661(7.91)1 |
| 176 | 95 - 101% % of mass 174 | 81.783(97.11)1 |
| 177 | 5 - 9% % of mass 176 | 6.306(7.71)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | IVOE2R1702 | REG111 | 05/18/24 | 09:57 |

5/24/24

CONTINUE CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :E2
IC Beginning DateTime :05/17/24 12:33
Spike Amount :10 PPB
CC/CV File :REG131
IC File :REG122

Column Spec :RTX 502.2 ID :0.32MM
IC Ending DateTime :05/17/24 15:44
HPChem Method :V0E2E17
Date Time :05/18/24 09:57

| X | IDX | Parameters | CC_Con | CC%_D | CC_Resp | CCRRF | AVRRF | CC_RTm | AVRTm | %_RSD | Co_X0 | Co_X1 | Co_X2 | Co_Cof |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 10.000 | 0 | 647637 | 1 | 1 | 5.988 | 5.987 | 0 | | | | |
| | 2 | Dichlorodifluoromethane | 10.420 | 4.2 | 387316 | 0.598 | 0.574 | 2.708 | 2.708 | 8.06 | | | | |
| | 3 | Chloromethane | 10.034 | 0.3 | 267638 | 0.413 | 0.412 | 2.906 | 2.906 | 13.00 | | | | |
| | 4 | Vinyl chloride | 10.450 | 4.5 | 294360 | 0.455 | 0.435 | 2.994 | 2.990 | 7.58 | | | | |
| | 5 | Bromomethane | 10.726 | 7.3 | 204345 | 0.316 | 0.294 | 3.313 | 3.313 | 11.62 | | | | |
| | 6 | Dichlorofluoromethane | 9.831 | -1.7 | 632775 | 0.977 | 0.994 | 3.357 | 3.352 | 8.41 | | | | |
| | 7 | Chloroethane | 11.738 | 17.4 | 161985 | 0.250 | 0.213 | 3.346 | 3.346 | 8.74 | | | | |
| | 8 | Trichlorofluoromethane | 10.360 | 3.6 | 655613 | 1.012 | 0.977 | 3.511 | 3.511 | 7.24 | | | | |
| 5 | 9 | Acrolein | 53.498 | 7.0 | 225327 | 0.070 | 0.065 | 3.743 | 3.742 | 10.21 | | | | |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 9.863 | -1.4 | 272122 | 0.420 | 0.426 | 3.753 | 3.752 | 10.04 | | | | |
| 5 | 11 | Acetone | 55.179 | 10.4 | 456111 | 0.141 | 0.181 | 3.764 | 3.769 | 42.17 | 0.0583 | 0.1171 | | 0.9992 |
| 25 | 12 | tert-Butyl alcohol | 274.988 | 10.0 | 1082983 | 0.067 | 0.061 | 3.875 | 3.874 | 11.83 | | | | |
| | 13 | 1,1-Dichloroethene | 9.763 | -2.5 | 564613 | 0.872 | 0.894 | 3.908 | 3.902 | 8.46 | | | | |
| 10 | 14 | Acetonitrile | 109.003 | 9.0 | 213040 | 0.033 | 0.030 | 3.875 | 3.874 | 12.37 | | | | |
| | 15 | Allyl chloride | 10.843 | 8.4 | 165769 | 0.256 | 0.236 | 4.106 | 4.106 | 11.27 | | | | |
| | 16 | Iodomethane | 8.785 | -12.2 | 268999 | 0.415 | 0.429 | 4.150 | 4.143 | 22.23 | -0.0140 | 0.4887 | | 0.9969 |
| | 17 | Methyl acetate | 10.001 | 0.0 | 219009 | 0.338 | 0.338 | 4.029 | 4.029 | 12.15 | | | | |
| | 18 | Methylene chloride | 11.388 | 13.9 | 467946 | 0.723 | 0.801 | 4.183 | 4.182 | 26.33 | 0.0486 | 0.5918 | | 0.9974 |
| 5 | 19 | Acrylonitrile | 52.272 | 4.5 | 508984 | 0.157 | 0.150 | 4.216 | 4.216 | 11.69 | | | | |
| | 20 | tert-Butyl methyl ether (MTBE) | 10.647 | 6.5 | 1030417 | 1.591 | 1.494 | 4.227 | 4.227 | 7.94 | | | | |
| | 21 | Carbon disulfide | 9.831 | -1.7 | 872085 | 1.347 | 1.370 | 4.315 | 4.305 | 9.42 | | | | |
| | 22 | trans-1,2-Dichloroethene | 10.193 | 1.9 | 314802 | 0.486 | 0.477 | 4.370 | 4.370 | 10.07 | | | | |
| | 23 | Isopropyl ether (DIPE) | 10.521 | 5.2 | 1036035 | 1.600 | 1.520 | 4.469 | 4.460 | 9.47 | | | | |
| | 24 | Vinyl acetate | 11.461 | 14.6 | 642883 | 0.993 | 0.866 | 4.546 | 4.546 | 6.41 | | | | |
| | 25 | 1,1-Dichloroethane | 9.919 | -0.8 | 619716 | 0.957 | 0.965 | 4.634 | 4.634 | 10.57 | | | | |
| | 26 | tert-Butyl ethyl ether (ETBE) | 10.412 | 4.3 | 1247585 | 1.926 | 1.846 | 4.733 | 4.733 | 8.21 | | | | |
| 5 | 27 | 2-Butanone | 54.888 | 9.8 | 166808 | 0.052 | 0.047 | 4.854 | 4.854 | 12.56 | | | | |
| 10 | 28 | Propionitrile | 114.244 | 14.2 | 409063 | 0.063 | 0.055 | 4.909 | 4.910 | 11.17 | | | | |
| 20 | 29 | Isobutyl alcohol | 228.221 | 14.1 | 288723 | 0.022 | 0.020 | 5.030 | 5.030 | 12.47 | | | | |
| | 30 | 2,2-Dichloropropane | 9.835 | -1.6 | 615087 | 0.950 | 0.966 | 5.019 | 5.020 | 9.30 | | | | |
| 10 | 31 | Methacrylonitrile | 106.760 | 6.8 | 627605 | 0.097 | 0.091 | 5.052 | 5.057 | 11.02 | | | | |
| | 32 | cis-1,2-Dichloroethene | 10.190 | 1.9 | 358317 | 0.553 | 0.543 | 5.063 | 5.063 | 8.40 | | | | |
| | 33 | Chloroform | 9.159 | -8.4 | 709429 | 1.095 | 1.196 | 5.173 | 5.173 | 14.52 | | | | |
| | 34 | Bromochloromethane | 10.418 | 4.2 | 215189 | 0.332 | 0.319 | 5.327 | 5.327 | 11.29 | | | | |
| | 35 | Tetrahydrofuran | 11.049 | 10.5 | 90175 | 0.139 | 0.126 | 5.316 | 5.319 | 6.67 | | | | |
| | 36 | Dibromofluoromethane | 9.254 | -7.5 | 367086 | 0.567 | 0.612 | 5.338 | 5.338 | 6.30 | | | | |
| | 37 | 1,1,1-Trichloroethane | 9.563 | -4.4 | 668020 | 1.031 | 1.079 | 5.503 | 5.497 | 8.19 | | | | |
| | 38 | Cyclohexane | 10.101 | 1.0 | 359700 | 0.555 | 0.550 | 5.547 | 5.548 | 24.22 | | | | |
| | 39 | tert-Amyl methyl ether (TAME) | 10.845 | 8.5 | 231432 | 0.357 | 0.329 | 5.613 | 5.614 | 7.33 | | | | |
| | 40 | 1,1-Dichloropropene | 9.880 | -1.2 | 151104 | 0.233 | 0.236 | 5.613 | 5.613 | 8.29 | | | | |
| | 41 | 1,2-Dichloroethane-d4 | 8.914 | -10.9 | 467273 | 0.722 | 0.809 | 5.723 | 5.723 | 11.80 | | | | |
| | 42 | Carbon tetrachloride | 9.430 | -5.7 | 557403 | 0.861 | 0.913 | 5.734 | 5.734 | 8.01 | | | | |
| | 43 | 1,2-Dichloroethane | 9.596 | -4.0 | 571321 | 0.882 | 0.919 | 5.800 | 5.800 | 10.41 | | | | |
| | 44 | Benzene | 10.262 | 2.6 | 1216026 | 1.878 | 1.830 | 5.866 | 5.866 | 8.64 | | | | |
| | 45 | Trichloroethene | 9.910 | -0.9 | 324173 | 0.501 | 0.505 | 6.373 | 6.371 | 9.09 | | | | |
| | 46 | Methyl methacrylate | 10.822 | 8.2 | 313684 | 0.484 | 0.448 | 6.439 | 6.439 | 9.77 | | | | |
| | 47 | Methylcyclohexane | 10.456 | 4.6 | 407082 | 0.629 | 0.601 | 6.450 | 6.454 | 11.92 | | | | |
| | 48 | 1,2-Dichloropropane | 10.391 | 3.9 | 314276 | 0.485 | 0.467 | 6.527 | 6.527 | 10.74 | | | | |
| 20 | 49 | 1,4 Dioxane | | | | | | | | | | | | |
| | 50 | Bromodichloromethane | 9.851 | -1.5 | 563896 | 0.871 | 0.804 | 6.780 | 6.769 | 11.38 | | | | |
| | 51 | Dibromomethane | 9.836 | -1.6 | 242061 | 0.374 | 0.380 | 6.857 | 6.857 | 11.79 | | | | |
| | 52 | 2-Chloroethyl vinyl ether | 8.988 | -10.1 | 134655 | 0.208 | 0.231 | 6.934 | 6.934 | 6.45 | | | | |
| 5 | 53 | 4-Methyl-2-pentanone | 51.435 | 2.9 | 1704193 | 0.526 | 0.512 | 6.956 | 6.957 | 10.35 | | | | |
| | 54 | cis-1,3-Dichloropropene | 10.439 | 4.4 | 552132 | 0.853 | 0.817 | 7.275 | 7.275 | 7.57 | | | | |
| | 55 | CHLOROBENZENE-D5 | 10.000 | 0 | 555845 | 1 | 1 | 9.564 | 9.564 | 0 | | | | |
| | 56 | Toluene-d8 | 9.506 | -4.9 | 1050036 | 1.889 | 1.987 | 7.594 | 7.594 | 8.88 | | | | |
| | 57 | Ethyl methacrylate | 11.236 | 12.4 | 426233 | 0.767 | 0.682 | 7.693 | 7.693 | 5.59 | | | | |
| | 58 | Toluene | 10.086 | 0.9 | 1271585 | 2.288 | 2.268 | 7.693 | 7.693 | 9.46 | | | | |
| | 59 | trans-1,3-Dichloropropene | 10.278 | 2.8 | 554416 | 0.997 | 0.970 | 7.814 | 7.814 | 6.61 | | | | |
| 5 | 60 | 2-Hexanone | 50.761 | 1.5 | 1156980 | 0.416 | 0.410 | 7.946 | 7.938 | 11.13 | | | | |
| | 61 | 1,1,2-Trichloroethane | 10.111 | 1.1 | 302512 | 0.544 | 0.538 | 8.045 | 8.045 | 10.51 | | | | |
| | 62 | 1,3-Dichloropropane | 10.361 | 3.6 | 460356 | 0.828 | 0.799 | 8.354 | 8.354 | 9.83 | | | | |
| | 63 | Tetrachloroethene | 9.524 | -4.8 | 262477 | 0.472 | 0.496 | 8.519 | 8.509 | 12.71 | | | | |
| | 64 | Dibromochloromethane | 9.409 | -5.9 | 422250 | 0.760 | 0.807 | 8.783 | 8.783 | 13.87 | | | | |
| | 65 | 1,2-Dibromoethane | 10.137 | 1.4 | 326860 | 0.588 | 0.580 | 9.069 | 9.069 | 8.08 | | | | |
| | 66 | 1-Chlorohexane | 10.040 | 0.4 | 418878 | 0.754 | 0.751 | 9.124 | 9.124 | 10.45 | | | | |
| | 67 | Chlorobenzene | 9.723 | -2.8 | 809661 | 1.457 | 1.498 | 9.619 | 9.619 | 11.00 | | | | |
| | 68 | 1,1,1,2-Tetrachloroethane | 9.599 | -4.0 | 340100 | 0.612 | 0.637 | 9.652 | 9.646 | 9.12 | | | | |
| | 69 | Ethylbenzene | 9.758 | -2.4 | 1487392 | 2.676 | 2.742 | 9.641 | 9.641 | 10.66 | | | | |
| 2 | 70 | m-Xylene & p-Xylene | 18.880 | -5.6 | 2346333 | 2.111 | 2.236 | 9.751 | 9.750 | 9.97 | | | | |
| | 71 | o-Xylene | 10.096 | 1.0 | 1187781 | 2.137 | 2.117 | 10.412 | 10.413 | 11.21 | | | | |
| | 72 | Styrene | 10.151 | 1.5 | 835184 | 1.503 | 1.480 | 10.467 | 10.458 | 10.19 | | | | |
| | 73 | Isopropylbenzene | 9.879 | -1.2 | 1324380 | 2.383 | 2.412 | 10.940 | 10.940 | 13.33 | | | | |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 10.000 | 0 | 262396 | 1 | 1 | 13.889 | 13.889 | 0 | | | | |
| | 75 | Bromoform | 9.959 | -0.4 | 285204 | 1.087 | 1.091 | 11.061 | 11.061 | 9.03 | | | | |
| | 76 | 1,1,2,2-Tetrachloroethane | 10.875 | 8.8 | 397736 | 1.516 | 1.394 | 11.204 | 11.203 | 13.93 | | | | |
| | 77 | 4-Bromofluorobenzene | 10.006 | 0.1 | 416821 | 1.589 | 1.587 | 11.369 | 11.369 | 11.73 | | | | |
| | 78 | 1,2,3-Trichloropropane | 10.854 | 8.5 | 109593 | 0.418 | 0.385 | 11.446 | 11.446 | 12.26 | | | | |
| | 79 | trans-1,4-Dichloro-2-butene | 11.666 | 16.7 | 119204 | 0.454 | 0.389 | 11.523 | 11.513 | 8.47 | | | | |
| | 80 | n-Propylbenzene | 9.908 | -0.9 | 1648572 | 6.283 | 6.341 | 11.578 | 11.578 | 14.55 | | | | |
| | 81 | Bromobenzene | 10.166 | 1.7 | 371222 | 1.415 | 1.392 | 11.732 | 11.732 | 13.87 | | | | |
| | 82 | 1,3,5-Trimethylbenzene | 9.826 | -1.7 | 1123998 | 4.284 | 4.359 | 11.831 | 11.829 | 14.43 | | | | |
| | 83 | 2-Chlorotoluene | 10.515 | 5.2 | 1079812 | 4.115 | 3.914 | 11.919 | 11.919 | 13.23 | | | | |
| | 84 | 4-Chlorotoluene | 11.112 | 11.1 | 964334 | 3.675 | 3.796 | 11.974 | 11.975 | 20.12 | 0.1440 | 3.1777 | | 0.9987 |
| | 85 | tert-Butylbenzene | 9.977 | -0.2 | 176618 | 0.673 | 0.675 | 12.415 | 12.408 | 14.63 | | | | |
| | 86 | 1,2,4-Trimethylbenzene | 10.070 | 0.7 | 1126508 | 4.293 | 4.263 | 12.481 | 12.478 | 14.07 | | | | |
| | 87 | sec-Butylbenzene | 9.921 | -0.8 | 1286003 | 4.901 | 4.940 | 12.756 | 12.749 | 14.11 | | | | |
| | 88 | p Isopropyltoluene | 9.947 | -0.5 | 1081873 | 4.123 | 4.145 | 12.954 | 12.955 | 14.69 | | | | |
| | 89 | 1,3-Dichlorobenzene | 11.402 | 14.0 | 594859 | 2.267 | 2.303 | 13.174 | 13.165 | 19.08 | 0.0920 | 1.9075 | | 0.9986 |
| | 90 | 1,2,3-Trimethylbenzene | 10.087 | 0.9 | 1118089 | 4.261 | 4.224 | 13.262 | 13.255 | 13.33 | | | | |
| | 91 | 1,4-Dichlorobenzene | 11.077 | 10.8 | 600654 | 2.289 | 2.349 | 13.328 | 13.328 | 18.81 | 0.0831 | 1.9916 | | 0.9991 |
| | 92 | n-Butylbenzene | 9.895 | -1.0 | 1023631 | 3.901 | 3.942 | 13.614 | 13.614 | 14.93 | | | | |
| | 93 | 1,2-Dichlorobenzene | 9.725 | -2.7 | 557437 | 2.124 | 2.184 | 13.933 | 13.933 | 14.28 | | | | |
| | 94 | 1,2-Dibromo-3-chloropropane | 10.796 | 8.0 | 80292 | 0.306 | 0.283 | 15.144 | 15.134 | 8.87 | | | | |
| | 95 | 1,2,4-Trichlorobenzene | 10.262 | 2.6 | 357605 | 1.363 | 1.493 | 16.475 | 16.464 | 24.05 | 0.0497 | 1.2796 | | 0.9993 |
| | 96 | Hexachlorobutadiene | 10.669 | 6.7 | 211409 | 0.806 | 0.755 | 16.663 | 16.662 | 13.33 | | | | |
| | 97 | Naphthalene | 10.446 | 4.5 | 925673 | 3.528 | 3.377 | 16.872 | 16.872 | 12.35 | | | | |
| | 98 | 1,2,3-Trichlorobenzene | 10.036 | 0.4 | 332666 | 1.268 | 1.419 | 17.235 | 17.231 | 24.06 | 0.0472 | 1.2161 | | 0.9995 |

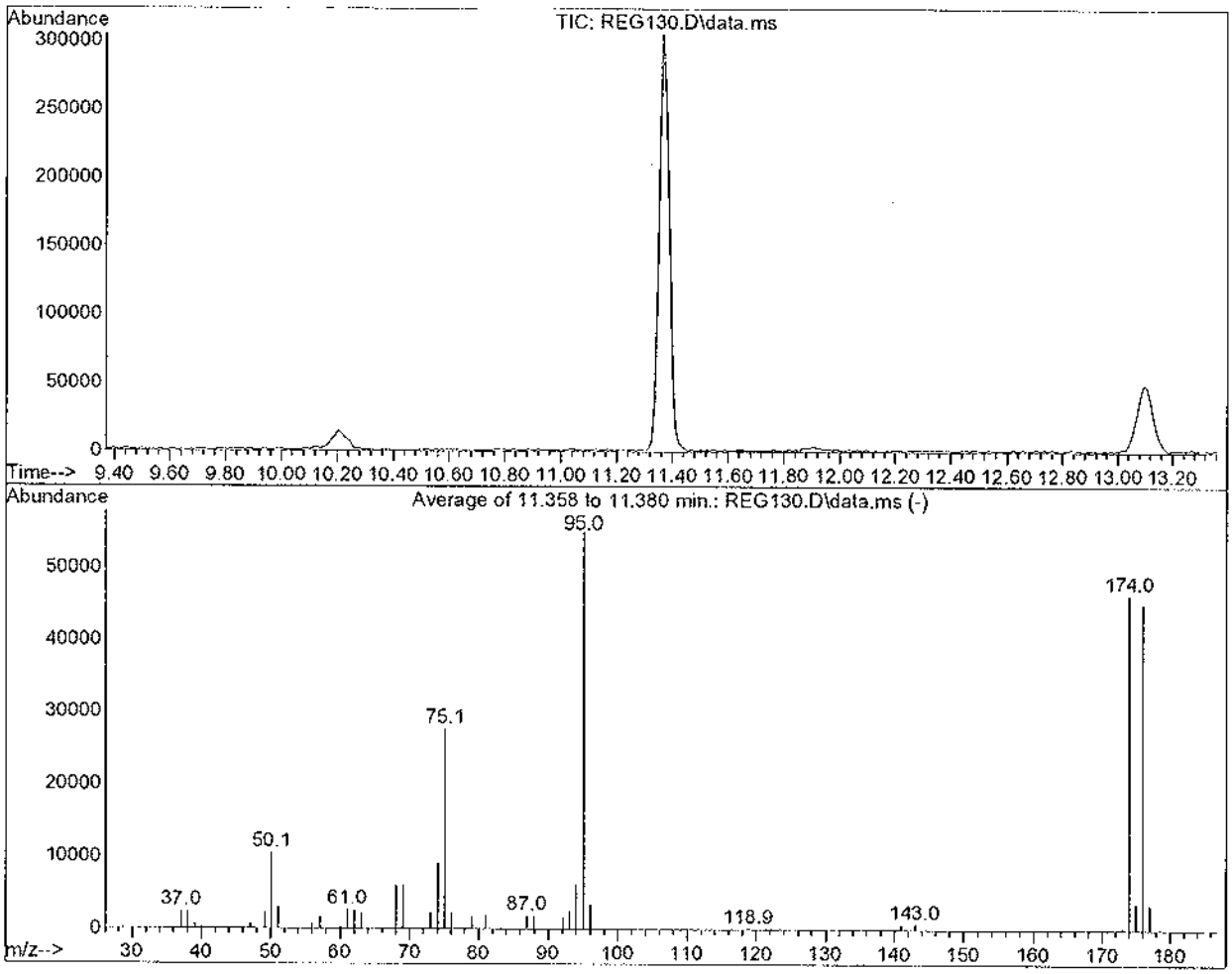
Spike Amount = Nominal Amount * M

SM 5/24/24

Data Path : D:\Data\24E18\
Data File : REG130.D
Acq On : 18 May 2024 9:16
Operator : DNguyc
Sample : BFBE2E09
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




AutoFind: Scans 797, 798, 799; Background Corrected with Scan 791

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 19.3 | 10614 | PASS |
| 75 | 95 | 30 | 60 | 50.3 | 27739 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 55125 | PASS |
| 96 | 95 | 5 | 9 | 6.3 | 3479 | PASS |
| 173 | 174 | 0.00 | 2 | 0.6 | 282 | PASS |
| 174 | 95 | 50 | 100 | 84.2 | 46427 | PASS |
| 175 | 174 | 5 | 9 | 7.9 | 3672 | PASS |
| 176 | 174 | 95 | 101 | 97.1 | 45083 | PASS |
| 177 | 176 | 5 | 9 | 7.7 | 3476 | PASS |

SC 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 134 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.421 | -4.2 | 157 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 10.035 | -0.4 | 148 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.451 | -4.5 | 146 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 10.727 | -7.3 | 173 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 9.831 | 1.7 | 132 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 11.738 | -17.4 | 164 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 10.360 | -3.6 | 151 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 53.499 | -7.0 | 146 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 9.863 | 1.4 | 137 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 55.179 | -10.4 | 137 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 274.989 | -10.0 | 147 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 9.754 | 2.5 | 131 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 109.003 | -9.0 | 144 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.844 | -8.4 | 143 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 8.785 | 12.1 | 129 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 10.001 | -0.0 | 133 | 0.00 |
| 18 | T,M | Methylene chloride | 10.000 | 11.389 | -13.9 | 132 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 52.273 | -4.5 | 133 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.648 | -6.5 | 142 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.831 | 1.7 | 131 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.193 | -1.9 | 139 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 10.521 | -5.2 | 142 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 11.462 | -14.6 | 143 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.920 | 0.8 | 137 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 10.433 | -4.3 | 139 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 54.888 | -9.8 | 140 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 114.245 | -14.2 | 158 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 228.222 | -14.1 | 152 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 9.836 | 1.6 | 128 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 106.760 | -6.8 | 146 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.190 | -1.9 | 143 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.160 | 8.4 | 131 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 10.419 | -4.2 | 136 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 11.050 | -10.5 | 150 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.254 | 7.5 | 122 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 9.563 | 4.4 | 129 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 10.102 | -1.0 | 161 | 0.00 |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.845 | -8.5 | 139 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 9.881 | 1.2 | 129 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 8.915 | 10.9 | 124 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 9.430 | 5.7 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 9.596 | 4.0 | 126 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.262 | -2.6 | 138 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.910 | 0.9 | 136 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 10.823 | -8.2 | 152 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 10.457 | -4.6 | 159 | 0.00 |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.391 | -3.9 | 140 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.851 | 1.5 | 132 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 9.836 | 1.6 | 135 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 8.989 | 10.1 | 117 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 51.435 | -2.9 | 132 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.440 | -4.4 | 139 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 136 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.507 | 4.9 | 128 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.236 | -12.4 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 10.087 | -0.9 | 138 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.278 | -2.8 | 137 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 50.761 | -1.5 | 131 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.111 | -1.1 | 138 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.361 | -3.6 | 143 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.524 | 4.8 | 134 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.409 | 5.9 | 131 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 10.138 | -1.4 | 135 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.040 | -0.4 | 137 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.724 | 2.8 | 135 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.599 | 4.0 | 128 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.759 | 2.4 | 136 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.880 | 5.6 | 138 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 10.096 | -1.0 | 137 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.152 | -1.5 | 137 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.880 | 1.2 | 133 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 133 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.959 | 0.4 | 134 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.876 | -8.8 | 149 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.007 | -0.1 | 135 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.854 | -8.5 | 148 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 11.667 | -16.7 | 152 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.909 | 0.9 | 139 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 10.166 | -1.7 | 135 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.827 | 1.7 | 135 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 10.515 | -5.2 | 149 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.112 | -11.1 | 126 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.977 | 0.2 | 138 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 10.070 | -0.7 | 136 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.921 | 0.8 | 134 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.947 | 0.5 | 138 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.403 | -14.0 | 138 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.087 | -0.9 | 135 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.077 | -10.8 | 137 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.896 | 1.0 | 136 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.725 | 2.8 | 140 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 10.797 | -8.0 | 153 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 10.262 | -2.6 | 140 | 0.01 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 10.670 | -6.7 | 142 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.446 | -4.5 | 141 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.037 | -0.4 | 136 | 0.01 |



5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

SY 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 134 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.598 | -4.2 | 157 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.413 | -0.2 | 148 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.455 | -4.6 | 146 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.316 | -7.5 | 173 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 0.977 | 1.7 | 132 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.250 | -17.4 | 164 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 1.012 | -3.6 | 151 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.070 | -7.7 | 146 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.420 | 1.4 | 137 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.141 | 22.1# | 137 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.067 | -9.8 | 147 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.872 | 2.5 | 131 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.033 | -10.0 | 144 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.256 | -8.5 | 143 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.415 | 3.3 | 129 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.338 | 0.0 | 133 | 0.00 |
| 18 | T,M | Methylene chloride | 0.801 | 0.723 | 9.7 | 132 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.157 | -4.7 | 133 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.591 | -6.5 | 142 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.347 | 1.7 | 131 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.486 | -1.9 | 139 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.600 | -5.3 | 142 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.993 | -14.7 | 143 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 0.957 | 0.8 | 137 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.926 | -4.3 | 139 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.052 | -10.6 | 140 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.063 | -14.5 | 158 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.022 | -10.0 | 152 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.950 | 1.7 | 128 | 0.00 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.097 | -6.6 | 146 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.553 | -1.8 | 143 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.095 | 8.4 | 131 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.332 | -4.1 | 136 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.139 | -10.3 | 150 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.567 | 7.4 | 122 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.031 | 4.4 | 129 | 0.01 |
| 38 | T,M | Cyclohexane | 0.550 | 0.555 | -0.9 | 161 | 0.00 |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.357 | -8.5 | 139 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.233 | 1.3 | 129 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.722 | 10.8 | 124 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 0.861 | 5.7 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 0.882 | 4.0 | 126 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.878 | -2.6 | 138 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.501 | 0.8 | 136 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.484 | -8.0 | 152 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.629 | -4.7 | 159 | 0.00 |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.485 | -3.9 | 140 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.871 | 1.5 | 132 | 0.01 |
| 51 | T,M | Dibromomethane | 0.380 | 0.374 | 1.6 | 135 | 0.00 |



SC 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.208 | 10.0 | 117 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.526 | -2.7 | 132 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.853 | -4.4 | 139 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 136 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 1.889 | 4.9 | 128 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.767 | -12.5 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.288 | -0.9 | 138 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.997 | -2.8 | 137 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.416 | -1.5 | 131 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.544 | -1.1 | 138 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.828 | -3.6 | 143 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.472 | 4.8 | 134 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.760 | 5.8 | 131 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.588 | -1.4 | 135 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.754 | -0.4 | 137 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.457 | 2.7 | 135 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.612 | 3.9 | 128 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.676 | 2.4 | 136 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.111 | 5.6 | 138 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.137 | -0.9 | 137 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.503 | -1.6 | 137 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.383 | 1.2 | 133 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 133 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.087 | 0.4 | 134 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.516 | -8.8 | 149 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.589 | -0.1 | 135 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.418 | -8.6 | 148 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.454 | -16.7 | 152 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.283 | 0.9 | 139 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.415 | -1.7 | 135 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.284 | 1.7 | 135 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.115 | -5.1 | 149 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.675 | 3.2 | 126 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.673 | 0.3 | 138 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.293 | -0.7 | 136 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.901 | 0.8 | 134 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.123 | 0.5 | 138 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.267 | 1.6 | 138 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.261 | -0.9 | 135 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.289 | 2.6 | 137 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.901 | 1.0 | 136 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.124 | 2.7 | 140 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.306 | -8.1 | 153 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.363 | 8.7 | 140 | 0.01 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.806 | -6.8 | 142 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 3.528 | -4.5 | 141 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.268 | 10.6 | 136 | 0.01 |

SU 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

SW 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 647637 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 555845 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 262396 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 367086 | 9.25 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 92.50% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 467273 | 8.91 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 89.10% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1050036 | 9.51 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 95.10% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 416821 | 10.01 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.10% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 387316 | 10.42 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 267638 | 10.03 | ug/l | 100 |
| 4) Vinyl chloride | 2.994 | 62 | 294360 | 10.45 | ug/l | 100 |
| 5) Bromomethane | 3.313 | 94 | 204345 | 10.73 | ug/l | 96 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 632775 | 9.83 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 161985 | 11.74 | ug/l | 88 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 655613 | 10.36 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 225327 | 53.50 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 272122 | 9.86 | ug/l | 99 |
| 11) Acetone | 3.764 | 43 | 456111 | 55.18 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.875 | 59 | 1082983 | 274.99 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 564613 | 9.75 | ug/l | 98 |
| 14) Acetonitrile | 3.875 | 41 | 213040 | 109.00 | ug/L | 96 |
| 15) Allyl chloride | 4.106 | 76 | 165769 | 10.84 | ug/L | 100 |
| 16) Iodomethane | 4.150 | 142 | 268999 | 8.79 | ug/l | 94 |
| 17) Methyl acetate | 4.029 | 43 | 219009 | 10.00 | ug/L | 98 |
| 18) Methylene chloride | 4.183 | 49 | 467946 | 11.39 | ug/l | 97 |
| 19) Acrylonitrile | 4.216 | 53 | 508984 | 52.27 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1030417 | 10.65 | ug/L | 99 |
| 21) Carbon disulfide | 4.315 | 76 | 872085 | 9.83 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 314802 | 10.19 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1036035 | 10.52 | ug/l | 98 |
| 24) Vinyl acetate | 4.546 | 43 | 642883 | 11.46 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 619716 | 9.92 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1247585 | 10.43 | ug/l | 96 |
| 27) 2-Butanone | 4.854 | 72 | 166808 | 54.89 | ug/l | 95 |
| 28) Propionitrile | 4.909 | 54 | 409063 | 114.24 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 288723 | 228.22 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 615087 | 9.84 | ug/l | 98 |
| 31) Methacrylonitrile | 5.052 | 52 | 627605 | 106.76 | ug/L | 94 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 358317 | 10.19 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 709429 | 9.16 | ug/l | 99 |
| 34) Bromochloromethane | 5.327 | 130 | 215189 | 10.42 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 90175 | 11.05 | ug/L | 99 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 668020 | 9.56 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 359700 | 10.10 | ug/L | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 231432 | 10.85 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 151104 | 9.88 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 557403 | 9.43 | ug/L | 100 |



SH 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 571321 | 9.60 | ug/L | 99 |
| 44) Benzene | 5.866 | 78 | 1216026 | 10.26 | ug/L | 99 |
| 45) Trichloroethene | 6.373 | 130 | 324173 | 9.91 | ug/L | 98 |
| 46) Methyl methacrylate | 6.439 | 69 | 313684 | 10.82 | ug/L | 94 |
| 47) Methylcyclohexane | 6.450 | 83 | 407082 | 10.46 | ug/L | 98 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 314276 | 10.39 | ug/L | 94 |
| 50) Bromodichloromethane | 6.780 | 83 | 563896 | 9.85 | ug/L | 99 |
| 51) Dibromomethane | 6.857 | 93 | 242061 | 9.84 | ug/L | 100 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 134655 | 8.99 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1704193 | 51.44 | ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 552132 | 10.44 | ug/L | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 426233 | 11.24 | ug/L | 93 |
| 58) Toluene | 7.693 | 91 | 1271585 | 10.09 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 554416 | 10.28 | ug/l | 93 |
| 60) 2-Hexanone | 7.946 | 43 | 1156980 | 50.76 | ug/l | 98 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 302512 | 10.11 | ug/l | 100 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 460356 | 10.36 | ug/l | 100 |
| 63) Tetrachloroethene | 8.519 | 164 | 262477 | 9.52 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 422250 | 9.41 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 326860 | 10.14 | ug/l | 98 |
| 66) 1-Chlorohexane | 9.124 | 91 | 418878 | 10.04 | ug/l | 92 |
| 67) Chlorobenzene | 9.619 | 112 | 809661 | 9.72 | ug/l | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 340100 | 9.60 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 1487392 | 9.76 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 2346333 | 18.88 | ug/l | 99 |
| 71) o-Xylene | 10.412 | 91 | 1187781 | 10.10 | ug/l | 99 |
| 72) Styrene | 10.467 | 104 | 835184 | 10.15 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 1324380 | 9.88 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 285204 | 9.96 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 397736 | 10.88 | ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 109593 | 10.85 | ug/l | 99 |
| 79) trans-1,4-Dichloro-2-b... | 11.523 | 53 | 119204 | 11.67 | ug/l | 89 |
| 80) n-Propylbenzene | 11.578 | 91 | 1648572 | 9.91 | ug/l | 98 |
| 81) Bromobenzene | 11.732 | 156 | 371222 | 10.17 | ug/l | 100 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 1123998 | 9.83 | ug/l | 99 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1079812 | 10.52 | ug/l | 93 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 964334 | 11.11 | ug/l | 94 |
| 85) tert-Butylbenzene | 12.415 | 134 | 176618 | 9.98 | ug/l | 95 |
| 86) 1,2,4-Trimethylbenzene | 12.481 | 105 | 1126508 | 10.07 | ug/l | 99 |
| 87) sec-Butylbenzene | 12.756 | 105 | 1286003 | 9.92 | ug/l | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1081873 | 9.95 | ug/l | 98 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 594859 | 11.40 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 1118089 | 10.09 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 600654 | 11.08 | ug/l | 100 |
| 92) n-Butylbenzene | 13.614 | 91 | 1023631 | 9.90 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 557437 | 9.73 | ug/l | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 80292 | 10.80 | ug/l | 97 |
| 95) 1,2,4-Trichlorobenzene | 16.475 | 180 | 357605 | 10.26 | ug/l | 98 |
| 96) Hexachlorobutadiene | 16.663 | 225 | 211409 | 10.67 | ug/l | 98 |
| 97) Naphthalene | 16.872 | 128 | 925673 | 10.45 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 332666 | 10.04 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOE2E17.M Tue May 21 21:07:50 2024

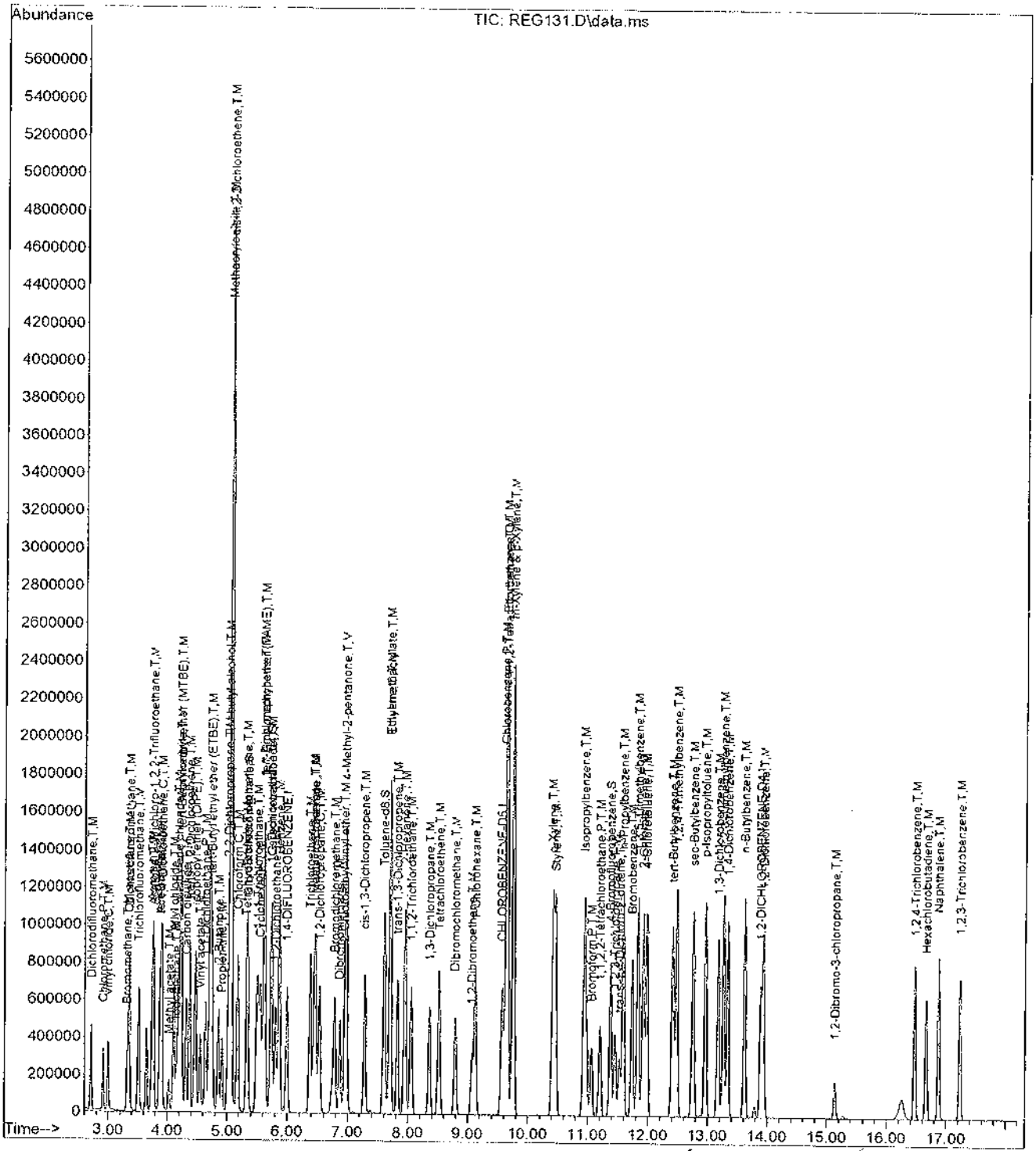
5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Tue May 21 21:07:50 2024

5/24/24

Page: 3

# DAILY CALIBRATIONS

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F003
Lab File ID: RFG061 BFB Injection Date: 06/10/24
Instrument ID: E2 BFB Injection Time: 15:55

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.420 |
| 75 | 30 - 60% of mass 95 | 52.039 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 7.244 |
| 173 | Less than 2% of mass 174 | 1.243(1.64)1 |
| 174 | Greater than 50% of mass 95 | 75.606 |
| 175 | 5 - 9% of mass 174 | 5.475(7.24)1 |
| 176 | 95 - 101% % of mass 174 | 73.387(97.07)1 |
| 177 | 5 - 9% % of mass 176 | 4.772(6.5)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1706 | RFG062 | 06/10/24 | 16:35 |
| 2 | LCS1W | VOE2F03L | RFG063 | 06/10/24 | 17:13 |
| 3 | LCD1W | VOE2F03C | RFG064 | 06/10/24 | 17:37 |
| 4 | MBLK1W | VOE2F03B | RFG067 | 06/10/24 | 18:25 |
| 5 | TB-1_MAY24 | 24F003-18 | RFG073 | 06/10/24 | 20:48 |
| 6 | TB-2_MAY24 | 24F003-19 | RFG074 | 06/10/24 | 21:11 |
| 7 | T1AMF-MW059-MAY24 | 24F003-01N | RFG075 | 06/10/24 | 21:35 |
| 8 | T1AMF-MW044-MAY24 | 24F003-02N | RFG076 | 06/10/24 | 21:59 |
| 9 | T1AMF-MW047-MAY24 | 24F003-03N | RFG077 | 06/10/24 | 22:23 |
| 10 | T1AMF-MW046-MAY24 | 24F003-04N | RFG078 | 06/10/24 | 22:46 |
| 11 | T1AMF-MW050-MAY24 | 24F003-05N | RFG079 | 06/10/24 | 23:10 |
| 12 | T1AMF-MW052-MAY24 | 24F003-06N | RFG080 | 06/10/24 | 23:33 |
| 13 | T1AMF-MW052-MAY24_FD | 24F003-07N | RFG081 | 06/10/24 | 23:57 |
| 14 | T1AMF-MW060-MAY24 | 24F003-08N | RFG082 | 06/11/24 | 00:20 |
| 15 | T1AMF-MW017-MAY24 | 24F003-09N | RFG083 | 06/11/24 | 00:44 |
| 16 | T1AMF-MW011-MAY24 | 24F003-10N | RFG084 | 06/11/24 | 01:08 |
| 17 | T1AMF-MW016-MAY24 | 24F003-11 | RFG085 | 06/11/24 | 01:32 |
| 18 | T1AMF-MW016-MAY24_FD | 24F003-12 | RFG086 | 06/11/24 | 01:56 |
| 19 | T1AMF-MW049-MAY24 | 24F003-13 | RFG087 | 06/11/24 | 02:19 |
| 20 | VSTD10 | EVOE2E1706 | RFG088 | 06/11/24 | 02:43 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F003
Date Analyzed: 05/17/24
Time Analyzed: 14:09

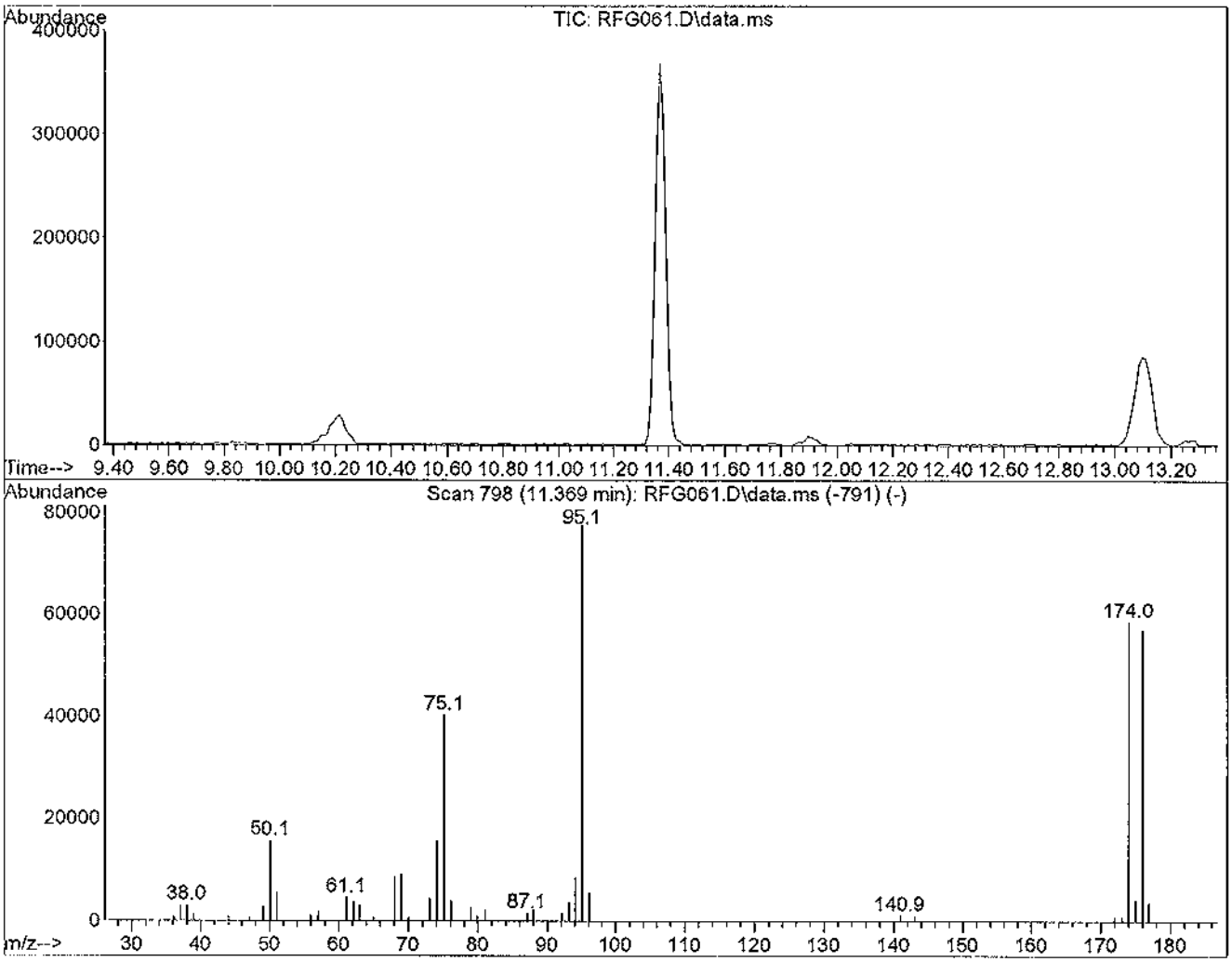
| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| | UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| | LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 754319 | 5.99 | 601845 | 9.56 | 305181 | 13.89 |
| 2 | LCS1W | 792750 | 5.99 | 646227 | 9.56 | 321378 | 13.89 |
| 3 | LCD1W | 821664 | 5.99 | 645570 | 9.56 | 324769 | 13.89 |
| 4 | MBLK1W | 727124 | 5.99 | 552730 | 9.56 | 266282 | 13.89 |
| 5 | TB-1_MAY24 | 558266 | 5.99 | 422620 | 9.56 | 206204 | 13.89 |
| 6 | TB-2_MAY24 | 532753 | 5.99 | 414099 | 9.56 | 187690 | 13.89 |
| 7 | T1AMF-MW059-MAY24 | 517077 | 5.99 | 404842 | 9.56 | 199904 | 13.89 |
| 8 | T1AMF-MW044-MAY24 | 505402 | 5.99 | 390333 | 9.56 | 183981 | 13.89 |
| 9 | T1AMF-MW047-MAY24 | 493646 | 5.99 | 384955 | 9.56 | 184007 | 13.89 |
| 10 | T1AMF-MW046-MAY24 | 484255 | 5.99 | 379562 | 9.56 | 181666 | 13.89 |
| 11 | T1AMF-MW050-MAY24 | 468785 | 5.99 | 377159 | 9.56 | 180466 | 13.89 |
| 12 | T1AMF-MW052-MAY24 | 476344 | 5.99 | 367398 | 9.56 | 172504 | 13.89 |
| 13 | T1AMF-MW052-MAY24_FD | 466794 | 5.99 | 360921 | 9.56 | 173390 | 13.88 |
| 14 | T1AMF-MW060-MAY24 | 482092 | 5.99 | 384233 | 9.56 | 184090 | 13.89 |
| 15 | T1AMF-MW017-MAY24 | 468845 | 5.99 | 366412 | 9.56 | 177214 | 13.89 |
| 16 | T1AMF-MW011-MAY24 | 457705 | 5.99 | 362030 | 9.56 | 168731 | 13.89 |
| 17 | T1AMF-MW016-MAY24 | 457099 | 5.99 | 363853 | 9.56 | 174264 | 13.89 |
| 18 | T1AMF-MW016-MAY24_FD | 466426 | 5.99 | 362719 | 9.56 | 175336 | 13.89 |
| 19 | T1AMF-MW049-MAY24 | 455017 | 5.99 | 364511 | 9.56 | 174043 | 13.89 |
| 20 | VSTD10 | 493624 | 5.99 | 398955 | 9.56 | 221976 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Data Path : D:\Data\24F10\
Data File : RFG061.D
Acq On : 10 Jun 2024 15:55
Operator : DNguye
Sample : BFBF03
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




Spectrum Information: Scan 798

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 20.4 | 15825 | PASS |
| 75 | 95 | 30 | 60 | 52.0 | 40328 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 77496 | PASS |
| 96 | 95 | 5 | 9 | 7.2 | 5614 | PASS |
| 173 | 174 | 0.00 | 2 | 1.6 | 963 | PASS |
| 174 | 95 | 50 | 100 | 75.6 | 58592 | PASS |
| 175 | 174 | 5 | 9 | 7.2 | 4243 | PASS |
| 176 | 174 | 95 | 101 | 97.1 | 56872 | PASS |
| 177 | 176 | 5 | 9 | 6.5 | 3698 | PASS |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 156 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.839 | -8.4 | 190 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 7.384 | 26.2# | 127 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.461 | -4.6 | 171 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 8.230 | 17.7 | 155 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 11.096 | -11.0 | 174 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 9.062 | 9.4 | 148 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.401 | 16.0 | 143 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 42.007 | 16.0 | 134 | 0.01 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 10.274 | -2.7 | 167 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 50.666 | -1.3 | 148 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 250.165 | -0.1 | 156 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.483 | -4.8 | 164 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 105.761 | -5.8 | 163 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 11.506 | -15.1 | 177 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 10.464 | -4.6 | 180 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.912 | -9.1 | 148 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 43.827 | 12.3 | 130 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 11.065 | -10.6 | 171 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 10.264 | -2.6 | 159 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.442 | -4.4 | 166 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 10.383 | -3.8 | 163 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 5.910 | 40.9# | 86 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.570 | -5.7 | 170 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.692 | 3.1 | 150 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 48.961 | 2.1 | 145 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 102.751 | -2.8 | 166 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 206.376 | -3.2 | 160 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 11.544 | -15.4 | 175 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 101.779 | -1.8 | 162 | 0.01 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.795 | -7.9 | 176 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.372 | -3.7 | 173 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.972 | 0.3 | 152 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 9.418 | 5.8 | 149 | 0.00 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.786 | 2.1 | 150 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 11.146 | -11.5 | 175 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.879 | -8.8 | 162 | 0.01 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.561 | -5.6 | 161 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.246 | -2.5 | 166 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.875 | -8.8 | 166 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.160 | -11.6 | 171 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.938 | -9.4 | 172 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.816 | 1.8 | 157 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 7.438 | 25.6# | 121 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.384 | -3.8 | 163 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.01 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.013 | -10.1 | 171 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 9.735 | 2.7 | 155 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D Vial: 2
Acq On : 10 Jun 2024 16:35 Operator: DNguye
Sample : CVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 7.494 | 25.1# | 114 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 45.062 | 9.9 | 135 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.952 | -9.5 | 170 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 147 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.822 | -8.2 | 158 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.395 | -13.9 | 162 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.605 | -16.1 | 172 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.830 | -18.3 | 171 | 0.01 |
| 60 | T,M | 2-Hexanone | 50.000 | 48.545 | 2.9 | 135 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.893 | -8.9 | 161 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 11.701 | -17.0 | 175 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 10.713 | -7.1 | 164 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.946 | 0.5 | 150 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 10.079 | -0.8 | 145 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 11.139 | -11.4 | 164 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 11.006 | -10.1 | 165 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.857 | -8.6 | 157 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 11.321 | -13.2 | 171 | 0.01 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 22.224 | -11.1 | 176 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 11.637 | -16.4 | 171 | 0.01 |
| 72 | T,M | Styrene | 10.000 | 11.262 | -12.6 | 164 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 11.542 | -15.4 | 169 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 154 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.719 | 2.8 | 153 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.388 | -3.9 | 166 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.724 | -7.2 | 168 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.516 | -5.2 | 167 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 11.659 | -16.6 | 177 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 10.935 | -9.4 | 178 | 0.01 |
| 81 | T,M | Bromobenzene | 10.000 | 10.357 | -3.6 | 160 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 10.732 | -7.3 | 172 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 11.463 | -14.6 | 188 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.523 | -25.2# | 164 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 10.821 | -8.2 | 174 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.023 | -10.2 | 173 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 10.973 | -9.7 | 173 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 10.624 | -6.2 | 171 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 12.000 | -20.0 | 168 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.904 | -9.0 | 170 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.553 | -15.5 | 165 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 11.020 | -10.2 | 177 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.313 | -3.1 | 173 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 9.616 | 3.8 | 159 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 11.452 | -14.5 | 181 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 11.051 | -10.5 | 172 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.389 | -3.9 | 163 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.820 | -8.2 | 171 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 156 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.622 | -8.4 | 190 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.304 | 26.2# | 127 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.455 | -4.6 | 171 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.242 | 17.7 | 155 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.103 | -11.0 | 174 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.193 | 9.4 | 148 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.821 | 16.0 | 143 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.055 | 15.4 | 134 | 0.01 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.438 | -2.8 | 167 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.130 | 28.2# | 148 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.061 | 0.0 | 156 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.937 | -4.8 | 164 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.032 | -6.7 | 163 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.272 | -15.3 | 177 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.497 | -15.9 | 180 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.694 | 13.4 | 148 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.132 | 12.0 | 130 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.653 | -10.6 | 171 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.406 | -2.6 | 159 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.498 | -4.4 | 166 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.579 | -3.9 | 163 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.512 | 40.9# | 86 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 1.020 | -5.7 | 170 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.790 | 3.0 | 150 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.046 | 2.1 | 145 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.057 | -3.6 | 166 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.020 | 0.0 | 160 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 1.115 | -15.4 | 175 | 0.01 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.092 | -1.1 | 162 | 0.01 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.586 | -7.9 | 176 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.240 | -3.7 | 173 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.318 | 0.3 | 152 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.119 | 5.6 | 149 | 0.00 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.599 | 2.1 | 150 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.202 | -11.4 | 175 | 0.01 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.358 | -8.8 | 162 | 0.01 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.249 | -5.5 | 161 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.829 | -2.5 | 166 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 0.993 | -8.8 | 166 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.026 | -11.6 | 171 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 2.001 | -9.3 | 172 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.496 | 1.8 | 157 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.333 | 25.7# | 121 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.485 | -3.9 | 163 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.01 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.973 | -10.1 | 171 | 0.01 |
| 51 | T,M | Dibromomethane | 0.380 | 0.370 | 2.6 | 155 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D Vial: 2
Acq On : 10 Jun 2024 16:35 Operator: DNguye
Sample : CVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.173 | 25.1# | 114 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.461 | 10.0 | 135 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.894 | -9.4 | 170 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 147 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.150 | -8.2 | 158 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.778 | -14.1 | 162 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.632 | -16.0 | 172 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.148 | -18.4 | 171 | 0.01 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.398 | 2.9 | 135 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.586 | -8.9 | 161 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.935 | -17.0 | 175 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.531 | -7.1 | 164 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.803 | 0.5 | 150 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.585 | -0.9 | 145 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.836 | -11.3 | 164 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.649 | -10.1 | 165 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.692 | -8.6 | 157 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 3.104 | -13.2 | 171 | 0.01 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.484 | -11.1 | 176 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.463 | -16.3 | 171 | 0.01 |
| 72 | T,M | Styrene | 1.480 | 1.667 | -12.6 | 164 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.784 | -15.4 | 169 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 154 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.061 | 2.7 | 153 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.448 | -3.9 | 166 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.702 | -7.2 | 168 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.405 | -5.2 | 167 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.454 | -16.7 | 177 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.934 | -9.4 | 178 | 0.01 |
| 81 | T,M | Bromobenzene | 1.392 | 1.441 | -3.5 | 160 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.678 | -7.3 | 172 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.486 | -14.6 | 188 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.123 | -8.6 | 164 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.730 | -8.1 | 174 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.699 | -10.2 | 173 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 5.421 | -9.7 | 173 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.404 | -6.2 | 171 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.381 | -3.4 | 168 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.606 | -9.0 | 170 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.384 | -1.5 | 165 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 4.344 | -10.2 | 177 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.253 | -3.2 | 173 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.273 | 3.5 | 159 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.515 | -1.5 | 181 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.834 | -10.5 | 172 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 3.508 | -3.9 | 163 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.363 | 3.9 | 171 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG062.D Vial: 2
Acq On : 10 Jun 2024 16:35 Operator: DNguye
Sample : CVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 754319 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 601845 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 305181 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 452117 | 9.79 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 97.90% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 625523 | 10.25 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1294158 | 10.82 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 108.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 519549 | 10.72 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.20% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 469229 | 10.84 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 229389 | 7.38 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 343187 | 10.46 | ug/l | 97 |
| 5) Bromomethane | 3.313 | 94 | 182597 | 8.23 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 831783 | 11.10 | ug/L | 98 |
| 7) Chloroethane | 3.346 | 64 | 145650 | 9.06 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 619212 | 8.40 | ug/l | 99 |
| 9) Acrolein | 3.753 | 56 | 206070 | 42.01 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 330151 | 10.27 | ug/l | 100 |
| 11) Acetone | 3.775 | 43 | 491394 | 50.67 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 1147510 | 250.16 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 706835 | 10.48 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 240752 | 105.76 | ug/L | 100 |
| 15) Allyl chloride | 4.105 | 76 | 204867 | 11.51 | ug/L | 99 |
| 16) Iodomethane | 4.149 | 142 | 375194 | 10.46 | ug/l | 95 |
| 18) Methylene chloride | 4.182 | 49 | 523735 | 10.91 | ug/l | 95 |
| 19) Acrylonitrile | 4.215 | 53 | 497046 | 43.83 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 1247173 | 11.06 | ug/L | 98 |
| 21) Carbon disulfide | 4.314 | 76 | 1060379 | 10.26 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 375609 | 10.44 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1190865 | 10.38 | ug/l | 96 |
| 24) Vinyl acetate | 4.546 | 43 | 386080 | 5.91 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 769127 | 10.57 | ug/l | 100 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1349971 | 9.69 | ug/l | 90 |
| 27) 2-Butanone | 4.854 | 72 | 173305 | 48.96 | ug/l | 90 |
| 28) Propionitrile | 4.909 | 54 | 428512 | 102.75 | ug/L | 96 |
| 29) Isobutyl alcohol | 5.030 | 43 | 304093 | 206.38 | ug/L | 100 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 840828 | 11.54 | ug/l | 99 |
| 31) Methacrylonitrile | 5.063 | 52 | 696880 | 101.78 | ug/L | 89 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 442114 | 10.80 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 935634 | 10.37 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 239902 | 9.97 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.327 | 42 | 89524 | 9.42 | ug/L | 97 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 906842 | 11.15 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.624 | 87 | 270385 | 10.88 | ug/l | 96 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 188107 | 10.56 | ug/L | 98 |
| 42) Carbon tetrachloride | 5.734 | 119 | 748686 | 10.87 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 773876 | 11.16 | ug/L | 96 |
| 44) Benzene | 5.866 | 78 | 1509668 | 10.94 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG062.D Vial: 2
Acq On : 10 Jun 2024 16:35 Operator: DNguye
Sample : CVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

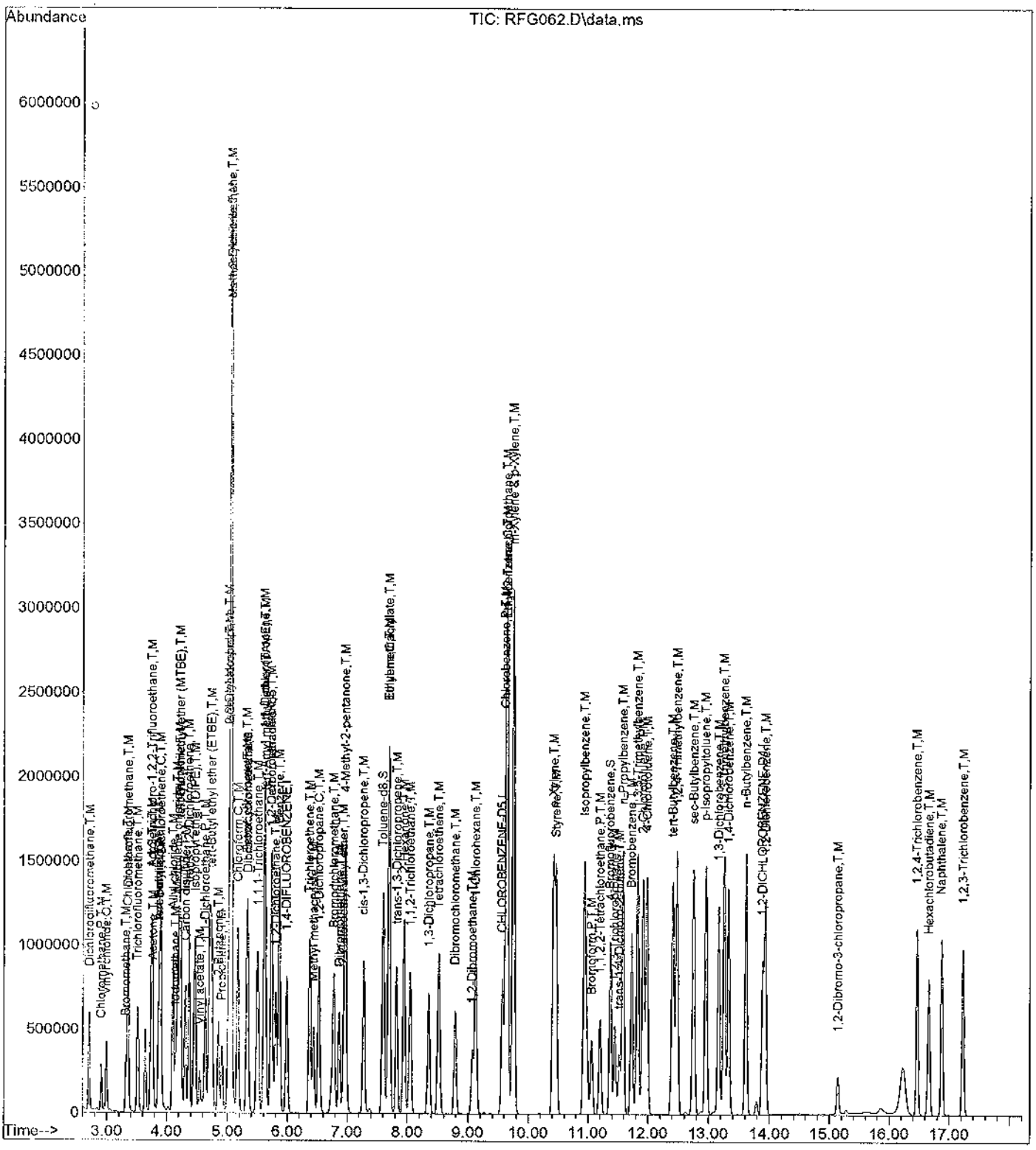
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.372 | 130 | 373994 | 9.82 | ug/L | | 97 |
| 46) Methyl methacrylate | 6.439 | 69 | 251107 | 7.44 | ug/L | # | 73 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 365789 | 10.38 | ug/L | | 92 |
| 50) Bromodichloromethane | 6.780 | 83 | 734197 | 11.01 | ug/L | | 97 |
| 51) Dibromomethane | 6.868 | 93 | 279048 | 9.74 | ug/L | | 99 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 130748 | 7.49 | ug/L | | 98 |
| 53) 4-Methyl-2-pentanone | 6.967 | 43 | 1738962 | 45.06 | ug/L | | 97 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 674652 | 10.95 | ug/L | | 99 |
| 57) Ethyl methacrylate | 7.693 | 69 | 468006 | 11.39 | ug/L | | 93 |
| 58) Toluene | 7.693 | 91 | 1584004 | 11.60 | ug/l | | 100 |
| 59) trans-1,3-Dichloropropene | 7.825 | 75 | 690962 | 11.83 | ug/l | | 96 |
| 60) 2-Hexanone | 7.946 | 43 | 1198030 | 48.54 | ug/l | | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 352879 | 10.89 | ug/l | | 98 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 562912 | 11.70 | ug/l | | 100 |
| 63) Tetrachloroethene | 8.507 | 164 | 319675 | 10.71 | ug/l | | 97 |
| 64) Dibromochloromethane | 8.783 | 129 | 483253 | 9.95 | ug/l | | 98 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 351856 | 10.08 | ug/l | | 98 |
| 66) 1-Chlorohexane | 9.124 | 91 | 503176 | 11.14 | ug/l | | 90 |
| 67) Chlorobenzene | 9.619 | 112 | 992318 | 11.01 | ug/l | | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 416515 | 10.86 | ug/l | | 99 |
| 69) Ethylbenzene | 9.652 | 91 | 1868301 | 11.32 | ug/l | | 99 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 2990434 | 22.22 | ug/l | | 98 |
| 71) o-Xylene | 10.422 | 91 | 1482291 | 11.64 | ug/l | | 99 |
| 72) Styrene | 10.466 | 104 | 1003167 | 11.26 | ug/l | | 96 |
| 73) Isopropylbenzene | 10.940 | 105 | 1675316 | 11.54 | ug/L | | 99 |
| 75) Bromoform | 11.061 | 173 | 323699 | 9.72 | ug/l | | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 441834 | 10.39 | ug/l | | 98 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 123489 | 10.52 | ug/l | | 100 |
| 79) trans-1,4-Dichloro-2-b... | 11.523 | 53 | 138552 | 11.66 | ug/l | | 95 |
| 80) n-Propylbenzene | 11.589 | 91 | 2116018 | 10.94 | ug/l | | 99 |
| 81) Bromobenzene | 11.732 | 156 | 439857 | 10.36 | ug/l | | 98 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 1427725 | 10.73 | ug/l | | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1369023 | 11.46 | ug/l | | 90 |
| 84) 4-Chlorotoluene | 11.985 | 91 | 1258359 | 12.52 | ug/l | | 98 |
| 85) tert-Butylbenzene | 12.414 | 134 | 222783 | 10.82 | ug/l | | 95 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 1434177 | 11.02 | ug/l | | 97 |
| 87) sec-Butylbenzene | 12.755 | 105 | 1654238 | 10.97 | ug/l | | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1343889 | 10.62 | ug/l | | 98 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 726658 | 12.00 | ug/l | | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 1405688 | 10.90 | ug/L | | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 727512 | 11.55 | ug/l | | 97 |
| 92) n-Butylbenzene | 13.614 | 91 | 1325754 | 11.02 | ug/l | | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 687518 | 10.31 | ug/l | | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 83174 | 9.62 | ug/l | | 100 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 462389 | 11.45 | ug/l | | 98 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 254657 | 11.05 | ug/l | | 98 |
| 97) Naphthalene | 16.871 | 128 | 1070687 | 10.39 | ug/l | | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 416001 | 10.82 | ug/l | | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG062.D Vial: 2
Acq On : 10 Jun 2024 16:35 Operator: DNguye
Sample : CVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



# Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 102 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 11.887 | -18.9 | 137 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 7.594 | 24.1# | 85 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 11.793 | -17.9 | 126 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 7.870 | 21.3# | 97 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 11.101 | -11.0 | 114 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.971 | 10.3 | 96 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 9.688 | 3.1 | 108 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 30.859 | 38.3# | 64 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 10.267 | -2.7 | 109 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 45.965 | 8.1 | 89 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 221.073 | 11.6 | 90 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.645 | -6.4 | 109 | -0.01 |
| 14 | T,M | Acetonitrile | 100.000 | 93.870 | 6.1 | 94 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.251 | -2.5 | 103 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 9.908 | 0.9 | 111 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.752 | -7.5 | 96 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 39.058 | 21.9# | 76 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 11.091 | -10.9 | 112 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 10.324 | -3.2 | 105 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.113 | -1.1 | 105 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.568 | 4.3 | 98 | 0.00 |
| 24 | T,M | Vinyl acetate | 10.000 | 5.404 | 46.0# | 51 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.284 | -2.8 | 108 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.409 | 5.9 | 96 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 41.369 | 17.3 | 80 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 89.785 | 10.2 | 95 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 159.210 | 20.4# | 81 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.746 | -7.5 | 107 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 106.105 | -6.1 | 110 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.413 | -4.1 | 111 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 11.008 | -10.1 | 120 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.934 | 0.7 | 99 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 8.603 | 14.0 | 89 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 10.156 | -1.6 | 102 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 11.974 | -19.7 | 123 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 11.177 | -11.8 | 109 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.196 | -2.0 | 102 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 11.563 | -15.6 | 122 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 12.288 | -22.9# | 123 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 12.625 | -26.3# | 126 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.550 | -5.5 | 108 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.701 | 3.0 | 101 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 6.971 | 30.3# | 74 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 9.931 | 0.7 | 102 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.780 | -17.8 | 120 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 10.241 | -2.4 | 107 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D Vial: 37
Acq On : 11 Jun 2024 2:43 Operator: DNguye
Sample : EVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 6.774 | 32.3# | 67 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 42.974 | 14.1 | 84 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.201 | -2.0 | 103 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.488 | -4.9 | 101 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 10.597 | -6.0 | 100 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.165 | -11.6 | 110 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.571 | -15.7 | 111 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 45.973 | 8.1 | 85 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.495 | -4.9 | 103 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 11.309 | -13.1 | 112 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 10.756 | -7.6 | 109 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 10.244 | -2.4 | 102 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.749 | 2.5 | 93 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.660 | -6.6 | 104 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 10.925 | -9.3 | 109 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 11.367 | -13.7 | 109 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 11.446 | -14.5 | 115 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 22.476 | -12.4 | 118 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 11.602 | -16.0 | 113 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 11.297 | -13.0 | 109 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 11.578 | -15.8 | 112 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 112 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.170 | 8.3 | 105 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 9.421 | 5.8 | 109 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.050 | -0.5 | 115 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.191 | -1.9 | 117 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 10.164 | -1.6 | 112 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.998 | 0.0 | 118 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.712 | 2.9 | 109 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.988 | 0.1 | 116 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.957 | 0.4 | 119 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.324 | -23.2# | 118 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.778 | 2.2 | 114 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 10.501 | -5.0 | 120 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 10.061 | -0.6 | 115 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.858 | 1.4 | 115 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.232 | -12.3 | 115 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.228 | -2.3 | 116 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.060 | -10.6 | 115 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.908 | 0.9 | 116 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.015 | -0.2 | 122 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.737 | 12.6 | 105 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.598 | 4.0 | 111 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 10.173 | -1.7 | 115 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 8.798 | 12.0 | 100 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 9.964 | 0.4 | 115 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D  Vial: 37
Acq On : 11 Jun 2024 2:43  Operator: DNguye
Sample : EVOE2E1706  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 102 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.682 | -18.8 | 137 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.313 | 24.0# | 85 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.513 | -17.9 | 126 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.231 | 21.4# | 97 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.103 | -11.0 | 114 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.191 | 10.3 | 96 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.947 | 3.1 | 108 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.040 | 38.5# | 64 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.437 | -2.6 | 109 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.119 | 34.3# | 89 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.054 | 11.5 | 90 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.951 | -6.4 | 109 | -0.01 |
| 14 | T,M | Acetonitrile | 0.030 | 0.028 | 6.7 | 94 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.242 | -2.5 | 103 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.470 | -9.6 | 111 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.685 | 14.5 | 96 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.117 | 22.0# | 76 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.657 | -10.9 | 112 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.414 | -3.2 | 105 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.482 | -1.0 | 105 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.455 | 4.3 | 98 | 0.00 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.468 | 46.0# | 51 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 0.992 | -2.8 | 108 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.737 | 5.9 | 96 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.039 | 17.0 | 80 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.050 | 9.1 | 95 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.016 | 20.0 | 81 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 1.038 | -7.5 | 107 | 0.01 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.096 | -5.5 | 110 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.565 | -4.1 | 111 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.317 | -10.1 | 120 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.317 | 0.6 | 99 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.108 | 14.3 | 89 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.622 | -1.6 | 102 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.292 | -19.7 | 123 | 0.00 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.368 | -11.9 | 109 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.241 | -2.1 | 102 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.936 | -15.7 | 122 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 1.122 | -22.9# | 123 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.161 | -26.3# | 126 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.930 | -5.5 | 108 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.490 | 3.0 | 101 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.312 | 30.4# | 74 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.464 | 0.6 | 102 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.001 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 1.041 | -17.8 | 120 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.389 | -2.4 | 107 | 0.01 |

Data File : D:\Data\24F10\RFG088.D  Vial: 37
Acq On : 11 Jun 2024 2:43  Operator: DNguye
Sample : EVOE2E1706  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.157 | 32.0# | 67 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.440 | 14.1 | 84 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.833 | -2.0 | 103 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.084 | -4.9 | 101 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.723 | -6.0 | 100 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.532 | -11.6 | 110 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.123 | -15.8 | 111 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.377 | 8.0 | 85 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.565 | -5.0 | 103 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.904 | -13.1 | 112 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.533 | -7.5 | 109 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.827 | -2.5 | 102 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.565 | 2.6 | 93 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.800 | -6.5 | 104 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.637 | -9.3 | 109 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.725 | -13.8 | 109 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 3.138 | -14.4 | 115 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.513 | -12.4 | 118 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.456 | -16.0 | 113 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.672 | -13.0 | 109 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.792 | -15.8 | 112 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 112 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.001 | 8.2 | 105 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.313 | 5.8 | 109 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.595 | -0.5 | 115 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.392 | -1.8 | 117 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.396 | -1.8 | 112 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.339 | 0.0 | 118 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.352 | 2.9 | 109 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.354 | 0.1 | 116 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.897 | 0.4 | 119 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.060 | -7.0 | 118 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.660 | 2.2 | 114 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.477 | -5.0 | 120 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.970 | -0.6 | 115 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.086 | 1.4 | 115 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.234 | 3.0 | 115 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.321 | -2.3 | 116 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.286 | 2.7 | 115 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.906 | 0.9 | 116 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.188 | -0.2 | 122 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.248 | 12.4 | 105 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.278 | 14.4 | 111 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.768 | -1.7 | 115 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.971 | 12.0 | 100 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.259 | 11.3 | 115 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D Vial: 37
Acq On : 11 Jun 2024 2:43 Operator: DNguye
Sample : EVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG088.D Vial: 37
Acq On : 11 Jun 2024 2:43 Operator: DNguye
Sample : EVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 493624 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 398955 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 221976 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 307056 | 10.16 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.60% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 461960 | 11.56 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 115.60% | | |
| 56) Toluene-d8 | 7.594 | 98 | 831462 | 10.49 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.90% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 354126 | 10.05 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.50% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 336748 | 11.89 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 154384 | 7.59 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 253169 | 11.79 | ug/l | 95 |
| 5) Bromomethane | 3.313 | 94 | 114270 | 7.87 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 544565 | 11.10 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 94354 | 8.97 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 467257 | 9.69 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 99065 | 30.86 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 215886 | 10.27 | ug/l | 98 |
| 11) Acetone | 3.764 | 43 | 294402 | 45.97 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 663600 | 221.07 | ug/L | 98 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 469668 | 10.64 | ug/l | 97 |
| 14) Acetonitrile | 3.874 | 41 | 139835 | 93.87 | ug/L | 94 |
| 15) Allyl chloride | 4.105 | 76 | 119441 | 10.25 | ug/L | 100 |
| 16) Iodomethane | 4.149 | 142 | 232127 | 9.91 | ug/l | 82 |
| 18) Methylene chloride | 4.182 | 49 | 338081 | 10.75 | ug/l | 98 |
| 19) Acrylonitrile | 4.215 | 53 | 289871 | 39.06 | ug/l | 97 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 818095 | 11.09 | ug/L | 94 |
| 21) Carbon disulfide | 4.304 | 76 | 697990 | 10.32 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 238047 | 10.11 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 718115 | 9.57 | ug/l | 95 |
| 24) Vinyl acetate | 4.546 | 43 | 231013 | 5.40 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 489675 | 10.28 | ug/l | 98 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 857587 | 9.41 | ug/l | 87 |
| 27) 2-Butanone | 4.854 | 72 | 95825 | 41.37 | ug/l | 97 |
| 28) Propionitrile | 4.909 | 54 | 245032 | 89.79 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 153518 | 159.21 | ug/L | 87 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 512217 | 10.75 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 475421 | 106.11 | ug/L | 99 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 279078 | 10.41 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 649869 | 11.01 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 156386 | 9.93 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 53512 | 8.60 | ug/L | 95 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 637547 | 11.97 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 181798 | 11.18 | ug/l | 96 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 118844 | 10.20 | ug/L | 98 |
| 42) Carbon tetrachloride | 5.734 | 119 | 553612 | 12.29 | ug/L | 100 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 572901 | 12.62 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 952887 | 10.55 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG088.D Vial: 37
Acq On : 11 Jun 2024 2:43 Operator: DNguye
Sample : EVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

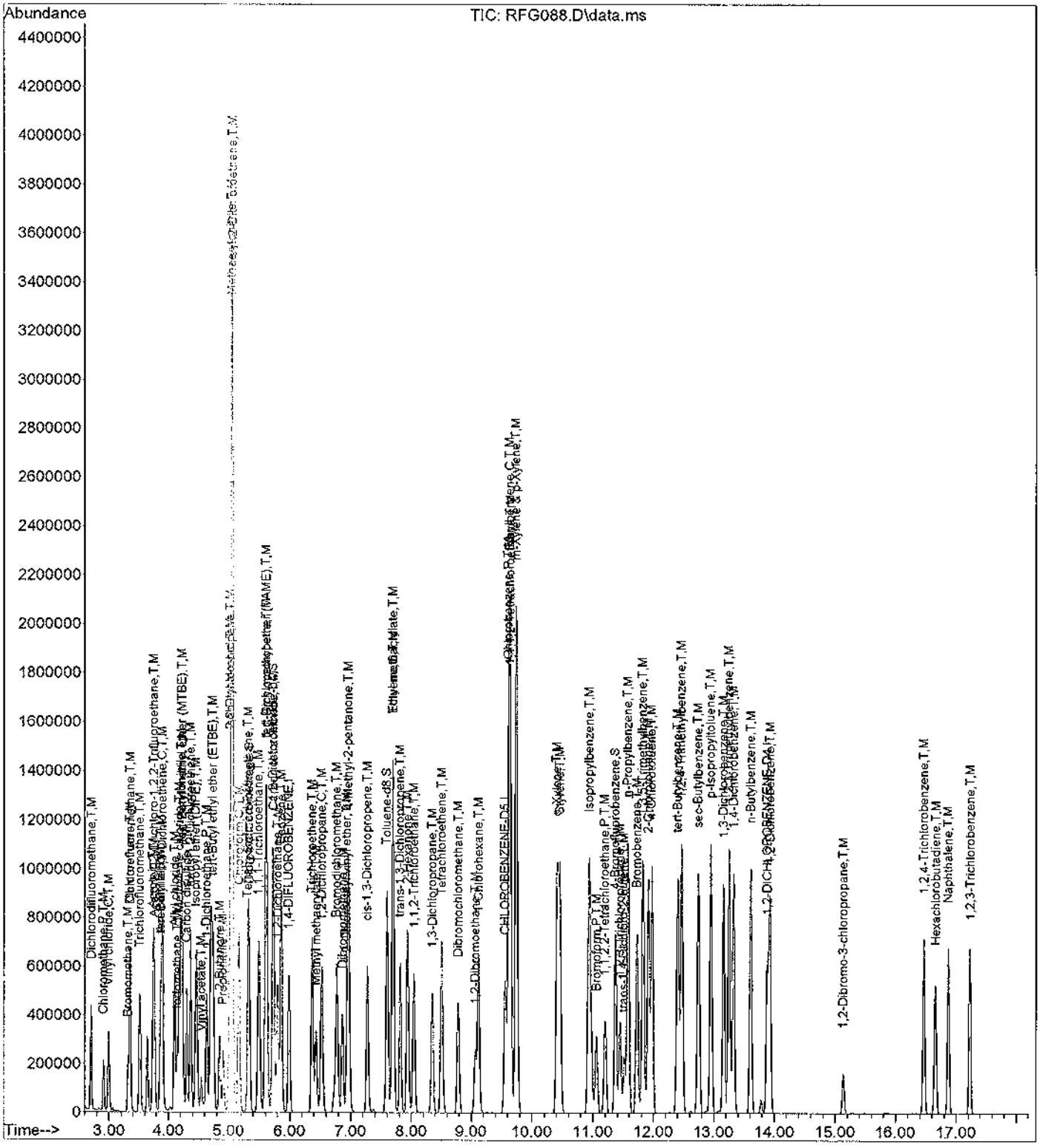
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.372 | 130 | 241877 | 9.70 | ug/L | 98 |
| 46) | Methyl methacrylate | 6.439 | 69 | 153988 | 6.97 | ug/L | 79 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 228917 | 9.93 | ug/L | 82 |
| 50) | Bromodichloromethane | 6.769 | 83 | 513918 | 11.78 | ug/L | 96 |
| 51) | Dibromomethane | 6.868 | 93 | 192093 | 10.24 | ug/L | 96 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 77348 | 6.77 | ug/L | 98 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 1085247 | 42.97 | ug/L | 98 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 411208 | 10.20 | ug/L | 94 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 288509 | 10.60 | ug/L | 100 |
| 58) | Toluene | 7.693 | 91 | 1010214 | 11.16 | ug/l | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 447982 | 11.57 | ug/l | 96 |
| 60) | 2-Hexanone | 7.935 | 43 | 752080 | 45.97 | ug/l | 96 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 225374 | 10.50 | ug/l | 96 |
| 62) | 1,3-Dichloropropane | 8.353 | 76 | 360623 | 11.31 | ug/l | 99 |
| 63) | Tetrachloroethene | 8.508 | 164 | 212760 | 10.76 | ug/l | 97 |
| 64) | Dibromochloromethane | 8.783 | 129 | 329948 | 10.24 | ug/l | 100 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 225594 | 9.75 | ug/l | 97 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 319202 | 10.66 | ug/l | 100 |
| 67) | Chlorobenzene | 9.619 | 112 | 652933 | 10.93 | ug/l | 100 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 289052 | 11.37 | ug/l | 98 |
| 69) | Ethylbenzene | 9.641 | 91 | 1252113 | 11.45 | ug/l | 99 |
| 70) | m-Xylene & p-Xylene | 9.740 | 91 | 2004788 | 22.48 | ug/l | 97 |
| 71) | o-Xylene | 10.411 | 91 | 979707 | 11.60 | ug/l | 98 |
| 72) | Styrene | 10.455 | 104 | 667081 | 11.30 | ug/l | 93 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1113978 | 11.58 | ug/L | 99 |
| 75) | Bromoform | 11.061 | 173 | 222145 | 9.17 | ug/l | 98 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 291455 | 9.42 | ug/l | 96 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 87045 | 10.19 | ug/l | 96 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 87849 | 10.16 | ug/l | 100 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1407148 | 10.00 | ug/l | 99 |
| 81) | Bromobenzene | 11.732 | 156 | 300002 | 9.71 | ug/l | 99 |
| 82) | 1,3,5-Trimethylbenzene | 11.820 | 105 | 966431 | 9.99 | ug/l | 98 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 865017 | 9.96 | ug/l | 96 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 901250 | 12.32 | ug/l | 97 |
| 85) | tert-Butylbenzene | 12.403 | 134 | 146427 | 9.78 | ug/l | 100 |
| 86) | 1,2,4-Trimethylbenzene | 12.469 | 105 | 993689 | 10.50 | ug/l | 96 |
| 87) | sec-Butylbenzene | 12.745 | 105 | 1103222 | 10.06 | ug/l | 100 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 907042 | 9.86 | ug/l | 96 |
| 89) | 1,3-Dichlorobenzene | 13.163 | 146 | 495985 | 11.23 | ug/l | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.251 | 105 | 959108 | 10.23 | ug/L | 99 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 507369 | 11.06 | ug/l | 98 |
| 92) | n-Butylbenzene | 13.614 | 91 | 867017 | 9.91 | ug/l | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 485604 | 10.01 | ug/l | 96 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 54964 | 8.74 | ug/l | 100 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 283643 | 9.60 | ug/l | 99 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 170511 | 10.17 | ug/l | 97 |
| 97) | Naphthalene | 16.871 | 128 | 659535 | 8.80 | ug/l | 99 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 279461 | 9.96 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG088.D Vial: 37
Acq On : 11 Jun 2024 2:43 Operator: DNguye
Sample : EVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F003
Lab File ID: RFG091 BFB Injection Date: 06/11/24
Instrument ID: E2 BFB Injection Time: 12:47

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.430 |
| 75 | 30 - 60% of mass 95 | 58.855 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 7.042 |
| 173 | Less than 2% of mass 174 | 0.000(0)1 |
| 174 | Greater than 50% of mass 95 | 86.589 |
| 175 | 5 - 9% of mass 174 | 6.114(7.06)1 |
| 176 | 95 - 101% % of mass 174 | 82.804(95.63)1 |
| 177 | 5 - 9% % of mass 176 | 6.481(7.83)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1707 | RFG092 | 06/11/24 | 13:35 |
| 2 | LCS2W | VOE2F04L | RFG093 | 06/11/24 | 14:15 |
| 3 | LCD2W | VOE2F04C | RFG094 | 06/11/24 | 14:39 |
| 4 | MBLK2W | VOE2F04B | RFG096 | 06/11/24 | 15:26 |
| 5 | T1AMF-MW029-MAY24 | 24F003-14 | RFG101 | 06/11/24 | 17:25 |
| 6 | T1AMF-MW030-MAY24 | 24F003-15 | RFG102 | 06/11/24 | 17:49 |
| 7 | T1AMF-MW030-MAY24_FD | 24F003-16 | RFG103 | 06/11/24 | 18:13 |
| 8 | T1AMF-MW057-MAY24 | 24F003-17 | RFG104 | 06/11/24 | 18:37 |
| 9 | VSTD10 | EVOE2E1707 | RFG119 | 06/12/24 | 00:30 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F003
Date Analyzed: 05/17/24
Time Analyzed: 14:09

| INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 1\|VSTD10 | 670311 | 5.99 | 536256 | 9.56 | 276585 | 13.89 |
| 2\|LCS2W | 700127 | 5.99 | 552821 | 9.56 | 279028 | 13.89 |
| 3\|LCD2W | 703905 | 5.99 | 550837 | 9.56 | 285241 | 13.89 |
| 4\|MBLK2W | 600187 | 5.99 | 469288 | 9.56 | 222326 | 13.89 |
| 5\|T1AMF-MW029-MAY24 | 496966 | 5.99 | 393665 | 9.56 | 192105 | 13.89 |
| 6\|T1AMF-MW030-MAY24 | 484161 | 5.99 | 392148 | 9.56 | 178457 | 13.89 |
| 7\|T1AMF-MW030-MAY24_FD | 468619 | 5.99 | 374980 | 9.56 | 178942 | 13.89 |
| 8\|T1AMF-MW057-MAY24 | 462451 | 5.99 | 362871 | 9.56 | 175655 | 13.89 |
| 9\|VSTD10 | 558649 | 5.99 | 454298 | 9.56 | 253559 | 13.89 |

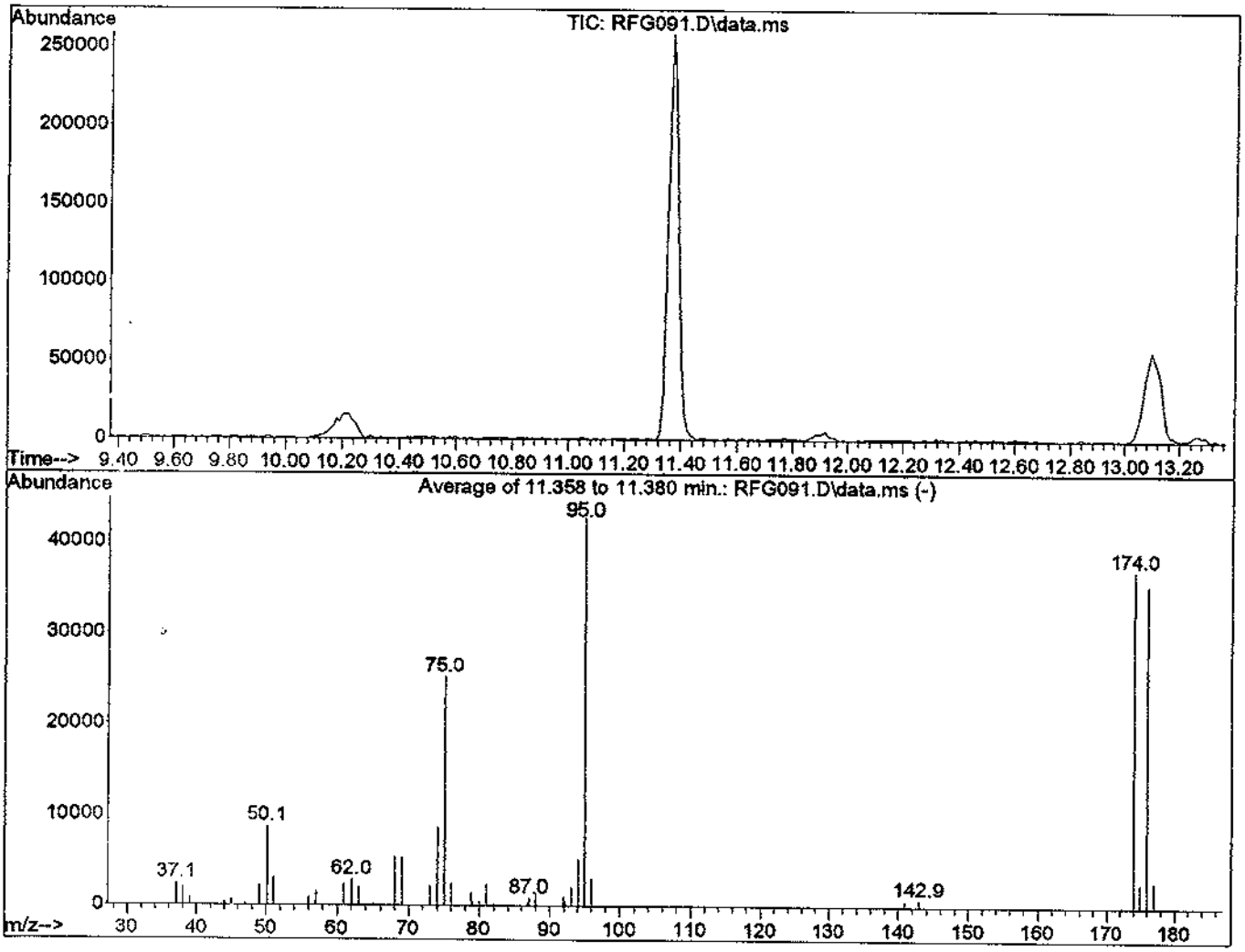
Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

BFB

Data Path : D:\Data\24F11\
Data File : RFG091.D
Acq On : 11 Jun 2024 12:47
Operator : DNguye
Sample : BFBF04
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




AutoFind: Scans 797, 798, 799; Background Corrected with Scan 791

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 20.4 | 8738 | PASS |
| 75 | 95 | 30 | 60 | 58.9 | 25173 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 42771 | PASS |
| 96 | 95 | 5 | 9 | 7.0 | 3012 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 100 | 86.6 | 37035 | PASS |
| 175 | 174 | 5 | 9 | 7.1 | 2615 | PASS |
| 176 | 174 | 95 | 101 | 95.6 | 35416 | PASS |
| 177 | 176 | 5 | 9 | 7.8 | 2772 | PASS |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | | 0.0 | 139 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.649 | | -6.5 | 166 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 8.586 | | 14.1 | 131 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.811 | / | -8.1 | 157 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 9.771 | | 2.3 | 163 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 9.548 | | 4.5 | 133 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.924 | | 10.8 | 129 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.783 | | 12.2 | 132 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 34.629 | | 30.7# | 98 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.679 | | 13.2 | 125 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 43.317 | | 13.4 | 114 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 188.868 | | 24.5# | 105 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 8.941 | / | 10.6 | 125 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 81.614 | | 18.4 | 112 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 9.379 | | 6.2 | 128 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 11.646 | | -16.5 | 178 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.524 | | -5.2 | 127 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 36.443 | | 27.1# | 96 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 9.529 | | 4.7 | 131 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 8.924 | | 10.8 | 123 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 8.687 | | 13.1 | 123 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 8.519 | | 14.8 | 119 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 6.518 | | 34.8# | 84 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.014 | | 9.9 | 129 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 8.169 | | 18.3 | 113 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 37.923 | | 24.2# | 100 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 81.332 | | 18.7 | 117 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 151.186 | | 24.4# | 104 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.189 | | -1.9 | 137 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 87.958 | | 12.0 | 124 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.028 | | 9.7 | 131 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.138 | / | 8.6 | 136 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 8.446 | | 15.5 | 114 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 7.721 | | 22.8# | 109 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.705 | | 2.9 | 132 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 9.866 | | 1.3 | 137 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 9.277 | | 7.2 | 123 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 8.871 | | 11.3 | 120 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.597 | | -6.0 | 152 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 9.739 | | 2.6 | 132 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 10.080 | | -0.8 | 137 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 9.061 | | 9.4 | 126 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 8.246 | | 17.5 | 117 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 5.935 | | 40.7# | 86 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 8.839 | / | 11.6 | 123 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | / | 100.0# | 0 | 0.01 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.636 | | 3.6 | 133 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 8.470 | | 15.3 | 120 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 5.920 | 40.8# | 80 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 37.966 | 24.1# | 101 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 8.995 | 10.1 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 131 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.547 | -5.5 | 137 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.244 | 7.6 | 117 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 9.752 | 2.5 | 129 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.861 | 1.4 | 127 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 40.672 | 18.7 | 101 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.121 | 8.8 | 120 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 9.625 | 3.8 | 128 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.050 | 9.5 | 123 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 8.470 | 15.3 | 114 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 8.250 | 17.5 | 106 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.359 | 6.4 | 123 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.312 | 6.9 | 125 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.481 | 5.2 | 122 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.633 | 3.7 | 130 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.700 | 6.5 | 132 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 9.826 | 1.7 | 129 | 0.01 |
| 72 | T,M | Styrene | 10.000 | 9.591 | 4.1 | 125 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.667 | 3.3 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 140 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.979 | 20.2# | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.290 | 17.1 | 120 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.427 | -4.3 | 148 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 8.633 | 13.7 | 124 | 0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 8.773 | 12.3 | 121 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.032 | 9.7 | 133 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.711 | 12.9 | 122 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 8.948 | 10.5 | 130 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.622 | 3.8 | 143 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 10.110 | -1.1 | 121 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.022 | 9.8 | 131 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 8.989 | 10.1 | 128 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.033 | 9.7 | 129 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 8.762 | 12.4 | 128 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 9.940 | 0.6 | 127 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 8.965 | 10.4 | 127 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 9.670 | 3.3 | 126 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 8.962 | 10.4 | 130 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 8.707 | 12.9 | 132 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.548 | 24.5# | 113 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.068 | 9.3 | 131 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.359 | 6.4 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 8.020 | 19.8 | 114 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.765 | 12.3 | 126 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 139 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.611 | -6.4 | 166 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.354 | 14.1 | 131 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.470 | -8.0 | 157 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.287 | 2.4 | 163 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 0.949 | 4.5 | 133 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.190 | 10.8 | 129 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.858 | 12.2 | 132 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.045 | 30.8# | 98 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.370 | 13.1 | 125 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.113 | 37.6# | 114 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.046 | 24.6# | 105 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.799 | 10.6 | 125 | 0.00 |
| 14 | T,M Acetonitrile | 0.030 | 0.025 | 16.7 | 112 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.221 | 6.4 | 128 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.555 | -29.4# | 178 | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.671 | 16.2 | 127 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.110 | 26.7# | 96 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.424 | 4.7 | 131 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.222 | 10.8 | 123 | 0.01 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.414 | 13.2 | 123 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.295 | 14.8 | 119 | 0.01 |
| 24 | T,M Vinyl acetate | 0.866 | 0.564 | 34.9# | 84 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 0.870 | 9.8 | 129 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.508 | 18.3 | 113 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.036 | 23.4# | 100 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.045 | 18.2 | 117 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.015 | 25.0# | 104 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 0.984 | -1.9 | 137 | 0.00 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.080 | 12.1 | 124 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.490 | 9.8 | 131 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.093 | 8.6 | 136 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.269 | 15.7 | 114 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.097 | 23.0# | 109 | -0.01 |
| 36 | S Dibromofluoromethane | 0.612 | 0.594 | 2.9 | 132 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.064 | 1.4 | 137 | 0.00 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.306 | 7.0 | 123 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.209 | 11.4 | 120 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.858 | -6.1 | 152 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 0.889 | 2.6 | 132 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 0.927 | -0.9 | 137 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.658 | 9.4 | 126 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.416 | 17.6 | 117 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.266 | 40.6# | 86 | 0.00 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.413 | 11.6 | 123 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.01 |
| 50 | T,M Bromodichloromethane | 0.884 | 0.852 | 3.6 | 133 | 0.01 |
| 51 | T,M Dibromomethane | 0.380 | 0.322 | 15.3 | 120 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.137 | 40.7# | 80 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.388 | 24.2# | 101 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.735 | 10.0 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 131 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.096 | -5.5 | 137 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.631 | 7.5 | 117 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.212 | 2.5 | 129 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.957 | 1.3 | 127 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.334 | 18.5 | 101 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.491 | 8.7 | 120 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.769 | 3.8 | 128 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.449 | 9.5 | 123 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.684 | 15.2 | 114 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.479 | 17.4 | 106 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.702 | 6.5 | 123 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.395 | 6.9 | 125 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.604 | 5.2 | 122 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.641 | 3.7 | 130 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.090 | 6.5 | 132 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.080 | 1.7 | 129 | 0.01 |
| 72 | T,M | Styrene | 1.480 | 1.420 | 4.1 | 125 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.331 | 3.4 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 140 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.871 | 20.2# | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.155 | 17.1 | 120 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.655 | -4.3 | 148 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.332 | 13.8 | 124 | 0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.342 | 12.1 | 121 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.727 | 9.7 | 133 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.212 | 12.9 | 122 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.901 | 10.5 | 130 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.765 | 3.8 | 143 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.357 | 11.6 | 121 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.609 | 9.8 | 131 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.832 | 10.1 | 128 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.462 | 9.7 | 129 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.632 | 12.4 | 128 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 1.988 | 13.7 | 127 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 3.787 | 10.3 | 127 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.009 | 14.5 | 126 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.533 | 10.4 | 130 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.902 | 12.9 | 132 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.214 | 24.4# | 113 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.210 | 19.0 | 131 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.707 | 6.4 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.709 | 19.8 | 114 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.113 | 21.6# | 126 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 670311 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 536256 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 276585 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 398438 | 9.71 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 97.10% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 574875 | 10.60 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 106.00% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 1123862 | 10.55 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.50% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 457799 | 10.43 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 104.30% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 409663 | 10.65 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 237016 | 8.59 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 315166 | 10.81 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 192654 | 9.77 | ug/l | 94 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 636053 | 9.55 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 127455 | 8.92 | ug/l | 99 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 575223 | 8.78 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 150956 | 34.63 | ug/l | 97 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 247835 | 8.68 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 379001 | 43.32 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 769858 | 188.87 | ug/L | 98 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 535676 | 8.94 | ug/l | 97 |
| 14) Acetonitrile | 3.874 | 41 | 165094 | 81.61 | ug/L | 99 |
| 15) Allyl chloride | 4.105 | 76 | 148396 | 9.38 | ug/L | 97 |
| 16) Iodomethane | 4.149 | 142 | 372132 | 11.65 | ug/l | 91 |
| 18) Methylene chloride | 4.182 | 49 | 450035 | 10.52 | ug/l | 98 |
| 19) Acrylonitrile | 4.215 | 53 | 367270 | 36.44 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 954476 | 9.53 | ug/L | 96 |
| 21) Carbon disulfide | 4.315 | 76 | 819282 | 8.92 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 277671 | 8.69 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 868254 | 8.52 | ug/l | 96 |
| 24) Vinyl acetate | 4.546 | 43 | 378357 | 6.52 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 582840 | 9.01 | ug/l | 98 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1011074 | 8.17 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 119284 | 37.92 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 301411 | 81.33 | ug/L | 97 |
| 29) Isobutyl alcohol | 5.030 | 43 | 197961 | 151.19 | ug/L | 93 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 659505 | 10.19 | ug/l | 97 |
| 31) Methacrylonitrile | 5.052 | 52 | 535175 | 87.96 | ug/L | 98 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 328565 | 9.03 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 732545 | 9.14 | ug/l | 96 |
| 34) Bromochloromethane | 5.327 | 130 | 180551 | 8.45 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.316 | 42 | 65214 | 7.72 | ug/L | 96 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 713285 | 9.87 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 204906 | 9.28 | ug/l | 98 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 140416 | 8.87 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 595828 | 9.74 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 621168 | 10.08 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 1111269 | 9.06 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG092.D Vial: 2
Acq On : 11 Jun 2024 13:35 Operator: DNguye
Sample : CVOE2E1707 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

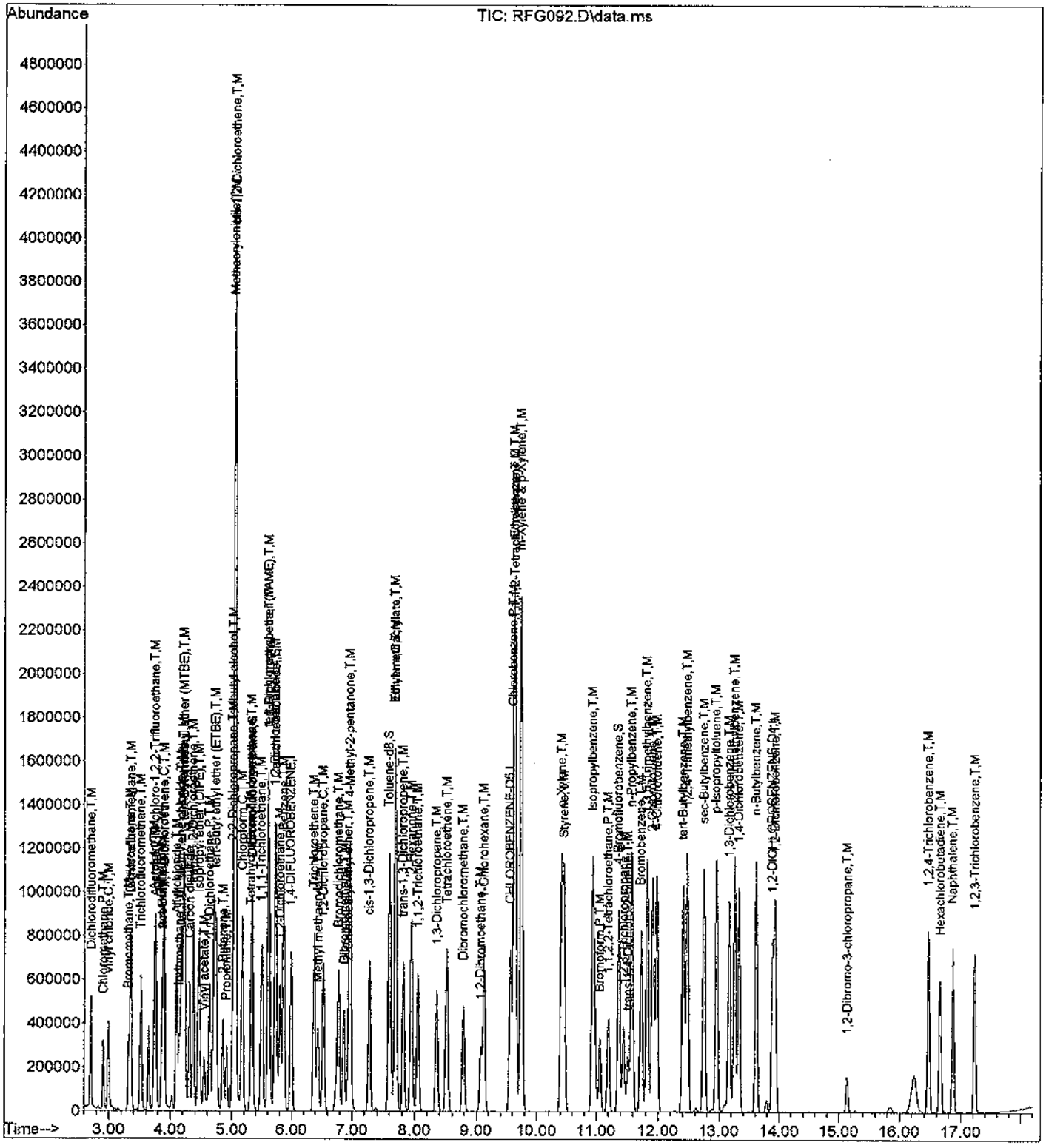
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.372 | 130 | 279167 | 8.25 | ug/L | | 97 |
| 46) Methyl methacrylate | 6.439 | 69 | 178027 | 5.93 | ug/L | # | 76 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 276700 | 8.84 | ug/L | | 87 |
| 50) Bromodichloromethane | 6.780 | 83 | 570890 | 9.64 | ug/L | | 97 |
| 51) Dibromomethane | 6.868 | 93 | 215734 | 8.47 | ug/L | | 97 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 91785 | 5.92 | ug/L | | 97 |
| 53) 4-Methyl-2-pentanone | 6.967 | 43 | 1301951 | 37.97 | ug/L | | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 492380 | 8.99 | ug/L | | 96 |
| 57) Ethyl methacrylate | 7.693 | 69 | 338297 | 9.24 | ug/L | | 97 |
| 58) Toluene | 7.693 | 91 | 1185996 | 9.75 | ug/l | | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 513164 | 9.86 | ug/l | | 99 |
| 60) 2-Hexanone | 7.946 | 43 | 894344 | 40.67 | ug/l | | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 263259 | 9.12 | ug/l | | 97 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 412550 | 9.62 | ug/l | | 99 |
| 63) Tetrachloroethene | 8.518 | 164 | 240605 | 9.05 | ug/l | | 96 |
| 64) Dibromochloromethane | 8.783 | 129 | 366701 | 8.47 | ug/l | | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 256623 | 8.25 | ug/l | | 95 |
| 66) 1-Chlorohexane | 9.124 | 91 | 376692 | 9.36 | ug/l | | 100 |
| 67) Chlorobenzene | 9.619 | 112 | 748031 | 9.31 | ug/l | | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 324067 | 9.48 | ug/l | | 100 |
| 69) Ethylbenzene | 9.641 | 91 | 1416491 | 9.63 | ug/l | | 99 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 2242038 | 18.70 | ug/l | | 99 |
| 71) o-Xylene | 10.422 | 91 | 1115243 | 9.83 | ug/l | | 98 |
| 72) Styrene | 10.466 | 104 | 761260 | 9.59 | ug/l | | 95 |
| 73) Isopropylbenzene | 10.940 | 105 | 1250251 | 9.67 | ug/L | | 98 |
| 75) Bromoform | 11.061 | 173 | 240858 | 7.98 | ug/l | | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 319581 | 8.29 | ug/l | | 97 |
| 78) 1,2,3-Trichloropropane | 11.457 | 110 | 91884 | 8.63 | ug/l | | 98 |
| 79) trans-1,4-Dichloro-2-b... | 11.523 | 53 | 94487 | 8.77 | ug/l | | 97 |
| 80) n-Propylbenzene | 11.578 | 91 | 1583919 | 9.03 | ug/l | | 99 |
| 81) Bromobenzene | 11.732 | 156 | 335303 | 8.71 | ug/l | | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 1078870 | 8.95 | ug/l | | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1041463 | 9.62 | ug/l | | 90 |
| 84) 4-Chlorotoluene | 11.985 | 91 | 928419 | 10.11 | ug/l | | 99 |
| 85) tert-Butylbenzene | 12.414 | 134 | 168345 | 9.02 | ug/l | | 96 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 1059907 | 8.99 | ug/l | | 98 |
| 87) sec-Butylbenzene | 12.756 | 105 | 1234139 | 9.03 | ug/l | | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1004481 | 8.76 | ug/l | | 97 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 549879 | 9.94 | ug/l | | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 1047396 | 8.96 | ug/L | | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 555648 | 9.67 | ug/l | | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 977189 | 8.96 | ug/l | | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 526048 | 8.71 | ug/l | | 97 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 59164 | 7.55 | ug/l | | 93 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 334686 | 9.07 | ug/l | | 98 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 195472 | 9.36 | ug/l | | 98 |
| 97) Naphthalene | 16.871 | 128 | 749136 | 8.02 | ug/l | | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 307886 | 8.77 | ug/l | | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG092.D Vial: 2
Acq On : 11 Jun 2024 13:35 Operator: DNguye
Sample : CVOE2E1707 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 115 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 10.000 | 10.899 | -9.0 | 142 | 0.00 |
| 3 | P,T,M Chloromethane | 10.000 | 10.507 | -5.1 | 134 | 0.00 |
| 4 | C,T,M Vinyl chloride | 10.000 | 14.645 | -46.4# | 177 | 0.00 |
| 5 | T,M Bromomethane | 10.000 | 5.366 | 46.3# | 75 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 10.000 | 10.635 | -6.3 | 123 | 0.00 |
| 7 | T,M Chloroethane | 10.000 | 8.983 | 10.2 | 108 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 10.000 | 8.845 | 11.5 | 111 | 0.00 |
| 9 | T,M Acrolein | 50.000 | 27.725 | 44.5# | 65 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 9.660 | 3.4 | 116 | 0.00 |
| 11 | T,M Acetone | 50.000 | 43.732 | 12.5 | 96 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 250.000 | 220.530 | 11.8 | 102 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 10.000 | 10.041 | -0.4 | 117 | 0.00 |
| 14 | T,M Acetonitrile | 100.000 | 96.026 | 4.0 | 109 | 0.00 |
| 15 | T,M Allyl chloride | 10.000 | 10.309 | -3.1 | 117 | 0.00 |
| 16 | T,M Iodomethane | 10.000 | 6.669 | 33.3# | 83 | 0.00 |
| 17 | T,M Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M Methylene chloride | 10.000 | 11.646 | -16.5 | 117 | 0.00 |
| 19 | T,M Acrylonitrile | 50.000 | 37.860 | 24.3# | 83 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 10.000 | 10.448 | -4.5 | 120 | 0.00 |
| 21 | T,M Carbon disulfide | 10.000 | 9.631 | 3.7 | 111 | 0.00 |
| 22 | T,M trans-1,2-Dichloroethene | 10.000 | 9.302 | 7.0 | 110 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 10.000 | 9.475 | 5.3 | 110 | 0.00 |
| 24 | T,M Vinyl acetate | 10.000 | 4.668 | 53.3# | 50 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 10.000 | 9.917 | 0.8 | 118 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 10.000 | 9.146 | 8.5 | 105 | 0.00 |
| 27 | T,M 2-Butanone | 50.000 | 38.964 | 22.1# | 86 | 0.00 |
| 28 | T,M Propionitrile | 100.000 | 87.169 | 12.8 | 104 | 0.00 |
| 29 | T,M Isobutyl alcohol | 200.000 | 162.595 | 18.7 | 93 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 10.000 | 9.936 | 0.6 | 112 | 0.00 |
| 31 | T,M Methacrylonitrile | 100.000 | 98.112 | 1.9 | 115 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 10.000 | 9.823 | 1.8 | 119 | 0.00 |
| 33 | C,T,M Chloroform | 10.000 | 10.263 | -2.6 | 127 | 0.00 |
| 34 | T,M Bromochloromethane | 10.000 | 9.343 | 6.6 | 105 | 0.00 |
| 35 | T,M Tetrahydrofuran | 10.000 | 8.042 | 19.6 | 94 | -0.01 |
| 36 | S Dibromofluoromethane | 10.000 | 9.797 | 2.0 | 111 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 10.000 | 11.196 | -12.0 | 130 | 0.00 |
| 38 | T,M Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 10.000 | 10.723 | -7.2 | 118 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 10.000 | 9.737 | 2.6 | 110 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 10.000 | 10.807 | -8.1 | 129 | 0.00 |
| 42 | T,M Carbon tetrachloride | 10.000 | 10.964 | -9.6 | 124 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 10.000 | 11.513 | -15.1 | 130 | 0.00 |
| 44 | T,M Benzene | 10.000 | 10.133 | -1.3 | 118 | 0.00 |
| 45 | T,M Trichloroethene | 10.000 | 9.332 | 6.7 | 110 | 0.00 |
| 46 | T,M Methyl methacrylate | 10.000 | 7.356 | 26.4# | 89 | -0.01 |
| 47 | T,M Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 10.000 | 10.808 | -8.1 | 126 | 0.00 |
| 49 | T,M 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M Bromodichloromethane | 10.000 | 11.853 | -18.5 | 137 | 0.00 |
| 51 | T,M Dibromomethane | 10.000 | 10.325 | -3.2 | 122 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 6.922 | 30.8# | 78 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 50.000 | 0.0 | 111 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.839 | -8.4 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 111 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.731 | -7.3 | 118 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.287 | -12.9 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.162 | -11.6 | 125 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.206 | -12.1 | 122 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 46.086 | 7.8 | 97 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.767 | 2.3 | 109 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.557 | -5.6 | 119 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.984 | 0.2 | 115 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.345 | 6.5 | 106 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.352 | 6.5 | 102 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.235 | -2.3 | 114 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 10.045 | -0.4 | 114 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.661 | -6.6 | 117 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 10.555 | -5.5 | 121 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 20.592 | -3.0 | 123 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 10.863 | -8.6 | 121 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.638 | -6.4 | 117 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 10.626 | -6.3 | 117 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 128 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.882 | 21.2# | 103 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.414 | 15.9 | 111 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 9.596 | 4.0 | 125 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.239 | 7.6 | 122 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 7.310 | 26.9# | 92 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.067 | 9.3 | 123 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.800 | 12.0 | 113 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.018 | 9.8 | 120 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.124 | 8.8 | 125 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.052 | -10.5 | 121 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.334 | 6.7 | 125 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 9.256 | 7.4 | 121 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 8.968 | 10.3 | 117 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.112 | 8.9 | 122 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 10.374 | -3.7 | 122 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 9.762 | 2.4 | 127 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.438 | -4.4 | 125 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.705 | 2.9 | 129 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.067 | 9.3 | 126 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.358 | 26.4# | 101 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 8.528 | 14.7 | 113 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 8.779 | 12.2 | 113 | -0.01 |
| 97 | T,M | Naphthalene | 10.000 | 8.048 | 19.5 | 105 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.570 | 14.3 | 113 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D  Vial: 29
Acq On : 12 Jun 2024 00:30  Operator: DNguye
Sample : EVOE2E1707  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.625 | -8.9 | 142 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.433 | -5.1 | 134 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.637 | -46.4# | 177 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.158 | 46.3# | 75 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.057 | -6.3 | 123 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.191 | 10.3 | 108 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.864 | 11.6 | 111 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.036 | 44.6# | 65 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.411 | 3.5 | 116 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.114 | 37.0# | 96 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.054 | 11.5 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.897 | -0.3 | 117 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.029 | 3.3 | 109 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.243 | -3.0 | 117 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.312 | 27.3# | 83 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.738 | 7.9 | 117 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.114 | 24.0# | 83 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.561 | -4.5 | 120 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.319 | 3.7 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.444 | 6.9 | 110 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.441 | 5.2 | 110 | 0.00 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.404 | 53.3# | 50 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 0.957 | 0.8 | 118 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.689 | 8.5 | 105 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.037 | 21.3# | 86 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.048 | 12.7 | 104 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.016 | 20.0 | 93 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.959 | 0.7 | 112 | 0.00 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.089 | 2.2 | 115 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.533 | 1.8 | 119 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.227 | -2.6 | 127 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.298 | 6.6 | 105 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.101 | 19.8 | 94 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.600 | 2.0 | 111 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.208 | -12.0 | 130 | 0.00 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.353 | -7.3 | 118 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.230 | 2.5 | 110 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.875 | -8.2 | 129 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 1.001 | -9.6 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.058 | -15.1 | 130 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.854 | -1.3 | 118 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.471 | 6.7 | 110 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.329 | 26.6# | 89 | -0.01 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.505 | -8.1 | 126 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.003 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 1.048 | -18.6 | 137 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.392 | -3.2 | 122 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.160 | 30.7# | 78 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.512 | 0.0 | 111 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.885 | -8.3 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 111 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.132 | -7.3 | 118 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.770 | -12.9 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.531 | -11.6 | 125 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.087 | -12.1 | 122 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.378 | 7.8 | 97 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.526 | 2.2 | 109 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.844 | -5.6 | 119 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.495 | 0.2 | 115 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.754 | 6.6 | 106 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.542 | 6.6 | 102 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.768 | -2.3 | 114 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.505 | -0.5 | 114 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.680 | -6.8 | 117 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.894 | -5.5 | 121 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.302 | -3.0 | 123 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.299 | -8.6 | 121 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.575 | -6.4 | 117 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.563 | -6.3 | 117 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 128 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.860 | 21.2# | 103 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.173 | 15.9 | 111 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.523 | 4.0 | 125 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.356 | 7.5 | 122 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.285 | 26.7# | 92 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.749 | 9.3 | 123 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.225 | 12.0 | 113 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.931 | 9.8 | 120 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.571 | 8.8 | 125 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.656 | 3.7 | 121 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.630 | 6.7 | 125 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.946 | 7.4 | 121 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.430 | 10.3 | 117 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.777 | 8.9 | 122 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.071 | 10.1 | 122 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.124 | 2.4 | 127 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.162 | 8.0 | 125 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.826 | 2.9 | 129 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.981 | 9.3 | 126 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.209 | 26.1# | 101 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.141 | 23.6# | 113 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.663 | 12.2 | 113 | -0.01 |
| 97 | T,M | Naphthalene | 3.377 | 2.718 | 19.5 | 105 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.089 | 23.3# | 113 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 558649 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 454298 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 253559 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 335211 | 9.80 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 98.00% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 488608 | 10.81 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 108.10% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 968731 | 10.73 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 107.30% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 386253 | 9.60 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 96.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 349427 | 10.90 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 241726 | 10.51 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 355831 | 14.65 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 88173 | 5.37 | ug/l | 95 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 590451 | 10.63 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 106926 | 8.98 | ug/l | 100 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 482838 | 8.85 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 100727 | 27.72 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 229878 | 9.66 | ug/l | 99 |
| 11) Acetone | 3.764 | 43 | 318575 | 43.73 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 749171 | 220.53 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 501386 | 10.04 | ug/l | 97 |
| 14) Acetonitrile | 3.874 | 41 | 161890 | 96.03 | ug/L | 92 |
| 15) Allyl chloride | 4.105 | 76 | 135942 | 10.31 | ug/L | 97 |
| 16) Iodomethane | 4.149 | 142 | 174271 | 6.67 | ug/l | 89 |
| 18) Methylene chloride | 4.182 | 49 | 412143 | 11.65 | ug/l | 97 |
| 19) Acrylonitrile | 4.215 | 53 | 317994 | 37.86 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 872149 | 10.45 | ug/L | 96 |
| 21) Carbon disulfide | 4.304 | 76 | 736880 | 9.63 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 247820 | 9.30 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 804763 | 9.47 | ug/l | 97 |
| 24) Vinyl acetate | 4.546 | 43 | 225842 | 4.67 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 534398 | 9.92 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 943389 | 9.15 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 102142 | 38.96 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 269229 | 87.17 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 177435 | 162.60 | ug/L | 90 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 535968 | 9.94 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 497516 | 98.11 | ug/L | 100 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 297945 | 9.82 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 685656 | 10.26 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 166465 | 9.34 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.316 | 42 | 56611 | 8.04 | ug/L | 96 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 674612 | 11.20 | ug/l | 100 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 197374 | 10.72 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 128447 | 9.74 | ug/L | 96 |
| 42) Carbon tetrachloride | 5.734 | 119 | 559012 | 10.96 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 591281 | 11.51 | ug/L | 97 |
| 44) Benzene | 5.866 | 78 | 1035783 | 10.13 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.372 | 130 | 263323 | 9.33 | ug/L | 94 |
| 46) Methyl methacrylate | 6.428 | 69 | 183918 | 7.36 | ug/L | 87 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 281960 | 10.81 | ug/L | 87 |
| 50) Bromodichloromethane | 6.769 | 83 | 585219 | 11.85 | ug/L | 95 |
| 51) Dibromomethane | 6.857 | 93 | 219174 | 10.32 | ug/L | 93 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 89448 | 6.92 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1429003 | 50.00 | ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 494478 | 10.84 | ug/L | 94 |
| 57) Ethyl methacrylate | 7.693 | 69 | 349925 | 11.29 | ug/L | 97 |
| 58) Toluene | 7.693 | 91 | 1150015 | 11.16 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 494019 | 11.21 | ug/l | 94 |
| 60) 2-Hexanone | 7.935 | 43 | 858508 | 46.09 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 238823 | 9.77 | ug/l | 97 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 383359 | 10.56 | ug/l | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 224880 | 9.98 | ug/l | 96 |
| 64) Dibromochloromethane | 8.783 | 129 | 342734 | 9.34 | ug/l | 99 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 246445 | 9.35 | ug/l | 100 |
| 66) 1-Chlorohexane | 9.124 | 91 | 348988 | 10.23 | ug/l | 99 |
| 67) Chlorobenzene | 9.619 | 112 | 683636 | 10.05 | ug/l | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 308705 | 10.66 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 1314796 | 10.55 | ug/l | 99 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 2091623 | 20.59 | ug/l | 98 |
| 71) o-Xylene | 10.411 | 91 | 1044565 | 10.86 | ug/l | 97 |
| 72) Styrene | 10.455 | 104 | 715326 | 10.64 | ug/l | 95 |
| 73) Isopropylbenzene | 10.940 | 105 | 1164206 | 10.63 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 218105 | 7.88 | ug/l | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 297360 | 8.41 | ug/l | 96 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 90145 | 9.24 | ug/l | 94 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 72176 | 7.31 | ug/l | 92 |
| 80) n-Propylbenzene | 11.578 | 91 | 1457639 | 9.07 | ug/l | 98 |
| 81) Bromobenzene | 11.732 | 156 | 310504 | 8.80 | ug/l | 95 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 996755 | 9.02 | ug/l | 97 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 905394 | 9.12 | ug/l | 90 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 927005 | 11.05 | ug/l | 98 |
| 85) tert-Butylbenzene | 12.414 | 134 | 159661 | 9.33 | ug/l | 99 |
| 86) 1,2,4-Trimethylbenzene | 12.469 | 105 | 1000574 | 9.26 | ug/l | 97 |
| 87) sec-Butylbenzene | 12.745 | 105 | 1123312 | 8.97 | ug/l | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 957681 | 9.11 | ug/l | 95 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 525095 | 10.37 | ug/l | 98 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 1045617 | 9.76 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 548137 | 10.44 | ug/l | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 970067 | 9.70 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.922 | 146 | 502195 | 9.07 | ug/l | 99 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 52878 | 7.36 | ug/l | 98 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 289302 | 8.53 | ug/l | 98 |
| 96) Hexachlorobutadiene | 16.651 | 225 | 168078 | 8.78 | ug/l | 98 |
| 97) Naphthalene | 16.871 | 128 | 689109 | 8.05 | ug/l | 98 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 276227 | 8.57 | ug/l | 98 |

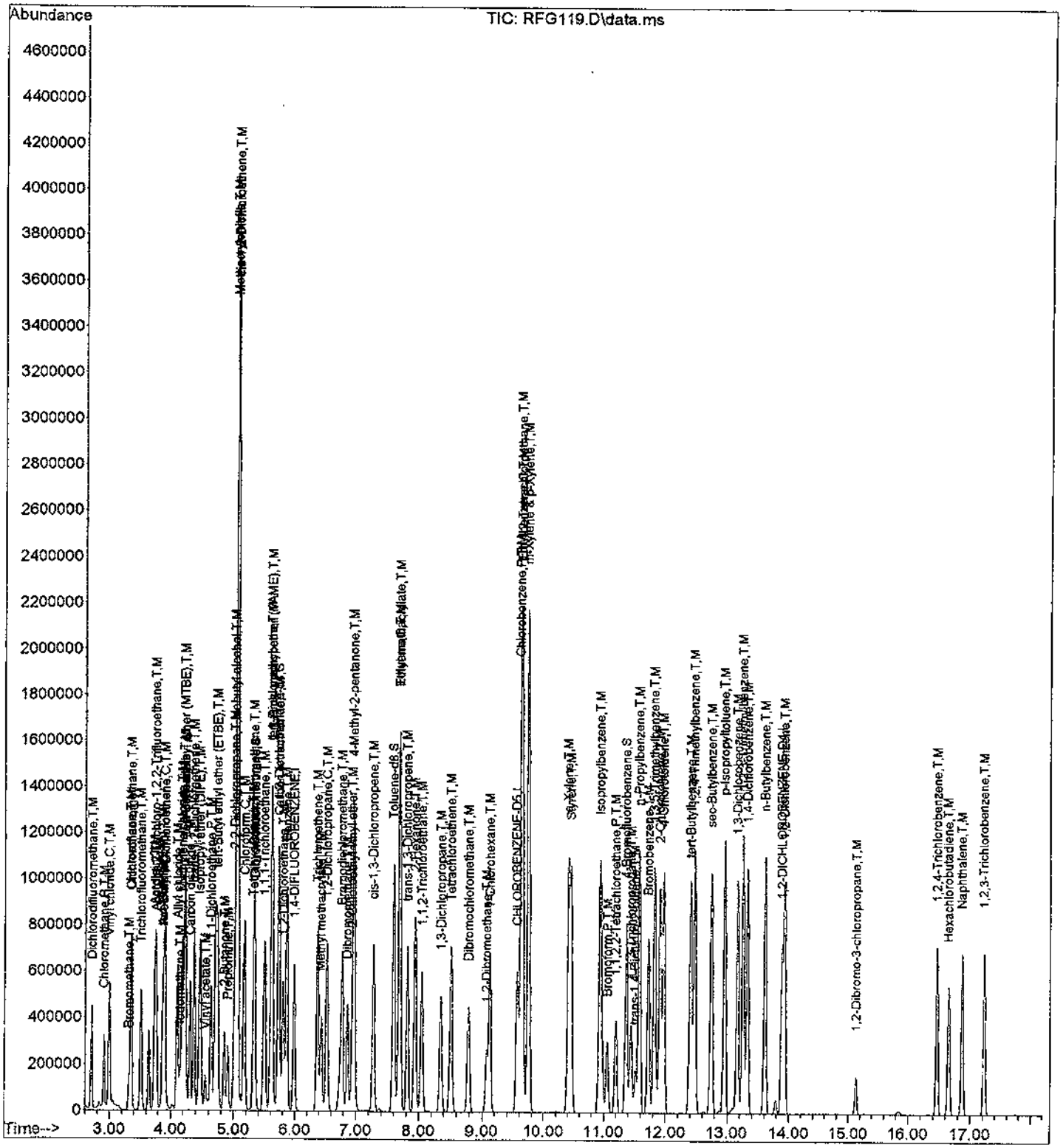
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



# ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 05/19/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge Book #: AE2-031

BATCH VOE2E19

| Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/19/24 |
| ICAL ID | VOE2E17 |

STANDARDS

| NAME | ID | Amount (µL) | Conc (mg/L) |
|---|---|---|---|
| DCC $CS_2$ | SVL-43-98-01 | * | 250 |
| DCC GAS | -98-03 | ↓ | 250 |
| DCC ~~METHANE~~ | -97-02 | ↓ | 250/6250 |
| DCC 8260 | -97-01 | ↓ | 250 |
| BFB | -96-02 | 1 | 50 |
| IS/SURR | -96-02 | 5 | 20 |
| | -96-03 | X | 250 |
| ICV/LCS | -94-02 | 0.4 | 250 |
| ICV/LCS | -94-01 | 1.4 | 250 |
| ICV/LCS | -90-01 | 2 | 250 |
| | -91-02 | 2 | 50 |
| ICV/LCS | -85-02 | 2 | 50 |
| Data File Folder | 24E19 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | | 1451 03-04-14-6 |
| Chlorine strip | | -04-13-3 |
| Methanol | | -03-25 |
| $NaHSO_4$ | | -02-25 |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments: * Varied amount

Analyzed By: DN

Date Disposed: 5/18/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24E17

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Reg116.d | 1. | BFBE2E09 | T/CHK | 17 May 2024 11:2 |
| 2 | 2 | Reg117.d | 1. | VOE2E161 0.012 WRONG SPIKE | 0.3ppb 8260/1.5pp... | 17 May 2024 12:1 |
| 3 | 3 | Reg118.d | 1. | VOE2E172 0.02 | 0.5ppb 8260/2.5pp... | 17 May 2024 12:3 |
| 4 | 4 | Reg119.d | 1. | VOE2E173 0.04 | 1.0ppb 8260/5.0pp... | 17 May 2024 12:5 |
| 5 | 5 | Reg120.d | 1. | VOE2E174 0.08 | 2.0ppb 8260/10ppb... | 17 May 2024 13:2 |
| 6 | 6 | Reg121.d | 1. | VOE2E175 0.2 | 5.0ppb 8260/25ppb... | 17 May 2024 13:4 |
| 7 | 7 | Reg122.d | 1. | VOE2E176 0.4 | 10ppb 8260/50ppb ... | 17 May 2024 14:0 |
| 8 | 8 | Reg123.d | 1. | VOE2E177 1.2uL | 30ppb 8260/150ppb... | 17 May 2024 14:3 |
| 9 | 9 | Reg124.d | 1. | VOE2E178 2uL | 50ppb 8260/250pb ... | 17 May 2024 14:5 |
| 10 | 10 | Reg125.d | 1. | VOE2E179 4uL | 100ppb 8260/500pp... | 17 May 2024 15:2 |
| 11 | 11 | Reg126.d | 1. | VOE2E1710 8uL | 200ppb 8260/1000p... | 17 May 2024 15:4 |
| 12 | 12 | Reg127.d | 1. | RINSE | | 17 May 2024 16:0 |
| 13 | 13 | Reg128.d | 1. | RINSE | | 17 May 2024 16:3 |
| 14 | 14 | Reg129.d | 1. | IVOE2E1701 %REC>20 | 10ppb 8260/50ppb ... | 17 May 2024 21:0 |

ZL 5/23/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 05/18/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH 10E2E102

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
| 02 | | | | | | | | | |
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24 5/23/24

| Instrument No. | E2 | | |
|---|---|---|---|
| INITIAL CALIBRATION REFERENCE | | | |
| DATE | 5/17/24 | | |
| ICAL ID | 10E2E17 | | |
| STANDARDS | | | |
| NAME | ID | Amount (µl) | Conc (µg/L) |
| DCC | | | |
| DCC | | | |
| DCC | | | |
| DCC | | | |
| BFB | SVI-43-76-02 | 1 | 50 |
| IS/SURR. | -96-02 | 5 | 20 |
| | -96-03 | 4 | 250 |
| ICV/LCS | -94-02 | 4 | 250 |
| ICV/LCS | -94-01 | 4 | 250 |
| ICV/LCS | -90-01 | 2 | 250 |
| | -94-02 | 2 | 50 |
| ICV/LCS | ↓ -85-02 | 2 | 50 |
| Data File Folder | 24E18 | | |
| | LOT # | Syringe Lot # | |
| pH strip | | MSV-03-04-14-6 | |
| Chlorine strip | | ↓ -04-13-3 | |
| Methanol | | | |
| $NaHSO_4$ | | | |
| Reagent Water | RW4-23-001 | | |
| Sand | | | |
| Electronic Data Archival Location | | Date | |
| HPCHEM_VOA/10E2 | | | |

Comments:

Analyzed By: DN

Date Disposed: 5/20/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24E18

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Reg130.d | 1. | BFBE2E09 | T/CHK | 18 May 2024 09:1 |
| 2 | 2 | Reg131.d | 1. | IVOE2E1702 | 10ppb 8260/50ppb ... | 18 May 2024 09:5 |

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/10/14 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
| 02 | | | | | | | | | |
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 6/17/14 |
| ICAL ID | VOE2E17 |

STANDARDS

| NAME | ID | Amount [µl] | Conc. [mg/L] |
|---|---|---|---|
| DCC | SVI-43-94-02 | .4 | |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | 50/50 |
| DCC | -86-01 | 2 | |
| BFB | -38-02 | 1 | |
| IS/SURR. | SVI-45-04-02 | 5 | 20 |
| ICV/LCS | SVI-43-79-02 | .4 | |
| ICV/LCS | -82-01 | .4 | 50/50 |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | 24F10 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC210330 | MSVI-03-04-14-6 |
| Chlorine strip | 319171B | -13-3 |
| Methanol | | |
| $NaHSO_3$ | | |
| Reagent Water | RWH-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

Analyzed By: DH

Date Disposed: 6/11/14 Disposed By: DH

# Injection Log

Directory: d:\Data\24F10

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg061.d | 1. | BFBF03 | T/CHK | 10 Jun 2024 15:55 |
| 2 | 2 | Rfg062.d | 1. | CVOE2E1706 | 10ppb 8260/50ppb ... | 10 Jun 2024 16:35 |
| 3 | 3 | Rfg063.d | 1. | VOE2F03L | 10ppb 8260/50ppb ... | 10 Jun 2024 17:13 |
| 4 | 4 | Rfg064.d | 1. | VOE2F03C | 10ppb 8260/50ppb ... | 10 Jun 2024 17:37 |
| 5 | 5 | Rfg065.d | 1. | RINSE | 10mL | 10 Jun 2024 18:01 |
| 6 | 7 | Rfg067.d | 1. | VOE2F03B | 10.0mL | 10 Jun 2024 18:25 |
| 7 | 8 | Rfg068.d | 1. | 24F004-05N | 10.0mL | 10 Jun 2024 18:48 |
| 8 | 9 | Rfg069.d | 1. | 24F004-06I 10X | 1.0mL | 10 Jun 2024 19:12 |
| 9 | 10 | Rfg070.d | 1. | 24F004-07I 10X | 1.0mL | 10 Jun 2024 19:36 |
| 10 | 11 | Rfg071.d | 1. | 24F004-09N | 10mL | 10 Jun 2024 20:00 |
| 11 | 12 | Rfg072.d | 1. | 24F004-10N | 10mL | 10 Jun 2024 20:24 |
| 12 | 13 | Rfg073.d | 1. | 24F003-18 | 10mL | 10 Jun 2024 20:48 |
| 13 | 14 | Rfg074.d | 1. | 24F003-19 | 10mL | 10 Jun 2024 21:11 |
| 14 | 15 | Rfg075.d | 1. | 24F003-01N | 10mL | 10 Jun 2024 21:35 |
| 15 | 16 | Rfg076.d | 1. | 24F003-02N | 10mL | 10 Jun 2024 21:59 |
| 16 | 17 | Rfg077.d | 1. | 24F003-03N | 10mL | 10 Jun 2024 22:23 |
| 17 | 18 | Rfg078.d | 1. | 24F003-04N | 10mL | 10 Jun 2024 22:46 |
| 18 | 19 | Rfg079.d | 1. | 24F003-05N | 10mL | 10 Jun 2024 23:10 |
| 19 | 20 | Rfg080.d | 1. | 24F003-06N | 10mL | 10 Jun 2024 23:33 |
| 20 | 21 | Rfg081.d | 1. | 24F003-07N | 10mL | 10 Jun 2024 23:57 |
| 21 | 22 | Rfg082.d | 1. | 24F003-08N | 10mL | 11 Jun 2024 00:20 |
| 22 | 23 | Rfg083.d | 1. | 24F003-09N | 10mL | 11 Jun 2024 00:44 |
| 23 | 24 | Rfg084.d | 1. | 24F003-10N | 1.0mL | 11 Jun 2024 01:08 |
| 24 | 25 | Rfg085.d | 1. | 24F003-11 | 10mL | 11 Jun 2024 01:32 |
| 25 | 26 | Rfg086.d | 1. | 24F003-12 | 10mL | 11 Jun 2024 01:56 |
| 26 | 27 | Rfg087.d | 1. | 24F003-13 | 10mL | 11 Jun 2024 02:19 |
| 27 | 37 | Rfg088.d | 1. | EVOE2E1706 ✓ | 10ppb 8260/50ppb ... | 11 Jun 2024 02:43 |
| 28 | 38 | Rfg089.d | 1. | EVOE2E17061 | 10ppb 8260/50ppb ... | 11 Jun 2024 03:06 |
| 29 | 39 | Rfg090.d | 1. | EVOE2E17062 | 10ppb 8260/50ppb ... | 11 Jun 2024 03:30 |

pH < 2 Cl < 5

DK 6/18/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/11/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | VOE2F17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc. (ng/L) |
|---|---|---|---|
| DCC | SV1-43-94-02 | .4 | |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | |
| DCC | -86-01 | 2 | 50/250 |
| BFB | -38-02 | 1 | |
| IS/SURR. | SV1-45-04-02 | 5 | 20 |
| ICV/LCS | SV1-43-79-02 | .4 | |
| ICV/LCS | -82-01 | .4 | 50/250 |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC210330 | MGV-03-01-14-6 |
| Chlorine strip | 319117B | -13-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | RWH-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

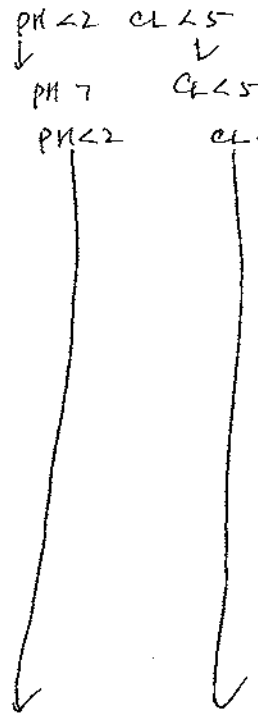
Analyzed By: DH

Date Disposed: 6/12/24 Disposed By: DH

# Injection Log

Directory: d:\Data\24F11

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg091.d | 1. | BFBF04 | T/CHK | 11 Jun 2024 12:47 |
| 2 | 2 | Rfg092.d | 1. | CVOE2E1707 | 10ppb 8260/50ppb ... | 11 Jun 2024 13:35 |
| 3 | 3 | Rfg093.d | 1. | VOE2F04L | 10ppb 8260/50ppb ... | 11 Jun 2024 14:15 |
| 4 | 4 | Rfg094.d | 1. | VOE2F04C | 10ppb 8260/50ppb ... | 11 Jun 2024 14:39 |
| 5 | 5 | Rfg095.d | 1. | RINSE | 10ppb 8260/50ppb ... | 11 Jun 2024 15:03 |
| 6 | 6 | Rfg096.d | 1. | VOE2F04B | 10.0mL | 11 Jun 2024 15:26 |
| 7 | 7 | Rfg097.d | 1. | 24F004-06N | 10.0mL | 11 Jun 2024 15:50 |
| 8 | 8 | Rfg098.d | 1. | 24F004-01N | 10.0mL | 11 Jun 2024 16:14 |
| 9 | 9 | Rfg099.d | 1. | PV-004-08-03 | 10.0mL | 11 Jun 2024 16:37 |
| 10 | 10 | Rfg100.d | 1. | 24F004-08I 10X | 1.0mL | 11 Jun 2024 17:01 |
| 11 | 11 | Rfg101.d | 1. | 24F003-14 | 10mL | 11 Jun 2024 17:25 |
| 12 | 12 | Rfg102.d | 1. | 24F003-15 | 10mL | 11 Jun 2024 17:49 |
| 13 | 13 | Rfg103.d | 1. | 24F003-16 | 10mL | 11 Jun 2024 18:13 |
| 14 | 14 | Rfg104.d | 1. | 24F003-17 | 10mL | 11 Jun 2024 18:37 |
| 15 | 15 | Rfg105.d | 1. | 24F038-01 | 10mL | 11 Jun 2024 19:00 |
| 16 | 16 | Rfg106.d | 1. | RIMSE | 1.0mL | 11 Jun 2024 19:24 |
| 17 | 17 | Rfg107.d | 1. | 24F019-01 | 10mL | 11 Jun 2024 19:47 |
| 18 | 18 | Rfg108.d | 1. | 24F019-02 | 10mL | 11 Jun 2024 20:11 |
| 19 | 19 | Rfg109.d | 1. | 24F019-04 | 10mL | 11 Jun 2024 20:34 |
| 20 | 20 | Rfg110.d | 1. | 24F019-05 | 10mL | 11 Jun 2024 20:58 |
| 21 | 21 | Rfg111.d | 1. | 24F019-06 | 10mL | 11 Jun 2024 21:21 |
| 22 | 22 | Rfg112.d | 1. | 24F019-07 | 10mL | 11 Jun 2024 21:45 |
| 23 | 23 | Rfg113.d | 1. | 24F019-08 | 10mL | 11 Jun 2024 22:09 |
| 24 | 24 | Rfg114.d | 1. | 24F019-09 | 10mL | 11 Jun 2024 22:32 |
| 25 | 25 | Rfg115.d | 1. | 24F019-10 | 10mL | 11 Jun 2024 22:56 |
| 26 | 26 | Rfg116.d | 1. | 24F019-11 | 10mL | 11 Jun 2024 23:19 |
| 27 | 27 | Rfg117.d | 1. | 24F019-02M | 10mL | 11 Jun 2024 23:42 |
| 28 | 28 | Rfg118.d | 1. | 24F019-02S | 10mL | 12 Jun 2024 00:06 |
| 29 | 29 | Rfg119.d | 1. | EVOE2E1707 / | 10ppb 8260/50ppb ... | 12 Jun 2024 00:30 |
| 30 | 30 | Rfg120.d | 1. | EVOE2E17071 | 10ppb 8260/50ppb ... | 12 Jun 2024 00:53 |
| 31 | 31 | Rfg121.d | 1. | EVOE2E17072 | 10ppb 8260/50ppb ... | 12 Jun 2024 01:17 |




DK 6/18/24

# STANDARD LOGS

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-10 | CARBON DISULFIDE | 5000 ppm | 500 µL | 250ppm |
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| | | | IR | 5/16/24 |

| Standard ID | SV1-43-98-01 |
|---|---|
| Name | $CS_2$ (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-10 | CARBON DISULFIDE | 5000ppm | 500µL | 250ppm |
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| | | | IR | 5/16/24 |

| Standard ID | SV1-43-98-02 |
|---|---|
| Name | $CS_2$ (1°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-19 | VOC Gas Std. | 2000ppm | 1250 µL | 250ppm |
| ↓ -15-18 | Vinyl Acetate | 2500ppm | 1000 µL | ↓ |
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| | | | IR | 5/16/24 |

| Standard ID | SV1-43-98-03 |
|---|---|
| Name | GAS (1°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | IR |

Syringe ID: MSV-03-01-16
-03-03-05

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. ppm | Aliquot µL | Final Conc. ppm |
|---|---|---|---|---|
| SV1-38-12-11 | TBA | 5000 | 200 | 500 |
| 09-07 | 1,2,3-TMB | 2500 | ↓ | 250 |
| 13-20 | O Gas Add Std | 2000 | 250 | 250 |
| 13-08 | 2- CLEVE | ↓ | ↓ | ↓ |
| 13-18 | 1 Chlorohexane | ↓ | ↓ | ↓ |
| 11-11 | Cust. VOA Mix | ↓ | ↓ | ↓ |

DH 5/17/24

| Standard ID | SV1-43-97-01 |
|---|---|
| Name | 8260 (1) |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | DN |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. ppm | Aliquot µL | Final Conc. |
|---|---|---|---|---|
| SV1-38-14-05 | VOA Mix 1 | 5000 | 500 | 250 ppm |
| 15-12 | Acrolein & Acrylonitrile | ↓ | ↓ | ↓ |
| 11-07 | 2- butanol | 50000 | 250 | 6250 ppm |
| 12-12 | Cyclohexane | 2000 | ↓ | 250 ppm |
| 14-01 | Methyl Acetate | 2500 | 200 | ↓ |
| 14-03 | Methyl Cyclohexane | ↓ | ↓ | ↓ |

DH 5/17/24

| Standard ID | SV1-43-97-02 |
|---|---|
| Name | KET-AA-Add. |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | DN |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-43-85-02 | 8260 (2°) | 50 ppm | 200 µL | 5.0 ppm |
| ↓ -88-02 | 6000 (2°) | 250 ppm | 40 µL | ↓ |

IR 5/16/24

| Standard ID | SV1-43-97-03 |
|---|---|
| Name | SIM (2°) |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 9/22/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05
-03-03-03

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-14-05 | VOA Calibration Mix #1 | 5000ppm | 0.5mL | 250ppm |
| ↓ 38-15-04 | Acrolein + Acrylonitrile | ↓ | ↓ | ↓ |
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| | | | DH 2/26/24 | |

| Standard ID | SV1-43-76-01 |
|---|---|
| Name | Ket-AA (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-11-24-02 |
| Prep. Date | 2/26/24 |
| Exp. Date | 5/26/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-30-02-02 | VOA TUNING CMPD MIX | 5000ppm | 100mL | 50ppm |
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| | | | BL 2/26/24 | |

| Standard ID | SV1-43-76-02 |
|---|---|
| Name | BFB |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 2/26/24 |
| Exp. Date | 8/26/24 |
| Prepared By | BL |

Syringe ID: MSV-03-02-25

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-13-17 | vinyl acetate | 2000ppm | 1.25mL | 250 ppm |
| ↓ -12-05 | 8260 gases | ↓ | ↓ | ↓ |
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EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-10 | Carbon Disulfide | 5000ppm | 250µL | 250ppm |
| | | | | LAP 3/11/24 |

| Standard ID | SV1-43-79-01 |
|---|---|
| Name | CS2 (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SVIA-011-24-01 |
| Prep. Date | 3/11/24 |
| Exp. Date | 9/11/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-02-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-08-06 | Carbon Disulfide | 5000ppm | 0.5mL | 250 ppm |
| | | | | LAP 3/11/24 |

| Standard ID | SV1-43-79-02 |
|---|---|
| Name | CS2 (2°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SVIA-011-24-01 |
| Prep. Date | 3/11/24 |
| Exp. Date | 9/11/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-19 | VOC GAS Std | 2000ppm | 1.26mL | 250ppm |
| ↓ -14-09 | Vinyl acetate | 2500ppm | 1.0mL | ↓ |
| | | | | 3/12/24 |

| Standard ID | SV1-43-79-03 |
|---|---|
| Name | GAS (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 03/12/24 |
| Exp. Date | 09/12/24 |
| Prepared By | DM |

Syringe ID: MSV-01-02-20-2

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-10-08 | methyl acetate | 1000ppm | 0.5mL | 50ppm |
| ↓ -14-20 | cyclohexane | ↓ | ↓ | ↓ |
| ↓ -14-11 | methylcyclohexane | | | |
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| | | | N 2/7/24 | |

| Standard ID | SV1-43-70-01 |
|---|---|
| Name | 3add (2°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-02 |
| Prep. Date | 2/7/24 |
| Exp. Date | 8/7/24 |
| Prepared By | N |

Syringe ID: MSV-03-03-04

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-15 | methyl acetate | 2500ppm | 1.0mL | 250ppm |
| ↓ -14-03 | methylcyclohexane | ↓ | ↓ | ↓ |
| ↓ -12-12 | cyclohexane | 2000ppm | 1.25mL | ↓ |
| ↓ -08-11 | 2-butanol | 50,000ppm | ↓ | 6250ppm |
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| | | | N 2/7/24 | |

| Standard ID | SV1-43-70-02 |
|---|---|
| Name | 4add (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-02 |
| Prep. Date | 2/7/24 |
| Exp. Date | 8/7/24 |
| Prepared By | N |

Syringe ID: MSV-03-03-04

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-15 | methyl acetate | 2500ppm | 1.0mL | 250ppm |
| ↓ -14-03 | methylcyclohexane | ↓ | ↓ | ↓ |
| ↓ -12-12 | cyclohexane | 2000ppm | 1.25mL | ↓ |
| ↓ -08-11 | 2-butanol | 50,000ppm | ↓ | 6250ppm |
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| | | | N 2/7/24 | |

| Standard ID | SV1-43-70-03 |
|---|---|
| Name | 4add (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-02 |
| Prep. Date | 2/7/24 |
| Exp. Date | 8/7/24 |
| Prepared By | N |

Syringe ID: MSV-03-03-04

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-15-10 | 8260 gases | 2000 ppm | 1.25 mL | 250 ppm |
| ↓ -38-15-13 | vinyl acetate | ↓ | ↓ | ↓ |
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| | | | DH 5/8/24 | |

| Standard ID | SV1-43-94-01 |
|---|---|
| Name | GAS (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/8/24 |
| Exp. Date | 11/8/24 |
| Prepared By | LAP |

Syringe ID: MSV-02-02-11
↓ -03-02-23

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-15-09 | Ketones soln. | 2500 ppm | 1.0 mL | 250 ppm |
| SV1-38-15-14 | Acrolein & Acrylonitrile | ↓ | 1.25 mL | ↓ |
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| | | | DH 5/8/24 | |

| Standard ID | SV1-43-94-02 |
|---|---|
| Name | KET-AA (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/8/24 |
| Exp. Date | 7/31/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11
↓ ~~03-03~~ DH 5/8/24
MSV-0302-23

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-13-12 | 8260 IS Mix, 3-30 | 2500 ppm | 1.0 mL | 250 ppm |
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| | | | LAP 5/10/24 | |

| Standard ID | SV1-43-94-03 |
|---|---|
| Name | IS |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/10/24 |
| Exp. Date | 11/10/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

DH 5/15/24

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVL-38-13-12 ↓ 38-15-15 | 8260 IS Mix 8260A Surr Mix | 2500ppm ↓ | 200µL ↓ | 50ppm ↓ |
| | | | DH 5/13/24 | |

| Standard ID | SV1-43-96-01 |
|---|---|
| Name | IS/SS |
| Final Volume | 10mL |
| MeOH Solvent ID | SWA-011-24-01 |
| Prep. Date | 5/13/24 |
| Exp. Date | 11/12/24 |
| Prepared By | DH |

Syringe ID: MSV-03-03-11 ↓ 02-03

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVL-38-19-02 | 8260 IS | 2500ppm | 4µl | 20ppm |
| | | | DH 5/16/24 | |

| Standard ID | SV1-43-96-02 |
|---|---|
| Name | IS (CF2) |
| Final Volume | 5mL |
| MeOH Solvent ID | SVIA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/5/24 |
| Prepared By | DH |

Syringe ID: MSV-03-02-21

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVL-38-10-13 | 8260A SU | 2500ppm | 1.0mL | 250ppm |
| | | | DH 5/16/24 | |

| Standard ID | SV1-43-96-03 |
|---|---|
| Name | SS |
| Final Volume | 10mL |
| MeOH Solvent ID | SWA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | DH |

Syringe ID: MSV-03-01-14

Comments:

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

# CERTIFIED REFERENCE MATERIAL

SM-38-10-B

# Certificate of Analysis

***chromatographic plus***

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30240 **Lot No.:** A0192204

**Description :** 8260A Surrogate Mix

8260A Surrogate Mix 2,500µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** December 31, 2027 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Dibromofluoromethane | 1868-53-7 | 022013 | 99% | 2,517.6 µg/mL | +/- 141.4279 |
| 2 | 1,2-Dichloroethane-d4 | 17060-07-0 | PR-32845 | 99% | 2,507.6 µg/mL | +/- 140.8661 |
| 3 | Toluene-d8 | 2037-26-5 | I-27008 | 99% | 2,511.4 µg/mL | +/- 141.0796 |
| 4 | 1-Bromo-4-fluorobenzene (BFB) | 460-00-4 | 184975 | 99% | 2,517.8 µg/mL | +/- 141.4391 |

* Expanded Uncertainty displayed in same units as Grav. Cor

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

# Quality Confirmation Test

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

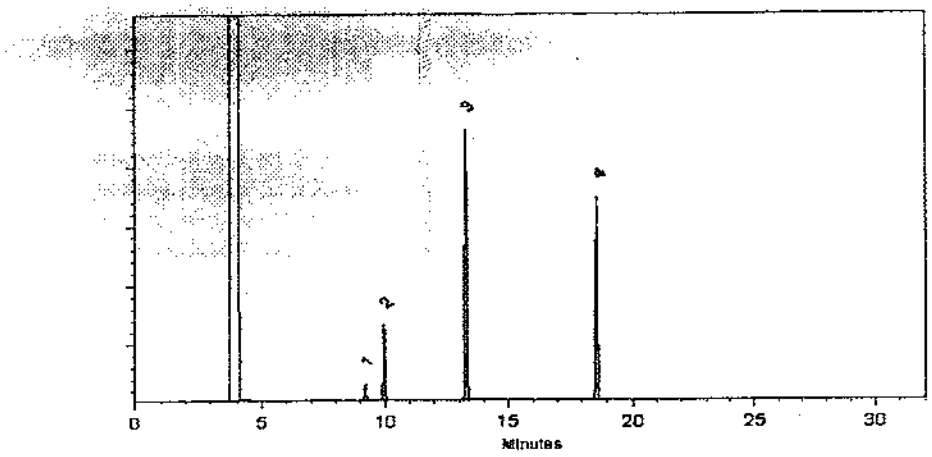
**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID

**Split Vent:**
40 ml/min

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Daniel Wasson - Operations Tech I

**Date Mixed:** 02-Dec-2022 **Balance Serial #** 1128342314

Christie Mills - Operations Tech II - ARM QC

**Date Passed:** 06-Dec-2022

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

SV1-38-13-12

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 7/13/2022
Original issue date: 7/13/2022

# Certificate of Analysis

Date Received: 10/6/23



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -122455-05 | 484785 | -18°C +/- 4°C | P/T Methanol | 12-Jul-2027 | Method 8260 Internal Standard Mix, 3-30, 2,500 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| chlorobenzene-d5 | 3114-55-4 | 99.5 | 128.120.1P | 2504 ± 130 |
| 1,2-dichlorobenzene-$d_4$ | 2199-69-1 | 99.7 | 247.29.3P | 2514 ± 130 |
| 1,4-difluorobenzene | 540-36-3 | 99.3 | 129.158.1.2P | 2523 ± 140 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

SVI-38-13-12

# Certificate of Analysis



**Catalog No.:** Z-G34-122455-05 **Lot No.:** 484785 **Expiration Date:** 7/12/2027

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 12-Jul-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Bradley Richter | Jared Ball | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist II** | **Quality Control Team Lead** |

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-01-20 | Cust. Rev. 8260 Megamix | 2000 ppm | 250 µL | 50 ppm |
| -02-03 | Oxygenated Gas Mix #1 | ↓ | ↓ | ↓ |
| -11-19 | 2-CLEVE | ↓ | ↓ | ↓ |
| -12-20 | 1-Chlorohexane | 1000 | 0.5 mL | ↓ |
| -12-06 | 1,2,3 TMB | 2500 | 200 µL | ↓ |
| -11-18 | TBA | 50000 | 50 µL | 500 ppm |
| -12-17 | Acetonitrile | 20000 | 250 µL | ↓ |

IR 4/12/24

| Standard ID | SV1-43-85-01 |
|---|---|
| Name | 8260 (2°) Soil |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 4/12/24 |
| Exp. Date | 10/12/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-~~18~~ 05 IR 4/12/24
-03-03-03

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-01-20 | Cust. Rev. 8260 Megamix | 2000 ppm | 250 µL | 50 ppm |
| -02-03 | Cal. Oxy. Gas Mix #1 | ↓ | ↓ | ↓ |
| -11-19 | 2-CLEVE | ↓ | ↓ | ↓ |
| -12-20 | 1-chlorohexane | 1000 ppm | 0.5 mL | ↓ |
| -12-06 | 1,2,3 TMB | 2500 ppm | 200 µL | ↓ |
| -11-18 | TBA | 50000 ppm | ↓ | 1000 ppm |

IR 4/12/24

| Standard ID | SV1-43-85-02 |
|---|---|
| Name | 8260 (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 4/12/24 |
| Exp. Date | 10/12/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-11 | Cust. VOA Mix 73-6047 | 2000 ppm | 250 µL | 50 ppm |
| -13-20 | Oxy. Gas Add. | ↓ | ↓ | ↓ |
| -13-08 | 2-CLEVE | ↓ | ↓ | ↓ |
| -13-18 | 1-chlorohexane | ↓ | ↓ | ↓ |
| -13-13 | 1,2,3 TMB | 2500 ppm | 200 µL | ↓ |
| -12-11 | TBA | 50000 ppm | ↓ | 1000 ppm |

| Standard ID | SV1-43-85-03 |
|---|---|
| Name | 8260 (1°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 4/12/24 |
| Exp. Date | 10/12/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

*chromatographic*

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 575702 **Lot No.:** A0191824

**Description :** Custom Revised 8260 Megamix

Custom Revised 8260 Megamix 2,000 - 40,000µg/mL, P&T Methanol, 1mL/ampul

SVI-38-09-20

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** November 30, 2025 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Dichlorofluoromethane (CFC-21) | 75-43-4 | 12841600 | 99% | 2,000.0 µg/mL | +/- 69.1292 |
| 2 | Diethyl ether (ethyl ether) | 60-29-7 | SHBP5008 | 99% | 2,011.0 µg/mL | +/- 69.5094 |
| 3 | 1,1,2-Trichlorotrifluoroethane (CFC-113) | 76-13-1 | 00016133 | 99% | 2,008.0 µg/mL | +/- 69.4057 |
| 4 | 1,1-dichloroethene | 75-35-4 | SHBG8609V | 99% | 2,001.6 µg/mL | +/- 69.9029 |
| 5 | Iodomethane (methyl iodide) | 74-88-4 | RD220125 | 99% | 2,007.5 µg/mL | +/- 69.3884 |
| 6 | Allyl chloride ( 3-chloropropene ) | 107-05-1 | RP220405A | 99% | 2,011.0 µg/mL | +/- 69.5094 |
| 7 | Methylene chloride (dichloromethane) | 75-09-2 | SHBP1417 | 99% | 2,001.6 µg/mL | +/- 69.9056 |
| 8 | trans-1,2-Dichloroethene | 156-60-5 | MKBH9850V | 99% | 2,001.7 µg/mL | +/- 69.9064 |
| 9 | 1,1-Dichloroethane | 75-34-3 | 760200 | 99% | 2,001.1 µg/mL | +/- 69.8864 |
| 10 | Chloroprene (2-chloro-1,3-butadiene) | 126-99-8 | 220712JLM | 99% | 2,014.0 µg/mL | +/- 69.6131 |
| 11 | Propionitrile | 107-12-0 | BCCF4167 | 99% | 20,009.5 µg/mL | +/- 691.5748 |
| 12 | 2,2-Dichloropropane | 594-20-7 | RD220812 | 99% | 2,004.3 µg/mL | +/- 70.0110 |
| 13 | cis-1,2-Dichloroethene | 156-59-2 | MKCP7830 | 99% | 2,014.0 µg/mL | +/- 70.3516 |
| 14 | Methacrylonitrile | 126-98-7 | 1012014 | 99% | 20,031.5 µg/mL | +/- 692.3351 |
| 15 | Methyl acrylate | 96-33-3 | SHBG6616V | 99% | 2,007.0 µg/mL | +/- 69.3711 |
| 16 | Isobutanol (2-Methyl-1-propanol) | 78-83-1 | SHBP7066 | 99% | 40,013.5 µg/mL | +/- 1,382.9594 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | chloroform | 67-66-3 | SHBN8469 | 99% | 2,002.3 | µg/mL | +/- 69.9291 |
| 18 | Bromochloromethane | 74-97-5 | 00008541 | 99% | 2,011.9 | µg/mL | +/- 70.2782 |
| 19 | Tetrahydrofuran | 109-99-9 | SHBP0039 | 99% | 2,005.0 | µg/mL | +/- 69.3020 |
| 20 | 1,1,1-trichloroethane | 71-55-6 | RD220613 | 98% | 2,001.2 | µg/mL | +/- 69.8893 |
| 21 | 1,1-Dichloropropene | 563-58-6 | 220617JLM | 99% | 2,014.0 | µg/mL | +/- 70.3498 |
| 22 | carbon tetrachloride | 56-23-5 | SHBL8097 | 99% | 2,000.1 | µg/mL | +/- 69.8514 |
| 23 | 1,2-Dichloroethane | 107-06-2 | MKCN9758 | 99% | 2,001.6 | µg/mL | +/- 69.9056 |
| 24 | Benzene | 71-43-2 | MKCQ2104 | 99% | 2,010.5 | µg/mL | +/- 70.2293 |
| 25 | 2-Chloroethanol | 107-07-3 | RD220606A | 99% | 2,002.5 | µg/mL | +/- 69.2156 |
| 26 | Trichloroethene | 79-01-6 | SHBN3720 | 99% | 2,001.6 | µg/mL | +/- 69.9047 |
| 27 | 1,2-Dichloropropane | 78-87-5 | BCBR0882V | 99% | 2,001.8 | µg/mL | +/- 69.9125 |
| 28 | Methyl methacrylate | 80-62-6 | MKCQ2755 | 99% | 2,007.5 | µg/mL | +/- 69.3884 |
| 29 | bromodichloromethane | 75-27-4 | MKCF8470 | 99% | 2,001.7 | µg/mL | +/- 69.9082 |
| 30 | 1,4-Dioxane | 123-91-1 | SHBP8653 | 99% | 40,041.0 | µg/mL | +/- 1,383.9099 |
| 31 | 2-Nitropropane | 79-46-9 | BCCB9352 | 97% | 2,003.5 | µg/mL | +/- 69.2514 |
| 32 | Dibromomethane | 74-95-3 | 10233302 | 99% | 2,013.0 | µg/mL | +/- 70.3149 |
| 33 | cis-1,3-Dichloropropene | 10061-01-5 | RD220311 | 99% | 2,001.9 | µg/mL | +/- 69.9152 |
| 34 | Toluene | 108-88-3 | ED097-US | 99% | 2,011.4 | µg/mL | +/- 70.2608 |
| 35 | Ethyl methacrylate | 97-63-2 | MKCN6206 | 97% | 2,004.0 | µg/mL | +/- 69.2681 |
| 36 | trans-1,3-Dichloropropene | 10061-02-6 | RD220816 | 99% | 2,000.5 | µg/mL | +/- 69.8671 |
| 37 | 1,1,2-Trichloroethane | 79-00-5 | FGB01 | 99% | 2,001.9 | µg/mL | +/- 69.9134 |
| 38 | 1,3-Dichloropropane | 142-28-9 | BCCB9817 | 99% | 2,011.1 | µg/mL | +/- 70.2485 |
| 39 | Tetrachloroethene | 127-18-4 | SHBJ7422 | 99% | 2,001.2 | µg/mL | +/- 69.8890 |
| 40 | dibromochloromethane | 124-48-1 | MKCM8659 | 99% | 2,002.2 | µg/mL | +/- 69.9256 |
| 41 | 1,2-Dibromoethane (EDB) | 106-93-4 | BCCF5058 | 99% | 2,006.0 | µg/mL | +/- 70.0704 |
| 42 | Chlorobenzene | 108-90-7 | SHBN6640 | 99% | 2,000.1 | µg/mL | +/- 69.8506 |
| 43 | 1,1,1,2-Tetrachloroethane | 630-20-6 | GC01 | 99% | 2,009.8 | µg/mL | +/- 70.2031 |
| 44 | Ethylbenzene | 100-41-4 | 094632L21G | 99% | 2,016.4 | µg/mL | +/- 70.4337 |
| 45 | m-Xylene | 108-38-3 | SHBN6673 | 98% | 2,012.6 | µg/mL | +/- 70.3019 |
| 46 | p-Xylene | 106-42-3 | 10234437 | 99% | 2,009.1 | µg/mL | +/- 70.1787 |
| 47 | o-Xylene | 95-47-6 | SHBN5105 | 98% | 2,010.1 | µg/mL | +/- 70.2163 |
| 48 | Styrene | 100-42-5 | MKCQ3390 | 99% | 2,012.6 | µg/mL | +/- 70.3027 |
| 49 | Isopropylbenzene (cumene) | 98-82-8 | Z20D022 | 99% | 2,009.3 | µg/mL | +/- 70.1874 |
| 50 | bromoform | 75-25-2 | MKCR0680 | 99% | 2,000.8 | µg/mL | +/- 69.8750 |
| 51 | cis-1,4-Dichloro-2-butene | 1476-11-5 | RD220907 | 97% | 2,000.0 | µg/mL | +/- 69.1290 |
| 52 | 1,1,2,2-Tetrachloroethane | 79-34-5 | OXACF | 99% | 2,002.8 | µg/mL | +/- 69.9466 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 1,2,3-Trichloropropane | 96-18-4 | 332900 | 99% | 2,010.3 | µg/mL | +/- 70.2206 |
| 54 | trans-1,4-dichloro-2-butene | 110-57-6 | RD220921RSR | 94% | 1,999.9 | µg/mL | +/- 69.1240 |
| 55 | n-Propylbenzene | 103-65-1 | MKCN1126 | 99% | 2,009.1 | µg/mL | +/- 70.1804 |
| 56 | Bromobenzene | 108-86-1 | WXBC5147V | 99% | 2,012.5 | µg/mL | +/- 70.2992 |
| 57 | 1,3,5-Trimethylbenzene | 108-67-8 | BCCF4166 | 99% | 2,010.8 | µg/mL | +/- 70.2381 |
| 58 | 2-Chlorotoluene | 95-49-8 | MKCF5243 | 99% | 2,007.5 | µg/mL | +/- 70.1228 |
| 59 | 4-Chlorotoluene | 106-43-4 | MKCC8496 | 99% | 2,012.4 | µg/mL | +/- 70.2957 |
| 60 | tert-Butylbenzene | 98-06-6 | STBJ1937 | 99% | 2,009.0 | µg/mL | +/- 70.1769 |
| 61 | 1,2,4-Trimethylbenzene | 95-63-6 | WXBC9428V | 98% | 2,004.8 | µg/mL | +/- 70.0297 |
| 62 | sec-Butylbenzene | 135-98-8 | MKCP2266 | 99% | 2,009.2 | µg/mL | +/- 70.1839 |
| 63 | p-Isopropyltoluene (p-Cymene) | 99-87-6 | MKCR6143 | 99% | 2,007.6 | µg/mL | +/- 70.1280 |
| 64 | 1,3-Dichlorobenzene | 541-73-1 | BCCD5315 | 99% | 2,000.7 | µg/mL | +/- 69.8715 |
| 65 | 1,4-Dichlorobenzene | 106-46-7 | MKBS4401V | 99% | 2,002.0 | µg/mL | +/- 69.9195 |
| 66 | n-Butylbenzene | 104-51-8 | 09804AE | 99% | 2,006.9 | µg/mL | +/- 70.1036 |
| 67 | 1,2-Dichlorobenzene | 95-50-1 | SHBN3835 | 99% | 2,001.2 | µg/mL | +/- 69.8898 |
| 68 | 1,2-Dibromo-3-chloropropane | 96-12-8 | HBMVB | 97% | 2,006.3 | µg/mL | +/- 70.0843 |
| 69 | Nitrobenzene | 98-95-3 | 10224044 | 99% | 2,004.0 | µg/mL | +/- 69.2674 |
| 70 | 1,2,4-Trichlorobenzene | 120-82-1 | SHBM0526 | 99% | 2,009.7 | µg/mL | +/- 70.1996 |
| 71 | Hexachlorobutadiene | 87-68-3 | X05J | 99% | 2,007.4 | µg/mL | +/- 70.1210 |
| 72 | Naphthalene | 91-20-3 | MKCH0219 | 99% | 2,001.5 | µg/mL | +/- 69.9132 |
| 73 | 1,2,3-Trichlorobenzene | 87-61-6 | MKBX7627V | 99% | 2,015.7 | µg/mL | +/- 70.4092 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

# Quality Confirmation Test

**Column:**
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

**Carrier Gas:**
helium-constant pressure 30 psi

**Temp. Program:**
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

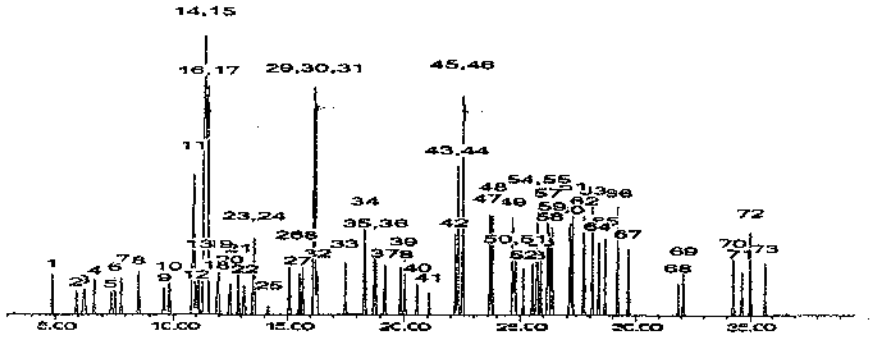
**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
MSD

**Split Vent:**
20.0 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis – Mix Technician

**Date Mixed:** 18-Nov-2022 **Balance Serial #** B251644995

Jennifer Polkino - Operations Tech III - ARM QC

**Date Passed:** 05-Dec-2022

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

SVI-38-02-03

# RESTEK® CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

## Certificate of Analysis

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30465 **Lot No.:** A0168072

**Description :** California Oxygenates Mixture #1

California Oxygenates Mixture #1 2000-10000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2026 **Storage:** 0°C or colder

**Ship:** Ambient

## CERTIFIED VALUES

| Elution Order | Compound | | Grav. Conc. (weight/volume) | | Expanded Uncertainty (95% C.L.; K=2) | | |
|---|---|---|---|---|---|---|---|
| 1 | tert-Butanol (TBA)<br>CAS # 75-65-0<br>Purity 99% | (Lot SHBL5806) | 10,038.8 | µg/mL | +/- 58.7794<br>+/- 215.0444<br>+/- 221.2897 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2 | Methyl-tert-butyl ether ( MTBE )<br>CAS # 1634-04-4<br>Purity 99% | (Lot SHBL0822) | 2,005.6 | µg/mL | +/- 11.7700<br>+/- 42.9699<br>+/- 44.2174 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 3 | Diisopropyl ether ( DIPE )<br>CAS # 108-20-3<br>Purity 99% | (Lot SHBH1927V) | 2,009.6 | µg/mL | +/- 11.7935<br>+/- 43.0556<br>+/- 44.3056 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 4 | Ethyl-tert-butyl ether (ETBE)<br>CAS # 637-92-3<br>Purity 99% | (Lot MKCM3774) | 2,006.0 | µg/mL | +/- 11.7723<br>+/- 42.9785<br>+/- 44.2263 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 5 | tert-Amyl methyl ether (TAME)<br>CAS # 994-05-8<br>Purity 99% | (Lot HMBG7745V) | 2,007.2 | µg/mL | +/- 11.7794<br>+/- 43.0042<br>+/- 44.2527 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

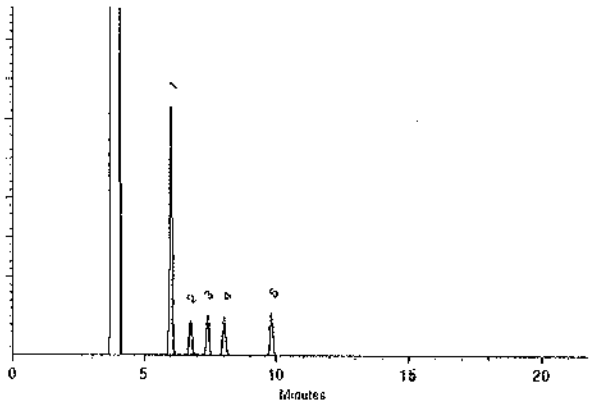
**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Miranda Kline - Operations Technician I

**Date Mixed:** 12-Jan-2021 **Balance:** B442140311

Justine Albertson - Operations Tech, ATM QC

**Date Passed:** 14-Jan-2021

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

# CERTIFICATE OF ANALYSIS

**Catalog No:** M-601C-10X
**Description:** 2-Chloroethylvinyl ether
**Lot:** 223041132
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 11, 2023
**Expiration:** Apr 11, 2026
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Freeze (<-10 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| 2-Chloroethylvinyl ether | 110-75-8 | 100.0 | 2005 | 2005 |

SV1-38-11-19

Reference Standard

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

SVI-38-11-19

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k$=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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# CERTIFIED REFERENCE MATERIAL

## Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

SV1-38-11-18

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30470 **Lot No.:** A0188432

**Description :** tert-Butanol Standard

tert-Butanol Std 50,000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** August 31, 2025 **Storage:** 0°C or colder

**Ship:** Ambient

## CERTIFIED VALUES

| Elution Order | Compound | Given Conc. (weight/volume) | Expanded Uncertainty (95% C.L., k=2) | | |
|---|---|---|---|---|---|
| 1 | tert-Butanol (TBA) | 50,300.0 µg/mL | +/- 294.5176 | µg/mL | Gravimetric |
| | CAS # 75-65-0 (Lot I01619K21F-1) | | +/- 1,077.4927 | µg/mL | Unstressed |
| | Purity 99% | | +/- 1,108.7850 | µg/mL | Stressed |

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

SVI-38-11-18

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

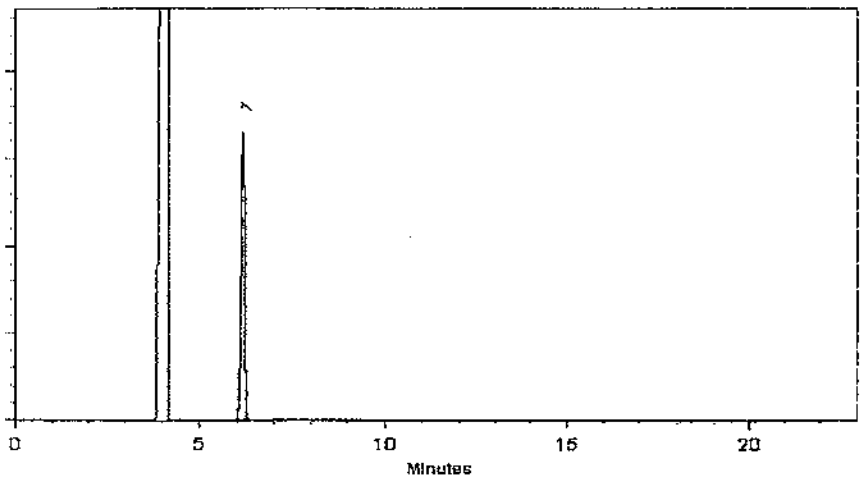
**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Malina Homan - Operations Technician I  **Date Mixed:** 11-Aug-2022  **Balance:** B251644995

Marlina Cowan – Operations Tech II ARM QC  **Date Passed:** 15-Aug-2022

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

SVL-3871-18

**General Certified Reference Material Notes**

**Expiration Notes:**

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

**Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

**Certified Uncertainty Value Notes:**

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions | Standard Conditions | Non-Standard Conditions |
|---|---|---|
| 25°C Nominal (Room Temperature) | < 60°C | ≥ 60°C up to 7 days |
| 10°C or colder (Refrigerate) | < 40°C | ≥ 40°C up to 7 days |
| 0°C or colder (Freezer)<br>-20°C or colder (Deep Freezer) | < 25°C | ≥ 25°C up to 7 days |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

**Manufacturing Notes:**

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

**Handling Notes:**

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

Ibis Scientific, 7330 Smoke Ranch Rd., Suite B, Las Vegas, NV 89128 (855)390-4202



Date manufactured: 6/24/2022
Original issue date: 6/24/2022

# Certificate of Analysis

Date Received: _____

Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| 3200-44 | 503601 | ≤ -10 °C | P/T Methanol | 23-Jun-2027 | 1,2,3-Trimethylbenzene Solution, 2500 mg/L, 1 mL |

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 1,2,3-trimethylbenzene | 526-73-8 | 92.7 | 869.8.4.1P | 2536 ± 32.33 |

SVI-38-12-06

SM-38-12-20

Agilent

Trusted Answers

**ISO 17034**

# Reference Material Certificate

## Product Information Sheet

**Product Name:** 1-Chlorohexane Standard

**Product Number:** EPA-1208-1

**Storage Conditions:** Store at Room Temperature (15° to 30°C).

**Lot Number:** 0006735507

**Lot Issue Date:** 20-Mar-2023

**Expiration Date:** 30-Apr-2026

| Chemical Name | Concentration | Uncertainty | CAS # | Analysis ID |
|---|---|---|---|---|
| 1-chlorohexane | 1000 | ± 5 µg/mL | 000544-10-5 | RM04313 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material (RM) standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above. Purity values are taken from approved vendor raw material certificates.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference (RM) standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference (RM) standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Expiration of Certification:**
The certification of this analytical reference standard (RM) is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

Agilent

Trusted Answers

SM-38-12-20

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB
ACCREDITED
REFERENCE MATERIAL PRODUCER

ISO 17034 Cert
No. AR-1936

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015 Quality Management System. Cert# 951215321



www.agilent.com/quality/
CSD-QA-015.1

ISO 17025

Agilent

Trusted Answers

ISO 17034

# Reference Material Certificate

## Product Information Sheet

| | | | |
|---|---|---|---|
| **Product Name:** | Acrolein and Acrylonitrile Standard | **Lot Number:** | 0006788822 |
| **Product Number:** | AMN-623-1 | **Lot Issue Date:** | 20-Mar-2024 |
| **Storage Conditions:** | Store Frozen (-25° to -10°C). SVI-38-15-14 | **Expiration Date:** | 31-Jul-2024 |

| Component Name | Concentration | | Uncertainty | CAS# | Analyte Lot |
|---|---|---|---|---|---|
| ~~acrolein~~ | 2009 | ± | 10 µg/mL | 000107-02-8 | RM20527 |
| acrylonitrile | 2009 | ± | 10 µg/mL | 000107-13-1 | RM20527 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Expiration of Certification:**
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.



CSD-QA-015.2

ISO 17025
Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 **www.agilent.com/quality**

Agilent

Trusted Answers

SV1-38-15-K

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB
ACCREDITED
ISO 17034
REFERENCE MATERIAL PRODUCER

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015 Quality Management System. Cert# 951215321



www.agilent.com/quality/
CSD-QA-015.2

ISO 17034
Cert No. AR-1936

ISO 17025
Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 **www.agilent.com/quality**

SVI-38-15-09

14271 Jeffrey Road
#223
Irvine, CA 92620

ibis scientific

For Chemical Emergency, Spill, Leak, Fire Exposure or Accident Call Chromanex Day or Night 800.390.4202

Quality System Audited & Registered by TUV USA to ISO 9001:2015

Date Received: 2/8/24

# Certificate of Analysis

Rev 0 Page

| Catalog No.: | Lot No.: | Storage: | Solvent: | Exp. Date: | Description: |
|---|---|---|---|---|---|
| G34-3200-121020 -17 | 480682 | ≤ -10 °C | P/T MeOH:Water 9:1 | 4/28/2027 | Ketones Solution, 2500 mg/L, 1 ml ISO17034 |

| Compound | CAS No | Purity (%) | Compound Lot No | Concentration, mg/L |
|---|---|---|---|---|
| acetone | 67-64-1 | 99.6 | 196.271.4P | 2498 ± 53.47 mg/L |
| 2-butanone (MEK) | 78-93-3 | 99.9 | 197.1.2P | 2498 ± 53.51 mg/L |
| 4-methyl-2-pentanone (MIBK) | 108-10-1 | 99.88 | 198.421.1.2P | 2500 ± 54.02 mg/L |
| 2-hexanone | 591-78-6 | 100 | 199.7.3P | 2501 ± 53.58 mg/L |

Certified By: Melissa Workoff

Melissa Workoff

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

# CERTIFICATE OF ANALYSIS

**Catalog No:** APP-9-211-20X
**Description:** Vinyl acetate
**Lot:** 224031313
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*

**Date Certified:** Mar 22, 2024
**Expiration:** Sep 22, 2024
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Freeze (<-10 °C)



**Signal Word: Danger**

SVI-38.15-13

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Vinyl acetate | 108-05-4 | 100.0 | 2006 | 2006 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4% and was determined in accordance with ISO 17034. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/IND-001
Rev. 7/20

SVI-38-15-10

Ibis Scientific, 7330 Smoke Ranch Rd., Suite B, Las Vegas, NV 89128 (855) 390-4202 

Date manufactured: 12/14/2023
Original issue date: 12/14/2023

# Certificate of Analysis

Date Received: 2/8/24
Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| 3200-G34 -120016-03 | 513798 | ≤ -10 °C | P/T Methanol | 12-Dec-2028 | ISO 17034 - Method 8260 Gases, 2,000 mg/L, 2 x 0.6 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC), gas chromatography/mass spectrometry (GC/MS), or High Pressure Liquid Chromatography (HPLC) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| bromomethane | 74-83-9 | 99.9 | 139.158.2.1P | 1962 ± 23 |
| chloroethane | 75-00-3 | 99.94 | 141.2.3P | 1995 ± 23 |
| chloromethane | 74-87-3 | 99.7 | 140.158.3P | 2018 ± 24 |
| dichlorodifluoromethane | 75-71-8 | 99 | 142.158.5.1P | 2026 ± 47 |
| trichlorofluoromethane | 75-69-4 | 99 | 144.1.3P | 1995 ± 38 |
| vinyl chloride | 75-01-4 | 99 | 143.158.5.3P | 1962 ± 45 |

Second Source standards are prepared according to NELAC requirements.

## Intended Use:

This certified reference material (CRM) is intended for use as a calibration standard or a quality control standard for chromatography instrumentation such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various USEPA, NIOSH, and ASTM methods.

Recommended storage container for ampouled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix
y = boiling point of the solvent

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened

# Certificate of Analysis

**Catalog No.:** 3200-G34-120016 **Lot No.:** 513798 **Expiration Date:** 12/12/2028

ampoule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricllly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements: **≤ -10 °C**
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a sealed ampoule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

This standard was prepared gravimetrically using balances that are calibrated to the requirements of ISO/IEC 17025. All balances are calibrated externally by an accredited ISO/IEC 17025 calibration laboratory using weight sets traceable to the International System of Units (SI) through the national reference standards maintained by NIST.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025 and ISO 17034.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $U=ku_c$; U=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 12-Dec-2028

| **Manufactured By:** | **Certified By:** | **Released By:** |
|---|---|---|
| Melissa Workoff | | Susan Mathews |
| Melissa Workoff<br>Production Chemist II | Dominique Lindner<br>Quality Control Chemist I | Susan Mathews<br>Quality Control Team Lead |

# Certificate of Analysis

**Catalog No.:** 3200-G34-120016 **Lot No.:** 513798 **Expiration Date:** 12/12/2028

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| Production Chemist II | Quality Control Chemist I | Quality Control Team Lead |

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

SVL-38-11-11

Date manufactured: 3/13/2023
Original issue date: 3/13/2023

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -126047-01 | 498957 | ≤ -10 °C | P/T Methanol | 13-Sep-2024 | Custom Volatiles Mix, 73-6047, Various Concentrations, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-nitropropane | 79-46-9 | 97.7 | 219.1.2P | 2003 ± 110 |
| allyl chloride | 107-05-1 | 98.9 | 227.1.2P | 2024 ± 120 |
| benzene | 71-43-2 | 99.99 | 146.1.10P | 1997 ± 110 |
| bromobenzene | 108-86-1 | 100 | 147.7.1P | 1999 ± 140 |
| bromochloromethane | 74-97-5 | 99.7 | 148.1.3P | 1998 ± 110 |
| bromodichloromethane | 75-27-4 | 99.2 | 149.1.12P | 1988 ± 110 |
| bromoform | 75-25-2 | 99.3 | 150.7.2P | 1989 ± 110 |
| n-butylbenzene | 104-51-8 | 99.2 | 151.7.3.2P | 1997 ± 110 |
| sec-butylbenzene | 135-98-8 | 99.5 | 152.1.2.1P | 1999 ± 110 |
| tert-butylbenzene | 98-06-6 | 99.9 | 153.29.1P | 1999 ± 110 |
| carbon tetrachloride | 56-23-5 | 100 | 154.9.1P | 1997 ± 110 |
| chlorobenzene | 108-90-7 | 99.9 | 155.29.1P | 2001 ± 110 |
| 2-chloroethanol | 107-07-3 | 99.5 | 217.1.3P | 2000 ± 110 |
| chloroform | 67-66-3 | 99.8 | 156.7.1P | 1998 ± 110 |
| chloroprene | 126-99-8 | 98.9 | 315.5.22P | 1982 ± 140 |
| 2-chlorotoluene | 95-49-8 | 99.5 | 157.7.1P | 1998 ± 110 |
| 4-chlorotoluene | 106-43-4 | 99.9 | 158.9.3P | 2000 ± 110 |

# Certificate of Analysis



**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

| | | | | |
|---|---|---|---|---|
| cis-1,2-dichloroethylene | 156-59-2 | 98.5 | 166.1.7.1P | 1997 ± 110 |
| dibromochloromethane | 124-48-1 | 98.6 | 159.1.8.1P | 2013 ± 110 |
| 1,2-dibromo-3-chloropropane | 96-12-8 | 98.6 | 160.7.2.3P | 2000 ± 110 |
| 1,2-dibromoethane | 106-93-4 | 99.9 | 161.9.1P | 2008 ± 110 |
| dibromomethane | 74-95-3 | 99.8 | 162.1.2P | 1996 ± 120 |
| 1,2-dichlorobenzene | 95-50-1 | 99.5 | 43.1.2P | 1999 ± 110 |
| 1,3-dichlorobenzene | 541-73-1 | 99.5 | 44.1.3P | 2001 ± 110 |
| 1,4-dichlorobenzene | 106-46-7 | 99.9 | 45.29.1P | 2000 ± 110 |
| cis-1,4-dichloro-2-butene | 1476-11-5 | 98 | 209.1.5P | 2004 ± 110 |
| trans-1,4-dichloro-2-butene | 110-57-6 | 93.5 | 201.1.17.1P | 1991 ± 110 |
| 1,1-dichloroethane | 75-34-3 | 98.1 | 163.247.1.2P | 1992 ± 110 |
| 1,2-dichloroethane | 107-06-2 | 99.9 | 164.158.1P | 2001 ± 110 |
| 1,1-dichloroethylene | 75-35-4 | 99.98 | 165.1.4P | 1999 ± 110 |
| trans-1,2-dichloroethylene | 156-60-5 | 99.7 | 167.1.7P | 1999 ± 110 |
| dichlorofluoromethane (Freon 21) | 75-43-4 | 98 | 986.5.4.2P | 1960 ± 140 |
| 1,2-dichloropropane | 78-87-5 | 99.7 | 168.8.1.1P | 2001 ± 120 |
| 1,3-dichloropropane | 142-28-9 | 100 | 169.7.3P | 1971 ± 140 |
| 2,2-dichloropropane | 594-20-7 | 98.1 | 170.7.4P | 2002 ± 110 |
| 1,1-dichloropropylene | 563-58-6 | 99 | 171.158.2.4P | 2001 ± 120 |
| cis-1,3-dichloropropylene | 10061-01-5 | 99.5 | 172.7.6.1P | 2010 ± 110 |
| trans-1,3-dichloropropylene | 10061-02-6 | 98.8 | 173.7.4.12P | 1991 ± 110 |
| 1,4-dioxane | 123-91-1 | 99.93 | 223.1.4P | 40750 ± 2100 |
| ethyl ether | 60-29-7 | 99.8 | 226.9.1P | 2000 ± 110 |
| ethyl methacrylate | 97-63-2 | 99.5 | 216.7.1P | 2004 ± 110 |
| ethylbenzene | 100-41-4 | 100 | 174.7.1P | 1998 ± 110 |

**Manufactured By:**

Sanquetta Coakley
**Production Chemist I**

**Certified By:**

Dominique Lindner
**Quality Control Chemist I**

**Released By:**

Susan Mathews
**Quality Control Team Lead**

# Certificate of Analysis

**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

| | | | | |
|---|---|---|---|---|
| hexachlorobutadiene | 87-68-3 | 98 | 47.158.3P | 2000 ± 120 |
| iodomethane | 74-88-4 | 99.9 | 203.29.2P | 2000 ± 110 |
| isobutyl alcohol | 78-83-1 | 99.8 | 220.7.3P | 39990 ± 2100 |
| isopropylbenzene | 98-82-8 | 99.9 | 176.9.3P | 2004 ± 110 |
| 4-isopropyltoluene | 99-87-6 | 99.9 | 177.9.3P | 1988 ± 110 |
| methyl acrylonitrile | 126-98-7 | 98 | 212.286.1.2P | 19960 ± 1300 |
| methyl methacrylate | 80-62-6 | 100 | 231.7.4P | 2043 ± 110 |
| methyl acrylate | 96-33-3 | 98.5 | 349.7.1P | 1999 ± 110 |
| methylene chloride | 75-09-2 | 99.9 | 178.24.4P | 1999 ± 110 |
| naphthalene | 91-20-3 | 99.8 | 26.9.1P | 2020 ± 110 |
| nitrobenzene | 98-95-3 | 100 | 94.7.1P | 2002 ± 110 |
| propionitrile | 107-12-0 | 99.7 | 218.7.2.1P | 19950 ± 1000 |
| n-propylbenzene | 103-65-1 | 99.7 | 179.7.2.2P | 1998 ± 110 |
| styrene | 100-42-5 | 99.5 | 180.9.4P | 1999 ± 110 |
| 1,1,1,2-tetrachloroethane | 630-20-6 | 99.8 | 181.7.2.9P | 2003 ± 110 |
| 1,1,2,2-tetrachloroethane | 79-34-5 | 99.4 | 182.8.2P | 2000 ± 120 |
| tetrachloroethylene | 127-18-4 | 100 | 183.1.2VP | 2004 ± 110 |
| tetrahydrofuran (THF) | 109-99-9 | 100 | 299.7.1P | 1996 ± 110 |
| toluene | 108-88-3 | 100 | 184.48.1P | 2000 ± 110 |
| 1,2,3-trichlorobenzene | 87-61-6 | 99.8 | 185.1.2P | 1999 ± 110 |
| 1,2,4-trichlorobenzene | 120-82-1 | 99.6 | 54.29.1P | 1987 ± 110 |
| 1,1,1-trichloroethane | 71-55-6 | 99 | 187.1.1P | 1998 ± 120 |
| 1,1,2-trichloroethane | 79-00-5 | 99.6 | 195.7.1.6P | 1997 ± 110 |
| trichloroethylene | 79-01-6 | 100 | 188.29.2P | 1998 ± 110 |
| 1,2,3-trichloropropane | 96-18-4 | 99.5 | 189.1.3P | 1998 ± 110 |

**Manufactured By:**

Sanquetta Coakley
**Production Chemist I**

**Certified By:**

Dominique Lindner
**Quality Control Chemist I**

**Released By:**

Susan Mathews
**Quality Control Team Lead**

# Certificate of Analysis

**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

| | | | | |
|---|---|---|---|---|
| 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113) | 76-13-1 | 99 | 270.158.3.1P | 2002 ± 120 |
| 1,2,4-trimethylbenzene | 95-63-6 | 98.7 | 190.7.1P | 1999 ± 110 |
| 1,3,5-trimethylbenzene | 108-67-8 | 99.5 | 191.7.1P | 2001 ± 110 |
| m-xylene | 108-38-3 | 99.7 | 193.7.1.2P | 1999 ± 110 |
| o-xylene | 95-47-6 | 99 | 192.29.3P | 1998 ± 120 |
| p-xylene | 106-42-3 | 99.9 | 194.7.1P | 1999 ± 110 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)

y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Sanquetta Coakley | Dominique Lindner | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

# Certificate of Analysis

**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 13-Sep-2024

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Sanquetta Coakley | Dominique Lindner | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

5580 Skylane Blvd
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GM - 38-12-11

Date manufactured: 11/16/2022
Original issue date: 11/16/2022

# Certificate of Analysis

Date Received:
Page 1 of 2 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020511-06 | 492310 | ≤ -10 °C | P/T Methanol | 15-Nov-2027 | t-Butyl Alcohol Solution, 50,000 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| tert-butyl alcohol | 75-65-0 | 100 | 511.7.2P | 50110 ± 2600 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

# Certificate of Analysis

**Catalog No.:** Z-G34-020511-06 **Lot No.:** 492310 **Expiration Date:** 11/15/2027

(95% confidence) values listed are determined gravimetricllly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 15-Nov-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist I** | **Quality Control Team Lead** |

SVI-38-B-08

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 8/24/2022
Original issue date: 8/24/2022

# Certificate of Analysis

Date Received: 10/6/23
 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020145-02 | 492308 | ≤ -10 °C | P/T Methanol | 23-Aug-2027 | 2-Chloroethyl Vinyl Ether Solution, 2,000 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-chloroethylvinyl ether | 110-75-8 | 99.8 | 145.1.5P | 2010 ± 110 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

SN-39-13-08

# Certificate of Analysis



**Catalog No.:** Z-G34-020145-02 **Lot No.:** 492308 **Expiration Date:** 8/23/2027

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 23-Aug-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Sanquetta Coakley | Dominique Lindner | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

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SVI-38-09-07

Date manufactured: 6/24/2022
Original issue date: 6/24/2022

# Certificate of Analysis

Date Received:

 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020869-08 | 484154 | ≤ -10 °C | P/T Methanol | 23-Jun-2027 | 1,2,3-Trimethylbenzene Solution, 2,500 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 1,2,3-trimethylbenzene | 526-73-8 | 92.7 | 869.8.4.1P | 2536 ± 140 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVr38-09-05

# Certificate of Analysis



**Catalog No.:** Z-G34-020869-08 **Lot No.:** 484154 **Expiration Date:** 6/23/2027

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 23-Jun-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Brian Stokes | J Ball | Susan Mathews |
| Brian Stokes | Jared Ball | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

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# CERTIFIED REFERENCE MATERIAL

## Certificate of Analysis

SV1-30-02-02

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30003 **Lot No.:** A0150458

**Description :** VOA Tuning Compound Mix

VOA Tuning Compound Mix 5,000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2024 **Storage:** 0°C or colder

**CERTIFIED VALUES**

| Elution Order | Compound | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) | | |
|---|---|---|---|---|---|
| 1 | 1-Bromo-4-fluorobenzene (BFB) | 5,030.0 µg/mL | +/- 29.5189 | µg/mL | Gravimetric |
| | CAS # 460-00-4 (Lot 20401KO) | | +/- 282.0557 | µg/mL | Unstressed |
| | Purity 99% | | +/- 288.6541 | µg/mL | Stressed |

**Solvent:** P&T Methanol
CAS # 67-56-1
Purity 99%

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

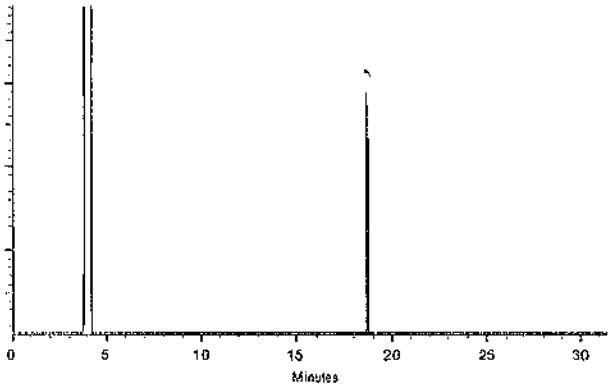
**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Walker Workman - Operations Technician I

**Date Mixed:** 27-Jun-2019 **Balance:** 1128342314

Justine Albertson - Operations Tech-RTM GC

**Date Passed:** 01-Jul-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

**General Certified Reference Material Notes**

**Expiration Notes:**

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

**Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

**Certified Uncertainty Value Notes:**

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

*k* is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions | Standard Conditions | Non-Standard Conditions |
|---|---|---|
| 25°C Nominal (Room Temperature) | < 60°C | ≥ 60°C up to 7 days |
| 10°C or colder (Refrigerate) | < 40°C | ≥ 40°C up to 7 days |
| 0°C or colder (Freezer) | < 25°C | ≥ 25°C up to 7 days |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

**Manufacturing Notes:**

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

**Handling Notes:**

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 3/10/2023
Original issue date: 3/10/2023

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020200-04 | 498954 | ≤ -10 °C | P/T Methanol | 8-Mar-2028 | Carbon Disulfide Solution, 5,000 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| carbon disulfide | 75-15-0 | 99.9 | 200.24.1VP | 5075 ± 260 |

*Not a certified value

SVL-38-11-10

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVI-38110

# Certificate of Analysis



**Catalog No.:** Z-G34-020200-04 **Lot No.:** 498954 **Expiration Date:** 3/8/2028

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 8-Mar-2028

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist I** | **Quality Control Team Lead** |

SVI-38-12-19

Agilent

Trusted Answers

**ISO 17034**

# Reference Material Certificate

## Product Information Sheet

**Product Name:** VOC Gas Standard

**Product Number:** DWM-544-1

**Storage Conditions:** Store Frozen (-25° to -10°C).

**Lot Number:** 0006744131

**Lot Issue Date:** 23-May-2023

**Expiration Date:** 30-Jun-2025

| Component Name | Concentration | | Uncertainty | CAS# | Analyte Cat# |
|---|---|---|---|---|---|
| bromomethane | 2009 | ± | 10 µg/mL | 000074-83-9 | RM00064 |
| chloroethane | 2008 | ± | 10 µg/mL | 000075-00-3 | RM00065 |
| chloromethane | 2006 | ± | 10 µg/mL | 000074-87-3 | RM12571 |
| dichlorodifluoromethane | 2010 | ± | 10 µg/mL | 000075-71-8 | RM05289 |
| trichlorofluoromethane | 2009 | ± | 10 µg/mL | 000075-69-4 | RM00017 |
| vinyl chloride | 2009 | ± | 10 µg/mL | 000075-01-4 | RM05458 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

SVI-38-12-19

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**Expiration of Certification:**
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

ISO 17034
Cert No. AR-1936

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015 Quality Management System. Cert# 951215321



www.agilent.com/quality/
CSD-QA-015.2

ISO 17025
Cert No. AT-1937

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SVI-38-15-18

Date manufactured: 11/16/2022
Original issue date: 11/16/2022

# Certificate of Analysis

Date Received:

 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020232-10 | 492307 | ≤ -10 °C | P/T Methanol | 20-Nov-2025 | Vinyl Acetate Solution, 2,500 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| vinyl acetate | 108-05-4 | 99.9 | 232.7.1P | 2496 ± 160 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVI-38.15-18

# Certificate of Analysis



**Catalog No.:** Z-G34-020232-10 **Lot No.:** 492307 **Expiration Date:** 11/20/2025

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 20-Nov-2025

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (Certificate number 3031.02) accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist II** | **Quality Control Team Lead** |

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SVI-30-13-20

# CERTIFICATE OF ANALYSIS

**Catalog No:** OGAD-001
**Description:** Oxygenate Gasoline Additive Standard
**Lot:** 222081419
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 29, 2022
**Expiration:** Aug 29, 2025
**Sample Size:** 1 mL
**Components:** 5
**Storage Condition:** Refrig (0-5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity % (GC/MS) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| MtBE | 1634-04-4 | 99.8 | 2001 | 1997 |
| EtBE | 637-92-3 | 99.9 | 2004 | 2002 |
| Isopropyl ether | 108-20-3 | 100.0 | 2010 | 2010 |
| TAME | 994-05-8 | 99.0 | 2000 | 1980 |
| t-Butanol | 75-65-0 | 99.6 | 10005 | 9965 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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SVI - 38-13-18

# CERTIFICATE OF ANALYSIS

**Catalog No:** M-8010R-1-04-10X
**Description:** 1-Chlorohexane
**Lot:** 223031117
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Mar 8, 2023
**Expiration:** Mar 8, 2033
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| 1-Chlorohexane | 544-10-5 | 98.0 | 2024 | 1984 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/ND-001
Rev. 7/20

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ~~ISO 9001:2015 – Quality Management System -- Requirements~~ Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

SVI-38-08-06

Agilent

# Certificate of Analysis

**Product Name:** Carbon Disulfide Standard

**Product Number:** EPA-1012-1 **Lot Issue Date:** 21-Sep-2020

**Lot Number:** 0006557585 **Expiration Date:** 30-Sep-2024

**Description:**
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

| Analyte | CAS# | Analyte Lot | Concentration ± Uncertainty |
|---|---|---|---|
| carbon disulfide | 000075-15-0 | RM08158 | 5023 ± 25 µg/mL |

**Matrix:** methanol (methyl alcohol)

**Storage Conditions:** Store Frozen (-25° to -10°C).

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Intended Use:**
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Hazards:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

**Expiration of Certification:**
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034 Cert
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED TESTING LABORATORY
ISO 17025 Cert
No. AT-1937

spex certiprep
ACCREDITED
Reference Materials Producer
Cert #2495.01

# SPEXertificate®
## Certificate of Reference Material

ACCREDITED
Chemical Testing
Cert #2495.02

**Catalog Number:** S-3893 **Lot No.** ND210224010

**Description:** Methyl acetate

**Matrix:** Methanol (Purge & Trap Grade)

**Ship Date:** January 5, 2023
**Expiration Date:** January 4, 2026

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

### Certified Compounds:

| Compound | CAS # | Labeled | Purity | Certified† | Uncertainty |
|---|---|---|---|---|---|
| Methyl acetate | 79-20-9 | 1000 µg/mL | 99.5% | 1015 µg/mL | ± 36 µg/mL |

SVI-38-10-08

* - Isomer ratios (when applicable) are an uncertified parameter.

### Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: January 5, 2023

Certifying Officer: Shannon Mace

Shannon Macieira, Operations Manager


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# *Report of Certification*

SVI-38-10-08

**Catalog Number:** S-3893 **Lot No.** ND210224010

**Description:** Methyl acetate

**Matrix:** Methanol (Purge & Trap Grade)

**Ship Date:** January 5, 2023

**Expiration Date:** January 4, 2026

**This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by DQS), ISO/IEC 17025 (accredited by A2LA) and ISO 17034 (accredited by A2LA) quality system consistent with the following standards:**

- ISO 9001: Quality management systems - Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 31: Reference Materials - Contents of certificates, labels, and accompanying documentation
- ISO Guide 30: Reference Materials - Selected terms and definitions
- ISO Guide 35: Reference Materials - General and Statistical principles for certification
- Guide to the Expression of Uncertainty in Measurement
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement
- NIST Technical Note 1297

## Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product in ambient conditions (18°C to 27°C). Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the SHIPPED DATE using our stability data and is applicable only if the product is stored under the laboratory specified conditions.

## Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

## Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

## Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

## Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025, ISO 17034, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

## Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- $u_c$ = combined standard uncertainty obtained by combining the individual compound standard uncertainty components $u_i$ where $u_c=\sqrt{\sum u_i^2}$

## Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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SV1-38-14-11

# SPEXertificate®

## Certificate of Reference Material

**Catalog Number:** S-2470 **Lot No.** NSI231116202
**Description:** Methylcyclohexane
**Matrix:** P&T Methanol
**Manufactured Date:** 11/16/2023
**Expiration Date:** 11/30/2026

This **SPEXOrganics®** Certified Reference Material, CRM, was manufactured by NSI Lab Solutions (www.nsilabsolutions.com) and is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

**Certified Compounds:**

| Compound | CAS # | Labeled (ug/mL) | Purity | Certified† (ug/mL) | | Uncertainty (ug/mL) |
|---|---|---|---|---|---|---|
| Methylcyclohexane | 108-87-2 | 1000 | 98.0% | 1000 | ± | 7.05 |

SV1-38-14-11

* - Isomer ratios (when applicable) are an uncertified parameter.

**Final Solution Verification:**

Final solution integrity verified Volumetrically and Analytically. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration is based on gravimetric or volumetric measurements. All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO/IEC 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request. All glassware used in the manufacturing of this standard is Class A. Volumetric pipettors are calibrated every four months by an ISO/IEC 17025 accredited calibration laboratory.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 11/16/2023 Certifying Officer: Kenneth Grzybowski

# Report of Certification

**This Certified Reference Material (CRM) has been produced by NSI Lab Solutions (www.nsilabsolutions.com) and certified under an ISO 9001 (certified by DQS) and ISO 17025 (accredited by ANAB AT-1690), and ISO 17034 (accredited by ANAB AR-1571) quality system consistent with the following standards:**

- ISO 9001: Quality management systems - Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 30: Reference Materials - Selected terms and definitions
- ISO Guide 31: Reference Materials - Contents of certificates and tables
- ISO Guide 35: Refernece Materials - General and Statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement, 2008
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement - Third Edition
- NIST Technical Note 1297

### Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product at 15°C to 30°C. Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is stored under the laboratory specified

### Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

### Material Source:

All analytes and matrix materials are obtained and verified by NSI from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

### Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

### Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025 and ISO 17034. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedures. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

### Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = kuc$ where k=2 is the coverage factor at the 95% confidence level
- uc = combined standard uncertainty obtained by combining the individual compound standard uncertainty components ui, where $uc=\sqrt{\sum u^2}$

### Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

SPEX CertiPrep.®
Your Science is Our Passion.®

203 Norcross Ave. Metuchen, NJ 08840
www.spexcertiprep.com • E mail: crmsales@spexcsp.com
Phone: 1 732 549 7144 • Fax 1 732 603 9647

SVI-38-14-20

# SPEXertificate®

## Certificate of Reference Material

**Catalog Number:** S-1015 **Lot No.** NSI231122602
**Description:** Cyclohexane
**Matrix:** Methanol (Purge & Trap Grade) **Manufactured Date:** 11/22/2023
**Expiration Date:** 11/30/2026

This **SPEXOrganics®** Certified Reference Material, CRM, was manufactured by NSI Lab Solutions (www.nsilabsolutions.com) and is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

**Certified Compounds:**

| Compound | CAS # | Labeled (ug/mL) | Purity | Certified† (ug/mL) | | Uncertainty (ug/mL) |
|---|---|---|---|---|---|---|
| Cyclohexane | 110-82-7 | 1000 | 100.0% | 999 | ± | 7.05 |

* - Isomer ratios (when applicable) are an uncertified parameter.

**Final Solution Verification:**

Final solution integrity verified Volumetrically and Analytically. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration is based on gravimetric or volumetric measurements. All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO/IEC 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request. All glassware used in the manufacturing of this standard is Class A. Volumetric pipettors are calibrated every four months by an ISO/IEC 17025 accredited calibration laboratory.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 11/22/2023 Certifying Officer: Kenneth Grzybowski

# Report of Certification

**This Certified Reference Material (CRM) has been produced by NSI Lab Solutions (www.nsilabsolutions.com) and certified under an ISO 9001 (certified by DQS) and ISO 17025 (accredited by ANAB AT-1690), and ISO 17034 (accredited by ANAB AR-1571) quality system consistent with the following standards:**

- ISO 9001: Quality management systems - Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 30: Reference Materials - Selected terms and definitions
- ISO Guide 31: Reference Materials - Contents of certificates and labtes
- ISO Guide 35: Refernece Materials - General and Statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement, 2008
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement - Third Edition
- NIST Technical Note 1297

### Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product at 15°C to 30°C. Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is stored under the laboratory specified

### Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µl. with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

### Material Source:

All analytes and matrix materials are obtained and verified by NSI from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

### Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

### Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025 and ISO 17034. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedures. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

### Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = kuc$ where k=2 is the coverage factor at the 95% confidence level
- uc = combined standard uncertainty obtained by combining the individual compound standard uncertainty components ui, where $uc=\sqrt{\sum ui^2}$

### Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

SPEX CertiPrep
Your Science is Our Passion.®

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SV1-38-14-05

RESTEK

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www.restek.com

CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

*chromatographic plus*

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30006 **Lot No.:** A0198760

**Description :** VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2026 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Acetone | 67-64-1 | 27D1062005 | 99% | 5,000.2 µg/mL | +/- 172.7826 |
| 2 | 2-Butanone (MEK) | 78-93-3 | SHBL5543 | 99% | 5,006.0 µg/mL | +/- 172.9842 |
| 3 | 4-Methyl-2-pentanone (MIBK) | 108-10-1 | SHBN3601 | 99% | 5,009.5 µg/mL | +/- 173.1052 |
| 4 | 2-Hexanone | 591-78-6 | MKCQ6663 | 99% | 5,009.3 µg/mL | +/- 173.0994 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** P&T Methanol/Water (90:10)
**CAS #** 67-56-1/7732-18-5
**Purity** 99%

# Quality Confirmation Test

**Column:**
105m x 0.53mm x 3.0µm
Rtx 502.2 (cat.#10910)

**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

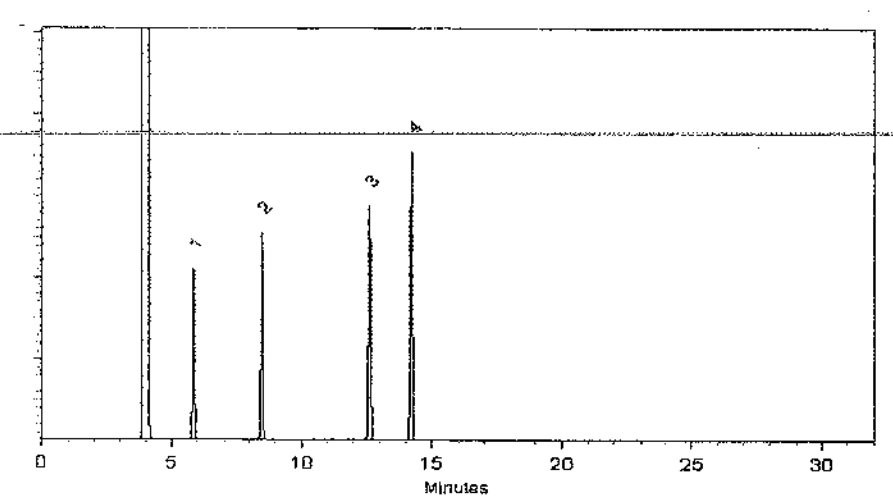
**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID

**Split Vent:**
40 ml/min

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Laith Clemente - Operations Technician I  **Date Mixed:** 07-Jun-2023  **Balance Serial #** B707717271

Martina Cowan – Operations Tech II ARM QC  **Date Passed:** 12-Jun-2023

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

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# CERTIFICATE OF ANALYSIS SVI-38-14-03

**Catalog No:** TK-102-09S-12.5X
**Description:** Methylcyclohexane
**Lot:** 222031009
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Mar 8, 2022
**Expiration:** Mar 8, 2032
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity % (GC/FID) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Methylcyclohexane | 108-87-2 | 100.0 | 2507 | 2507 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No: 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/INO-001
Rev. 7/20

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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# CERTIFICATE OF ANALYSIS

SM-38-14-01

**Catalog No:** S-6524-0.25X
**Description:** Methyl acetate
**Lot:** 223081092
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 7, 2023
**Expiration:** Aug 7, 2033
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Methyl acetate | 79-20-9 | 100.0 | 2506 | 2506 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_c = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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# CERTIFICATE OF ANALYSIS

**Catalog No:** M-603-M-5X
**Description:** Acrolein & Acrylonitrile
**Lot:** 224031415
**Solvent:** Methanol (90%)
Water (10%)
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word:** Danger

**Date Certified:** Mar 26, 2024
**Expiration:** Jul 26, 2024
**Sample Size:** 1 mL
**Components:** 2
**Storage Condition:** Freeze (<-10 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

SV1-38-15-12

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Acrolein | 107-02-8 | 90.5 | 5530* | 5005 |
| Acrylonitrile | 107-13-1 | 99.8 | 5060 | 5050 |

Reagent Grade

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

* Weight compensated to 100% purity.

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4% and was determined in accordance with ISO 17034. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST; Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

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# CERTIFICATE OF ANALYSIS

SVI-38-12-12

**Catalog No:** TK-102-08S-10X
**Description:** Cyclohexane
**Lot:** 221101280
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Oct 19, 2021
**Expiration:** Oct 19, 2031
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity % (GC/MS) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Cyclohexane | 110-82-7 | 100.0 | 2008 | 2008 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_s = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 10/4/2022
Original issue date: 10/4/2022

# Certificate of Analysis

Date Received:

 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020354-09 | 489953 | ≤ -10 °C | P/T Methanol | 3-Oct-2027 | 2-Butanol Solution, 50000 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-butanol | 78-92-2 | 99.8 | 354.7.1P | 50000 ± 2600 |

SV1-38-11-07

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVF3811-07

# Certificate of Analysis



**Catalog No.:** Z-G34-020354-09 **Lot No.:** 489953 **Expiration Date:** 10/3/2027

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 3-Oct-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Jared Ball | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist I** | **Quality Control Team Lead** |

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 07-10-2024
EMAX Batch No.: 24F004_R1

Attn: Mark Rigby

Parsons
75 W Towne Ridge Pkway # 200
Sandy UT 84070

Subject: Revised Laboratory Report
Project: TITAN 1-A

---

Enclosed is the Revised Laboratory report for samples received on 06/01/24.
The data reported relate only to samples listed below :

| Sample ID | Control # | Col Date | Matrix | Analysis |
|---|---|---|---|---|
| T1AMF-MW019-MAY24 | F004-01 | 05/28/24 | WATER | VOCS BY 8260C |
| T1AMF-MW054-MAY24 | F004-02 | 05/28/24 | WATER | VOCS BY 8260C |
| T1AMF-MW042-MAY24 | F004-03 | 05/28/24 | WATER | VOCS BY 8260C |
| T1AMF-MW055-MAY24 | F004-04 | 05/28/24 | WATER | VOCS BY 8260C |
| T1AMF-MW043-MAY24 | F004-05 | 05/28/24 | WATER | VOCS BY 8260C |
| T1AMF-MW022-MAY24 | F004-06 | 05/28/24 | WATER | VOCS BY 8260C |
| T1AMF-MW045-MAY24 | F004-07 | 05/28/24 | WATER | VOCS BY 8260C |
| T1AMF-EW001-MAY24 | F004-08 | 05/29/24 | WATER | VOCS BY 8260C |
| T1AMF-MW048-MAY24 | F004-09 | 05/29/24 | WATER | VOCS BY 8260C |
| T1AMF-MW056-MAY24 | F004-10 | 05/29/24 | WATER | VOCS BY 8260C |
| AB-1-MAY24 | F004-11 | 05/28/24 | WATER | CANCELLED |
| EB-1-MAY24 | F004-12 | 05/28/24 | WATER | CANCELLED |

Note: Report was revised to update the purge and trap method from SW5030B to SW5030C.

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

for CP

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912023-25
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

# CHAIN OF CUSTODY

| | | | |
|---|---|---|---|
| 3051 Fujita St., Torrance, CA 90505<br>Tel #: 310-618-8889 FAX#: 310-618-0818<br>Email: info@emaxlabs.com | PO NUMBER: 0015461<br>SAMPLE STORAGE | EMAX CONTROL NO. 24F004<br>PROJECT CODE: | |

CLIENT: Parsons

PROJECT: Titan 1-A Semi-Annual Groundwater and Soil Vapor Sampling

COORDINATOR: Carrie Ross@Parsons.us

TEL: 303-345-8152 FAX EMAIL: CarrieRoss@parsons.us

SEND REPORT TO: carrie.ross@parsons.com; mark.rigby@parsons.com; sandra.delagfuentes@parsons.us

COMPANY

ADDRESS

EMAX PM

| MATRIX CODE | PRESERVATIVE CODE |
|---|---|
| DW=Drinking Water | IC = Ice |
| GW=Ground Water | HC = HCl |
| WW=Waste Water | HN=HNO3 |
| SO=Solid Waste SL=Sludge | SH=NaOH |
| SD=Soil/Sediment | ST=Na2S2O3 |
| WP=Wiper FP=Pure Product | ZA=Zinc Acetate |
| AIR=Air | HS=H2SO4 |
| O= | |

ANALYSIS REQUIRED: VOCs via SW8260; Title 22 metals via SW6010/7471; TCLP VOCs via SW1311/8260; TCLP metals via SW1311/6010/7471; STLC metals via SW1311/6010/7471

TAT: ☐ Rush__24__hrs. ☐ Rush__48_hrs ☐ Rush_72_hrs ☐ 7 days ☐ 14 days ☐ 21 days

| LAB | SAMPLE ID: CLIENT | SAMPLING: LOCATION | DATE | TIME | CONTAINER: NO. | SIZE | TYPE | MATRIX CODE | QC | PRESERVATIVE CODE: HC | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | T1AMF-MW19-MAY24 | Titan 1-A | 5/28/2024 | 1205 | 3 | | VOA | GW | | X | |
| 2 | T1AMF-MW54-MAY24 | Titan 1-A | 5/28/2024 | 1208 | 3 | | VOA | GW | | X | |
| 3 | T1AMF-MW42-MAY24 | Titan 1-A | 5/28/2024 | 1252 | 3 | | VOA | GW | | X | |
| 4 | T1AMF-MW55-MAY24 | Titan 1-A | 5/28/2024 | 1257 | 3 | | VOA | GW | | X | |
| 5 | T1AMF-MW43-MAY24 | Titan 1-A | 5/28/2024 | 1331 | 3 | | VOA | GW | | X | |
| 6 | T1AMF-MW-22-MAY24 | Titan 1-A | 5/28/2024 | 1453 | 3 | | VOA | GW | | X | |
| 7 | T1AMF-MW45-MAY24 | Titan 1-A | 5/28/2024 | 1501 | 3 | | VOA | GW | | X | |
| 8 | T1AMF-EW01-MAY24 | Titan 1-A | 5/29/2024 | 824 | 3 | | VOA | GW | | X | |
| 9 | T1AMF-MW48-MAY24 | Titan 1-A | 5/29/2024 | 900 | 3 | | VOA | GW | | X | |
| 10 | T1AMF-MW56-MAY24 | Titan 1-A | 5/29/2024 | 945 | 3 | | VOA | GW | | X | |

Instructions: Please have the analytical results sent to

Mark.rigby@parsons.com

carrie.ross@parsons.com

sandra.delagfuentes@parsons.us

Cooler # 1 Temp. (°C) 1.2 Sample #s

SAMPLER

COURIER/AIRBILL

| RELINQUISHED BY | Date | Time | RECEIVED BY |
|---|---|---|---|
| Erin Kilgore | 5-31-24 | 1145 | Arnold Pimentel |
| Arnold Pimentel | 5/31/24 | 1210 | |
| | 06/01/24 | 1025 | |

NOTICE: Turnaround time (TAT) for samples that not begin until all discrepancies have been resolved. For samples received and discrepancies noticed after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

Project J09CA1108-01

EMAX LABORATORIES, INC.

REFERENCE: EMAX-SM02 Rev. 12

# SAMPLE RECEIPT FORM 1

| Type of Delivery | Airbill / Tracking Number | ECN 24F004 |
|---|---|---|
| ☑ Fedex ☐ UPS ☐ GSO ☐ Others | 2793 6091 3001 | Recipient Nandeen Nacana |
| ☐ EMAX Courier ☐ Client Delivery | | Date 06/01/24 Time 1029 |

## COC INSPECTION

| | | | | | |
|---|---|---|---|---|---|
| ☑ Client Name | ☑ Client PM/FC | ☐ Sampler Name | ☑ Sampling Date/Time | ☑ Sample ID | ☑ Matrix |
| ☐ Address | ☑ Tel # / Fax # | ☐ Courier Signature | ☑ Analysis Required | ☑ Preservative (if any) | ☐ TAT |
| Safety Issues (if any) | ☐ High concentrations expected | ☐ From Superfund Site | ☐ Rad screening required | | |

Note: _____

## PACKAGING INSPECTION

| | | | | | |
|---|---|---|---|---|---|
| Container | ☑ Cooler | ☐ Box | ☐ Other | | |
| Condition | ☐ Custody Seal | ☐ Intact | ☐ Damaged | | |
| Packaging | ☑ Bubble Pack | ☐ Styrofoam | ☐ Popcorn | ☐ Sufficient | ☐ _____ |
| Temperatures (Cool. ≤6 °C but not frozen) | ☑ Cooler 1 2.2 °C | ☐ Cooler 2 _____ °C | ☐ Cooler 3 _____ °C | ☐ Cooler 4 _____ °C | ☐ Cooler 5 _____ °C |
| | ☐ Cooler 6 _____ °C | ☐ Cooler 7 _____ °C | ☐ Cooler 8 _____ °C | ☐ Cooler 9 _____ °C | ☐ Cooler 10 _____ °C |
| *Thermometer:* | *A - S/N* 210706272 | *B - S/N* 230044860 | *C - S/N* 230044897 | (D) *S/N* 230044857 | |

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note: _____

## DISCREPANCIES

| LabSampleID | LabSampleContainerID | Code | ClientSample Label ID / Information | Corrective Action |
|---|---|---|---|---|
| 1-7, 9, 10 | 1-21, 25-30 | D3 | ID: "TIAMF-MW0..." on label | R9, R2 |
| 8 | 22-24 | D3 | ID: "TIAMF_EW001_MAY24" on label | R9 |
| 10 | 28, 30 | D10 | | R1 |
| 11 | 31-33 | D9 | ID: AB-1_MAY24 time: 1420 | R9, R2, R9 |
| | | | date: 5/28/24 | |
| 12 | 34-36 | D9 | ID: EB-1-MAY24 time: 1425 | R9, R2, R9 |
| | | | date: 5/28/24 | |
| 1-12 | 1-36 | D1 | | R9, R1 |

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. DF 6/3/24

NOTES/OBSERVATIONS: Trip blanks tagged under SDG: 24F003

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☐ NO

## LEGEND:

☐ Continue to next page.

| Code | Description- Sample Management |
|---|---|
| (D1) | Analysis is not indicated in label |
| D2 | Analysis mismatch COC vs label |
| (D3) | Sample ID mismatch COC vs label |
| D4 | Sample ID is not indicated in _____ |
| D5 | Container -[improper] [leaking] [broken] |
| D6 | Date/Time is not indicated in _____ |
| D7 | Date/Time mismatch COC vs label |
| D8 | Sample listed in COC is not received |
| (D9) | Sample received is not listed in COC |
| (D10) | No initial/date on corrections in COC/label |
| D11 | Container count mismatch COC vs received |
| D12 | Container size mismatch COC vs received |

| Code | Description-Sample Management |
|---|---|
| D13 | Out of Holding Time |
| D14 | Bubble is >6mm |
| D15 | No trip blank in cooler |
| D16 | Preservation not indicated in _____ |
| D17 | Preservation mismatch COC vs label |
| D18 | Insufficient chemical preservative |
| D19 | Insufficient Sample |
| D20 | No filtration info for dissolved analysis |
| D21 | No sample for moisture determination |
| D22 | _____ |
| D23 | _____ |
| D24 | _____ |

| Code | Description-Sample Management |
|---|---|
| R1 | Proceed as indicated in ☑ COC ☐ Label |
| R2 | Refer to attached instruction |
| R3 | Cancel the analysis |
| R4 | Use vial with smallest bubble first |
| R5 | Log-in with latest sampling date and time+1 min |
| R6 | Adjust pH as necessary |
| R7 | Filter and preserved as necessary |
| R8 | Informed client |
| R9 | Discard sample |
| R10 | _____ |
| R11 | _____ |
| R12 | _____ |

REVIEWS:

Sample Labeling Nandeen Nacana Date 06/03/24 | 6/3/24

SRF _____ Date 6/3/24

PM DF Date 6/3/24

## Dilukshi Fernando

**From:** Arnoldo.Pimentel@parsons.com
**Sent:** Monday, June 03, 2024 2:57 PM
**To:** Dilukshi Fernando; Mark.Rigby@parsons.com; Richard Beauvil
**Cc:** Carrie.Ross@parsons.us; Beth.Driskill@parsons.us
**Subject:** Re: Titan 1-A GW samples SDG 24F004 Discrepancies

Hi Dilukshi,

See answers to your questions below:

1. Please use label as the correct name for samples. I mistakenly did not add the zero to COC.
2. Please do not analyze sample #11. The sample was mistakenly taken. Sample should be discarded.
3. Please do not analyze sample #12. The sample was mistakenly taken. Sample should be discarded.

Thanks,

**Arnold Pimentel**
*Senior Geologist*
100 Pringle Avenue, Ste 525
Walnut Creek, CA 94596
Arnoldo.pimentel@parsons.com -
Cell: 626.710.7746

---

**From:** Dilukshi Fernando <DFernando@emaxlabs.com>
**Sent:** Monday, June 3, 2024 14:46
**To:** Pimentel, Arnoldo [US-US] <Arnoldo.Pimentel@parsons.com>; Rigby, Mark [US-US] <Mark.Rigby@parsons.com>; Richard Beauvil <RBeauvil@emaxlabs.com>
**Cc:** Ross, Carrie [US-US] <Carrie.Ross@parsons.us>; Driskill, Beth [US-US] <Beth.Driskill@parsons.us>
**Subject:** [EXTERNAL] RE: Titan 1-A GW samples SDG 24F004 Discrepancies

Hello Mark,

The following discrepancies were noted for SDG 24F004.

Sample ID mismatch for sample #1 - #7, #9, #10.
COC: T1AMF-MW...
Label: T1AMF-MW0
Sample ID mismatch for sample #8.
COC: T1AMF-EW01-MAY24
Label: T1AMF-EW001-MAY24
Sample #11 was received but is not listed in COC. Please confirm that VOCs SW8260 analysis is required for sample #11.
Sample ID: AB-1-MAY24

Collection date: 5/28/24
Collection time: 1420

Sample #12 was received but is not listed in COC. Please confirm that VOCs SW8260 analysis is required for sample #12.

Sample ID: EB-1-MAY24
Collection date: 5/28/24
Collection time: 1425

I have attached the COCs and SRFs for your reference.

Thank you!

Dilukshi Fernando
Project Coordinator
3051 Fujita Street
Torrance, CA 90505
Tel: 310-618-8889 X132
dfernando@emaxlabs.com

**From:** Arnoldo.Pimentel@parsons.com <Arnoldo.Pimentel@parsons.com>
**Sent:** Friday, May 31, 2024 1:17 PM
**To:** Mark.Rigby@parsons.com; Richard Beauvil <RBeauvil@emaxlabs.com>; Dilukshi Fernando <DFernando@emaxlabs.com>
**Cc:** Jim Carter <JCarter@emaxlabs.com>; Caspar Pang <CPang@emaxlabs.com>; Carrie.Ross@parsons.us; Beth.Driskill@parsons.us; Cecilia Chavez <CChavez@emaxlabs.com>; Tyler Kosaka <TKosaka@emaxlabs.com>
**Subject:** Re: Titan 1-A GW samples - Saturday delivery?

Hi Team,

Please see attached COC for samples shipped today to arrive tomorrow (Saturday).

FedEx tracking #: 275360513001

Thanks,

**Arnold Pimentel**
*Senior Geologist*
100 Pringle Avenue, Ste 525
Walnut Creek, CA 94596
Arnoldo.pimentel@parsons.com -
Cell: 626.710.7746

**From:** Rigby, Mark [US-US] <Mark.Rigby@parsons.com>
**Sent:** Friday, May 31, 2024 12:27:45 PM
**To:** Richard Beauvil <RBeauvil@emaxlabs.com>; Dilukshi Fernando <DFernando@emaxlabs.com>
**Cc:** Jim Carter <JCarter@emaxlabs.com>; Caspar Pang <CPang@emaxlabs.com>; Ross, Carrie [US-US] <Carrie.Ross@parsons.us>; Pimentel, Arnoldo [US-US] <Arnoldo.Pimentel@parsons.com>; Driskill, Beth [US-US] <Beth.Driskill@parsons.us>; Cecilia Chavez <CChavez@emaxlabs.com>; Tyler Kosaka <TKosaka@emaxlabs.com>
**Subject:** RE: Titan 1-A GW samples - Saturday delivery?

## REPORTING CONVENTIONS

### DATA QUALIFIERS:

| Lab Qualifier | AFCEE Qualifier | Description |
|---|---|---|
| J | F | Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL. |
| N | | Indicates presumptive evidence of a compound. |
| B | B | Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level. |
| E | J | Indicates that the result is above the maximum calibration range or estimated value. |
| * | * | Out of QC limit. |

**Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.**

### ACRONYMS AND ABBREVIATIONS:

| | |
|---|---|
| CRDL | Contract Required Detection Limit |
| RL | Reporting Limit |
| MRL | Method Reporting Limit |
| MDL | Method Detection Limit |
| DL | Detection Limit |
| LOD | Limit of Detection |
| LOQ | Limit of Quantitation |
| DO | Diluted out |

### DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

# SUMMARY PACKAGE
# VOLATILE ORGANICS

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F004

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

A total of ten(10) water samples were received on 06/01/24 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030C/8260C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There were six(6)CCVs (Data File IDs: RFG033, RFG058, RFG062, RFG088, RFG092 and RFG119) associated with this SDG. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, three(3) method blanks were analyzed. VOE2F02B, VOE2F03B and VOE2F04B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, three(3) sets of LCS/LCD were analyzed. VOE2F02L/VOE2F02C, VOE2F03L/VOE2F03C and VOE2F04L/VOE2F04C were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. For this SDG, all surrogate recoveries were within QC limits except for 1,2-Dichloroethane-D4 in F004-04. Sample result was reported because the surrogate recovery was biased high and no associated target analytes were detected in sample. It was also noted that Dibromofluoromethane surrogate, an alternate surrogate for 1,2-Dichloroethane-D4, was in control. Hence, result was reported. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F004
Instrument ID : E2

WATER

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| LCS1W | VOE2F02L | 1 | NA | 06/08/2415:04 | 05/08/2415:04 | RFG034 | REG122 | VOE2F02 | Lab Control Sample (LCS) |
| LCD1W | VOE2F02C | 1 | NA | 06/08/2415:28 | 05/08/2415:28 | RFG035 | REG122 | VOE2F02 | LCS Duplicate |
| MBLK1W | VOE2F02B | 1 | NA | 06/08/2416:16 | 05/08/2416:16 | RFG037 | REG122 | VOE2F02 | Method Blank |
| T1AMF-MW054-MAY24 | 24F004-02 | 1 | NA | 06/08/2417:04 | 05/08/2417:04 | RFG039 | REG122 | VOE2F02 | Field Sample |
| T1AMF-MW042-MAY24 | 24F004-03 | 1 | NA | 06/08/2417:27 | 05/08/2417:27 | RFG040 | REG122 | VOE2F02 | Field Sample |
| T1AMF-MW055-MAY24 | 24F004-04 | 1 | NA | 06/08/2417:51 | 05/08/2417:51 | RFG041 | REG122 | VOE2F02 | Field Sample |
| T1AMF-MW045-MAY24 | 24F004-07 | 1 | NA | 06/08/2419:03 | 05/08/2419:03 | RFG044 | REG122 | VOE2F02 | Field Sample |
| T1AMF-EW001-MAY24 | 24F004-08 | 1 | NA | 06/08/2419:27 | 05/08/2419:27 | RFG045 | REG122 | VOE2F02 | Field Sample |
| LCS2W | VOE2F03L | 1 | NA | 06/10/2417:13 | 05/10/2417:13 | RFG063 | REG122 | VOE2F03 | Lab Control Sample (LCS) |
| LCD2W | VOE2F03C | 1 | NA | 06/10/2417:37 | 05/10/2417:37 | RFG064 | REG122 | VOE2F03 | LCS Duplicate |
| MBLK2W | VOE2F03B | 1 | NA | 06/10/2418:25 | 05/10/2418:25 | RFG067 | REG122 | VOE2F03 | Method Blank |
| T1AMF-MW043-MAY24 | 24F004-05N | 1 | NA | 06/10/2418:48 | 05/10/2418:48 | RFG068 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW045-MAY24 | 24F004-07I | 10 | NA | 06/10/2419:36 | 05/10/2419:36 | RFG070 | REG122 | VOE2F03 | Dilutec Sample |
| T1AMF-MW048-MAY24 | 24F004-09N | 1 | NA | 06/10/2420:00 | 05/10/2420:00 | RFG071 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW056-MAY24 | 24F004-10N | 1 | NA | 06/10/2420:24 | 05/10/2420:24 | RFG072 | REG122 | VOE2F03 | Field Sample |
| LCS3W | VOE2F04L | 1 | NA | 06/11/2414:15 | 05/11/2414:15 | RFG093 | REG122 | VOE2F04 | Lab Control Sample (LCS) |
| LCD3W | VOE2F04C | 1 | NA | 06/11/2414:39 | 05/11/2414:39 | RFG094 | REG122 | VOE2F04 | LCS Duplicate |
| MBLK3W | VOE2F04B | 1 | NA | 06/11/2415:26 | 05/11/2415:26 | RFG096 | REG122 | VOE2F04 | Method Blank |
| T1AMF-MW022-MAY24 | 24F004-06N | 1 | NA | 06/11/2415:50 | 05/11/2415:50 | RFG097 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW019-MAY24 | 24F004-01N | 1 | NA | 06/11/2416:14 | 05/11/2416:14 | RFG098 | REG122 | VOE2F04 | Field Sample |
| T1AMF-EW001-MAY24 | 24F004-08I | 10 | NA | 06/11/2417:01 | 05/11/2417:01 | RFG100 | REG122 | VOE2F04 | Dilutec Sample |

FN - Filename
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 12:05 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/11/24 16:14 |
| Sample ID | : T1AMF-MW019-MAY24 | Date Analyzed: | 06/11/24 16:14 |
| Lab Samp ID: | 24F004-01N | Dilution Factor: | 1 |
| Lab File ID: | RFG098 | Matrix: | WATER |
| Ext Btch ID: | V0E2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.31J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 0.35J | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.6 | 10.0 | 106 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.66 | 10.0 | 97 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 12:08 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 17:04 |
| Sample ID | : T1AMF-MW054-MAY24 | Date Analyzed: | 06/08/24 17:04 |
| Lab Samp ID: | 24F004-02 | Dilution Factor: | 1 |
| Lab File ID: | RFG039 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.70J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 0.35J | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.2 | 10.0 | 112 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 10.7 | 10.0 | 107 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 12:52 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 17:27 |
| Sample ID | : T1AMF-MW042-MAY24 | Date Analyzed: | 06/08/24 17:27 |
| Lab Samp ID: | 24F004-03 | Dilution Factor: | 1 |
| Lab File ID: | RFG040 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.0 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 46 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.3 | 10.0 | 113 | 81-118 |
| 4-Bromofluorobenzene | 9.86 | 10.0 | 99 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 11.0 | 10.0 | 110 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 12:57 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 17:51 |
| Sample ID | : T1AMF-MW055-MAY24 | Date Analyzed: | 06/08/24 17:51 |
| Lab Samp ID: | 24F004-04 | Dilution Factor: | 1 |
| Lab File ID: | RFG041 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.9 | 10.0 | 119* | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.0 | 100 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 11.0 | 10.0 | 110 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 13:31 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/10/24 18:48 |
| Sample ID | : T1AMF-MW043-MAY24 | Date Analyzed: | 06/10/24 18:48 |
| Lab Samp ID: | 24F004-05N | Dilution Factor: | 1 |
| Lab File ID: | RFG068 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | 0.13J | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.4 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.14J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 26 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.7 | 10.0 | 107 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.8 | 10.0 | 108 | 89-112 |
| Dibromofluoromethane | 9.69 | 10.0 | 97 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 14:53 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/11/24 15:50 |
| Sample ID | : T1AMF-MW022-MAY24 | Date Analyzed: | 06/11/24 15:50 |
| Lab Samp ID: | 24F004-06N | Dilution Factor: | 1 |
| Lab File ID: | RFG097 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.97J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 43 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.7 | 10.0 | 107 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.66 | 10.0 | 97 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 15:01 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 19:03 # 06/10/24 19:36 |
| Sample ID | : T1AMF-MW045-MAY24 | Date Analyzed: | 06/08/24 19:03 # 06/10/24 19:36 |
| Lab Samp ID: | F004-07 #F004-07I | Dilution Factor: | 1 # 10 |
| Lab File ID: | RFG044 #RFG070 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 #VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 #REG122 | Instrument ID: | E2 # E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 5.7 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.34J | 1.0 | 0.10 | 0.20 |
| # Trichloroethene | 220 | 10 | 1.0 | 2.0 |
| Vinyl Chloride | 0.12J | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.7 | 10.0 | 117 | 81-118 |
| 4-Bromofluorobenzene | 9.72 | 10.0 | 97 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 11.1 | 10.0 | 111 | 80-119 |
| # 1,2-Dichloroethane-d4 | 104 | 100 | 104 | 81-118 |
| # 4-Bromofluorobenzene | 106 | 100 | 106 | 85-114 |
| # Toluene-d8 | 106 | 100 | 106 | 89-112 |
| # Dibromofluoromethane | 97.0 | 100 | 97 | 80-119 |

# Result(s) associated as marked on the header

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |
| # Sample Amount | : 1.0ml | Final Volume | : 10ml |
| # Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 15:01 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 19:03 |
| Sample ID | : T1AMF-MW045-MAY24 | Date Analyzed: | 06/08/24 19:03 |
| Lab Samp ID: | 24F004-07 | Dilution Factor: | 1 |
| Lab File ID: | RFG044 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 5.7 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.34J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 260E | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | 0.12J | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.7 | 10.0 | 117 | 81-118 |
| 4-Bromofluorobenzene | 9.72 | 10.0 | 97 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 11.1 | 10.0 | 111 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 15:01 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/10/24 19:36 |
| Sample ID | : T1AMF-MW045-MAY24 | Date Analyzed: | 06/10/24 19:36 |
| Lab Samp ID: | 24F004-07I | Dilution Factor: | 10 |
| Lab File ID: | RFG070 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10 | 1.0 | 2.0 |
| 1,4-Dichlorobenzene | ND | 10 | 1.0 | 2.0 |
| Benzene | ND | 10 | 1.0 | 2.0 |
| cis-1,2-Dichloroethene | 6.0J | 10 | 1.0 | 2.0 |
| Ethylbenzene | ND | 10 | 1.0 | 2.0 |
| m,p-Xylene | ND | 20 | 2.1 | 5.0 |
| o-Xylene | ND | 10 | 1.0 | 2.0 |
| Toluene | ND | 10 | 1.0 | 2.0 |
| Trans-1,2-Dichloroethene | ND | 10 | 1.0 | 2.0 |
| Trichloroethene | 220 | 10 | 1.0 | 2.0 |
| Vinyl Chloride | ND | 10 | 1.1 | 3.0 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | 100 | 104 | 81-118 |
| 4-Bromofluorobenzene | 106 | 100 | 106 | 85-114 |
| Toluene-d8 | 106 | 100 | 106 | 89-112 |
| Dibromofluoromethane | 97.0 | 100 | 97 | 80-119 |

Notes:
Sample Amount : 1.0ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 08:24 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 19:27 # 06/11/24 17:01 |
| Sample ID | : T1AMF-EW001-MAY24 | Date Analyzed: | 06/08/24 19:27 # 06/11/24 17:01 |
| Lab Samp ID: | F004-08 #F004-08I | Dilution Factor: | 1 # 10 |
| Lab File ID: | RFG045 #RFG100 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 #VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 #REG122 | Instrument ID: | E2 # E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 11 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| # Trichloroethene | 320 | 10 | 1.0 | 2.0 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.6 | 10.0 | 116 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 10.8 | 10.0 | 108 | 80-119 |
| # 1,2-Dichloroethane-d4 | 111 | 100 | 111 | 81-118 |
| # 4-Bromofluorobenzene | 100 | 100 | 100 | 85-114 |
| # Toluene-d8 | 105 | 100 | 105 | 89-112 |
| # Dibromofluoromethane | 99.9 | 100 | 100 | 80-119 |

# Result(s) associated as marked on the header

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |
| # Sample Amount | : 1.0ml | Final Volume : | 10ml |
| # Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 08:24 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 19:27 |
| Sample ID | : T1AMF-EW001-MAY24 | Date Analyzed: | 06/08/24 19:27 |
| Lab Samp ID: | 24F004-08 | Dilution Factor: | 1 |
| Lab File ID: | RFG045 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 11 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 370E | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.6 | 10.0 | 116 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 10.8 | 10.0 | 108 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 08:24 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/11/24 17:01 |
| Sample ID | : T1AMF-EW001-MAY24 | Date Analyzed: | 06/11/24 17:01 |
| Lab Samp ID: | 24F004-08I | Dilution Factor: | 10 |
| Lab File ID: | RFG100 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10 | 1.0 | 2.0 |
| 1,4-Dichlorobenzene | ND | 10 | 1.0 | 2.0 |
| Benzene | ND | 10 | 1.0 | 2.0 |
| cis-1,2-Dichloroethene | 11 | 10 | 1.0 | 2.0 |
| Ethylbenzene | ND | 10 | 1.0 | 2.0 |
| m,p-Xylene | ND | 20 | 2.1 | 5.0 |
| o-Xylene | ND | 10 | 1.0 | 2.0 |
| Toluene | ND | 10 | 1.0 | 2.0 |
| Trans-1,2-Dichloroethene | ND | 10 | 1.0 | 2.0 |
| Trichloroethene | 320 | 10 | 1.0 | 2.0 |
| Vinyl Chloride | ND | 10 | 1.1 | 3.0 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | 100 | 111 | 81-118 |
| 4-Bromofluorobenzene | 100 | 100 | 100 | 85-114 |
| Toluene-d8 | 105 | 100 | 105 | 89-112 |
| Dibromofluoromethane | 99.9 | 100 | 100 | 80-119 |

Notes:
Sample Amount : 1.0ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 09:00 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/10/24 20:00 |
| Sample ID | : T1AMF-MW048-MAY24 | Date Analyzed: | 06/10/24 20:00 |
| Lab Samp ID: | 24F004-09N | Dilution Factor: | 1 |
| Lab File ID: | RFG071 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.7 | 10.0 | 107 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 9.62 | 10.0 | 96 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 09:45 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/10/24 20:24 |
| Sample ID | : T1AMF-MW056-MAY24 | Date Analyzed: | 06/10/24 20:24 |
| Lab Samp ID: | 24F004-10N | Dilution Factor: | 1 |
| Lab File ID: | RFG072 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.20J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 13 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.8 | 10.0 | 108 | 81-118 |
| 4-Bromofluorobenzene | 10.2 | 10.0 | 102 | 85-114 |
| Toluene-d8 | 10.8 | 10.0 | 108 | 89-112 |
| Dibromofluoromethane | 9.68 | 10.0 | 97 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

# QC SUMMARIES

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/08/24 16:16 |
| Project | : TITAN 1-A | Date Received: | 06/08/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 16:16 |
| Sample ID | : MBLK1W | Date Analyzed: | 06/08/24 16:16 |
| Lab Samp ID: | VOE2F02B | Dilution Factor: | 1 |
| Lab File ID: | RFG037 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.6 | 10.0 | 106 | 81-118 |
| 4-Bromofluorobenzene | 9.97 | 10.0 | 100 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 10.7 | 10.0 | 107 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F004
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK1W | LCS1W | LCD1W |
| LAB SAMPLE ID | : VOE2F02B | VOE2F02L | VOE2F02C |
| LAB FILE ID | : RFG037 | RFG034 | RFG035 |
| DATE PREPARED | : 06/08/24 16:16 | 06/08/24 15:04 | 06/08/24 15:28 |
| DATE ANALYZED | : 06/08/24 16:16 | 06/08/24 15:04 | 06/08/24 15:28 |
| PREP BATCH | : VOE2F02 | VOE2F02 | VOE2F02 |
| CALIBRATION REF: | REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 10.3 | 103 | 10.0 | 10.3 | 103 | 0 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 11.7 | 117 | 10.0 | 11.2 | 112 | 4 | 79-118 | 20 |
| Benzene | ND | 10.0 | 10.5 | 105 | 10.0 | 10.2 | 102 | 3 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 10.3 | 103 | 10.0 | 10.2 | 102 | 1 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.1 | 101 | 10.0 | 9.84 | 98 | 3 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 19.3 | 97 | 20.0 | 18.6 | 93 | 4 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.2 | 102 | 10.0 | 9.99 | 100 | 2 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.3 | 103 | 10.0 | 9.99 | 100 | 3 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 9.88 | 99 | 10.0 | 9.89 | 99 | 0 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 10.2 | 102 | 10.0 | 10.3 | 103 | 1 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 10.5 | 105 | 10.0 | 9.50 | 95 | 10 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.5 | 105 | 10.0 | 10.5 | 105 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.0 | 100 | 10.0 | 9.98 | 100 | 85-114 |
| Toluene-d8 | 10.0 | 10.2 | 102 | 10.0 | 10.3 | 103 | 89-112 |
| Dibromofluoromethane | 10.0 | 10.5 | 105 | 10.0 | 10.7 | 107 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/10/24 18:25 |
| Project | : TITAN 1-A | Date Received: | 06/10/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/10/24 18:25 |
| Sample ID | : MBLK2W | Date Analyzed: | 06/10/24 18:25 |
| Lab Samp ID: | VOE2F03B | Dilution Factor: | 1 |
| Lab File ID: | RFG067 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.3 | 10.0 | 103 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.8 | 10.0 | 108 | 89-112 |
| Dibromofluoromethane | 9.60 | 10.0 | 96 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F004
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK2W | LCS2W | LCD2W |
| LAB SAMPLE ID | : VOE2F03B | VOE2F03L | VOE2F03C |
| LAB FILE ID | : RFG067 | RFG063 | RFG064 |
| DATE PREPARED | : 06/10/24 18:25 | 06/10/24 17:13 | 06/10/24 17:37 |
| DATE ANALYZED | : 06/10/24 18:25 | 06/10/24 17:13 | 06/10/24 17:37 |
| PREP BATCH | : VOE2F03 | VOE2F03 | VOE2F03 |
| CALIBRATION REF: | REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 10.3 | 103 | 10.0 | 10.6 | 106 | 3 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.9 | 109 | 10.0 | 11.5 | 115 | 5 | 79-118 | 20 |
| Benzene | ND | 10.0 | 10.7 | 107 | 10.0 | 11.1 | 111 | 4 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 10.2 | 102 | 10.0 | 10.6 | 106 | 4 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.7 | 107 | 10.0 | 11.4 | 114 | 6 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 20.8 | 104 | 20.0 | 22.2 | 111 | 7 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.9 | 109 | 10.0 | 11.8 | 118 | 8 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.8 | 108 | 10.0 | 11.7 | 117 | 8 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 10.1 | 101 | 10.0 | 10.2 | 102 | 1 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.31 | 93 | 10.0 | 9.74 | 97 | 5 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 10.1 | 101 | 10.0 | 9.12 | 91 | 10 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 9.95 | 100 | 10.0 | 9.88 | 99 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.4 | 104 | 10.0 | 10.8 | 108 | 85-114 |
| Toluene-d8 | 10.0 | 10.5 | 105 | 10.0 | 10.5 | 105 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.84 | 98 | 10.0 | 9.40 | 94 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/11/24 15:26 |
| Project | : TITAN 1-A | Date Received: | 06/11/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/11/24 15:26 |
| Sample ID | : MBLK3W | Date Analyzed: | 06/11/24 15:26 |
| Lab Samp ID: | VOE2F04B | Dilution Factor: | 1 |
| Lab File ID: | RFG096 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.8 | 10.0 | 108 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.95 | 10.0 | 100 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F004
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : MBLK3W | LCS3W | LCD3W |
| LAB SAMPLE ID | : VOE2F04B | VOE2F04L | VOE2F04C |
| LAB FILE ID | : RFG096 | RFG093 | RFG094 |
| DATE PREPARED | : 06/11/24 15:26 | 06/11/24 14:15 | 06/11/24 14:39 |
| DATE ANALYZED | : 06/11/24 15:26 | 06/11/24 14:15 | 06/11/24 14:39 |
| PREP BATCH | : VOE2F04 | VOE2F04 | VOE2F04 |
| CALIBRATION REF | : REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 9.69 | 97 | 10.0 | 9.34 | 93 | 4 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.7 | 107 | 10.0 | 10.3 | 103 | 4 | 79-118 | 20 |
| Benzene | ND | 10.0 | 9.98 | 100 | 10.0 | 9.74 | 97 | 2 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 9.91 | 99 | 10.0 | 9.49 | 95 | 4 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.5 | 105 | 10.0 | 10.4 | 104 | 1 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 20.4 | 102 | 20.0 | 20.2 | 101 | 1 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.7 | 107 | 10.0 | 10.6 | 106 | 1 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.4 | 104 | 10.0 | 10.3 | 103 | 1 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 9.39 | 94 | 10.0 | 9.07 | 91 | 3 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.00 | 90 | 10.0 | 8.65 | 87 | 4 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 11.0 | 110 | 10.0 | 10.4 | 104 | 6 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.6 | 106 | 10.0 | 10.1 | 101 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 11.1 | 111 | 10.0 | 10.6 | 106 | 85-114 |
| Toluene-d8 | 10.0 | 10.6 | 106 | 10.0 | 10.6 | 106 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.84 | 98 | 10.0 | 9.56 | 96 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

# INITIAL CALIBRATION(S)

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: REG116 BFB Injection Date: 05/17/24

Instrument ID: E2 BFB Injection Time: 11:23

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.276 |
| 75 | 30 - 60% of mass 95 | 50.050 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.720 |
| 173 | Less than 2% of mass 174 | 0.804(1.96)1 |
| 174 | Greater than 50% of mass 95 | 83.334 |
| 175 | 5 - 9% of mass 174 | 6.239(7.49)1 |
| 176 | 95 - 101% % of mass 174 | 81.293(97.55)1 |
| 177 | 5 - 9% % of mass 176 | 5.264(6.48)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD0.5 | VOE2E172 | REG118 | 05/17/24 | 12:33 |
| 2 | VSTD1 | VOE2E173 | REG119 | 05/17/24 | 12:57 |
| 3 | VSTD2 | VOE2E174 | REG120 | 05/17/24 | 13:21 |
| 4 | VSTD5 | VOE2E175 | REG121 | 05/17/24 | 13:45 |
| 5 | VSTD10 | VOE2E176 | REG122 | 05/17/24 | 14:09 |
| 6 | VSTD30 | VOE2E177 | REG123 | 05/17/24 | 14:33 |
| 7 | VSTD50 | VOE2E178 | REG124 | 05/17/24 | 14:57 |
| 8 | VSTD100 | VOE2E179 | REG125 | 05/17/24 | 15:21 |
| 9 | VSTD200 | VOE2E1710 | REG126 | 05/17/24 | 15:44 |

Sm

5/24/24

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :R2
Beginning DateTime :05/17/24 12:33
Spike Units :PPB
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :05/17/24 15:44
HPChem Method :VOE2E17

| M | IDX | Parameters | .5<br>12:33<br>REG118 | 1<br>12:57<br>REG119 | 2<br>13:21<br>REG120 | 5<br>13:45<br>REG121 | 10<br>14:09<br>REG122 | 30<br>14:33<br>REG123 | 50<br>14:57<br>REG124 | 100<br>15:21<br>REG125 | 200<br>15:44<br>REG126 | Av_RRF | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4 DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 5.9874 |
| | 2 | Dichlorodifluoromethane | 0.621 | 0.637 | 0.579 | 0.504 | 0.509 | 0.610 | 0.570 | 0.578 | 0.556 | 0.574 | 8.06 | 2.7078 |
| | 3 | Chloromethane | 0.526 | 0.465 | 0.434 | 0.383 | 0.373 | 0.377 | 0.368 | 0.382 | 0.398 | 0.412 | 13.00 | 2.9059 |
| | 4 | Vinyl chloride | 0.419 | 0.490 | 0.461 | 0.376 | 0.416 | 0.439 | 0.449 | 0.449 | 0.415 | 0.435 | 7.58 | 2.9903 |
| | 5 | Bromomethane | 0.348 | 0.325 | 0.291 | 0.268 | 0.244 | 0.267 | 0.278 | 0.296 | 0.330 | 0.294 | 11.62 | 3.3131 |
| | 6 | Dichlorofluoromethane | 1.071 | 1.087 | 0.974 | 1.099 | 0.990 | 1.025 | 0.930 | 0.904 | 0.865 | 0.994 | 8.41 | 3.3523 |
| | 7 | Chloroethane | 0.222 | 0.255 | 0.216 | 0.196 | 0.204 | 0.219 | 0.205 | 0.207 | 0.193 | 0.213 | 8.74 | 3.3461 |
| | 8 | Trichlorofluoromethane | 1.076 | 1.027 | 0.981 | 0.846 | 0.898 | 1.033 | 0.988 | 0.997 | 0.949 | 0.977 | 7.24 | 3.5112 |
| 5 | 9 | Acrolein | 0.074 | 0.076 | 0.063 | 0.070 | 0.064 | 0.060 | 0.059 | 0.060 | 0.059 | 0.065 | 10.21 | 3.7423 |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 0.510 | 0.445 | 0.389 | 0.475 | 0.409 | 0.418 | 0.409 | 0.396 | 0.383 | 0.426 | 10.04 | 3.7521 |
| 5 | 11 | Acetone | 0.325 | 0.240 | 0.181 | 0.149 | 0.137 | 0.118 | 0.119 | ------ | ------ | 0.181 | 42.17 | 3.7690 |
| 25 | 12 | tert-Butyl alcohol | 0.075 | 0.070 | 0.063 | 0.057 | 0.061 | 0.056 | 0.057 | 0.055 | 0.054 | 0.061 | 11.83 | 3.8744 |
| | 13 | 1,1-Dichloroethene | 0.972 | 0.970 | 0.870 | 1.007 | 0.889 | 0.901 | 0.818 | 0.823 | 0.795 | 0.894 | 8.46 | 3.9025 |
| 10 | 14 | Acetonitrile | ------ | 0.037 | 0.031 | 0.030 | 0.031 | 0.026 | 0.027 | ------ | ------ | 0.030 | 12.37 | 3.8744 |
| | 15 | Allyl chloride | 0.262 | 0.270 | 0.227 | 0.265 | 0.239 | 0.241 | 0.223 | 0.204 | 0.194 | 0.236 | 11.27 | 4.1055 |
| | 16 | Iodomethane | 0.335 | 0.312 | 0.310 | 0.409 | 0.432 | 0.563 | 0.530 | 0.509 | 0.459 | 0.429 | 22.23 | 4.1434 |
| | 17 | Methyl acetate | -- | 0.410 | 0.337 | 0.344 | 0.341 | 0.293 | 0.304 | ------ | ------ | 0.338 | 12.15 | 4.0255 |
| | 18 | Methylene chloride | 1.122 | 1.095 | 0.930 | 0.852 | 0.731 | 0.698 | 0.612 | 0.596 | 0.570 | 0.801 | 26.33 | 4.1825 |
| 5 | 19 | Acrylonitrile | 0.187 | 0.165 | 0.144 | 0.155 | 0.158 | 0.140 | 0.134 | 0.135 | 0.136 | 0.150 | 11.69 | 4.2156 |
| | 20 | tert-Butyl methyl ether (MTBE) | 1.687 | 1.599 | 1.508 | 1.603 | 1.504 | 1.453 | 1.377 | 1.365 | 1.352 | 1.494 | 7.94 | 4.2266 |
| | 21 | Carbon disulfide | 1.587 | 1.493 | 1.289 | 1.218 | 1.375 | 1.338 | 1.287 | ------ | ------ | 1.370 | 9.42 | 4.3052 |
| | 22 | trans-1,2-Dichloroethene | 0.536 | 0.534 | 0.472 | 0.542 | 0.468 | 0.442 | 0.442 | 0.426 | 0.429 | 0.477 | 10.07 | 4.3696 |
| | 23 | Isopropyl ether (DIPE) | 1.738 | 1.638 | 1.535 | 1.682 | 1.513 | 1.489 | 1.394 | 1.379 | 1.317 | 1.520 | 9.47 | 4.4601 |
| | 24 | Vinyl acetate | 0.905 | 0.932 | 0.893 | 0.899 | 0.928 | 0.816 | 0.810 | 0.820 | 0.793 | 0.866 | 6.41 | 4.5457 |
| | 25 | 1,1-Dichloroethane | 1.123 | 1.084 | 0.968 | 1.041 | 0.935 | 0.964 | 0.901 | 0.851 | 0.823 | 0.965 | 10.57 | 4.6338 |
| | 26 | tert Butyl ethyl ether (ETBE) | 2.025 | 2.049 | 1.829 | 2.024 | 1.854 | 1.711 | 1.759 | 1.666 | 1.701 | 1.846 | 8.21 | 4.7028 |
| 5 | 27 | 2-Butanone | ------ | 0.059 | 0.048 | 0.048 | 0.049 | 0.043 | 0.043 | 0.042 | 0.042 | 0.047 | 12.56 | 4.8539 |
| 10 | 28 | Propionitrile | 0.067 | 0.061 | 0.059 | 0.057 | 0.053 | 0.051 | 0.051 | 0.048 | 0.050 | 0.055 | 11.17 | 4.9101 |
| 70 | 29 | Isobutyl alcohol | ------ | 0.024 | 0.020 | 0.019 | 0.020 | 0.018 | 0.019 | 0.017 | ------ | 0.020 | 12.47 | 5.0299 |
| | 30 | 2,2-Dichloropropane | 1.070 | 1.031 | 0.913 | 1.100 | 0.993 | 0.952 | 0.921 | 0.878 | 0.831 | 0.966 | 9.30 | 5.0202 |
| 10 | 31 | Methacrylonitrile | 0.105 | 0.103 | 0.092 | 0.099 | 0.089 | 0.088 | 0.084 | 0.080 | 0.076 | 0.091 | 11.02 | 5.0568 |
| | 32 | Cis-1,2-Dichloroethene | 0.592 | 0.622 | 0.541 | 0.585 | 0.519 | 0.520 | 0.508 | 0.491 | 0.507 | 0.543 | 8.40 | 5.0630 |
| | 33 | Chloroform | 1.500 | 1.398 | 1.172 | 1.238 | 1.117 | 1.090 | 1.041 | 1.012 | ------ | 1.196 | 14.51 | 5.1700 |
| | 34 | Bromochloromethane | 0.354 | 0.366 | 0.325 | 0.348 | 0.326 | 0.321 | 0.296 | 0.275 | 0.259 | 0.319 | 11.29 | 5.3271 |
| | 35 | Tetrahydrofuran | ------ | 0.140 | 0.129 | 0.132 | 0.124 | 0.122 | 0.118 | 0.116 | ------ | 0.126 | 6.67 | 5.3192 |
| | 36 | Dibromofluoromethane | 0.677 | 0.642 | 0.571 | 0.613 | 0.624 | 0.588 | 0.573 | ------ | ------ | 0.612 | 6.30 | 5.3381 |
| | 37 | 1,1,1-Trichloroethane | 1.193 | 1.165 | 1.010 | 1.192 | 1.074 | 1.094 | 1.020 | 0.999 | 0.960 | 1.079 | 8.19 | 5.4971 |
| | 38 | Cyclohexane | 0.684 | 0.625 | 0.466 | 0.628 | 0.461 | 0.515 | 0.544 | 0.500 | 0.528 | 0.550 | 14.22 | 5.5484 |
| | 39 | tert-Amyl methyl ether (TAME) | 0.340 | 0.348 | 0.314 | 0.372 | 0.345 | 0.297 | 0.329 | 0.313 | 0.306 | 0.329 | 7.33 | 5.6144 |
| | 40 | 1,1-Dichloropropene | 0.262 | 0.251 | 0.222 | 0.266 | 0.242 | 0.218 | 0.228 | 0.219 | 0.217 | 0.236 | 8.29 | 5.6132 |
| | 41 | 1,2-Dichloroethane d4 | 0.972 | 0.902 | 0.780 | 0.802 | 0.781 | 0.709 | 0.720 | ------ | ------ | 0.809 | 13.80 | 5.7233 |
| | 42 | Carbon tetrachloride | 0.945 | 0.992 | 0.834 | 1.044 | 0.930 | 0.901 | 0.890 | 0.840 | 0.838 | 0.913 | 8.01 | 5.7343 |
| | 43 | 1,2 Dichloroethane | 1.036 | 1.026 | 0.936 | 1.027 | 0.937 | 0.846 | 0.859 | 0.810 | 0.796 | 0.919 | 10.41 | 5.8003 |
| | 44 | Benzene | 2.100 | 2.054 | 1.772 | 1.904 | 1.819 | 1.719 | 1.753 | 1.684 | 1.662 | 1.830 | 8.64 | 5.8663 |
| | 45 | Trichloroethene | 0.573 | 0.564 | 0.458 | 0.553 | 0.494 | 0.496 | 0.481 | 0.460 | 0.468 | 0.505 | 9.09 | 6.3714 |
| | 46 | Methyl methacrylate | 0.521 | 0.497 | 0.421 | 0.494 | 0.427 | 0.401 | 0.430 | 0.422 | 0.415 | 0.448 | 9.77 | 6.4386 |
| | 47 | Methylcyclohexane | ------ | 0.701 | 0.528 | 0.712 | 0.530 | 0.546 | 0.606 | 0.586 | 0.600 | 0.601 | 11.92 | 6.4537 |
| | 48 | 1,2-Dichloropropane | 0.559 | 0.532 | 0.469 | 0.483 | 0.464 | 0.418 | 0.437 | 0.427 | 0.418 | 0.467 | 10.74 | 6.5266 |
| 20 | 49 | 1,4 Dioxane | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 50 | Bromodichloromethane | ------ | 1.077 | 0.909 | 0.968 | 0.886 | 0.841 | 0.821 | 0.796 | 0.773 | 0.884 | 11.38 | 6.7687 |
| | 51 | Dibromomethane | 0.454 | 0.430 | 0.373 | 0.417 | 0.371 | 0.368 | 0.349 | 0.344 | 0.315 | 0.380 | 11.79 | 6.8568 |
| | 52 | 2-Chloroethyl vinyl ether | 0.233 | 0.250 | 0.232 | 0.253 | 0.238 | 0.229 | 0.224 | 0.216 | 0.206 | 0.231 | 6.45 | 6.9338 |
| 5 | 53 | 4-Methyl-2-pentanone | 0.591 | 0.572 | 0.495 | 0.557 | 0.534 | 0.467 | 0.473 | 0.467 | 0.447 | 0.512 | 10.35 | 6.9571 |
| | 54 | cis-1,3-Dichloropropene | 0.921 | 0.873 | 0.791 | 0.882 | 0.822 | 0.782 | 0.775 | 0.759 | 0.743 | 0.817 | 7.57 | 7.2750 |
| | 55 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9.5641 |
| | 56 | Toluene-d8 | ------ | 2.328 | 1.900 | 1.960 | 2.006 | 1.860 | 1.868 | ------ | ------ | 1.987 | 8.88 | 7.5941 |
| | 57 | Ethyl methacrylate | 0.687 | 0.714 | 0.662 | 0.753 | 0.707 | 0.647 | 0.685 | 0.635 | 0.651 | 0.682 | 5.59 | 7.6932 |
| | 58 | Toluene | 2.522 | 2.598 | 2.196 | 2.483 | 2.250 | 2.053 | 2.185 | 2.012 | 2.114 | 2.268 | 9.46 | 7.6932 |
| | 59 | trans-1,3-Dichloropropene | 1.019 | 1.031 | 0.921 | 1.072 | 0.988 | 0.969 | 0.957 | 0.878 | 0.899 | 0.970 | 6.61 | 7.8143 |
| 5 | 60 | 2-Hexanone | 0.494 | 0.448 | 0.391 | 0.437 | 0.433 | 0.389 | 0.385 | 0.352 | 0.362 | 0.410 | 11.13 | 7.9378 |
| | 61 | 1,1,2-Trichloroethane | 0.616 | 0.606 | 0.548 | 0.580 | 0.535 | 0.538 | 0.494 | 0.461 | 0.466 | 0.538 | 10.51 | 8.0454 |
| | 62 | 1,3-Dichloropropane | 0.881 | 0.932 | 0.787 | 0.866 | 0.785 | 0.770 | 0.765 | 0.707 | 0.701 | 0.799 | 9.83 | 8.3535 |
| | 63 | Tetrachloroethene | 0.591 | 0.595 | 0.434 | 0.529 | 0.477 | 0.495 | 0.463 | 0.431 | 0.448 | 0.496 | 12.71 | 8.5088 |
| | 64 | Dibromochloromethane | ------ | 1.038 | 0.826 | 0.858 | 0.788 | 0.824 | 0.742 | 0.693 | 0.690 | 0.807 | 13.87 | 8.7827 |
| | 65 | 1,2-Dibromoethane | 0.651 | 0.619 | 0.556 | 0.621 | 0.592 | 0.594 | 0.549 | 0.522 | 0.516 | 0.580 | 8.08 | 9.0688 |
| | 66 | 1-Chlorohexane | 0.844 | 0.848 | 0.651 | 0.843 | 0.747 | 0.751 | 0.722 | 0.671 | 0.677 | 0.751 | 10.45 | 9.1239 |
| | 67 | Chlorobenzene | 1.802 | 1.685 | 1.395 | 1.599 | 1.466 | 1.486 | 1.389 | 1.323 | 1.338 | 1.498 | 11.00 | 9.6191 |
| | 68 | 1,1,1,2-Tetrachloroethane | 0.713 | 0.709 | 0.595 | 0.685 | 0.647 | 0.654 | 0.606 | 0.565 | 0.563 | 0.637 | 9.12 | 9.6460 |
| | 69 | Ethylbenzene | 3.192 | 3.179 | 2.449 | 2.920 | 2.662 | 2.734 | 2.599 | 2.475 | 2.468 | 2.742 | 10.66 | 9.6411 |
| 2 | 70 | m-Xylene & p-Xylene | 2.549 | 2.503 | 1.987 | 2.323 | 2.078 | 2.117 | 2.094 | ------ | ------ | 2.236 | 9.97 | 9.7496 |
| | 71 | o-Xylene | 2.536 | 2.361 | 1.926 | 2.321 | 2.112 | 1.978 | 2.058 | 1.894 | 1.863 | 2.117 | 11.21 | 10.4127 |
| | 72 | Styrene | 1.648 | 1.724 | 1.354 | 1.615 | 1.493 | 1.415 | 1.441 | 1.328 | 1.303 | 1.480 | 10.19 | 10.4580 |
| | 73 | Isopropylbenzene | 2.835 | 2.945 | 2.240 | 2.644 | 2.424 | 2.142 | 2.250 | 2.149 | 2.077 | 2.412 | 13.33 | 10.9397 |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 13.8891 |
| | 75 | Bromoform | 1.246 | 1.192 | 1.112 | 1.177 | 1.072 | 1.033 | 1.055 | 0.974 | 0.961 | 1.091 | 9.03 | 11.0608 |
| | 76 | 1,1,2,2-Tetrachloroethane | 1.731 | 1.658 | 1.370 | 1.490 | 1.349 | 1.248 | 1.296 | 1.218 | 1.184 | 1.394 | 13.93 | 11.2026 |
| | 77 | 4-Bromofluorobenzene | ------ | 1.901 | 1.601 | 1.620 | 1.559 | 1.327 | 1.516 | ------ | ------ | 1.587 | 11.73 | 11.3689 |
| | 78 | 1,2,3-Trichloropropane | 0.441 | 0.449 | 0.384 | 0.439 | 0.374 | 0.344 | 0.366 | 0.344 | 0.322 | 0.385 | 12.26 | 11.4460 |
| | 79 | trans-1,4 Dichloro-2-butene | 0.349 | 0.390 | 0.351 | 0.456 | 0.395 | 0.395 | 0.414 | 0.380 | 0.379 | 0.389 | 8.47 | 11.5132 |
| | 80 | n-Propylbenzene | 7.684 | 7.739 | 5.851 | 7.164 | 6.006 | 5.607 | 5.968 | 5.582 | 5.465 | 6.341 | 14.55 | 11.5780 |
| | 81 | Bromobenzene | 1.646 | 1.681 | 1.348 | 1.563 | 1.386 | 1.206 | 1.293 | 1.208 | 1.192 | 1.392 | 13.87 | 11.7321 |
| | 82 | 1,3,5-Trimethylbenzene | 5.366 | 5.227 | 4.073 | 4.881 | 4.205 | 3.892 | 4.064 | 3.785 | 3.738 | 4.359 | 14.43 | 11.8287 |
| | 83 | 2-Chlorotoluene | ------ | 4.800 | 3.579 | 4.665 | 3.673 | 3.653 | 3.858 | 3.598 | 3.483 | 3.914 | 13.23 | 11.9192 |
| | 84 | 4-Chlorotoluene | 4.791 | 5.151 | 3.841 | 3.940 | 3.868 | 2.881 | 3.359 | 3.161 | 3.176 | 3.796 | 20.12 | 11.9754 |
| | 85 | tert-Butylbenzene | 0.747 | 0.829 | 0.605 | 0.740 | 0.648 | 0.561 | 0.592 | ------ | ------ | 0.675 | 14.63 | 12.4081 |
| | 86 | 1,2,4-Trimethylbenzene | 5.058 | 5.235 | 4.012 | 4.761 | 4.182 | 3.747 | 3.973 | 3.721 | 3.680 | 4.263 | 14.07 | 12.4780 |
| | 87 | sec-Butylbenzene | ------ | 6.256 | 4.523 | 5.517 | 4.832 | 4.450 | 4.638 | 4.362 | ------ | 4.940 | 14.11 | 12.7403 |
| | 88 | p-Isopropyltoluene | 5.045 | 5.046 | 3.819 | 4.703 | 3.968 | 3.664 | 3.821 | 3.689 | 3.551 | 4.145 | 14.69 | 12.9549 |
| | 89 | 1,3 Dichlorobenzene | 3.020 | 2.992 | 2.191 | 2.485 | 2.182 | 2.011 | 2.088 | 1.908 | 1.849 | 2.303 | 19.08 | 13.1652 |
| | 90 | 1,2,3-Trimethylbenzene | 4.849 | 5.175 | 3.973 | 4.777 | 4.170 | 3.766 | 3.928 | 3.729 | 3.652 | 4.224 | 13.33 | 13.2545 |
| | 91 | 1,4-Dichlorobenzene | 3.022 | 3.108 | 2.117 | 2.540 | 2.221 | 2.073 | 2.138 | 1.953 | 1.965 | 2.349 | 18.81 | 13.3278 |
| | 92 | n-Butylbenzene | 4.979 | 4.820 | 3.500 | 4.168 | 3.792 | 3.621 | 3.712 | 3.405 | 3.483 | 3.942 | 14.93 | 13.6140 |
| | 93 | 1,2-Dichlorobenzene | ------ | 2.697 | 2.183 | 2.392 | 2.013 | 1.895 | 1.926 | ------ | ------ | 2.184 | 14.28 | 13.9331 |
| | 94 | 1,2-Dibromo-3-chloropropane | 0.324 | 0.328 | 0.262 | 0.286 | 0.265 | 0.273 | 0.269 | 0.273 | 0.272 | 0.283 | 8.87 | 15.1339 |
| | 95 | 1,2,4-Trichlorobenzene | 2.154 | 2.073 | 1.349 | 1.477 | 1.289 | 1.277 | 1.274 | 1.228 | 1.317 | 1.493 | 24.05 | 16.4643 |
| | 96 | Hexachlorobutadiene | ------ | 0.968 | 0.705 | 0.840 | 0.750 | 0.697 | 0.696 | 0.668 | 0.717 | 0.755 | 13.33 | 16.6624 |
| | 97 | Naphthalene | ------ | 4.357 | 3.062 | 3.424 | 3.316 | 3.128 | 3.237 | 3.113 | 3.378 | 3.377 | 12.35 | 16.8715 |
| | 98 | 1,2,3-Trichlorobenzene | 2.077 | 1.941 | 1.298 | 1.377 | 1.232 | 1.225 | 1.192 | 1.180 | 1.249 | 1.419 | 24.06 | 17.2310 |

SpiKe Amount = Nominal Amount * M
Ave_%RSD : 11.8 Max_%RSD : 42.2

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = x0 + x1 * Amt_Ratio

| IDX | Parameter | x0 | x1 | CCF |
|---|---|---|---|---|
| 11 | Acetone | 0.05832 | 0.11706 | 0.9992 |
| 16 | Iodomethane | -0.01397 | 0.48870 | 0.9969 |
| 18 | Methylene chloride | 0.04858 | 0.59178 | 0.9974 |
| 84 | 4-Chlorotoluene | 0.14395 | 3.17721 | 0.9987 |
| 89 | 1,3 Dichlorobenzene | 0.05201 | 1.90749 | 0.9986 |
| 91 | 1,4 Dichlorobenzene | 0.08306 | 1.99157 | 0.9991 |
| 95 | 1,2,4-Trichlorobenzene | 0.04972 | 1.27956 | 0.9993 |
| 98 | 1,2,3-Trichlorobenzene | 0.04722 | 1.21614 | 0.9995 |

5/24/24

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :E2
Beginning DateTime :05/17/24 12:33
Spike Units :PPB
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :05/17/24 15:44
HPChem Method :VOE2E17

| M | IDX | Parameters | .5<br>12:33<br>REG118 | 1<br>12:57<br>REG119 | 2<br>13:21<br>REG120 | 5<br>13:45<br>REG121 | 10<br>14:09<br>REG122 | 30<br>14:33<br>REG123 | 50<br>14:57<br>REG124 | 100<br>15:21<br>REG125 | 200<br>15:44<br>REG126 | AvDRec | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 5.9874 |
| | 2 | Dichlorodifluoromethane | 108 | 111 | 101 | 88 | 89 | 106 | 99 | 101 | 97 | 6 | 8.06 | 2.7078 |
| | 3 | Chloromethane | 128 | 113 | 105 | 93 | 91 | 92 | 89 | 93 | 97 | 10.2 | 13.00 | 2.9059 |
| | 4 | Vinyl chloride | 96 | 113 | 106 | 86 | 96 | 101 | 103 | 103 | 95 | 5.8 | 7.58 | 2.9903 |
| | 5 | Bromomethane | 118 | 111 | 99 | 91 | 83 | 91 | 95 | 101 | 112 | 9.3 | 11.62 | 3.3131 |
| | 6 | Dichlorofluoromethane | 108 | 109 | 98 | 111 | 100 | 103 | 94 | 91 | 87 | 6.9 | 8.41 | 3.3523 |
| | 7 | Chloroethane | 104 | 120 | 101 | 92 | 96 | 103 | 96 | 97 | 91 | 6.3 | 8.74 | 3.3461 |
| | 8 | Trichlorofluoromethane | 110 | 105 | 100 | 87 | 92 | 106 | 101 | 102 | 97 | 5.4 | 7.24 | 3.5112 |
| 5 | 9 | Acrolein | 114 | 117 | 97 | 108 | 98 | 92 | 91 | 92 | 91 | 8.5 | 10.21 | 3.7423 |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 120 | 104 | 91 | 112 | 96 | 98 | 96 | 93 | 90 | 7.9 | 10.04 | 3.7521 |
| 5 | 11 | Acetone | 78 | 105 | 105 | 107 | 107 | 97 | 99 | ------ | ------ | 31.9 | 42.17 | 3.7690 |
| 25 | 12 | tert-Butyl alcohol | 123 | 115 | 103 | 93 | 100 | 92 | 93 | 90 | 89 | 9.3 | 11.83 | 3.8744 |
| | 13 | 1,1-Dichloroethene | 109 | 109 | 97 | 113 | 99 | 101 | 91 | 92 | 89 | 6.8 | 8.46 | 3.9025 |
| 10 | 14 | Acetonitrile | ------ | 123 | 103 | 100 | 103 | 87 | 90 | ------ | ------ | 8.9 | 12.37 | 3.8744 |
| | 15 | Allyl chloride | 111 | 114 | 96 | 112 | 101 | 102 | 94 | 86 | 82 | 9.1 | 11.27 | 4.1055 |
| | 16 | Iodomethane | 126 | 92 | 78 | 89 | 91 | 116 | 109 | 104 | 94 | 18.1 | 22.23 | 4.1434 |
| | 17 | Methyl acetate | ------ | 121 | 100 | 102 | 101 | 87 | 90 | ------ | ------ | 7.9 | 12.15 | 4.0285 |
| | 18 | Methylene chloride | 26 | 103 | 116 | 128 | 115 | 115 | 102 | 100 | 96 | 22.1 | 26.33 | 4.1825 |
| 5 | 19 | Acrylonitrile | 125 | 110 | 96 | 103 | 105 | 93 | 89 | 90 | 91 | 9.3 | 11.69 | 4.2156 |
| | 20 | tert-Butyl methyl ether (MTBE) | 113 | 107 | 101 | 107 | 101 | 97 | 92 | 91 | 90 | 6.4 | 7.94 | 4.2266 |
| | 21 | Carbon disulfide | 116 | 109 | 94 | 89 | 100 | 98 | 94 | ------ | ------ | 7.2 | 9.42 | 4.3052 |
| | 22 | trans-1,2-Dichloroethene | 112 | 112 | 99 | 114 | 98 | 93 | 93 | 89 | 90 | 8.5 | 10.07 | 4.3696 |
| | 23 | Isopropyl ether (DIPE) | 114 | 108 | 101 | 111 | 100 | 98 | 92 | 91 | 87 | 7.5 | 9.47 | 4.4601 |
| | 24 | Vinyl acetate | 105 | 108 | 103 | 104 | 107 | 94 | 94 | 95 | 92 | 5.8 | 6.41 | 4.5457 |
| | 25 | 1,1-Dichloroethane | 116 | 112 | 99 | 108 | 97 | 100 | 93 | 88 | 85 | 8.2 | 10.57 | 4.6338 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 110 | 111 | 99 | 110 | 100 | 93 | 95 | 90 | 92 | 6.8 | 8.21 | 4.7328 |
| 5 | 27 | 2-Butanone | ------ | 126 | 102 | 102 | 104 | 91 | 91 | 89 | 89 | 9 | 12.56 | 4.8539 |
| 10 | 28 | Propionitrile | 122 | 111 | 107 | 104 | 96 | 93 | 93 | 87 | 91 | 9.3 | 11.17 | 4.9101 |
| 20 | 29 | Isobutyl alcohol | ------ | 120 | 100 | 95 | 100 | 90 | 95 | 85 | ------ | 7.9 | 12.47 | 5.0299 |
| | 30 | 2,2-Dichloropropane | 111 | 107 | 95 | 114 | 103 | 99 | 95 | 91 | 86 | 7.6 | 9.30 | 5.0202 |
| 10 | 31 | Methacrylonitrile | 115 | 113 | 101 | 109 | 98 | 97 | 92 | 88 | 84 | 8.9 | 11.02 | 5.0568 |
| | 32 | cis-1,2-Dichloroethene | 109 | 115 | 100 | 108 | 96 | 96 | 94 | 90 | 93 | 7 | 8.40 | 5.0630 |
| | 33 | Chloroform | 125 | 117 | 98 | 104 | 93 | 91 | 87 | 85 | ------ | 11.5 | 14.51 | 5.1730 |
| | 34 | Bromochloromethane | 111 | 115 | 102 | 109 | 102 | 101 | 93 | 86 | 81 | 8.8 | 11.29 | 5.3271 |
| | 35 | Tetrahydrofuran | ------ | 111 | 102 | 105 | 98 | 97 | 94 | 92 | ------ | 5.3 | 6.67 | 5.3192 |
| | 36 | Dibromofluoromethane | 111 | 105 | 93 | 100 | 102 | 96 | 94 | ------ | ------ | 4.9 | 6.30 | 5.3381 |
| | 37 | 1,1,1-Trichloroethane | 111 | 108 | 94 | 110 | 100 | 101 | 95 | 93 | 89 | 6.8 | 8.19 | 5.4971 |
| | 38 | Cyclohexane | 124 | 114 | 85 | 114 | 84 | 94 | 99 | 91 | 96 | 11.6 | 14.22 | 5.5484 |
| | 39 | tert-Amyl methyl ether (TAME) | 103 | 106 | 95 | 113 | 105 | 90 | 100 | 95 | 93 | 5.9 | 7.33 | 5.6144 |
| | 40 | 1,1-Dichloropropene | 111 | 106 | 94 | 113 | 103 | 92 | 97 | 93 | 92 | 7.2 | 8.29 | 5.6132 |
| | 41 | 1,2-Dichloroethane-d4 | 120 | 111 | 96 | 99 | 97 | 88 | 89 | ------ | ------ | 9 | 11.80 | 5.7233 |
| | 42 | Carbon tetrachloride | 104 | 109 | 91 | 114 | 102 | 99 | 97 | 92 | 92 | 6.3 | 8.01 | 5.7343 |
| | 43 | 1,2-Dichloroethane | 113 | 112 | 102 | 112 | 102 | 92 | 93 | 88 | 87 | 8.9 | 10.41 | 5.8003 |
| | 44 | Benzene | 115 | 112 | 97 | 104 | 99 | 94 | 96 | 92 | 91 | 6.9 | 8.64 | 5.8663 |
| | 45 | Trichloroethene | 113 | 112 | 91 | 110 | 98 | 98 | 95 | 91 | 93 | 7.7 | 9.09 | 6.3714 |
| | 46 | Methyl methacrylate | 116 | 111 | 94 | 110 | 95 | 90 | 96 | 94 | 93 | 8.4 | 9.77 | 6.4386 |
| | 47 | Methylcyclohexane | ------ | 117 | 88 | 118 | 88 | 91 | 101 | 98 | 100 | 9 | 11.92 | 6.4537 |
| | 48 | 1,2-Dichloropropane | 120 | 114 | 100 | 103 | 99 | 90 | 94 | 91 | 90 | 8.2 | 10.74 | 6.5266 |
| 20 | 49 | 1,4-Dioxane | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 50 | Bromodichloromethane | ------ | 122 | 103 | 110 | 100 | 95 | 93 | 90 | 87 | 8.6 | 11.38 | 6.7687 |
| | 51 | Dibromomethane | 119 | 113 | 98 | 110 | 98 | 97 | 92 | 91 | 83 | 9.4 | 11.79 | 6.8568 |
| | 52 | 2-Chloroethyl vinyl ether | 101 | 108 | 100 | 110 | 103 | 99 | 97 | 94 | 89 | 4.8 | 6.45 | 6.9338 |
| 5 | 53 | 4-Methyl-2-pentanone | 115 | 112 | 97 | 109 | 104 | 91 | 92 | 91 | 87 | 9 | 10.35 | 6.9571 |
| | 54 | cis-1,3-Dichloropropene | 113 | 107 | 97 | 108 | 101 | 96 | 95 | 93 | 91 | 6.3 | 7.57 | 7.2750 |
| | 55 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9.5641 |
| | 56 | Toluene-d8 | ------ | 117 | 96 | 99 | 101 | 94 | 94 | ------ | ------ | 6 | 8.88 | 7.5941 |
| | 57 | Ethyl methacrylate | 101 | 105 | 97 | 110 | 104 | 95 | 100 | 93 | 95 | 4.4 | 5.59 | 7.6932 |
| | 58 | Toluene | 111 | 115 | 97 | 109 | 99 | 91 | 96 | 89 | 93 | 7.8 | 9.46 | 7.6932 |
| | 59 | trans-1,3-Dichloropropene | 105 | 106 | 95 | 111 | 102 | 100 | 99 | 91 | 93 | 5.2 | 6.61 | 7.8143 |
| 5 | 60 | 2-Hexanone | 120 | 109 | 95 | 107 | 106 | 95 | 94 | 86 | 88 | 9.3 | 11.13 | 7.9378 |
| | 61 | 1,1,2-Trichloroethane | 114 | 113 | 102 | 108 | 99 | 100 | 92 | 86 | 87 | 8.1 | 10.51 | 8.0454 |
| | 62 | 1,3-Dichloropropane | 110 | 117 | 98 | 108 | 98 | 96 | 96 | 88 | 88 | 7.8 | 9.83 | 8.3535 |
| | 63 | Tetrachloroethene | 119 | 120 | 88 | 107 | 96 | 100 | 93 | 87 | 90 | 10.2 | 12.71 | 8.5088 |
| | 64 | Dibromochloromethane | ------ | 129 | 102 | 106 | 98 | 102 | 92 | 86 | 86 | 9.8 | 13.87 | 8.7827 |
| | 65 | 1,2-Dibromoethane | 112 | 107 | 96 | 107 | 102 | 102 | 95 | 90 | 89 | 6.8 | 8.08 | 9.0688 |
| | 66 | 1-Chlorohexane | 112 | 113 | 87 | 112 | 99 | 100 | 96 | 89 | 90 | 8.4 | 10.45 | 9.1239 |
| | 67 | Chlorobenzene | 120 | 112 | 93 | 107 | 98 | 99 | 93 | 88 | 89 | 8.8 | 11.00 | 9.6191 |
| | 68 | 1,1,1,2-Tetrachloroethane | 112 | 111 | 93 | 108 | 102 | 103 | 95 | 89 | 88 | 7.7 | 9.12 | 9.6460 |
| | 69 | Ethylbenzene | 116 | 116 | 89 | 106 | 97 | 100 | 95 | 90 | 90 | 8.6 | 10.66 | 9.6411 |
| 2 | 70 | m-Xylene & p-Xylene | 114 | 112 | 89 | 104 | 93 | 95 | 94 | ------ | ------ | 8.5 | 9.97 | 9.7496 |
| | 71 | o-Xylene | 120 | 112 | 91 | 110 | 100 | 93 | 97 | 89 | 88 | 9.1 | 11.21 | 10.4127 |
| | 72 | Styrene | 111 | 116 | 91 | 109 | 101 | 96 | 97 | 90 | 88 | 8.4 | 10.19 | 10.4580 |
| | 73 | Isopropylbenzene | 118 | 122 | 93 | 110 | 100 | 89 | 93 | 89 | 86 | 11.1 | 13.33 | 10.9397 |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 13.8891 |
| | 75 | Bromoform | 114 | 109 | 102 | 108 | 98 | 95 | 97 | 89 | 88 | 7.4 | 9.03 | 11.0608 |
| | 76 | 1,1,2,2-Tetrachloroethane | 124 | 119 | 98 | 107 | 97 | 90 | 93 | 87 | 85 | 11.1 | 13.93 | 11.2026 |
| | 77 | 4-Bromofluorobenzene | ------ | 120 | 101 | 102 | 98 | 84 | 96 | ------ | ------ | 7.6 | 11.73 | 11.3689 |
| | 78 | 1,2,3-Trichloropropane | 115 | 117 | 100 | 114 | 97 | 89 | 95 | 89 | 84 | 10.1 | 12.26 | 11.4460 |
| | 79 | trans-1,4-Dichloro-2-butene | 89 | 100 | 90 | 117 | 102 | 102 | 106 | 98 | 97 | 5.9 | 8.47 | 11.5132 |
| | 80 | n-Propylbenzene | 121 | 122 | 92 | 113 | 95 | 88 | 94 | 88 | 86 | 12.5 | 14.55 | 11.5780 |
| | 81 | Bromobenzene | 118 | 121 | 97 | 112 | 100 | 87 | 93 | 87 | 86 | 11.4 | 13.87 | 11.7321 |
| | 82 | 1,3,5-Trimethylbenzene | 123 | 120 | 93 | 112 | 96 | 89 | 93 | 87 | 86 | 12.2 | 14.43 | 11.8287 |
| | 83 | 2-Chlorotoluene | ------ | 123 | 91 | 119 | 94 | 93 | 99 | 92 | 89 | 10.5 | 13.23 | 11.9192 |
| | 84 | 4-Chlorotoluene | 60 | 117 | 98 | 115 | 117 | 89 | 105 | 99 | 100 | 15.3 | 20.12 | 11.9754 |
| | 85 | tert-Butylbenzene | 111 | 123 | 90 | 110 | 96 | 83 | 88 | ------ | ------ | 12.4 | 14.63 | 12.4081 |
| | 86 | 1,2,4-Trimethylbenzene | 119 | 123 | 94 | 112 | 98 | 88 | 93 | 87 | 86 | 11.8 | 14.07 | 12.4780 |
| | 87 | sec-Butylbenzene | ------ | 127 | 92 | 112 | 98 | 90 | 94 | 88 | ------ | 11 | 14.11 | 12.7493 |
| | 88 | p-Isopropyltoluene | 122 | 122 | 92 | 113 | 96 | 88 | 92 | 89 | 86 | 12.6 | 14.69 | 12.9549 |
| | 89 | 1,3-Dichlorobenzene | 62 | 109 | 90 | 120 | 110 | 104 | 108 | 100 | 97 | 15.3 | 19.08 | 13.1652 |
| | 90 | 1,2,3-Trimethylbenzene | 115 | 123 | 94 | 113 | 99 | 89 | 93 | 88 | 86 | 11.2 | 13.33 | 13.2545 |
| | 91 | 1,4-Dichlorobenzene | 126 | 114 | 86 | 119 | 107 | 103 | 106 | 98 | 98 | 15.4 | 18.81 | 13.3278 |
| | 92 | n-Butylbenzene | 126 | 122 | 89 | 106 | 96 | 92 | 94 | 86 | 88 | 12.1 | 14.93 | 13.6140 |
| | 93 | 1,2-Dichlorobenzene | ------ | 123 | 100 | 110 | 92 | 87 | 88 | ------ | ------ | 11 | 14.28 | 13.9331 |
| | 94 | 1,2-Dibromo-3-chloropropane | 114 | 116 | 93 | 101 | 94 | 96 | 95 | 96 | 96 | 6.8 | 8.87 | 15.1339 |
| | 95 | 1,2,4-Trichlorobenzene | 90 | 123 | 86 | 108 | 97 | 98 | 99 | 90 | 103 | 18.5 | 24.05 | 16.4643 |
| | 96 | Hexachlorobutadiene | ------ | 128 | 93 | 111 | 99 | 92 | 92 | 88 | 95 | 9.9 | 13.33 | 16.6624 |
| | 97 | Naphthalene | ------ | 129 | 91 | 101 | 98 | 93 | 96 | 92 | 100 | 7.6 | 12.36 | 16.8715 |
| | 98 | 1,2,3-Trichlorobenzene | 94 | 121 | 88 | 105 | 97 | 97 | 97 | 97 | 102 | 18.5 | 24.06 | 17.2310 |

For 8260C
SW
5/24/24

Compound List Report E2

Method Path : C:\MSDCHEM\1\METHODS\
Method File : VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024
Response Via : Initial Calibration

Total Cpnds : 98

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 114 | 5.987 | 1.000 | A | 1 | A | B |
| 2 | T | Dichlorodifluoromethane | 85 | 2.708 | 0.452 | A | 1 | A | B |
| 3 | T | Chloromethane | 50 | 2.906 | 0.485 | A | 1 | A | B |
| 4 | T | Vinyl chloride | 62 | 2.994 | 0.500 | A | 1 | A | B |
| 5 | T | Bromomethane | 94 | 3.313 | 0.553 | A | 1 | A | B |
| 6 | T | Dichlorofluoromethane | 67 | 3.357 | 0.561 | A | 1 | A | B |
| 7 | T | Chloroethane | 64 | 3.346 | 0.559 | A | 1 | A | B |
| 8 | T | Trichlorofluoromethane | 101 | 3.511 | 0.586 | A | 1 | A | B |
| 9 | T | Acrolein | 56 | 3.742 | 0.625 | A | 1 | A | B |
| 10 | T | 1,1,2-Trichloro-1,2,2-Trifl... | 151 | 3.753 | 0.627 | A | 1 | A | B |
| 11 | T | Acetone | 43 | 3.764 | 0.629 | L | 1 | A | B |
| 12 | T | tert-Butyl alcohol | 59 | 3.874 | 0.647 | A | 1 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 3.908 | 0.653 | A | 2 | A | B |
| 14 | T | Acetonitrile | 41 | 3.874 | 0.647 | A | 1 | A | B |
| 15 | T | Allyl chloride | 76 | 4.106 | 0.686 | A | 1 | A | B |
| 16 | T | Iodomethane | 142 | 4.150 | 0.693 | L | 1 | A | B |
| 17 | T | Methyl acetate | 43 | 4.029 | 0.673 | A | 1 | A | B |
| 18 | T | Methylene chloride | 49 | 4.183 | 0.699 | L | 2 | A | B |
| 19 | T | Acrylonitrile | 53 | 4.216 | 0.704 | A | 2 | A | B |
| 20 | T | tert-Butyl methyl ether (MTBE) | 73 | 4.227 | 0.706 | A | 1 | A | B |
| 21 | T | Carbon disulfide | 76 | 4.304 | 0.719 | A | 1 | A | B |
| 22 | T | trans-1,2-Dichloroethene | 96 | 4.370 | 0.730 | A | 1 | A | B |
| 23 | T | Isopropyl ether (DIPE) | 45 | 4.458 | 0.745 | A | 1 | A | B |
| 24 | T | Vinyl acetate | 43 | 4.546 | 0.759 | A | 1 | A | B |
| 25 | T | 1,1-Dichloroethane | 63 | 4.634 | 0.774 | A | 2 | A | B |
| 26 | T | tert-Butyl ethyl ether (ETBE) | 59 | 4.733 | 0.791 | A | 1 | A | B |
| 27 | T | 2-Butanone | 72 | 4.854 | 0.811 | A | 1 | A | B |
| 28 | T | Propionitrile | 54 | 4.909 | 0.820 | A | 1 | A | B |
| 29 | T | Isobutyl alcohol | 43 | 5.030 | 0.840 | A | 1 | A | B |
| 30 | T | 2,2-Dichloropropane | 77 | 5.019 | 0.838 | A | 2 | A | B |
| 31 | T | Methacrylonitrile | 52 | 5.052 | 0.844 | A | 1 | A | B |
| 32 | T | cis-1,2-Dichloroethene | 96 | 5.063 | 0.846 | A | 1 | A | B |
| 33 | T | Chloroform | 83 | 5.173 | 0.864 | A | 2 | A | B |
| 34 | T | Bromochloromethane | 130 | 5.327 | 0.890 | A | 1 | A | B |
| 35 | T | Tetrahydrofuran | 42 | 5.327 | 0.890 | A | 2 | A | B |
| 36 | S | Dibromofluoromethane | 111 | 5.338 | 0.892 | A | 1 | A | B |
| 37 | T | 1,1,1-Trichloroethane | 97 | 5.492 | 0.917 | A | 2 | A | B |
| 38 | T | Cyclohexane | 84 | 5.547 | 0.927 | A | 1 | A | B |
| 39 | T | tert-Amyl methyl ether (TAME) | 87 | 5.613 | 0.938 | A | 1 | A | B |
| 40 | T | 1,1-Dichloropropene | 110 | 5.613 | 0.938 | A | 1 | A | B |
| 41 | S | 1,2-Dichloroethane-d4 | 65 | 5.723 | 0.956 | A | 1 | A | B |
| 42 | T | Carbon tetrachloride | 119 | 5.734 | 0.958 | A | 1 | A | B |
| 43 | T | 1,2-Dichloroethane | 62 | 5.800 | 0.969 | A | 1 | A | B |
| 44 | T | Benzene | 78 | 5.866 | 0.980 | A | 2 | A | B |
| 45 | T | Trichloroethene | 130 | 6.373 | 1.064 | A | 3 | A | B |
| 46 | T | Methyl methacrylate | 69 | 6.439 | 1.075 | A | 1 | A | B |
| 47 | T | Methylcyclohexane | 83 | 6.450 | 1.077 | A | 2 | A | B |
| 48 | T | 1,2-Dichloropropane | 63 | 6.527 | 1.090 | A | 1 | A | B |
| 49 | T | 1,4-Dioxane | 88 | 6.725 | 1.123 | A | 1 | A | B |
| 50 | T | Bromodichloromethane | 83 | 6.769 | 1.131 | A | 1 | A | B |
| 51 | T | Dibromomethane | 93 | 6.857 | 1.145 | A | 2 | A | B |
| 52 | T | 2-Chloroethyl vinyl ether | 63 | 6.934 | 1.158 | A | 1 | A | B |
| 53 | T | 4-Methyl-2-pentanone | 43 | 6.956 | 1.162 | A | 3 | A | B |
| 54 | T | cis-1,3-Dichloropropene | 75 | 7.275 | 1.215 | A | 3 | A | B |
| 55 | I | CHLOROBENZENE-D5 | 117 | 9.564 | 1.000 | A | 2 | A | B |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 56 | S | Toluene-d8 | 98 | 7.594 | 0.794 | A | 1 | A | B |
| 57 | T | Ethyl methacrylate | 69 | 7.693 | 0.804 | A | 1 | A | B |
| 58 | T | Toluene | 91 | 7.693 | 0.804 | A | 1 | A | B |
| 59 | T | trans-1,3-Dichloropropene | 75 | 7.814 | 0.817 | A | 1 | A | B |
| 60 | T | 2-Hexanone | 43 | 7.935 | 0.830 | A | 1 | A | B |
| 61 | T | 1,1,2-Trichloroethane | 97 | 8.045 | 0.841 | A | 2 | A | B |
| 62 | T | 1,3-Dichloropropane | 76 | 8.354 | 0.873 | A | 1 | A | B |
| 63 | T | Tetrachloroethene | 164 | 8.508 | 0.890 | A | 3 | A | B |
| 64 | T | Dibromochloromethane | 129 | 8.783 | 0.918 | A | 1 | A | B |
| 65 | T | 1,2-Dibromoethane | 107 | 9.069 | 0.948 | A | 1 | A | B |
| 66 | T | 1-Chlorohexane | 91 | 9.124 | 0.954 | A | 1 | A | B |
| 67 | T | Chlorobenzene | 112 | 9.619 | 1.006 | A | 1 | A | B |
| 68 | T | 1,1,1,2-Tetrachloroethane | 131 | 9.652 | 1.009 | A | 1 | A | B |
| 69 | T | Ethylbenzene | 91 | 9.641 | 1.008 | A | 1 | A | B |
| 70 | T | m-Xylene & p-Xylene | 91 | 9.740 | 1.018 | A | 1 | A | B |
| 71 | T | o-Xylene | 91 | 10.412 | 1.089 | A | 1 | A | B |
| 72 | T | Styrene | 104 | 10.456 | 1.093 | A | 2 | A | B |
| 73 | T | Isopropylbenzene | 105 | 10.940 | 1.144 | A | 3 | A | B |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 152 | 13.889 | 1.000 | A | 1 | A | B |
| 75 | T | Bromoform | 173 | 11.061 | 0.796 | A | 2 | A | B |
| 76 | T | 1,1,2,2-Tetrachloroethane | 83 | 11.204 | 0.807 | A | 1 | A | B |
| 77 | S | 4-Bromofluorobenzene | 95 | 11.369 | 0.819 | A | 2 | A | B |
| 78 | T | 1,2,3-Trichloropropane | 110 | 11.446 | 0.824 | A | 1 | A | B |
| 79 | T | trans-1,4-Dichloro-2-butene | 53 | 11.512 | 0.829 | A | 1 | A | B |
| 80 | T | n-Propylbenzene | 91 | 11.578 | 0.834 | A | 2 | A | B |
| 81 | T | Bromobenzene | 156 | 11.732 | 0.845 | A | 1 | A | B |
| 82 | T | 1,3,5-Trimethylbenzene | 105 | 11.831 | 0.852 | A | 2 | A | B |
| 83 | T | 2-Chlorotoluene | 91 | 11.919 | 0.858 | A | 1 | A | B |
| 84 | T | 4-Chlorotoluene | 91 | 11.974 | 0.862 | L | 1 | A | B |
| 85 | T | tert-Butylbenzene | 134 | 12.415 | 0.894 | A | 1 | A | B |
| 86 | T | 1,2,4-Trimethylbenzene | 105 | 12.470 | 0.898 | A | 1 | A | B |
| 87 | T | sec-Butylbenzene | 105 | 12.745 | 0.918 | A | 1 | A | B |
| 88 | T | p-Isopropyltoluene | 119 | 12.954 | 0.933 | A | 2 | A | B |
| 89 | T | 1,3-Dichlorobenzene | 146 | 13.163 | 0.948 | L | 2 | A | B |
| 90 | T | 1,2,3-Trimethylbenzene | 105 | 13.251 | 0.954 | A | 2 | A | B |
| 91 | T | 1,4-Dichlorobenzene | 146 | 13.328 | 0.960 | L | 2 | A | B |
| 92 | T | n-Butylbenzene | 91 | 13.614 | 0.980 | A | 2 | A | B |
| 93 | T | 1,2-Dichlorobenzene | 146 | 13.933 | 1.003 | A | 1 | A | B |
| 94 | T | 1,2-Dibromo-3-chloropropane | 157 | 15.133 | 1.090 | A | 1 | A | B |
| 95 | T | 1,2,4-Trichlorobenzene | 180 | 16.464 | 1.185 | L | 2 | A | B |
| 96 | T | Hexachlorobutadiene | 225 | 16.663 | 1.200 | A | 2 | A | B |
| 97 | T | Naphthalene | 128 | 16.872 | 1.215 | A | 1 | A | B |
| 98 | T | 1,2,3-Trichlorobenzene | 180 | 17.224 | 1.240 | L | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

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VOE2E17.M Tue May 21 20:46:28 2024

5/28/24

# SECOND SOURCE VERIFICATION

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUORODENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: REG130 BFB Injection Date: 05/18/24

Instrument ID: E2 BFB Injection Time: 09:16

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 19.254 |
| 75 | 30 - 60% of mass 95 | 50.320 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.311 |
| 173 | Less than 2% of mass 174 | 0.512(.61)1 |
| 174 | Greater than 50% of mass 95 | 84.221 |
| 175 | 5 - 9% of mass 174 | 6.661(7.91)1 |
| 176 | 95 - 101% % of mass 174 | 81.783(97.11)1 |
| 177 | 5 - 9% % of mass 176 | 6.306(7.71)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | IVOE2E1702 | REG131 | 05/18/24 | 09:57 |

5/24/24

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :E2
IC_Beginning DateTime :05/17/24 12:33
Spike Amount :10 PPB
CC/CV File :REG131
IC File :REG122

Column_Spec :RTX-502.2 ID :0.32MM
IC_Ending DateTime :05/17/24 15:44
HPChem Method :VOS2E17
Date_Time :05/18/24 09:57

| M | IDX | Parameters | CC_Con | CC%_D | CC_Resp | CCRRF | AVRRF | CC_RUm | AVRUm | %_RSD | CO_X0 | CO_X1 | CO_X2 | CO_COF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4 DIFLUOROBENZENE | 10.000 | 0 | 647637 | 1 | 1 | 5.988 | 5.987 | 0 | | | | |
| | 2 | Dichlorodifluoromethane | 10.420 | 4.2 | 387316 | 0.598 | 0.574 | 2.708 | 2.708 | 8.06 | | | | |
| | 3 | Chloromethane | 10.034 | 0.3 | 267638 | 0.413 | 0.412 | 2.906 | 2.906 | 13.00 | | | | |
| | 4 | Vinyl chloride | 10.450 | 4.5 | 294360 | 0.455 | 0.435 | 2.994 | 2.990 | 7.58 | | | | |
| | 5 | Bromomethane | 10.726 | 7.3 | 204345 | 0.316 | 0.294 | 3.313 | 3.313 | 11.62 | | | | |
| | 6 | Dichlorofluoromethane | 9.831 | -1.7 | 632775 | 0.977 | 0.994 | 3.357 | 3.352 | 8.41 | | | | |
| | 7 | Chloroethane | 11.738 | 17.4 | 161985 | 0.250 | 0.213 | 3.346 | 3.346 | 8.74 | | | | |
| | 8 | Trichlorofluoromethane | 10.360 | 3.6 | 655613 | 1.012 | 0.977 | 3.511 | 3.511 | 7.24 | | | | |
| 5 | 9 | Acrolein | 53.498 | 7.0 | 225327 | 0.070 | 0.065 | 3.743 | 3.742 | 10.21 | | | | |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 9.863 | 1.4 | 272122 | 0.420 | 0.426 | 3.753 | 3.752 | 10.04 | | | | |
| 5 | 11 | Acetone | 55.179 | 10.4 | 456111 | 0.141 | 0.181 | 3.764 | 3.769 | 42.17 | 0.0583 | 0.1171 | | 0.9992 |
| 25 | 12 | tert-Butyl alcohol | 274.988 | 10.0 | 1082983 | 0.067 | 0.061 | 3.875 | 3.874 | 11.83 | | | | |
| | 13 | 1,1-Dichloroethene | 9.753 | -2.5 | 564613 | 0.872 | 0.894 | 3.908 | 3.902 | 8.46 | | | | |
| 10 | 14 | Acetonitrile | 109.003 | 9.0 | 213040 | 0.033 | 0.030 | 3.875 | 3.874 | 12.37 | | | | |
| | 15 | Allyl chloride | 10.843 | 8.4 | 165769 | 0.256 | 0.236 | 4.106 | 4.106 | 11.27 | | | | |
| | 16 | Iodomethane | 8.785 | -12.2 | 268999 | 0.415 | 0.429 | 4.150 | 4.143 | 22.23 | -0.0140 | 0.4887 | | 0.9969 |
| | 17 | Methyl acetate | 10.001 | 0.0 | 219009 | 0.338 | 0.338 | 4.029 | 4.029 | 12.15 | | | | |
| | 18 | Methylene chloride | 11.388 | 13.9 | 467946 | 0.723 | 0.801 | 4.183 | 4.182 | 26.33 | 0.0486 | 0.5918 | | 0.9974 |
| 5 | 19 | Acrylonitrile | 52.272 | 4.5 | 508988 | 0.157 | 0.150 | 4.216 | 4.216 | 11.69 | | | | |
| | 20 | tert-Butyl methyl ether (MTBE) | 10.647 | 6.5 | 1030417 | 1.591 | 1.494 | 4.227 | 4.227 | 7.94 | | | | |
| | 21 | Carbon disulfide | 9.831 | -1.7 | 872085 | 1.347 | 1.370 | 4.315 | 4.305 | 9.42 | | | | |
| | 22 | trans-1,2-Dichloroethene | 10.393 | 1.9 | 314802 | 0.486 | 0.477 | 4.370 | 4.370 | 10.07 | | | | |
| | 23 | Isopropyl ether (DIPE) | 10.521 | 5.2 | 1036035 | 1.600 | 1.520 | 4.469 | 4.460 | 9.47 | | | | |
| | 24 | Vinyl acetate | 11.461 | 14.6 | 642883 | 0.993 | 0.866 | 4.546 | 4.546 | 6.41 | | | | |
| | 25 | 1,1-Dichloroethane | 9.919 | -0.8 | 619716 | 0.957 | 0.965 | 4.634 | 4.634 | 10.57 | | | | |
| | 26 | tert-Butyl ethyl ether (ETBE) | 10.432 | 4.3 | 1247585 | 1.926 | 1.846 | 4.733 | 4.733 | 8.21 | | | | |
| 5 | 27 | 2 Butanone | 54.888 | 9.8 | 166808 | 0.052 | 0.047 | 4.854 | 4.854 | 12.56 | | | | |
| 10 | 28 | Propionitrile | 114.244 | 14.2 | 409063 | 0.061 | 0.056 | 4.909 | 4.910 | 11.17 | | | | |
| 20 | 29 | Isobutyl alcohol | 228.221 | 14.1 | 288723 | 0.022 | 0.020 | 5.030 | 5.030 | 12.67 | | | | |
| | 30 | 2,2-Dichloropropane | 9.835 | -1.6 | 615087 | 0.950 | 0.966 | 5.019 | 5.020 | 9.30 | | | | |
| 10 | 31 | Methacrylonitrile | 106.760 | 6.8 | 627605 | 0.097 | 0.091 | 5.052 | 5.057 | 11.02 | | | | |
| | 32 | cis-1,2-Dichloroethene | 10.190 | 1.9 | 358317 | 0.553 | 0.543 | 5.063 | 5.063 | 8.60 | | | | |
| | 33 | Chloroform | 9.159 | -8.4 | 709429 | 1.095 | 1.196 | 5.173 | 5.173 | 14.51 | | | | |
| | 34 | Bromochloromethane | 10.418 | 4.2 | 215189 | 0.332 | 0.319 | 5.327 | 5.327 | 11.29 | | | | |
| | 35 | Tetrahydrofuran | 11.049 | 10.5 | 90175 | 0.139 | 0.126 | 5.316 | 5.319 | 6.67 | | | | |
| | 36 | Dibromofluoromethane | 9.254 | -7.5 | 367086 | 0.567 | 0.612 | 5.338 | 5.338 | 6.30 | | | | |
| | 37 | 1,1,1-Trichloroethane | 9.563 | -4.4 | 668020 | 1.031 | 1.079 | 5.503 | 5.497 | 8.19 | | | | |
| | 38 | Cyclohexane | 10.101 | 1.0 | 359700 | 0.555 | 0.550 | 5.547 | 5.548 | 14.22 | | | | |
| | 39 | tert-Amyl methyl ether (TAME) | 10.845 | 8.5 | 231432 | 0.357 | 0.329 | 5.613 | 5.614 | 7.33 | | | | |
| | 40 | 1,1-Dichloropropene | 9.880 | -1.2 | 151104 | 0.233 | 0.236 | 5.613 | 5.613 | 8.29 | | | | |
| | 41 | 1,2-Dichloroethane-d4 | 8.914 | -10.9 | 467273 | 0.722 | 0.809 | 5.723 | 5.723 | 11.80 | | | | |
| | 42 | Carbon tetrachloride | 9.430 | -5.7 | 557403 | 0.861 | 0.913 | 5.734 | 5.734 | 8.01 | | | | |
| | 43 | 1,2-Dichloroethane | 9.596 | -4.0 | 571321 | 0.882 | 0.919 | 5.800 | 5.800 | 10.41 | | | | |
| | 44 | Benzene | 10.262 | 2.6 | 1216026 | 1.878 | 1.830 | 5.866 | 5.866 | 8.64 | | | | |
| | 45 | Trichloroethene | 9.910 | -0.9 | 324173 | 0.501 | 0.505 | 6.373 | 6.371 | 9.09 | | | | |
| | 46 | Methyl methacrylate | 10.822 | 8.2 | 313684 | 0.484 | 0.448 | 6.439 | 6.439 | 9.77 | | | | |
| | 47 | Methylcyclohexane | 10.456 | 4.6 | 407082 | 0.629 | 0.601 | 6.450 | 6.454 | 11.92 | | | | |
| | 48 | 1,2-Dichloropropane | 10.391 | 3.9 | 314276 | 0.485 | 0.467 | 6.527 | 6.527 | 10.74 | | | | |
| 20 | 49 | 1,4-Dioxane | | | | | | | | | | | | |
| | 50 | Bromodichloromethane | 9.851 | -1.5 | 563896 | 0.871 | 0.884 | 6.780 | 6.769 | 11.38 | | | | |
| | 51 | Dibromomethane | 9.836 | -1.6 | 242061 | 0.374 | 0.380 | 6.857 | 6.857 | 11.79 | | | | |
| | 52 | 2-Chloroethyl vinyl ether | 8.988 | -10.1 | 134655 | 0.208 | 0.221 | 6.934 | 6.934 | 6.45 | | | | |
| 5 | 53 | 4-Methyl-2-pentanone | 51.435 | 2.9 | 1704193 | 0.526 | 0.512 | 6.956 | 6.957 | 10.35 | | | | |
| | 54 | cis-1,3-Dichloropropene | 10.439 | 4.4 | 552132 | 0.853 | 0.817 | 7.275 | 7.275 | 7.57 | | | | |
| | 55 | CHLOROBENZENE-D5 | 10.000 | 0 | 555845 | 1 | 1 | 9.564 | 9.564 | 0 | | | | |
| | 56 | Toluene-d8 | 9.506 | -4.9 | 1050036 | 1.089 | 1.987 | 7.594 | 7.594 | 8.88 | | | | |
| | 57 | Ethyl methacrylate | 11.236 | 12.4 | 426233 | 0.767 | 0.682 | 7.693 | 7.693 | 5.59 | | | | |
| | 58 | Toluene | 10.086 | 0.9 | 1271585 | 2.288 | 2.268 | 7.693 | 7.693 | 9.46 | | | | |
| | 59 | trans-1,3-Dichloropropene | 10.278 | 2.8 | 554416 | 0.997 | 0.970 | 7.814 | 7.814 | 6.61 | | | | |
| 5 | 60 | 2-Hexanone | 50.761 | 1.5 | 1156900 | 0.416 | 0.410 | 7.946 | 7.938 | 11.13 | | | | |
| | 61 | 1,1,2-Trichloroethane | 10.111 | 1.1 | 302512 | 0.544 | 0.538 | 8.045 | 8.045 | 10.51 | | | | |
| | 62 | 1,3-Dichloropropane | 10.361 | 3.6 | 460356 | 0.828 | 0.799 | 8.354 | 8.354 | 9.83 | | | | |
| | 63 | Tetrachloroethene | 9.524 | -4.8 | 262477 | 0.472 | 0.496 | 8.519 | 8.509 | 12.72 | | | | |
| | 64 | Dibromochloromethane | 9.409 | -5.9 | 422250 | 0.760 | 0.807 | 8.783 | 8.783 | 13.87 | | | | |
| | 65 | 1,2-Dibromoethane | 10.137 | 1.4 | 326860 | 0.588 | 0.580 | 9.069 | 9.069 | 8.08 | | | | |
| | 66 | 1-Chlorohexane | 10.040 | 0.4 | 418878 | 0.754 | 0.751 | 9.124 | 9.124 | 10.45 | | | | |
| | 67 | Chlorobenzene | 9.723 | -2.8 | 809661 | 1.457 | 1.498 | 9.619 | 9.619 | 11.00 | | | | |
| | 68 | 1,1,1,2-Tetrachloroethane | 9.599 | -4.0 | 340100 | 0.612 | 0.637 | 9.652 | 9.646 | 9.12 | | | | |
| | 69 | Ethylbenzene | 9.758 | -2.4 | 1487392 | 2.676 | 2.742 | 9.641 | 9.641 | 10.66 | | | | |
| 2 | 70 | m-Xylene & p-Xylene | 18.880 | -5.6 | 2346333 | 2.111 | 2.236 | 9.751 | 9.750 | 9.97 | | | | |
| | 71 | o-Xylene | 10.096 | 1.0 | 1187781 | 2.137 | 2.117 | 10.412 | 10.413 | 11.21 | | | | |
| | 72 | Styrene | 10.151 | 1.5 | 835184 | 1.503 | 1.480 | 10.467 | 10.458 | 10.19 | | | | |
| | 73 | Isopropylbenzene | 9.879 | -1.2 | 1324380 | 2.383 | 2.412 | 10.940 | 10.940 | 13.33 | | | | |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 10.000 | 0 | 262396 | 1 | 1 | 13.889 | 13.889 | 0 | | | | |
| | 75 | Bromoform | 9.959 | -0.4 | 285204 | 1.087 | 1.091 | 11.061 | 11.061 | 9.03 | | | | |
| | 76 | 1,1,2,2-Tetrachloroethane | 10.875 | 8.8 | 397736 | 1.516 | 1.394 | 11.204 | 11.203 | 13.93 | | | | |
| | 77 | 4-Bromofluorobenzene | 10.006 | 0.1 | 416821 | 1.589 | 1.587 | 11.369 | 11.369 | 11.73 | | | | |
| | 78 | 1,2,3-Trichloropropane | 10.854 | 8.5 | 109593 | 0.418 | 0.385 | 11.446 | 11.446 | 12.26 | | | | |
| | 79 | trans-1,4-Dichloro-2-butene | 11.666 | 16.7 | 119204 | 0.454 | 0.389 | 11.523 | 11.513 | 8.47 | | | | |
| | 80 | n-Propylbenzene | 9.908 | -0.9 | 1648572 | 6.283 | 6.341 | 11.578 | 11.578 | 14.55 | | | | |
| | 81 | Bromobenzene | 10.166 | 1.7 | 371222 | 1.415 | 1.392 | 11.732 | 11.732 | 13.87 | | | | |
| | 82 | 1,3,5-Trimethylbenzene | 9.826 | -1.7 | 1123998 | 4.284 | 4.359 | 11.831 | 11.829 | 14.43 | | | | |
| | 83 | 2-Chlorotoluene | 10.515 | 5.2 | 1079812 | 4.115 | 3.914 | 11.919 | 11.919 | 13.23 | | | | |
| | 84 | 4-Chlorotoluene | 11.112 | 11.1 | 964334 | 3.675 | 3.796 | 11.974 | 11.975 | 20.12 | 0.1440 | 3.1777 | | 0.9987 |
| | 85 | tert-Butylbenzene | 9.977 | -0.2 | 176618 | 0.673 | 0.675 | 12.415 | 12.408 | 14.63 | | | | |
| | 86 | 1,2,4-Trimethylbenzene | 10.070 | 0.7 | 1126508 | 4.293 | 4.263 | 12.481 | 12.478 | 14.07 | | | | |
| | 87 | sec-Butylbenzene | 9.921 | -0.8 | 1286003 | 4.901 | 4.940 | 12.756 | 12.749 | 14.11 | | | | |
| | 88 | p-Isopropyltoluene | 9.947 | -0.5 | 1081873 | 4.123 | 4.145 | 12.954 | 12.955 | 14.69 | | | | |
| | 89 | 1,3-Dichlorobenzene | 11.402 | 14.0 | 594859 | 2.267 | 2.303 | 13.174 | 13.165 | 19.08 | 0.0920 | 1.9075 | | 0.9986 |
| | 90 | 1,2,3-Trimethylbenzene | 10.087 | 0.9 | 1118089 | 4.261 | 4.224 | 13.262 | 13.255 | 13.33 | | | | |
| | 91 | 1,4-Dichlorobenzene | 11.077 | 10.8 | 600654 | 2.289 | 2.349 | 13.328 | 13.328 | 18.81 | 0.0831 | 1.9916 | | 0.9991 |
| | 92 | n-Butylbenzene | 9.895 | -1.0 | 1023631 | 3.901 | 3.942 | 13.614 | 13.614 | 14.93 | | | | |
| | 93 | 1,2-Dichlorobenzene | 9.725 | -2.7 | 557437 | 2.124 | 2.184 | 13.933 | 13.933 | 14.28 | | | | |
| | 94 | 1,2-Dibromo-3-chloropropane | 10.796 | 8.0 | 80292 | 0.306 | 0.283 | 15.144 | 15.134 | 8.87 | | | | |
| | 95 | 1,2,4-Trichlorobenzene | 10.262 | 2.6 | 357605 | 1.363 | 1.493 | 16.475 | 16.464 | 24.05 | 0.0497 | 1.2796 | | 0.9993 |
| | 96 | Hexachlorobutadiene | 10.669 | 6.7 | 211409 | 0.806 | 0.755 | 16.663 | 16.662 | 13.33 | | | | |
| | 97 | Naphthalene | 10.446 | 4.5 | 925673 | 3.528 | 3.377 | 16.872 | 16.872 | 12.35 | | | | |
| | 98 | 1,2,3-Trichlorobenzene | 10.036 | 0.4 | 332666 | 1.268 | 1.419 | 17.235 | 17.231 | 24.06 | 0.0472 | 1.2161 | | 0.9995 |

Spike Amount 'E' Nominal Amount * M

SM 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 134 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.421 | -4.2 | 157 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 10.035 | -0.4 | 148 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.451 | -4.5 | 146 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 10.727 | -7.3 | 173 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 9.831 | 1.7 | 132 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 11.738 | -17.4 | 164 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 10.360 | -3.6 | 151 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 53.499 | -7.0 | 146 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 9.863 | 1.4 | 137 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 55.179 | -10.4 | 137 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 274.989 | -10.0 | 147 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 9.754 | 2.5 | 131 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 109.003 | -9.0 | 144 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.844 | -8.4 | 143 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 8.785 | 12.1 | 129 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 10.001 | -0.0 | 133 | 0.00 |
| 18 | T,M | Methylene chloride | 10.000 | 11.389 | -13.9 | 132 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 52.273 | -4.5 | 133 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.648 | -6.5 | 142 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.831 | 1.7 | 131 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.193 | -1.9 | 139 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 10.521 | -5.2 | 142 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 11.462 | -14.6 | 143 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.920 | 0.8 | 137 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 10.433 | -4.3 | 139 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 54.888 | -9.8 | 140 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 114.245 | -14.2 | 158 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 228.222 | -14.1 | 152 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 9.836 | 1.6 | 128 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 106.760 | -6.8 | 146 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.190 | -1.9 | 143 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.160 | 8.4 | 131 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 10.419 | -4.2 | 136 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 11.050 | -10.5 | 150 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.254 | 7.5 | 122 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 9.563 | 4.4 | 129 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 10.102 | -1.0 | 161 | 0.00 |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.845 | -8.5 | 139 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 9.881 | 1.2 | 129 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 8.915 | 10.9 | 124 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 9.430 | 5.7 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 9.596 | 4.0 | 126 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.262 | -2.6 | 138 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.910 | 0.9 | 136 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 10.823 | -8.2 | 152 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 10.457 | -4.6 | 159 | 0.00 |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.391 | -3.9 | 140 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.851 | 1.5 | 132 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 9.836 | 1.6 | 135 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguyc
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 8.989 | 10.1 | 117 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 51.435 | -2.9 | 132 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.440 | -4.4 | 139 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 136 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.507 | 4.9 | 128 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.236 | -12.4 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 10.087 | -0.9 | 138 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.278 | -2.8 | 137 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 50.761 | -1.5 | 131 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.111 | -1.1 | 138 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.361 | -3.6 | 143 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.524 | 4.8 | 134 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.409 | 5.9 | 131 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 10.138 | -1.4 | 135 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.040 | -0.4 | 137 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.724 | 2.8 | 135 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.599 | 4.0 | 128 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.759 | 2.4 | 136 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.880 | 5.6 | 138 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 10.096 | -1.0 | 137 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.152 | -1.5 | 137 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.880 | 1.2 | 133 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 133 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.959 | 0.4 | 134 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.876 | -8.8 | 149 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.007 | -0.1 | 135 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.854 | -8.5 | 148 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 11.667 | -16.7 | 152 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.909 | 0.9 | 139 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 10.166 | -1.7 | 135 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.827 | 1.7 | 135 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 10.515 | -5.2 | 149 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.112 | -11.1 | 126 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.977 | 0.2 | 138 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 10.070 | -0.7 | 136 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.921 | 0.8 | 134 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.947 | 0.5 | 138 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.403 | -14.0 | 138 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.087 | -0.9 | 135 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.077 | -10.8 | 137 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.896 | 1.0 | 136 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.725 | 2.8 | 140 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 10.797 | -8.0 | 153 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 10.262 | -2.6 | 140 | 0.01 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 10.670 | -6.7 | 142 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.446 | -4.5 | 141 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.037 | -0.4 | 136 | 0.01 |

5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

5/24/24

# DAILY CALIBRATIONS

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F004
Lab File ID: RFG031 BFB Injection Date: 06/08/24
Instrument ID: E2 BFB Injection Time: 12:09

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 22.071 |
| 75 | 30 - 60% of mass 95 | 51.971 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.542 |
| 173 | Less than 2% of mass 174 | 1.709(1.73)1 |
| 174 | Greater than 50% of mass 95 | 98.721 |
| 175 | 5 - 9% of mass 174 | 8.812(8.93)1 |
| 176 | 95 - 101% % of mass 174 | 98.535(99.81)1 |
| 177 | 5 - 9% % of mass 176 | 7.072(7.18)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1705 | RFG033 | 06/08/24 | 14:28 |
| 2 | LCS1W | VOE2F02L | RFG034 | 06/08/24 | 15:04 |
| 3 | LCD1W | VOE2F02C | RFG035 | 06/08/24 | 15:28 |
| 4 | MBLK1W | VOE2F02B | RFG037 | 06/08/24 | 16:16 |
| 5 | T1AMF-MW054-MAY24 | 24F004-02 | RFG039 | 06/08/24 | 17:04 |
| 6 | T1AMF-MW042-MAY24 | 24F004-03 | RFG040 | 06/08/24 | 17:27 |
| 7 | T1AMF-MW055-MAY24 | 24F004-04 | RFG041 | 06/08/24 | 17:51 |
| 8 | T1AMF-MW045-MAY24 | 24F004-07 | RFG044 | 06/08/24 | 19:03 |
| 9 | T1AMF-EW001-MAY24 | 24F004-08 | RFG045 | 06/08/24 | 19:27 |
| 10 | VSTD10 | EVOE2E1705 | RFG058 | 06/09/24 | 00:35 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F004
Date Analyzed: 05/17/24
Time Analyzed: 14:09

| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| | UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| | LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 759396 | 5.99 | 659881 | 9.56 | 351346 | 13.89 |
| 2 | LCS1W | 804216 | 5.99 | 688163 | 9.56 | 361553 | 13.89 |
| 3 | LCD1W | 788614 | 5.99 | 686122 | 9.56 | 360055 | 13.89 |
| 4 | MBLK1W | 702533 | 5.99 | 598134 | 9.56 | 288194 | 13.89 |
| 5 | T1AMF-MW054-MAY24 | 604704 | 5.99 | 515586 | 9.56 | 241202 | 13.89 |
| 6 | T1AMF-MW042-MAY24 | 585872 | 5.99 | 507180 | 9.56 | 244053 | 13.89 |
| 7 | T1AMF-MW055-MAY24 | 544754 | 5.99 | 461819 | 9.56 | 224403 | 13.89 |
| 8 | T1AMF-MW045-MAY24 | 505850 | 5.99 | 420589 | 9.56 | 206594 | 13.89 |
| 9 | T1AMF-EW001-MAY24 | 493129 | 5.99 | 412092 | 9.56 | 195843 | 13.89 |
| 10 | VSTD10 | 446913 | 5.99 | 398856 | 9.56 | 235443 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG033.D
Acq On : 8 Jun 2024 14:28
Sample : CVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 157 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.917 | -9.2 | 193 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 8.757 | 12.4 | 152 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.879 | -8.8 | 179 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 7.609 | 23.9# | 144 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.391 | -3.9 | 164 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 9.950 | 0.5 | 163 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.165 | 18.4 | 140 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 41.766 | 16.5 | 134 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 10.353 | -3.5 | 169 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 53.271 | -6.5 | 156 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 205.813 | 17.7 | 129 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 9.978 | 0.2 | 158 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 89.402 | 10.6 | 138 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.640 | -6.4 | 165 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 10.989 | -9.9 | 190 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.895 | -8.9 | 149 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 44.205 | 11.6 | 132 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 9.644 | 3.6 | 150 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 10.412 | -4.1 | 163 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.482 | 5.2 | 152 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 10.714 | -7.1 | 169 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 7.360 | 26.4# | 108 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.237 | -2.4 | 166 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 8.744 | 12.6 | 137 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 46.101 | 7.8 | 138 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 90.522 | 9.5 | 147 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 199.417 | 0.3 | 156 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.236 | -2.4 | 156 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 95.404 | 4.6 | 153 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.659 | 3.4 | 159 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.166 | 8.3 | 154 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.816 | 1.8 | 151 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 9.864 | 1.4 | 157 | 0.00 |
| 36 | S | Dibromofluoromethane | 10.000 | 10.724 | -7.2 | 165 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 9.824 | 1.8 | 155 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 9.703 | 3.0 | 145 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 9.938 | 0.6 | 152 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.726 | -7.3 | 175 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.297 | -3.0 | 159 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 10.208 | -2.1 | 157 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 9.819 | 1.8 | 155 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.800 | 2.0 | 157 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 6.686 | 33.1# | 110 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.347 | -3.5 | 163 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.981 | 0.2 | 156 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 9.236 | 7.6 | 148 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG033.D
Acq On : 8 Jun 2024 14:28
Sample : CVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: °RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 7.156 | 28.4# | 109 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 49.584 | 0.8 | 149 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.044 | -0.4 | 157 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 161 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.296 | -3.0 | 164 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.483 | 5.2 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 9.620 | 3.8 | 156 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.738 | 2.6 | 154 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 48.880 | 2.2 | 149 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.159 | 8.4 | 149 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 9.833 | 1.7 | 161 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 11.002 | -10.0 | 184 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.090 | 9.1 | 150 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 8.916 | 10.8 | 141 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.660 | 3.4 | 156 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.453 | 5.5 | 156 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.719 | 2.8 | 154 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.519 | 4.8 | 158 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.082 | 9.6 | 157 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 9.493 | 5.1 | 153 | 0.01 |
| 72 | T,M | Styrene | 10.000 | 9.763 | 2.4 | 156 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.860 | 1.4 | 158 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 177 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.290 | 7.1 | 168 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.272 | 17.3 | 152 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 9.824 | 1.8 | 178 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 8.442 | 15.6 | 154 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 9.458 | 5.4 | 165 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 8.676 | 13.2 | 163 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.733 | 2.7 | 173 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 8.626 | 13.7 | 159 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.037 | 9.6 | 171 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 9.424 | 5.8 | 144 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 8.746 | 12.5 | 162 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 8.764 | 12.4 | 159 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 8.943 | 10.6 | 162 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 8.862 | 11.4 | 164 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.045 | -10.4 | 179 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 8.719 | 12.8 | 157 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.796 | -8.0 | 178 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.008 | 9.9 | 166 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.792 | 2.1 | 189 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.942 | 10.6 | 170 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 11.017 | -10.2 | 201 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 11.173 | -11.7 | 200 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 8.682 | 13.2 | 157 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.865 | -8.7 | 197 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG033.D
Acq On : 8 Jun 2024 14:28
Sample : CVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev Area% | Dev(min) |
|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG033.D
Acq On : 8 Jun 2024 14:28
Sample : CVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 157 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.627 | -9.2 | 193 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.361 | 12.4 | 152 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.473 | -8.7 | 179 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.224 | 23.8# | 144 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 1.033 | -3.9 | 164 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.212 | 0.5 | 163 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.798 | 18.3 | 140 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.054 | 16.9 | 134 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.441 | -3.5 | 169 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.136 | 24.9# | 156 | 0.01 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.050 | 18.0 | 129 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.892 | 0.2 | 158 | 0.00 |
| 14 | T,M Acetonitrile | 0.030 | 0.027 | 10.0 | 138 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.251 | -6.4 | 165 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.523 | -21.9# | 190 | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.693 | 13.5 | 149 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.133 | 11.3 | 132 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.441 | 3.5 | 150 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.426 | -4.1 | 163 | 0.01 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.452 | 5.2 | 152 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.629 | -7.2 | 169 | 0.01 |
| 24 | T,M Vinyl acetate | 0.866 | 0.637 | 26.4# | 108 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 0.987 | -2.3 | 166 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.614 | 12.6 | 137 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.043 | 8.5 | 138 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.050 | 9.1 | 147 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.019 | 5.0 | 156 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 0.988 | -2.3 | 156 | 0.01 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.087 | 4.4 | 153 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.524 | 3.5 | 159 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.096 | 8.4 | 154 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.313 | 1.9 | 151 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.124 | 1.6 | 157 | 0.00 |
| 36 | S Dibromofluoromethane | 0.612 | 0.657 | -7.4 | 165 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.060 | 1.8 | 155 | 0.01 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.320 | 2.7 | 145 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.235 | 0.4 | 152 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.868 | -7.3 | 175 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 0.940 | -3.0 | 159 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 0.938 | -2.1 | 157 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.797 | 1.8 | 155 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.495 | 2.0 | 157 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.299 | 33.3# | 110 | 0.00 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.483 | -3.4 | 163 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.00 |
| 50 | T,M Bromodichloromethane | 0.884 | 0.882 | 0.2 | 156 | 0.01 |
| 51 | T,M Dibromomethane | 0.380 | 0.351 | 7.6 | 148 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG033.D
Acq On : 8 Jun 2024 14:28
Sample : CVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.166 | 28.1# | 109 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.507 | 1.0 | 149 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.820 | -0.4 | 157 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 161 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.046 | -3.0 | 164 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.647 | 5.1 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.182 | 3.8 | 156 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.945 | 2.6 | 154 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.401 | 2.2 | 149 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.493 | 8.4 | 149 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.786 | 1.6 | 161 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.545 | -9.9 | 184 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.734 | 9.0 | 150 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.517 | 10.9 | 141 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.725 | 3.5 | 156 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.416 | 5.5 | 156 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.620 | 2.7 | 154 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.610 | 4.8 | 158 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.021 | 9.6 | 157 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.009 | 5.1 | 153 | 0.01 |
| 72 | T,M | Styrene | 1.480 | 1.445 | 2.4 | 156 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.378 | 1.4 | 158 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 177 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.014 | 7.1 | 168 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.153 | 17.3 | 152 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.559 | 1.8 | 178 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.325 | 15.6 | 154 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.368 | 5.4 | 165 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.501 | 13.2 | 163 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.354 | 2.7 | 173 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.760 | 13.7 | 159 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.537 | 9.6 | 171 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.139 | 17.3 | 144 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.590 | 12.6 | 162 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.736 | 12.4 | 159 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.418 | 10.6 | 162 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.673 | 11.4 | 164 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.199 | 4.5 | 179 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 3.683 | 12.8 | 157 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.233 | 4.9 | 178 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.551 | 9.9 | 166 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.139 | 2.1 | 189 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.253 | 10.6 | 170 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.459 | 2.3 | 201# | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.844 | -11.8 | 200 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.932 | 13.2 | 157 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.369 | 3.5 | 197 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG033.D
Acq On : 8 Jun 2024 14:28
Sample : CVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG058.D  Vial: 28
Acq On : 9 Jun 2024 00:35  Operator: DNguye
Sample : EVOE2E1705  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 92 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 11.154 | -11.5 | 116 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 8.702 | 13.0 | 89 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 12.358 | -23.6# | 119 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 7.515 | 24.9# | 84 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 11.797 | -18.0 | 109 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.766 | 12.3 | 85 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 9.065 | 9.4 | 91 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 30.600 | 38.8# | 58 | 0.01 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 11.370 | -13.7 | 109 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 52.038 | -4.1 | 90 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 222.847 | 10.9 | 82 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 11.059 | -10.6 | 103 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 103.032 | -3.0 | 94 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.308 | -3.1 | 94 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 11.012 | -10.1 | 112 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 11.677 | -16.8 | 94 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 39.039 | 21.9# | 69 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.201 | -2.0 | 94 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.704 | 3.0 | 89 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.173 | -1.7 | 96 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 10.316 | -3.2 | 96 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 5.668 | 43.3# | 49 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.774 | -7.7 | 103 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.356 | 6.4 | 86 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 38.217 | 23.6# | 67 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 89.489 | 10.5 | 86 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 189.208 | 5.4 | 87 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.218 | -2.2 | 92 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 103.527 | -3.5 | 97 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.569 | -5.7 | 102 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.633 | -6.3 | 105 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 10.650 | -6.5 | 96 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 9.735 | 2.7 | 91 | 0.00 |
| 36 | S | Dibromofluoromethane | 10.000 | 11.143 | -11.4 | 101 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 12.025 | -20.3# | 112 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.317 | -3.2 | 91 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.702 | -7.0 | 97 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 12.094 | -20.9# | 116 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 12.788 | -27.9# | 116 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 12.527 | -25.3# | 114 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.171 | -1.7 | 95 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 10.424 | -4.2 | 98 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 6.725 | 32.8# | 65 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.373 | -3.7 | 96 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.245 | -12.4 | 104 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 10.371 | -3.7 | 98 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG058.D
Acq On : 9 Jun 2024 00:35
Sample : EVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 6.712 | 32.9# | 60 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 47.387 | 5.2 | 84 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.149 | -1.5 | 93 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.091 | -0.9 | 97 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.399 | 6.0 | 88 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 10.206 | -2.1 | 100 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.292 | -2.9 | 99 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 44.976 | 10.0 | 83 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.622 | 3.8 | 94 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.073 | -0.7 | 100 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 12.019 | -20.2# | 122 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 10.114 | -1.1 | 101 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.297 | 7.0 | 89 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.504 | 5.0 | 93 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 10.372 | -3.7 | 103 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.774 | -7.7 | 103 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.971 | 0.3 | 100 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 19.782 | 1.1 | 104 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 10.433 | -4.3 | 102 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.614 | -6.1 | 103 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 10.731 | -7.3 | 104 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 119 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.427 | 5.7 | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 7.763 | 22.4# | 95 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 9.158 | 8.4 | 111 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 8.800 | 12.0 | 108 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 9.012 | 9.9 | 106 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 8.621 | 13.8 | 108 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.710 | 2.9 | 116 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 8.503 | 15.0 | 105 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 8.241 | 17.6 | 104 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 10.138 | -1.4 | 103 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.313 | 6.9 | 115 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 8.885 | 11.2 | 108 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 8.724 | 12.8 | 106 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 8.671 | 13.3 | 108 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.498 | -15.0 | 125 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 8.851 | 11.5 | 107 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.109 | -11.1 | 123 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 8.375 | 16.3 | 104 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.965 | 0.4 | 129 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.978 | 20.2# | 102 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 10.612 | -6.1 | 130 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 11.000 | -10.0 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 7.733 | 22.7# | 94 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.543 | -5.4 | 128 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG058.D
Acq On : 9 Jun 2024 00:35
Sample : EVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG058.D
Acq On : 9 Jun 2024 00:35
Sample : EVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 92 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.640 | -11.5 | 116 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.358 | 13.1 | 89 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.537 | -23.4# | 119 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.221 | 24.8# | 84 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.172 | -17.9 | 109 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.187 | 12.2 | 85 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.886 | 9.3 | 91 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.040 | 38.5# | 58 | 0.01 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.484 | -13.6 | 109 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.133 | 26.5# | 90 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.054 | 11.5 | 82 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.989 | -10.6 | 103 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.031 | -3.3 | 94 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.243 | -3.0 | 94 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.524 | -22.1# | 112 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.740 | 7.6 | 94 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.117 | 22.0# | 69 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.524 | -2.0 | 94 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.329 | 3.0 | 89 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.485 | -1.7 | 96 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.568 | -3.2 | 96 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.491 | 43.3# | 49# | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 1.039 | -7.7 | 103 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.728 | 6.4 | 86 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.036 | 23.4# | 67 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.049 | 10.9 | 86 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.018 | 10.0 | 87 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.987 | -2.2 | 92 | 0.01 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.094 | -3.3 | 97 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.574 | -5.7 | 102 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.272 | -6.4 | 105 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.340 | -6.6 | 96 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.123 | 2.4 | 91 | 0.00 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.682 | -11.4 | 101 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.297 | -20.2# | 112 | 0.00 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.340 | -3.3 | 91 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.253 | -7.2 | 97 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.979 | -21.0# | 116 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 1.167 | -27.8# | 116 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.152 | -25.4# | 114 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.861 | -1.7 | 95 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.527 | -4.4 | 98 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.301 | 32.8# | 65 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.484 | -3.6 | 96 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.994 | -12.4 | 104 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.394 | -3.7 | 98 | 0.00 |

Data File : D:\Data\24F08\RFG058.D
Acq On : 9 Jun 2024 00:35
Sample : EVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.155 | 32.9# | 60 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.485 | 5.3 | 84 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.829 | -1.5 | 93 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.005 | -0.9 | 97 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.641 | 6.0 | 88 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.315 | -2.1 | 100 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.999 | -3.0 | 99 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.369 | 10.0 | 83 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.518 | 3.7 | 94 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.805 | -0.8 | 100 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.596 | -20.2# | 122 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.817 | -1.2 | 101 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.539 | 7.1 | 89 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.713 | 5.1 | 93 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.554 | -3.7 | 103 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.687 | -7.8 | 103 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.734 | 0.3 | 100 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.211 | 1.1 | 104 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.208 | -4.3 | 102 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.571 | -6.1 | 103 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.588 | -7.3 | 104 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 119 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.029 | 5.7 | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.082 | 22.4# | 95 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.454 | 8.4 | 111 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.339 | 11.9 | 108 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.351 | 9.8 | 106 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.466 | 13.8 | 108 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.351 | 2.9 | 116 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.707 | 15.0 | 105 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.225 | 17.6 | 104 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.366 | 11.3 | 103 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.628 | 7.0 | 115 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.788 | 11.1 | 108 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.309 | 12.8 | 106 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.594 | 13.3 | 108 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.285 | 0.8 | 125 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 3.739 | 11.5 | 107 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.295 | 2.3 | 123 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.302 | 16.2 | 104 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.177 | 0.3 | 129 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.226 | 20.1# | 102 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.408 | 5.7 | 130 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.831 | -10.1 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.611 | 22.7# | 94 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.329 | 6.3 | 128 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG058.D
Acq On : 9 Jun 2024 00:35
Sample : EVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 1

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F004
Lab File ID: RFG061 BFB Injection Date: 06/10/24
Instrument ID: E2 BFB Injection Time: 15:55

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.420 |
| 75 | 30 - 60% of mass 95 | 52.039 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 7.244 |
| 173 | Less than 2% of mass 174 | 1.243(1.64)1 |
| 174 | Greater than 50% of mass 95 | 75.606 |
| 175 | 5 - 9% of mass 174 | 5.475(7.24)1 |
| 176 | 95 - 101% % of mass 174 | 73.387(97.07)1 |
| 177 | 5 - 9% % of mass 176 | 4.772(6.5)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1706 | RFG062 | 06/10/24 | 16:35 |
| 2 | LCS2W | VOE2F03L | RFG063 | 06/10/24 | 17:13 |
| 3 | LCD2W | VOE2F03C | RFG064 | 06/10/24 | 17:37 |
| 4 | MBLK2W | VOE2F03B | RFG067 | 06/10/24 | 18:25 |
| 5 | T1AMF-MW043-MAY24 | 24F004-05N | RFG068 | 06/10/24 | 18:48 |
| 6 | T1AMF-MW045-MAY24 | 24F004-07I | RFG070 | 06/10/24 | 19:36 |
| 7 | T1AMF-MW048-MAY24 | 24F004-09N | RFG071 | 06/10/24 | 20:00 |
| 8 | T1AMF-MW056-MAY24 | 24F004-10N | RFG072 | 06/10/24 | 20:24 |
| 9 | VSTD10 | EVOE2E1706 | RFG088 | 06/11/24 | 02:43 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F004
Date Analyzed: 05/17/24
Time Analyzed: 14:09

| INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 VSTD10 | 754319 | 5.99 | 601845 | 9.56 | 305181 | 13.89 |
| 2 LCS2W | 792750 | 5.99 | 646227 | 9.56 | 321378 | 13.89 |
| 3 LCD2W | 821664 | 5.99 | 645570 | 9.56 | 324769 | 13.89 |
| 4 MBLK2W | 727124 | 5.99 | 552730 | 9.56 | 266282 | 13.89 |
| 5 T1AMF-MW043-MAY24 | 660379 | 5.99 | 508072 | 9.56 | 238614 | 13.89 |
| 6 T1AMF-MW045-MAY24 | 598016 | 5.99 | 459152 | 9.56 | 215050 | 13.89 |
| 7 T1AMF-MW048-MAY24 | 570196 | 5.99 | 441677 | 9.56 | 207331 | 13.89 |
| 8 T1AMF-MW056-MAY24 | 552850 | 5.99 | 420958 | 9.56 | 212301 | 13.89 |
| 9 VSTD10 | 493624 | 5.99 | 398955 | 9.56 | 221976 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | | 0.0 | 156 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.839 | | -8.4 | 190 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 7.384 | | 26.2# | 127 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.461 | ✓ | -4.6 | 171 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 8.230 | | 17.7 | 155 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 11.096 | | -11.0 | 174 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 9.062 | | 9.4 | 148 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.401 | | 16.0 | 143 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 42.007 | | 16.0 | 134 | 0.01 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 10.274 | | -2.7 | 167 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 50.666 | | -1.3 | 148 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 250.165 | ✓ | -0.1 | 156 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.483 | ✓ | -4.8 | 164 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 105.761 | | -5.8 | 163 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 11.506 | | -15.1 | 177 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 10.464 | | -4.6 | 180 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.912 | | -9.1 | 148 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 43.827 | | 12.3 | 130 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 11.065 | | -10.6 | 171 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 10.264 | | -2.6 | 159 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.442 | | -4.4 | 166 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 10.383 | | -3.8 | 163 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 5.910 | | 40.9# | 86 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.570 | | -5.7 | 170 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.692 | | 3.1 | 150 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 48.961 | | 2.1 | 145 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 102.751 | | -2.8 | 166 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 206.376 | | -3.2 | 160 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 11.544 | | -15.4 | 175 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 101.779 | | -1.8 | 162 | 0.01 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.795 | | -7.9 | 176 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.372 | ✓ | -3.7 | 173 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.972 | | 0.3 | 152 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 9.418 | | 5.8 | 149 | 0.00 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.786 | | 2.1 | 150 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 11.146 | | -11.5 | 175 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.879 | | -8.8 | 162 | 0.01 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.561 | | -5.6 | 161 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.246 | | -2.5 | 166 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.875 | | -8.8 | 166 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.160 | | -11.6 | 171 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.938 | | -9.4 | 172 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.816 | | 1.8 | 157 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 7.438 | | 25.6# | 121 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.384 | | -3.8 | 163 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | ✓ | 100.0# | 0 | 0.01 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.013 | | -10.1 | 171 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 9.735 | | 2.7 | 155 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 7.494 | 25.1# | 114 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 45.062 | 9.9 | 135 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.952 | -9.5 | 170 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 147 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.822 | -8.2 | 158 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.395 | -13.9 | 162 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.605 | -16.1 | 172 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.830 | -18.3 | 171 | 0.01 |
| 60 | T,M | 2-Hexanone | 50.000 | 48.545 | 2.9 | 135 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.893 | -8.9 | 161 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 11.701 | -17.0 | 175 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 10.713 | -7.1 | 164 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.946 | 0.5 | 150 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 10.079 | -0.8 | 145 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 11.139 | -11.4 | 164 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 11.006 | -10.1 | 165 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.857 | -8.6 | 157 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 11.321 | -13.2 | 171 | 0.01 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 22.224 | -11.1 | 176 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 11.637 | -16.4 | 171 | 0.01 |
| 72 | T,M | Styrene | 10.000 | 11.262 | -12.6 | 164 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 11.542 | -15.4 | 169 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 154 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.719 | 2.8 | 153 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.388 | -3.9 | 166 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.724 | -7.2 | 168 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.516 | -5.2 | 167 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 11.659 | -16.6 | 177 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 10.935 | -9.4 | 178 | 0.01 |
| 81 | T,M | Bromobenzene | 10.000 | 10.357 | -3.6 | 160 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 10.732 | -7.3 | 172 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 11.463 | -14.6 | 188 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.523 | -25.2# | 164 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 10.821 | -8.2 | 174 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.023 | -10.2 | 173 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 10.973 | -9.7 | 173 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 10.624 | -6.2 | 171 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 12.000 | -20.0 | 168 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.904 | -9.0 | 170 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.553 | -15.5 | 165 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 11.020 | -10.2 | 177 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.313 | -3.1 | 173 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 9.616 | 3.8 | 159 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 11.452 | -14.5 | 181 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 11.051 | -10.5 | 172 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.389 | -3.9 | 163 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.820 | -8.2 | 171 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 156 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.622 | -8.4 | 190 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.304 | 26.2# | 127 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.455 | -4.6 | 171 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.242 | 17.7 | 155 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.103 | -11.0 | 174 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.193 | 9.4 | 148 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.821 | 16.0 | 143 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.055 | 15.4 | 134 | 0.01 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.438 | -2.8 | 167 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.130 | 28.2# | 148 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.061 | 0.0 | 156 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.937 | -4.8 | 164 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.032 | -6.7 | 163 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.272 | -15.3 | 177 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.497 | -15.9 | 180 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.694 | 13.4 | 148 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.132 | 12.0 | 130 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.653 | -10.6 | 171 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.406 | -2.6 | 159 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.498 | -4.4 | 166 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.579 | -3.9 | 163 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.512 | 40.9# | 86 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 1.020 | -5.7 | 170 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.790 | 3.0 | 150 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.046 | 2.1 | 145 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.057 | -3.6 | 166 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.020 | 0.0 | 160 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 1.115 | -15.4 | 175 | 0.01 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.092 | -1.1 | 162 | 0.01 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.586 | -7.9 | 176 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.240 | -3.7 | 173 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.318 | 0.3 | 152 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.119 | 5.6 | 149 | 0.00 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.599 | 2.1 | 150 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.202 | -11.4 | 175 | 0.01 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.358 | -8.8 | 162 | 0.01 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.249 | -5.5 | 161 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.829 | -2.5 | 166 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 0.993 | -8.8 | 166 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.026 | -11.6 | 171 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 2.001 | -9.3 | 172 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.496 | 1.8 | 157 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.333 | 25.7# | 121 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.485 | -3.9 | 163 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.01 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.973 | -10.1 | 171 | 0.01 |
| 51 | T,M | Dibromomethane | 0.380 | 0.370 | 2.6 | 155 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.173 | 25.1# | 114 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.461 | 10.0 | 135 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.894 | -9.4 | 170 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 147 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.150 | -8.2 | 158 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.778 | -14.1 | 162 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.632 | -16.0 | 172 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.148 | -18.4 | 171 | 0.01 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.398 | 2.9 | 135 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.586 | -8.9 | 161 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.935 | -17.0 | 175 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.531 | -7.1 | 164 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.803 | 0.5 | 150 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.585 | -0.9 | 145 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.836 | -11.3 | 164 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.649 | -10.1 | 165 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.692 | -8.6 | 157 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 3.104 | -13.2 | 171 | 0.01 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.484 | -11.1 | 176 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.463 | -16.3 | 171 | 0.01 |
| 72 | T,M | Styrene | 1.480 | 1.667 | -12.6 | 164 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.784 | -15.4 | 169 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 154 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.061 | 2.7 | 153 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.448 | -3.9 | 166 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.702 | -7.2 | 168 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.405 | -5.2 | 167 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.454 | -16.7 | 177 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.934 | -9.4 | 178 | 0.01 |
| 81 | T,M | Bromobenzene | 1.392 | 1.441 | -3.5 | 160 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.678 | -7.3 | 172 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.486 | -14.6 | 188 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.123 | -8.6 | 164 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.730 | -8.1 | 174 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.699 | -10.2 | 173 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 5.421 | -9.7 | 173 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.404 | -6.2 | 171 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.381 | -3.4 | 168 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.606 | -9.0 | 170 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.384 | -1.5 | 165 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 4.344 | -10.2 | 177 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.253 | -3.2 | 173 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.273 | 3.5 | 159 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.515 | -1.5 | 181 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.834 | -10.5 | 172 | 0.00 |
| | T,M | Naphthalene | 3.377 | 3.508 | -3.9 | 163 | 0.00 |
| | M | 1,2,3-Trichlorobenzene | 1.419 | 1.363 | 3.9 | 171 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 102 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 11.887 | -18.9 | 137 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 7.594 | 24.1# | 85 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 11.793 | -17.9 | 126 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 7.870 | 21.3# | 97 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 11.101 | -11.0 | 114 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.971 | 10.3 | 96 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 9.688 | 3.1 | 108 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 30.859 | 38.3# | 64 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 10.267 | -2.7 | 109 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 45.965 | 8.1 | 89 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 221.073 | 11.6 | 90 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.645 | -6.4 | 109 | -0.01 |
| 14 | T,M | Acetonitrile | 100.000 | 93.870 | 6.1 | 94 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.251 | -2.5 | 103 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 9.908 | 0.9 | 111 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.752 | -7.5 | 96 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 39.058 | 21.9# | 76 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 11.091 | -10.9 | 112 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 10.324 | -3.2 | 105 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.113 | -1.1 | 105 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.568 | 4.3 | 98 | 0.00 |
| 24 | T,M | Vinyl acetate | 10.000 | 5.404 | 46.0# | 51 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.284 | -2.8 | 108 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.409 | 5.9 | 96 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 41.369 | 17.3 | 80 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 89.785 | 10.2 | 95 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 159.210 | 20.4# | 81 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.746 | -7.5 | 107 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 106.105 | -6.1 | 110 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.413 | -4.1 | 111 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 11.008 | -10.1 | 120 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.934 | 0.7 | 99 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 8.603 | 14.0 | 89 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 10.156 | -1.6 | 102 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 11.974 | -19.7 | 123 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 11.177 | -11.8 | 109 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.196 | -2.0 | 102 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 11.563 | -15.6 | 122 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 12.288 | -22.9# | 123 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 12.625 | -26.3# | 126 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.550 | -5.5 | 108 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.701 | 3.0 | 101 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 6.971 | 30.3# | 74 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 9.931 | 0.7 | 102 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.780 | -17.8 | 120 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 10.241 | -2.4 | 107 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 6.774 | 32.3# | 67 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 42.974 | 14.1 | 84 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.201 | -2.0 | 103 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.488 | -4.9 | 101 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 10.597 | -6.0 | 100 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.165 | -11.6 | 110 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.571 | -15.7 | 111 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 45.973 | 8.1 | 85 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.495 | -4.9 | 103 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 11.309 | -13.1 | 112 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 10.756 | -7.6 | 109 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 10.244 | -2.4 | 102 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.749 | 2.5 | 93 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.660 | -6.6 | 104 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 10.925 | -9.3 | 109 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 11.367 | -13.7 | 109 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 11.446 | -14.5 | 115 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 22.476 | -12.4 | 118 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 11.602 | -16.0 | 113 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 11.297 | -13.0 | 109 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 11.578 | -15.8 | 112 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 112 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.170 | 8.3 | 105 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 9.421 | 5.8 | 109 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.050 | -0.5 | 115 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.191 | -1.9 | 117 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 10.164 | -1.6 | 112 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.998 | 0.0 | 118 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.712 | 2.9 | 109 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.988 | 0.1 | 116 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.957 | 0.4 | 119 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.324 | -23.2# | 118 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.778 | 2.2 | 114 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 10.501 | -5.0 | 120 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 10.061 | -0.6 | 115 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.858 | 1.4 | 115 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.232 | -12.3 | 115 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.228 | -2.3 | 116 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.060 | -10.6 | 115 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.908 | 0.9 | 116 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.015 | -0.2 | 122 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.737 | 12.6 | 105 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.598 | 4.0 | 111 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 10.173 | -1.7 | 115 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 8.798 | 12.0 | 100 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 9.964 | 0.4 | 115 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 102 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.682 | -18.8 | 137 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.313 | 24.0# | 85 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.513 | -17.9 | 126 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.231 | 21.4# | 97 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 1.103 | -11.0 | 114 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.191 | 10.3 | 96 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.947 | 3.1 | 108 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.040 | 38.5# | 64 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.437 | -2.6 | 109 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.119 | 34.3# | 89 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.054 | 11.5 | 90 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.951 | -6.4 | 109 | -0.01 |
| 14 | T,M Acetonitrile | 0.030 | 0.028 | 6.7 | 94 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.242 | -2.5 | 103 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.470 | -9.6 | 111 | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.685 | 14.5 | 96 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.117 | 22.0# | 76 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.657 | -10.9 | 112 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.414 | -3.2 | 105 | 0.00 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.482 | -1.0 | 105 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.455 | 4.3 | 98 | 0.00 |
| 24 | T,M Vinyl acetate | 0.866 | 0.468 | 46.0# | 51 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 0.992 | -2.8 | 108 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.737 | 5.9 | 96 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.039 | 17.0 | 80 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.050 | 9.1 | 95 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.016 | 20.0 | 81 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 1.038 | -7.5 | 107 | 0.01 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.096 | -5.5 | 110 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.565 | -4.1 | 111 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.317 | -10.1 | 120 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.317 | 0.6 | 99 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.108 | 14.3 | 89 | -0.01 |
| 36 | S Dibromofluoromethane | 0.612 | 0.622 | -1.6 | 102 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.292 | -19.7 | 123 | 0.00 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.368 | -11.9 | 109 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.241 | -2.1 | 102 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.936 | -15.7 | 122 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 1.122 | -22.9# | 123 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 1.161 | -26.3# | 126 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.930 | -5.5 | 108 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.490 | 3.0 | 101 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.312 | 30.4# | 74 | 0.00 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.464 | 0.6 | 102 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.001 | 0.0 | 0# | 0.00 |
| 50 | T,M Bromodichloromethane | 0.884 | 1.041 | -17.8 | 120 | 0.00 |
| 51 | T,M Dibromomethane | 0.380 | 0.389 | -2.4 | 107 | 0.01 |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.157 | 32.0# | 67 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.440 | 14.1 | 84 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.833 | -2.0 | 103 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.084 | -4.9 | 101 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.723 | -6.0 | 100 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.532 | -11.6 | 110 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.123 | -15.8 | 111 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.377 | 8.0 | 85 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.565 | -5.0 | 103 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.904 | -13.1 | 112 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.533 | -7.5 | 109 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.827 | -2.5 | 102 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.565 | 2.6 | 93 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.800 | -6.5 | 104 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.637 | -9.3 | 109 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.725 | -13.8 | 109 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 3.138 | -14.4 | 115 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.513 | -12.4 | 118 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.456 | -16.0 | 113 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.672 | -13.0 | 109 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.792 | -15.8 | 112 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 112 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.001 | 8.2 | 105 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.313 | 5.8 | 109 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.595 | -0.5 | 115 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.392 | -1.8 | 117 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.396 | -1.8 | 112 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.339 | 0.0 | 118 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.352 | 2.9 | 109 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.354 | 0.1 | 116 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.897 | 0.4 | 119 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.060 | -7.0 | 118 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.660 | 2.2 | 114 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.477 | -5.0 | 120 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.970 | -0.6 | 115 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.086 | 1.4 | 115 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.234 | 3.0 | 115 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.321 | -2.3 | 116 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.286 | 2.7 | 115 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.906 | 0.9 | 116 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.188 | -0.2 | 122 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.248 | 12.4 | 105 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.278 | 14.4 | 111 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.768 | -1.7 | 115 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.971 | 12.0 | 100 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.259 | 11.3 | 115 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : ENAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : ENAX SDG No : 24F004
Lab File ID: RFG091 BFB Injection Date: 06/11/24
Instrument ID: E2 BFB Injection Time: 12:47

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.430 |
| 75 | 30 - 60% of mass 95 | 58.855 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 7.042 |
| 173 | Less than 2% of mass 174 | 0.000(0)1 |
| 174 | Greater than 50% of mass 95 | 86.589 |
| 175 | 5 - 9% of mass 174 | 6.114(7.06)1 |
| 176 | 95 - 101% % of mass 174 | 82.804(95.63)1 |
| 177 | 5 - 9% % of mass 176 | 6.481(7.83)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1707 | RFG092 | 06/11/24 | 13:35 |
| 2 | LCS3W | VOE2F04L | RFG093 | 06/11/24 | 14:15 |
| 3 | LCD3W | VOE2F04C | RFG094 | 06/11/24 | 14:39 |
| 4 | MBLK3W | VOE2F04B | RFG096 | 06/11/24 | 15:26 |
| 5 | T1AMF-MW022-MAY24 | 24F004-06N | RFG097 | 06/11/24 | 15:50 |
| 6 | T1AMF-MW019-MAY24 | 24F004-01N | RFG098 | 06/11/24 | 16:14 |
| 7 | T1AMF-EW001-MAY24 | 24F004-08I | RFG100 | 06/11/24 | 17:01 |
| 8 | VSTD10 | EVOE2E1707 | RFG119 | 06/12/24 | 00:30 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F004
Date Analyzed: 05/17/24
Time Analyzed: 14:09

| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| | UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| | LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 670311 | 5.99 | 536256 | 9.56 | 276585 | 13.89 |
| 2 | LCS3W | 700127 | 5.99 | 552821 | 9.56 | 279028 | 13.89 |
| 3 | LCD3W | 703905 | 5.99 | 550837 | 9.56 | 285241 | 13.89 |
| 4 | MBLK3W | 600187 | 5.99 | 469288 | 9.56 | 222326 | 13.89 |
| 5 | T1AMF-MW022-MAY24 | 566942 | 5.99 | 442190 | 9.56 | 207301 | 13.89 |
| 6 | T1AMF-MW019-MAY24 | 544038 | 5.99 | 426447 | 9.56 | 204205 | 13.88 |
| 7 | T1AMF-EW001-MAY24 | 506438 | 5.99 | 398590 | 9.56 | 193637 | 13.89 |
| 8 | VSTD10 | 558649 | 5.99 | 454298 | 9.56 | 253559 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 139 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.649 | -6.5 | 166 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 8.586 | 14.1 | 131 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.811 | -8.1 | 157 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 9.771 | 2.3 | 163 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 9.548 | 4.5 | 133 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.924 | 10.8 | 129 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.783 | 12.2 | 132 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 34.629 | 30.7# | 98 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.679 | 13.2 | 125 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 43.317 | 13.4 | 114 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 188.868 | 24.5# | 105 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 8.941 | 10.6 | 125 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 81.614 | 18.4 | 112 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 9.379 | 6.2 | 128 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 11.646 | -16.5 | 178 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.524 | -5.2 | 127 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 36.443 | 27.1# | 96 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 9.529 | 4.7 | 131 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 8.924 | 10.8 | 123 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 8.687 | 13.1 | 123 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 8.519 | 14.8 | 119 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 6.518 | 34.8# | 84 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.014 | 9.9 | 129 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 8.169 | 18.3 | 113 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 37.923 | 24.2# | 100 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 81.332 | 18.7 | 117 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 151.186 | 24.4# | 104 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.189 | -1.9 | 137 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 87.958 | 12.0 | 124 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.028 | 9.7 | 131 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.138 | 8.6 | 136 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 8.446 | 15.5 | 114 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 7.721 | 22.8# | 109 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.705 | 2.9 | 132 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 9.866 | 1.3 | 137 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 9.277 | 7.2 | 123 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 8.871 | 11.3 | 120 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.597 | -6.0 | 152 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 9.739 | 2.6 | 132 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 10.080 | -0.8 | 137 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 9.061 | 9.4 | 126 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 8.246 | 17.5 | 117 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 5.935 | 40.7# | 86 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 8.839 | 11.6 | 123 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.01 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.636 | 3.6 | 133 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 8.470 | 15.3 | 120 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 5.920 | 40.8# | 80 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 37.966 | 24.1# | 101 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 8.995 | 10.1 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 131 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.547 | -5.5 | 137 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.244 | 7.6 | 117 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 9.752 | 2.5 | 129 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.861 | 1.4 | 127 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 40.672 | 18.7 | 101 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.121 | 8.8 | 120 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 9.625 | 3.8 | 128 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.050 | 9.5 | 123 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 8.470 | 15.3 | 114 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 8.250 | 17.5 | 106 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.359 | 6.4 | 123 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.312 | 6.9 | 125 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.481 | 5.2 | 122 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.633 | 3.7 | 130 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.700 | 6.5 | 132 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 9.826 | 1.7 | 129 | 0.01 |
| 72 | T,M | Styrene | 10.000 | 9.591 | 4.1 | 125 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.667 | 3.3 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 140 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.979 | 20.2# | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.290 | 17.1 | 120 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.427 | -4.3 | 148 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 8.633 | 13.7 | 124 | 0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 8.773 | 12.3 | 121 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.032 | 9.7 | 133 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.711 | 12.9 | 122 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 8.948 | 10.5 | 130 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.622 | 3.8 | 143 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 10.110 | -1.1 | 121 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.022 | 9.8 | 131 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 8.989 | 10.1 | 128 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.033 | 9.7 | 129 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 8.762 | 12.4 | 128 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 9.940 | 0.6 | 127 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 8.965 | 10.4 | 127 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 9.670 | 3.3 | 126 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 8.962 | 10.4 | 130 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 8.707 | 12.9 | 132 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.548 | 24.5# | 113 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.068 | 9.3 | 131 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.359 | 6.4 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 8.020 | 19.8 | 114 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.765 | 12.3 | 126 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 139 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.611 | -6.4 | 166 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.354 | 14.1 | 131 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.470 | -8.0 | 157 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.287 | 2.4 | 163 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 0.949 | 4.5 | 133 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.190 | 10.8 | 129 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.858 | 12.2 | 132 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.045 | 30.8# | 98 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.370 | 13.1 | 125 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.113 | 37.6# | 114 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.046 | 24.6# | 105 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.799 | 10.6 | 125 | 0.00 |
| 14 | T,M Acetonitrile | 0.030 | 0.025 | 16.7 | 112 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.221 | 6.4 | 128 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.555 | -29.4# | 178 | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.671 | 16.2 | 127 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.110 | 26.7# | 96 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.424 | 4.7 | 131 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.222 | 10.8 | 123 | 0.01 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.414 | 13.2 | 123 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.295 | 14.8 | 119 | 0.01 |
| 24 | T,M Vinyl acetate | 0.866 | 0.564 | 34.9# | 84 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 0.870 | 9.8 | 129 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.508 | 18.3 | 113 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.036 | 23.4# | 100 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.045 | 18.2 | 117 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.015 | 25.0# | 104 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 0.984 | -1.9 | 137 | 0.00 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.080 | 12.1 | 124 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.490 | 9.8 | 131 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.093 | 8.6 | 136 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.269 | 15.7 | 114 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.097 | 23.0# | 109 | -0.01 |
| 36 | S Dibromofluoromethane | 0.612 | 0.594 | 2.9 | 132 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.064 | 1.4 | 137 | 0.00 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.306 | 7.0 | 123 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.209 | 11.4 | 120 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.858 | -6.1 | 152 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 0.889 | 2.6 | 132 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 0.927 | -0.9 | 137 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.658 | 9.4 | 126 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.416 | 17.6 | 117 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.266 | 40.6# | 86 | 0.00 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.413 | 11.6 | 123 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.01 |
| 50 | T,M Bromodichloromethane | 0.884 | 0.852 | 3.6 | 133 | 0.01 |
| 51 | T,M Dibromomethane | 0.380 | 0.322 | 15.3 | 120 | 0.01 |

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.137 | 40.7# | 80 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.388 | 24.2# | 101 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.735 | 10.0 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 131 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.096 | -5.5 | 137 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.631 | 7.5 | 117 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.212 | 2.5 | 129 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.957 | 1.3 | 127 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.334 | 18.5 | 101 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.491 | 8.7 | 120 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.769 | 3.8 | 128 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.449 | 9.5 | 123 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.684 | 15.2 | 114 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.479 | 17.4 | 106 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.702 | 6.5 | 123 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.395 | 6.9 | 125 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.604 | 5.2 | 122 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.641 | 3.7 | 130 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.090 | 6.5 | 132 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.080 | 1.7 | 129 | 0.01 |
| 72 | T,M | Styrene | 1.480 | 1.420 | 4.1 | 125 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.331 | 3.4 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 140 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.871 | 20.2# | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.155 | 17.1 | 120 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.655 | -4.3 | 148 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.332 | 13.8 | 124 | 0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.342 | 12.1 | 121 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.727 | 9.7 | 133 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.212 | 12.9 | 122 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.901 | 10.5 | 130 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.765 | 3.8 | 143 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.357 | 11.6 | 121 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.609 | 9.8 | 131 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.832 | 10.1 | 128 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.462 | 9.7 | 129 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.632 | 12.4 | 128 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 1.988 | 13.7 | 127 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 3.787 | 10.3 | 127 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.009 | 14.5 | 126 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.533 | 10.4 | 130 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.902 | 12.9 | 132 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.214 | 24.4# | 113 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.210 | 19.0 | 131 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.707 | 6.4 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.709 | 19.8 | 114 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.113 | 21.6# | 126 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E17/07
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.899 | -9.0 | 142 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 10.507 | -5.1 | 134 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 14.645 | -46.4# | 177 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 5.366 | 46.3# | 75 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.635 | -6.3 | 123 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.983 | 10.2 | 108 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.845 | 11.5 | 111 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 27.725 | 44.5# | 65 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 9.660 | 3.4 | 116 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 43.732 | 12.5 | 96 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 220.530 | 11.8 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.041 | -0.4 | 117 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 96.026 | 4.0 | 109 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.309 | -3.1 | 117 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 6.669 | 33.3# | 83 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 11.646 | -16.5 | 117 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 37.860 | 24.3# | 83 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.448 | -4.5 | 120 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.631 | 3.7 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.302 | 7.0 | 110 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.475 | 5.3 | 110 | 0.00 |
| 24 | T,M | Vinyl acetate | 10.000 | 4.668 | 53.3# | 50 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.917 | 0.8 | 118 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.146 | 8.5 | 105 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 38.964 | 22.1# | 86 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 87.169 | 12.8 | 104 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 162.595 | 18.7 | 93 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 9.936 | 0.6 | 112 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 98.112 | 1.9 | 115 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.823 | 1.8 | 119 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.263 | -2.6 | 127 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.343 | 6.6 | 105 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 8.042 | 19.6 | 94 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.797 | 2.0 | 111 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 11.196 | -12.0 | 130 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.723 | -7.2 | 118 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 9.737 | 2.6 | 110 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.807 | -8.1 | 129 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.964 | -9.6 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.513 | -15.1 | 130 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.133 | -1.3 | 118 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.332 | 6.7 | 110 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 7.356 | 26.4# | 89 | -0.01 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.808 | -8.1 | 126 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.853 | -18.5 | 137 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 10.325 | -3.2 | 122 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 6.922 | 30.8# | 78 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 50.000 | 0.0 | 111 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.839 | -8.4 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 111 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.731 | -7.3 | 118 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.287 | -12.9 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.162 | -11.6 | 125 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.206 | -12.1 | 122 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 46.086 | 7.8 | 97 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.767 | 2.3 | 109 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.557 | -5.6 | 119 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.984 | 0.2 | 115 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.345 | 6.5 | 106 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.352 | 6.5 | 102 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.235 | -2.3 | 114 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 10.045 | -0.4 | 114 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.661 | -6.6 | 117 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 10.555 | -5.5 | 121 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 20.592 | -3.0 | 123 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 10.863 | -8.6 | 121 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.638 | -6.4 | 117 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 10.626 | -6.3 | 117 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 128 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.882 | 21.2# | 103 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.414 | 15.9 | 111 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 9.596 | 4.0 | 125 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.239 | 7.6 | 122 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 7.310 | 26.9# | 92 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.067 | 9.3 | 123 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.800 | 12.0 | 113 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.018 | 9.8 | 120 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.124 | 8.8 | 125 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.052 | -10.5 | 121 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.334 | 6.7 | 125 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 9.256 | 7.4 | 121 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 8.968 | 10.3 | 117 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.112 | 8.9 | 122 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 10.374 | -3.7 | 122 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 9.762 | 2.4 | 127 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.438 | -4.4 | 125 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.705 | 2.9 | 129 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.067 | 9.3 | 126 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.358 | 26.4# | 101 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 8.528 | 14.7 | 113 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 8.779 | 12.2 | 113 | -0.01 |
| 97 | T,M | Naphthalene | 10.000 | 8.048 | 19.5 | 105 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.570 | 14.3 | 113 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev Area% | Dev(min) |
|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 1

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.625 | -8.9 | 142 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.433 | -5.1 | 134 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.637 | -46.4# | 177 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.158 | 46.3# | 75 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.057 | -6.3 | 123 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.191 | 10.3 | 108 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.864 | 11.6 | 111 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.036 | 44.6# | 65 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.411 | 3.5 | 116 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.114 | 37.0# | 96 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.054 | 11.5 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.897 | -0.3 | 117 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.029 | 3.3 | 109 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.243 | -3.0 | 117 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.312 | 27.3# | 83 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.738 | 7.9 | 117 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.114 | 24.0# | 83 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.561 | -4.5 | 120 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.319 | 3.7 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.444 | 6.9 | 110 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.441 | 5.2 | 110 | 0.00 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.404 | 53.3# | 50 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 0.957 | 0.8 | 118 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.689 | 8.5 | 105 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.037 | 21.3# | 86 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.048 | 12.7 | 104 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.016 | 20.0 | 93 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.959 | 0.7 | 112 | 0.00 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.089 | 2.2 | 115 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.533 | 1.8 | 119 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.227 | -2.6 | 127 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.298 | 6.6 | 105 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.101 | 19.8 | 94 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.600 | 2.0 | 111 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.208 | -12.0 | 130 | 0.00 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.353 | -7.3 | 118 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.230 | 2.5 | 110 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.875 | -8.2 | 129 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 1.001 | -9.6 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.058 | -15.1 | 130 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.854 | -1.3 | 118 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.471 | 6.7 | 110 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.329 | 26.6# | 89 | -0.01 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.505 | -8.1 | 126 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.003 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 1.048 | -18.6 | 137 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.392 | -3.2 | 122 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.160 | 30.7# | 78 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.512 | 0.0 | 111 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.885 | -8.3 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 111 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.132 | -7.3 | 118 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.770 | -12.9 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.531 | -11.6 | 125 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.087 | -12.1 | 122 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.378 | 7.8 | 97 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.526 | 2.2 | 109 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.844 | -5.6 | 119 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.495 | 0.2 | 115 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.754 | 6.6 | 106 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.542 | 6.6 | 102 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.768 | -2.3 | 114 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.505 | -0.5 | 114 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.680 | -6.8 | 117 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.894 | -5.5 | 121 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.302 | -3.0 | 123 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.299 | -8.6 | 121 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.575 | -6.4 | 117 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.563 | -6.3 | 117 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 128 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.860 | 21.2# | 103 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.173 | 15.9 | 111 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.523 | 4.0 | 125 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.356 | 7.5 | 122 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.285 | 26.7# | 92 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.749 | 9.3 | 123 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.225 | 12.0 | 113 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.931 | 9.8 | 120 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.571 | 8.8 | 125 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.656 | 3.7 | 121 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.630 | 6.7 | 125 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.946 | 7.4 | 121 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.430 | 10.3 | 117 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.777 | 8.9 | 122 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.071 | 10.1 | 122 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.124 | 2.4 | 127 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.162 | 8.0 | 125 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.826 | 2.9 | 129 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.981 | 9.3 | 126 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.209 | 26.1# | 101 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.141 | 23.6# | 113 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.663 | 12.2 | 113 | -0.01 |
| 97 | T,M | Naphthalene | 3.377 | 2.718 | 19.5 | 105 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.089 | 23.3# | 113 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 1

# ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 05/17/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge Book #: AE2-031

BATCH VOE2E17

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
| 02 | | | | | | | | | |
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | VOE2E17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc (mg/L) |
|---|---|---|---|
| DCC $CS_2$ | SV1-43-98-01 | * | 250 |
| DCC GAS | -98-03 | | 250 |
| DCC ~~METHANOL~~ | -97-02 | | 250/6250 |
| DCC 8260 | -97-01 | | 250 |
| BFB | -76-02 | 1 | 50 |
| IS/SURR. | -96-02 | 5 | 20 |
| | -96-03 | 1 | 250 |
| ICV/LCS | -71-02 | 0.4 | 250 |
| ICV/LCS | -94-01 | .4 | 250 |
| ICV/LCS | -90-01 | 2 | 250 |
| | -91-02 | 2 | 50 |
| ICV/LCS | -85-02 | 2 | 50 |
| Data File Folder | 24E17 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | | 1451A 03-04-14-6 |
| Chlorine strip | | -04-13-3 |
| Methanol | | -03-25 |
| $NaHSO_4$ | | -02-25 |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments: * Varied amount

Analyzed By: DN

Date Disposed: 5/18/24 Disposed By DN

# Injection Log

Directory: d:\Data\24E17

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Reg116.d | 1. | BFBE2E09 | T/CHK | 17 May 2024 11:2 |
| 2 | 2 | Reg117.d | 1. | VOE2E161 0.012 WRONG SPIKE | 0.3ppb 8260/1.5pp... | 17 May 2024 12:1 |
| 3 | 3 | Reg118.d | 1. | VOE2E172 0.02 | 0.5ppb 8260/2.5pp... | 17 May 2024 12:3 |
| 4 | 4 | Reg119.d | 1. | VOE2E173 0.04 | 1.0ppb 8260/5.0pp... | 17 May 2024 12:5 |
| 5 | 5 | Reg120.d | 1. | VOE2E174 0.08 | 2.0ppb 8260/10ppb... | 17 May 2024 13:2 |
| 6 | 6 | Reg121.d | 1. | VOE2E175 0.2 | 5.0ppb 8260/25ppb... | 17 May 2024 13:4 |
| 7 | 7 | Reg122.d | 1. | VOE2E176 0.4 | 10ppb 8260/50ppb ... | 17 May 2024 14:0 |
| 8 | 8 | Reg123.d | 1. | VOE2E177 1.2uL | 30ppb 8260/150ppb... | 17 May 2024 14:3 |
| 9 | 9 | Reg124.d | 1. | VOE2E178 2uL | 50ppb 8260/250pb ... | 17 May 2024 14:5 |
| 10 | 10 | Reg125.d | 1. | VOE2E179 4uL | 100ppb 8260/500pp... | 17 May 2024 15:2 |
| 11 | 11 | Reg126.d | 1. | VOE2E1710 8uL | 200ppb 8260/1000p... | 17 May 2024 15:4 |
| 12 | 12 | Reg127.d | 1. | RINSE | | 17 May 2024 16:0 |
| 13 | 13 | Reg128.d | 1. | RINSE | | 17 May 2024 16:3 |
| 14 | 14 | Reg129.d | 1. | !VOE2E1701 %REC>20 | 10ppb 8260/50ppb ... | 17 May 2024 21:0 |

JL 5/23/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 05/18/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH IV02E702

| Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | |
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5/23/24

| Instrument No. | E2 | | |
|---|---|---|---|
| INITIAL CALIBRATION REFERENCE | | | |
| DATE | 5/17/24 | | |
| ICAL ID | V0E2E17 | | |
| STANDARDS | | | |
| NAME | ID | Amount (µl) | Conc (mg/L) |
| DCC | | | |
| DCC | | | |
| DCC | | | |
| DCC | | | |
| BFB | SVI-43-76-02 | 1 | 50 |
| IS/SURR. | -96-02 | 5 | 20 |
| | -96-03 | 4 | 250 |
| ICV/LCS | -71-02 | 4 | 250 |
| ICV/LCS | -94-01 | 4 | 250 |
| ICV/LCS | -70-01 | 2 | 250 |
| | -44-02 | 2 | 50 |
| ICV/LCS | -85-02 | 2 | 50 |
| Data File Folder | 24E18 | | |
| | LOT # | Syringe Lot # | |
| pH strip | | MSV-03-04-14-6 | |
| Chlorine strip | | -04-13-3 | |
| Methanol | | | |
| $NaHSO_4$ | | | |
| Reagent Water | RW4-23-001 | | |
| Sand | | | |
| Electronic Data Archival Location | | Date | |
| HPCHEM_VOA/TOE2 | | | |

Comments:

Analyzed By: DN

Date Disposed: 5/20/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24E18

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Reg130.d | 1. | BFBE2E09 | T/CHK | 18 May 2024 09:1 |
| 2 | 2 | Reg131.d | 1. | IVOE2E1702 | 10ppb 8260/50ppb ... | 18 May 2024 09:5 |

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/11/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Samp. & Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH < 2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
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| Instrument No. | E2 | | |
|---|---|---|---|
| INITIAL CALIBRATION REFERENCE | | | |
| DATE | 5/17/24 | | |
| ICAL ID | VOE2-17 | | |
| STANDARDS | | | |
| NAME | ID | Amount [µL] | Conc. [mg/L] |
| DCC | SVI-43-94-02 | .4 | 50/250 |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | |
| DCC | -86-01 | 2 | |
| BFB | -38-02 | 1 | |
| IS/SURR. | SVI-45-04-02 | 5 | 20 |
| ICV/LCS | SVI-43-79-02 | .4 | 50/250 |
| ICV/LCS | -82-01 | .4 | |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | 24F11 | | |
| | LOT # | Syringe Lot # | |
| pH strip | HC210330 | MGV-03-04-14-6 | |
| Chlorine strip | 314117B | -13-3 | |
| Methanol | | | |
| $NaHSO_4$ | | | |
| Reagent Water | RWH-23-001 | | |
| Sand | | | |
| Electronic Data Archival Location | | Date | |
| HPCHEM_VOA/TOE2 | | | |

Comments:

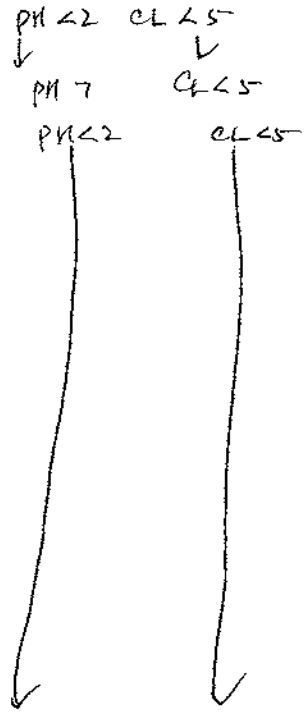
Analyzed By: DH

Date Disposed: 6/12/24 Disposed By: DH

# Injection Log

Directory: d:\Data\24F11

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg091.d | 1. | BFBF04 | T/CHK | 11 Jun 2024 12:47 |
| 2 | 2 | Rfg092.d | 1. | CVOE2E1707 | 10ppb 8260/50ppb ... | 11 Jun 2024 13:35 |
| 3 | 3 | Rfg093.d | 1. | VOE2F04L | 10ppb 8260/50ppb ... | 11 Jun 2024 14:15 |
| 4 | 4 | Rfg094.d | 1. | VOE2F04C | 10ppb 8260/50ppb ... | 11 Jun 2024 14:39 |
| 5 | 5 | Rfg095.d | 1. | RINSE | 10ppb 8260/50ppb ... | 11 Jun 2024 15:03 |
| 6 | 6 | Rfg096.d | 1. | VOE2F04B | 10.0mL | 11 Jun 2024 15:26 |
| 7 | 7 | Rfg097.d | 1. | 24F004-06N | 10.0mL | 11 Jun 2024 15:50 |
| 8 | 8 | Rfg098.d | 1. | 24F004-01N | 10.0mL | 11 Jun 2024 16:14 |
| 9 | 9 | Rfg099.d | 1. | PV-004-08-03 | 10.0mL | 11 Jun 2024 16:37 |
| 10 | 10 | Rfg100.d | 1. | 24F004-08I 10X | 1.0mL | 11 Jun 2024 17:01 |
| 11 | 11 | Rfg101.d | 1. | 24F003-14 | 10mL | 11 Jun 2024 17:25 |
| 12 | 12 | Rfg102.d | 1. | 24F003-15 | 10mL | 11 Jun 2024 17:49 |
| 13 | 13 | Rfg103.d | 1. | 24F003-16 | 10mL | 11 Jun 2024 18:13 |
| 14 | 14 | Rfg104.d | 1. | 24F003-17 | 10mL | 11 Jun 2024 18:37 |
| 15 | 15 | Rfg105.d | 1. | 24F038-01 | 10mL | 11 Jun 2024 19:00 |
| 16 | 16 | Rfg106.d | 1. | RIMSE | 1.0mL | 11 Jun 2024 19:24 |
| 17 | 17 | Rfg107.d | 1. | 24F019-01 | 10mL | 11 Jun 2024 19:47 |
| 18 | 18 | Rfg108.d | 1. | 24F019-02 | 10mL | 11 Jun 2024 20:11 |
| 19 | 19 | Rfg109.d | 1. | 24F019-04 | 10mL | 11 Jun 2024 20:34 |
| 20 | 20 | Rfg110.d | 1. | 24F019-05 | 10mL | 11 Jun 2024 20:58 |
| 21 | 21 | Rfg111.d | 1. | 24F019-06 | 10mL | 11 Jun 2024 21:21 |
| 22 | 22 | Rfg112.d | 1. | 24F019-07 | 10mL | 11 Jun 2024 21:45 |
| 23 | 23 | Rfg113.d | 1. | 24F019-08 | 10mL | 11 Jun 2024 22:09 |
| 24 | 24 | Rfg114.d | 1. | 24F019-09 | 10mL | 11 Jun 2024 22:32 |
| 25 | 25 | Rfg115.d | 1. | 24F019-10 | 10mL | 11 Jun 2024 22:56 |
| 26 | 26 | Rfg116.d | 1. | 24F019-11 | 10mL | 11 Jun 2024 23:19 |
| 27 | 27 | Rfg117.d | 1. | 24F019-02M | 10mL | 11 Jun 2024 23:42 |
| 28 | 28 | Rfg118.d | 1. | 24F019-02S | 10mL | 12 Jun 2024 00:06 |
| 29 | 29 | Rfg119.d | 1. | EVOE2E1707 | 10ppb 8260/50ppb ... | 12 Jun 2024 00:30 |
| 30 | 30 | Rfg120.d | 1. | EVOE2E17071 | 10ppb 8260/50ppb ... | 12 Jun 2024 00:53 |
| 31 | 31 | Rfg121.d | 1. | EVOE2E17072 | 10ppb 8260/50ppb ... | 12 Jun 2024 01:17 |




DH 6/18/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/10/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 6/17/24 |
| ICAL ID | VOE2E17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc. (mg/L) |
|---|---|---|---|
| DCC | SVI-43-04-02 | .4 | 50/50 |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | |
| DCC | -86-01 | 2 | |
| BFB | -38-02 | 1 | |
| IS/SURR | SVI-45-04-02 | 5 | 20 |
| ICV/LCS | SVI-43-79-02 | .4 | 50/50 |
| ICV/LCS | -82-01 | .4 | |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | 24F10 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC210330 | WSVI-03-04-14-6 |
| Chlorine strip | 3191718 | -13-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | RWH-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

Analyzed By: DM

Date Disposed: 6/11/24 Disposed By: DM

# Injection Log

Directory: d:\Data\24F10

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg061.d | 1. | BFBF03 | T/CHK | 10 Jun 2024 15:55 |
| 2 | 2 | Rfg062.d | 1. | CVOE2E1706 | 10ppb 8260/50ppb ... | 10 Jun 2024 16:35 |
| 3 | 3 | Rfg063.d | 1. | VOE2F03L | 10ppb 8260/50ppb ... | 10 Jun 2024 17:13 |
| 4 | 4 | Rfg064.d | 1. | VOE2F03C | 10ppb 8260/50ppb ... | 10 Jun 2024 17:37 |
| 5 | 5 | Rfg065.d | 1. | RINSE | 10mL | 10 Jun 2024 18:01 |
| 6 | 7 | Rfg067.d | 1. | VOE2F03B | 10.0mL | 10 Jun 2024 18:25 |
| 7 | 8 | Rfg068.d | 1. | 24F004-05N | 10.0mL | 10 Jun 2024 18:48 |
| 8 | 9 | Rfg069.d | 1. | 24F004-06I 10X | 1.0mL | 10 Jun 2024 19:12 |
| 9 | 10 | Rfg070.d | 1. | 24F004-07I 10X | 1.0mL | 10 Jun 2024 19:36 |
| 10 | 11 | Rfg071.d | 1. | 24F004-09N | 10mL | 10 Jun 2024 20:00 |
| 11 | 12 | Rfg072.d | 1. | 24F004-10N | 10mL | 10 Jun 2024 20:24 |
| 12 | 13 | Rfg073.d | 1. | 24F003-18 | 10mL | 10 Jun 2024 20:48 |
| 13 | 14 | Rfg074.d | 1. | 24F003-19 | 10mL | 10 Jun 2024 21:11 |
| 14 | 15 | Rfg075.d | 1. | 24F003-01N | 10mL | 10 Jun 2024 21:35 |
| 15 | 16 | Rfg076.d | 1. | 24F003-02N | 10mL | 10 Jun 2024 21:59 |
| 16 | 17 | Rfg077.d | 1. | 24F003-03N | 10mL | 10 Jun 2024 22:23 |
| 17 | 18 | Rfg078.d | 1. | 24F003-04N | 10mL | 10 Jun 2024 22:46 |
| 18 | 19 | Rfg079.d | 1. | 24F003-05N | 10mL | 10 Jun 2024 23:10 |
| 19 | 20 | Rfg080.d | 1. | 24F003-06N | 10mL | 10 Jun 2024 23:33 |
| 20 | 21 | Rfg081.d | 1. | 24F003-07N | 10mL | 10 Jun 2024 23:57 |
| 21 | 22 | Rfg082.d | 1. | 24F003-08N | 10mL | 11 Jun 2024 00:20 |
| 22 | 23 | Rfg083.d | 1. | 24F003-09N | 10mL | 11 Jun 2024 00:44 |
| 23 | 24 | Rfg084.d | 1. | 24F003-10N | 1.0mL | 11 Jun 2024 01:08 |
| 24 | 25 | Rfg085.d | 1. | 24F003-11 | 10mL | 11 Jun 2024 01:32 |
| 25 | 26 | Rfg086.d | 1. | 24F003-12 | 10mL | 11 Jun 2024 01:56 |
| 26 | 27 | Rfg087.d | 1. | 24F003-13 | 10mL | 11 Jun 2024 02:19 |
| 27 | 37 | Rfg088.d | 1. | EVOE2E1706 ✓ | 10ppb 8260/50ppb ... | 11 Jun 2024 02:43 |
| 28 | 38 | Rfg089.d | 1. | EVOE2E17061 | 10ppb 8260/50ppb ... | 11 Jun 2024 03:06 |
| 29 | 39 | Rfg090.d | 1. | EVOE2E17062 | 10ppb 8260/50ppb ... | 11 Jun 2024 03:30 |

PM L2 CL<5

DM 6/18/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-MB260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/8/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge **Book #:** AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
| 02 | | | | | | | | | |
| 03 | | | | | | | | | |
| 04 | | | | | | | | | |
| 05 | | | | | | | | | |
| 06 | | | | | | | | | |
| 07 | | | | | | | | | |
| 08 | | | | | | | | | |
| 09 | | | | | | | | | |
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| 29 | | | | | | | | | |
| 30 | | | | | | | | | |

**Instrument No.** E2

INITIAL CALIBRATION REFERENCE

DATE 5/17/24

ICAL ID VOE2E17

STANDARDS

| NAME | ID | Amount (µL) | Conc. (mg/L) |
|---|---|---|---|
| DCC | SVI-43-94-02 | .4 | 50/50 |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | |
| DCC | -86-01 | 2 | |
| BFB | -38-02 | 1 | |
| IS/SURR. | SVI-45-04-02 | 5 | 20 |
| ICV/LCS | SVI-43-79-02 | .4 | |
| ICV/LCS | -82-01 | .4 | 50/50 |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | 24E08 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC210330 | MBV-03-04-14-6 |
| Chlorine strip | 319117B | -17-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | RWU-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

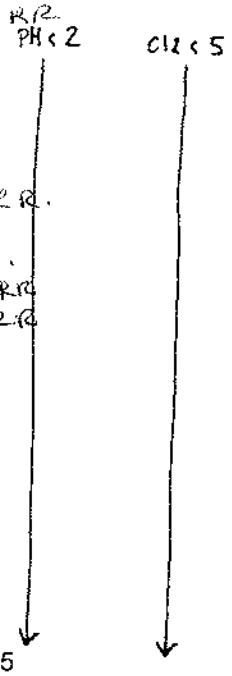
Analyzed By: DN

Date Disposed: 6/10/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24F08

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg031.d | 1. | BFBF02 | T/CHK | 8 Jun 2024 12:09 |
| 2 | 2 | Rfg032.d | 1. | TEST | 10ppb 8260/50ppb ... | 8 Jun 2024 13:50 |
| 3 | 3 | Rfg033.d | 1. | CVOE2E1705 | 10ppb 8260/50ppb ... | 8 Jun 2024 14:28 |
| 4 | 4 | Rfg034.d | 1. | VOE2F02L | 10ppb 8260/50ppb ... | 8 Jun 2024 15:04 |
| 5 | 5 | Rfg035.d | 1. | VOE2F02C | 10ppb 8260/50ppb ... | 8 Jun 2024 15:28 |
| 6 | 6 | Rfg036.d | 1. | RINSE | 10.0mL | 8 Jun 2024 15:52 |
| 7 | 7 | Rfg037.d | 1. | V0E2F02B | 10.0mL | 8 Jun 2024 16:16 |
| 8 | 8 | Rfg038.d | 1. | 24F004-01 | 10.0mL | 8 Jun 2024 16:39 |
| 9 | 9 | Rfg039.d | 1. | 24F004-02 | 10.0mL | 8 Jun 2024 17:04 |
| 10 | 10 | Rfg040.d | 1. | 24F004-03 | 10.0mL | 8 Jun 2024 17:27 |
| 11 | 11 | Rfg041.d | 1. | 24F004-04 | 10.0mL | 8 Jun 2024 17:51 |
| 12 | 12 | Rfg042.d | 1. | 24F004-05 | 10.0mL | 8 Jun 2024 18:15 |
| 13 | 13 | Rfg043.d | 1. | 24F004-06 | 10.0mL | 8 Jun 2024 18:39 |
| 14 | 14 | Rfg044.d | 1. | 24F004-07 | 10.0mL | 8 Jun 2024 19:03 |
| 15 | 15 | Rfg045.d | 1. | 24F004-08 | 10.0mL | 8 Jun 2024 19:27 |
| 16 | 16 | Rfg046.d | 1. | 24F004-09 | 10.0mL | 8 Jun 2024 19:50 |
| 17 | 17 | Rfg047.d | 1. | 24F004-10 | 10.0mL | 8 Jun 2024 20:14 |
| 18 | 18 | Rfg048.d | 1. | 24F003-01 | 10.0mL | 8 Jun 2024 20:38 |
| 19 | 19 | Rfg049.d | 1. | 24F003-02 | 10.0mL | 8 Jun 2024 21:01 |
| 20 | 20 | Rfg050.d | 1. | 24F003-03 | 10.0mL | 8 Jun 2024 21:25 |
| 21 | 21 | Rfg051.d | 1. | 24F003-04 | 10.0mL | 8 Jun 2024 21:49 |
| 22 | 22 | Rfg052.d | 1. | 24F003-05 | 10.0mL | 8 Jun 2024 22:13 |
| 23 | 23 | Rfg053.d | 1. | 24F003-06 | 10.0mL | 8 Jun 2024 22:37 |
| 24 | 24 | Rfg054.d | 1. | 24F003-07 | 10.0mL | 8 Jun 2024 23:01 |
| 25 | 25 | Rfg055.d | 1. | 24F003-08 | 10.0mL | 8 Jun 2024 23:24 |
| 26 | 26 | Rfg056.d | 1. | 24F003-09 | 10.0mL | 8 Jun 2024 23:48 |
| 27 | 27 | Rfg057.d | 1. | 24F003-10 | 10.0mL | 9 Jun 2024 00:12 |
| 28 | 28 | Rfg058.d | 1. | EVOE2E1705 | 10ppb 8260/50ppb ... | 9 Jun 2024 00:35 |
| 29 | 29 | Rfg059.d | 1. | EVOE2E17051 | 10ppb 8260/50ppb ... | 9 Jun 2024 00:59 |
| 30 | 30 | Rfg060.d | 1. | EVOE2E17052 | 10ppb 8260/50ppb ... | 9 Jun 2024 01:22 |



# RAW DATA
# VOLATILE ORGANICS

LABORATORY REPORT FOR

PARSONS

TITAN 1-A

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

SDG#: 24F004

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F004

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

A total of ten(10) water samples were received on 06/01/24 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030C/8260C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There were six(6)CCVs (Data File IDs: RFG033, RFG058, RFG062, RFG088, RFG092 and RFG119) associated with this SDG. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, three(3) method blanks were analyzed. VOE2F02B, VOE2F03B and VOE2F04B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, three(3) sets of LCS/LCD were analyzed. VOE2F02L/VOE2F02C, VOE2F03L/VOE2F03C and VOE2F04L/VOE2F04C were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. For this SDG, all surrogate recoveries were within QC limits except for 1,2-Dichloroethane-D4 in F004-04. Sample result was reported because the surrogate recovery was biased high and no associated target analytes were detected in sample. It was also noted that Dibromofluoromethane surrogate, an alternate surrogate for 1,2-Dichloroethane-D4, was in control. Hence, result was reported. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F004
Instrument ID : E2

WATER

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| LCS1W | VOE2F02L | 1 | NA | 06/08/2415:04 | 06/08/2415:04 | RFG034 | REG122 | VOE2F02 | Lab Control Sample (LCS) |
| LCD1W | VOE2F02C | 1 | NA | 06/08/2415:28 | 06/08/2415:28 | RFG035 | REG122 | VOE2F02 | LCS Duplicate |
| MBLK1W | VOE2F02B | 1 | NA | 06/08/2416:16 | 06/08/2416:16 | RFG037 | REG122 | VOE2F02 | Method Blank |
| T1AMF-MW054-MAY24 | 24F004-02 | 1 | NA | 06/08/2417:04 | 06/08/2417:04 | RFG039 | REG122 | VOE2F02 | Field Sample |
| T1AMF-MW042-MAY24 | 24F004-03 | 1 | NA | 06/08/2417:27 | 06/08/2417:27 | RFG040 | REG122 | VOE2F02 | Field Sample |
| T1AMF-MW055-MAY24 | 24F004-04 | 1 | NA | 06/08/2417:51 | 06/08/2417:51 | RFG041 | REG122 | VOE2F02 | Field Sample |
| T1AMF-MW045-MAY24 | 24F004-07 | 1 | NA | 06/08/2419:03 | 06/08/2419:03 | RFG044 | REG122 | VOE2F02 | Field Sample |
| T1AMF-EW001-MAY24 | 24F004-08 | 1 | NA | 06/08/2419:27 | 06/08/2419:27 | RFG045 | REG122 | VOE2F02 | Field Sample |
| LCS2W | VOE2F03L | 1 | NA | 06/10/2417:13 | 06/10/2417:13 | RFG063 | REG122 | VOE2F03 | Lab Control Sample (LCS) |
| LCD2W | VOE2F03C | 1 | NA | 06/10/2417:37 | 06/10/2417:37 | RFG064 | REG122 | VOE2F03 | LCS Duplicate |
| MBLK2W | VOE2F03B | 1 | NA | 06/10/2418:25 | 06/10/2418:25 | RFG067 | REG122 | VOE2F03 | Method Blank |
| T1AMF-MW043-MAY24 | 24F004-05N | 1 | NA | 06/10/2418:48 | 06/10/2418:48 | RFG068 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW045-MAY24 | 24F004-07I | 10 | NA | 06/10/2419:36 | 06/10/2419:36 | RFG070 | REG122 | VOE2F03 | Diluted Sample |
| T1AMF-MW048-MAY24 | 24F004-09N | 1 | NA | 06/10/2420:00 | 06/10/2420:00 | RFG071 | REG122 | VOE2F03 | Field Sample |
| T1AMF-MW056-MAY24 | 24F004-10N | 1 | NA | 06/10/2420:24 | 06/10/2420:24 | RFG072 | REG122 | VOE2F03 | Field Sample |
| LCS3W | VOE2F04L | 1 | NA | 06/11/2414:15 | 06/11/2414:15 | RFG093 | REG122 | VOE2F04 | Lab Control Sample (LCS) |
| LCD3W | VOE2F04C | 1 | NA | 06/11/2414:39 | 06/11/2414:39 | RFG094 | REG122 | VOE2F04 | LCS Duplicate |
| MBLK3W | VOE2F04B | 1 | NA | 06/11/2415:26 | 06/11/2415:26 | RFG096 | REG122 | VOE2F04 | Method Blank |
| T1AMF-MW022-MAY24 | 24F004-06N | 1 | NA | 06/11/2415:50 | 06/11/2415:50 | RFG097 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW019-MAY24 | 24F004-01N | 1 | NA | 06/11/2416:14 | 06/11/2416:14 | RFG098 | REG122 | VOE2F04 | Field Sample |
| T1AMF-EW001-MAY24 | 24F004-08I | 10 | NA | 06/11/2417:01 | 06/11/2417:01 | RFG100 | REG122 | VOE2F04 | Diluted Sample |

FN - Filename
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 12:05 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/11/24 16:14 |
| Sample ID | : T1AMF-MW019-MAY24 | Date Analyzed: | 06/11/24 16:14 |
| Lab Samp ID: | 24F004-01N | Dilution Factor: | 1 |
| Lab File ID: | RFG098 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.31J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 0.35J | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.6 | 10.0 | 106 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.66 | 10.0 | 97 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG098.D
Acq On : 11 Jun 2024 16:14
Sample : 24F004-01N
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 17:25:30 2024
Quant Results File: VOE2E17.RES

Vial: 8
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 544038 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 426447 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.878 | 152 | 204205 | 10.00 | ug/l | -0.01 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 322034 | 9.66 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 96.60% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 468887 | 10.65 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 900024 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 333530 | 10.29 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.90% | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 9066 | 0.31 | ug/l | 99 |
| 45) Trichloroethene | 6.373 | 130 | 9574 | 0.35 | ug/L | 97 |

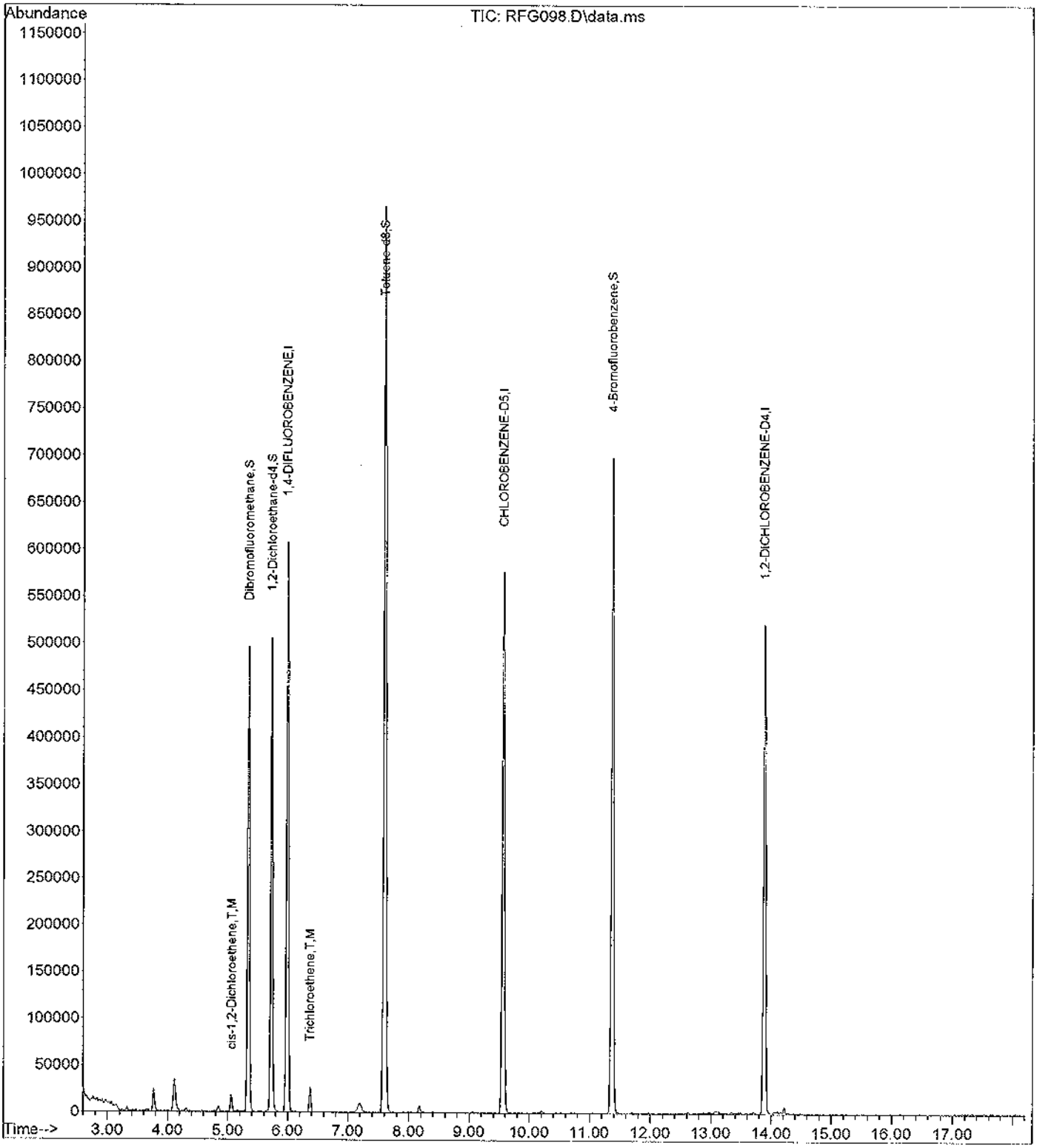
(#) = qualifier out of range (m) = manual integration (+) = signals summed

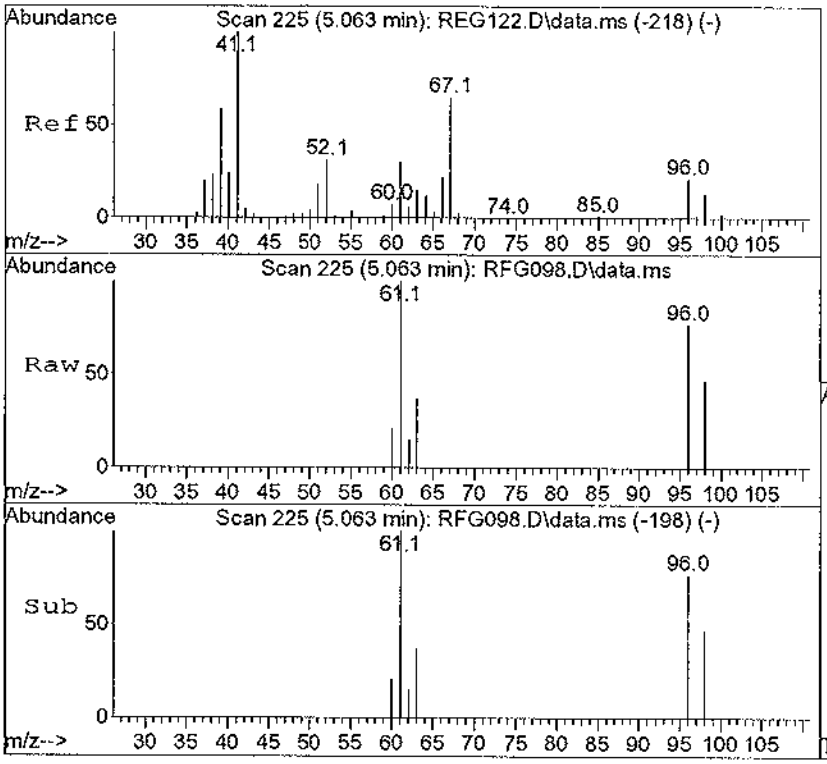
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG098.D
Acq On : 11 Jun 2024 16:14
Sample : 24F004-01N
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 17:25:30 2024
Quant Results File: VOE2E17.RES

Vial: 8
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

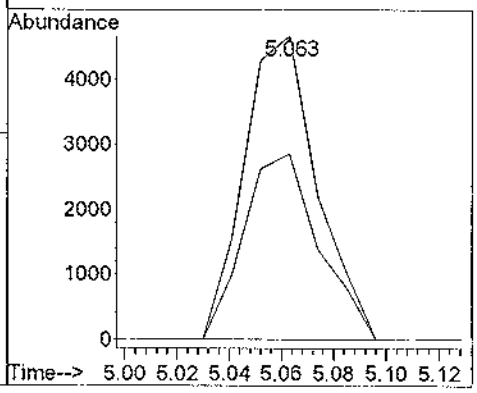


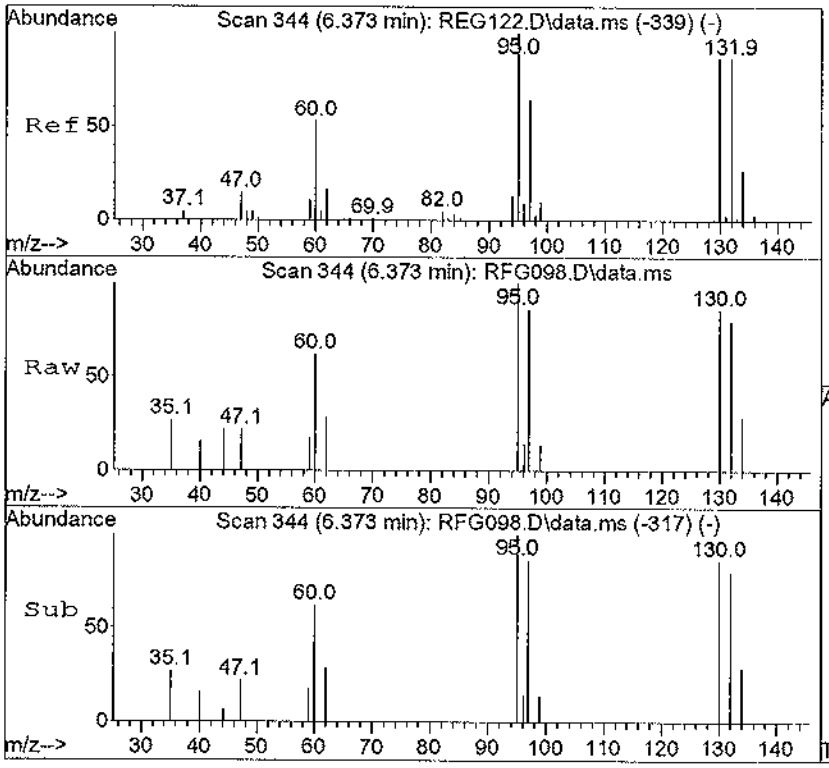



#32
cis-1,2-Dichloroethene
Concen: 0.31 ug/l
RT: 5.063 min Scan# 225
Delta R.T. -0.000 min
Lab File: RFG098.D
Acq: 11 Jun 2024 16:14

Tgt Ion: 96 Resp: 9066

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 63.0 | 33.9 | 93.9 |

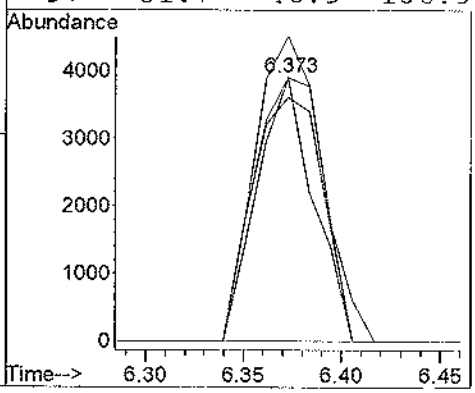



#45
Trichloroethene
Concen: 0.35 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG098.D
Acq: 11 Jun 2024 16:14

Tgt Ion:130 Resp: 9574

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 94.1 | 67.6 | 127.6 |
| 95 | 112.3 | 82.6 | 142.6 |
| 97 | 81.7 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 12:08 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 17:04 |
| Sample ID | : T1AMF-MW054-MAY24 | Date Analyzed: | 06/08/24 17:04 |
| Lab Samp ID: | 24F004-02 | Dilution Factor: | 1 |
| Lab File ID: | RFG039 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.70J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 0.35J | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.2 | 10.0 | 112 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 10.7 | 10.0 | 107 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG039.D
Acq On : 8 Jun 2024 17:04
Sample : 24F004-02
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 10:15:41 2024
Quant Results File: VOE2E17.RES

Vial: 9
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 604704 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 515586 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 241202 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 395000 | 10.67 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.70% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 547993 | 11.20 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 112.00% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1041538 | 10.17 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.70% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 401493 | 10.49 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.90% | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 22962 | 0.70 | ug/l | 96 |
| 45) Trichloroethene | 6.373 | 130 | 10661 | 0.35 | ug/L | 93 |

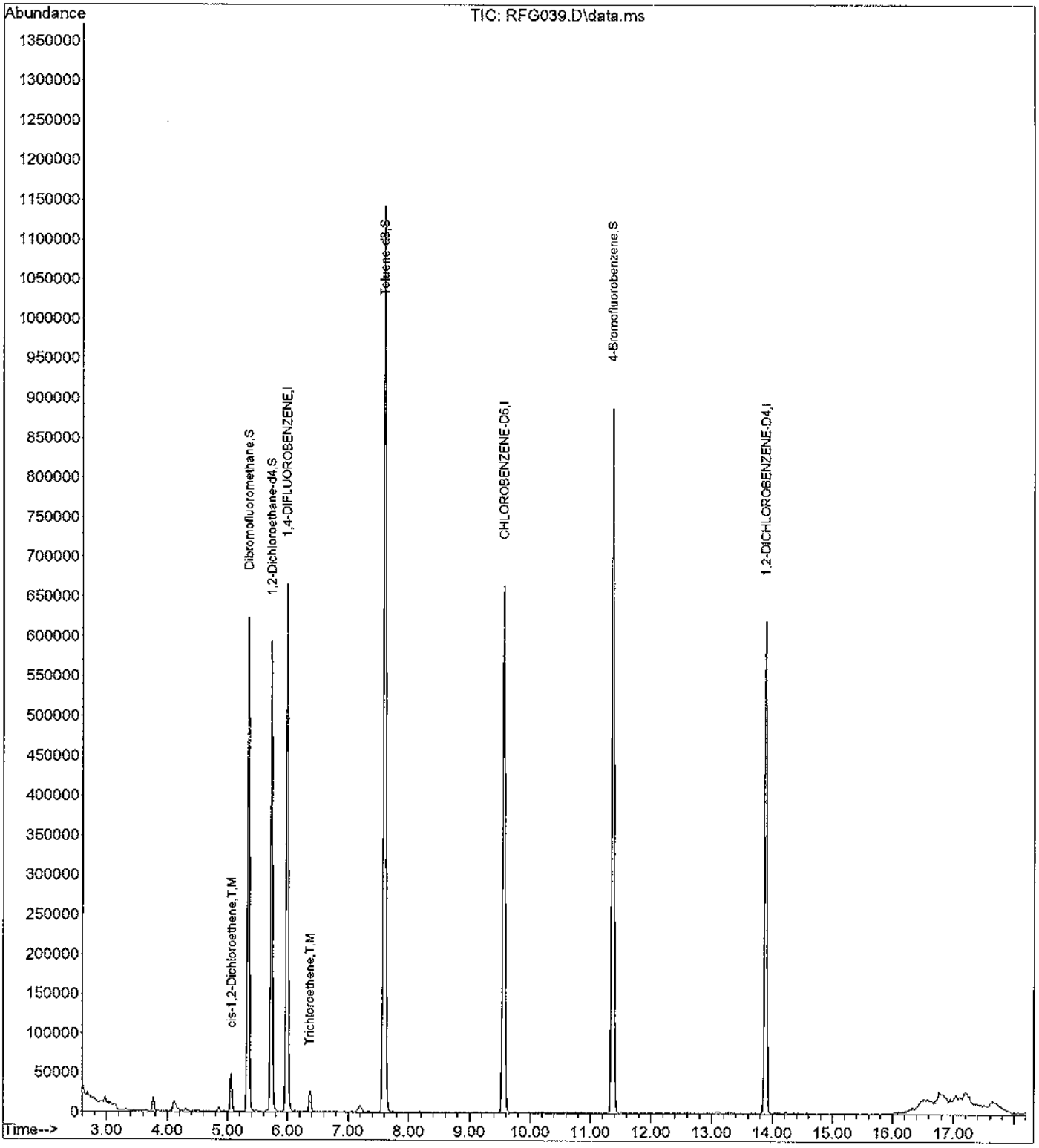
(#) = qualifier out of range (m) = manual integration (+) = signals summed

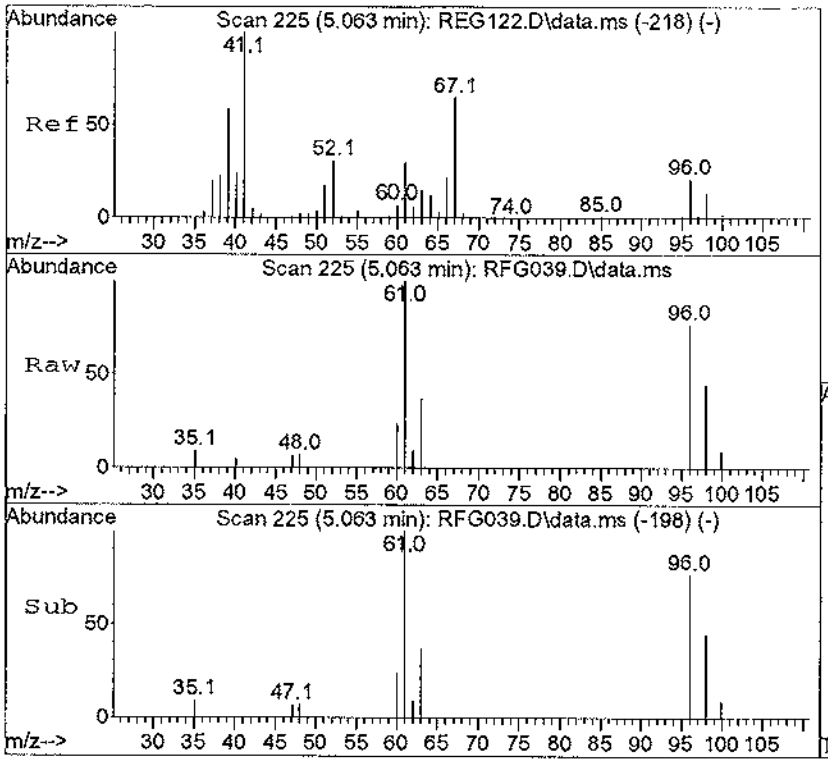
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG039.D
Acq On : 8 Jun 2024 17:04
Sample : 24F004-02
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 10:15:41 2024
Quant Results File: VOE2E17.RES

Vial: 9
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

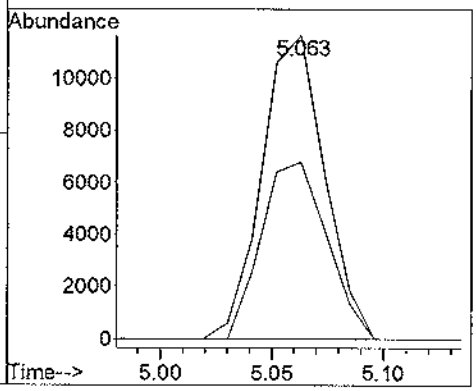


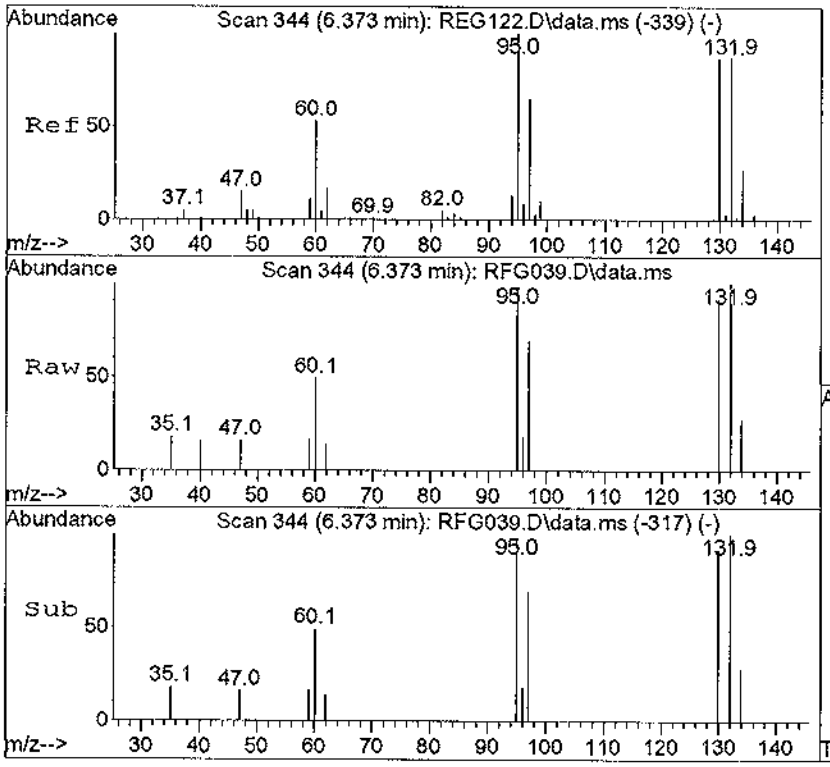



#32
cis-1,2-Dichloroethene
Concen: 0.70 ug/l
RT: 5.063 min Scan# 225
Delta R.T. 0.000 min
Lab File: RFG039.D
Acq: 8 Jun 2024 17:04

Tgt Ion: 96 Resp: 22962

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 61.1 | 33.9 | 93.9 |

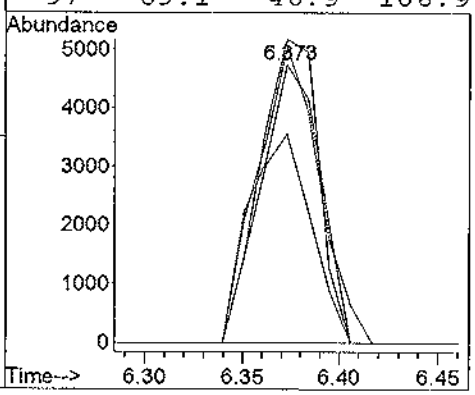



#45
Trichloroethene
Concen: 0.35 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG039.D
Acq: 8 Jun 2024 17:04

Tgt Ion:130 Resp: 10661

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 102.0 | 67.6 | 127.6 |
| 95 | 104.6 | 82.6 | 142.6 |
| 97 | 69.1 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 12:52 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 17:27 |
| Sample ID | : T1AMF-MW042-MAY24 | Date Analyzed: | 06/08/24 17:27 |
| Lab Samp ID: | 24F004-03 | Dilution Factor: | 1 |
| Lab File ID: | RFG040 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.0 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 46 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.3 | 10.0 | 113 | 81-118 |
| 4-Bromofluorobenzene | 9.86 | 10.0 | 99 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 11.0 | 10.0 | 110 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG040.D
Acq On : 8 Jun 2024 17:27
Sample : 24F004-03
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 10:17:47 2024
Quant Results File: VOE2E17.RES

Vial: 10
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 585872 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 507180 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 244053 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 393123 | 10.96 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 109.60% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 536424 | 11.31 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 113.10% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1034219 | 10.26 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.60% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 382178 | 9.86 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.60% | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 32720 | 1.03 | ug/l | 99 |
| 45) Trichloroethene | 6.373 | 130 | 1360606 | 45.98 | ug/L | 96 |

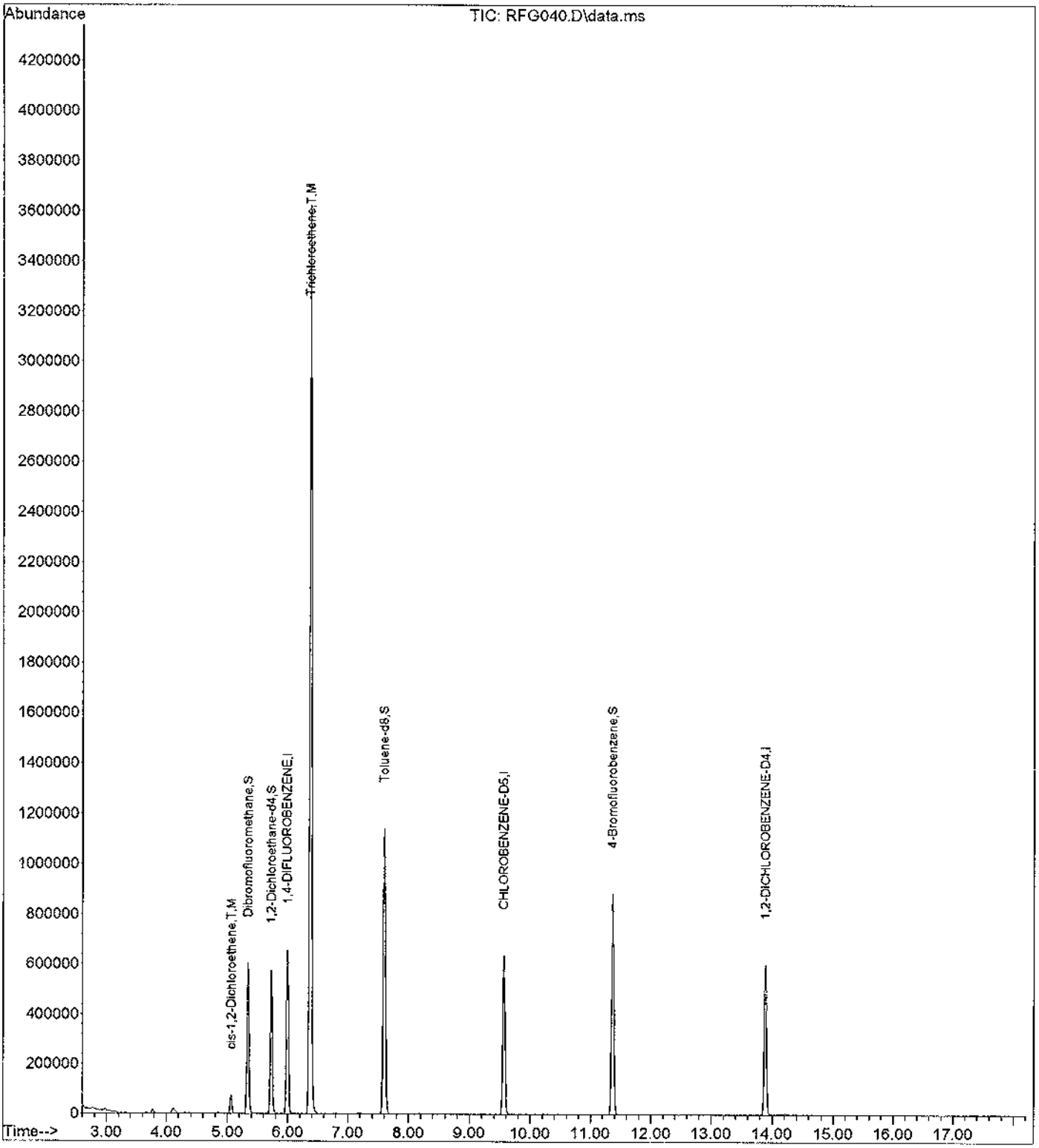
(#) = qualifier out of range (m) = manual integration (+) = signals summed

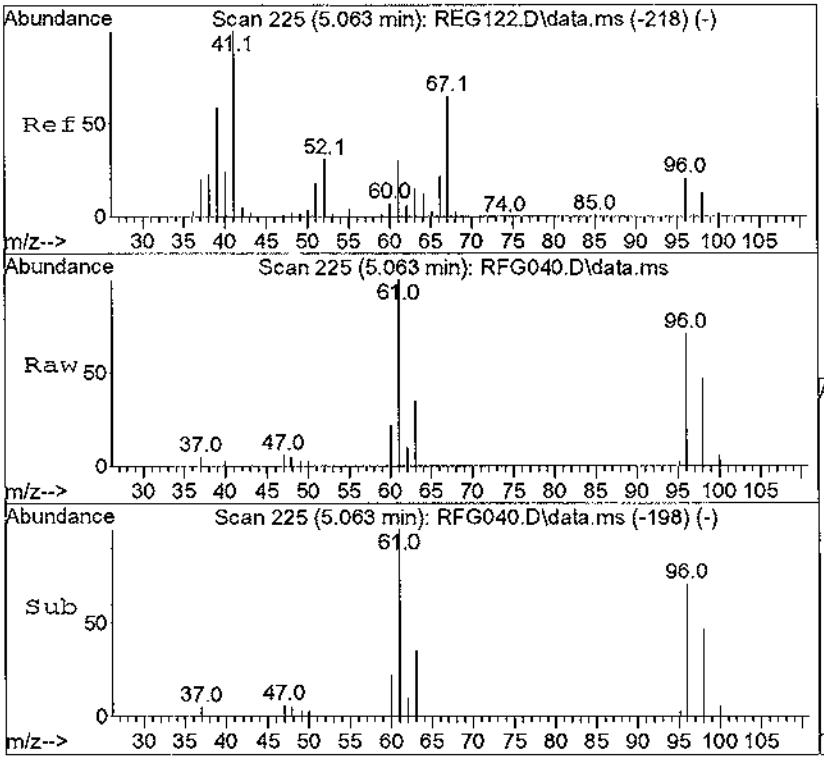
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG040.D
Acq On : 8 Jun 2024 17:27
Sample : 24F004-03
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 10:17:47 2024
Quant Results File: VOE2E17.RES

Vial: 10
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

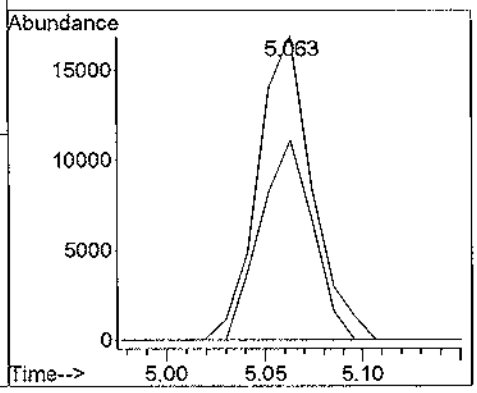


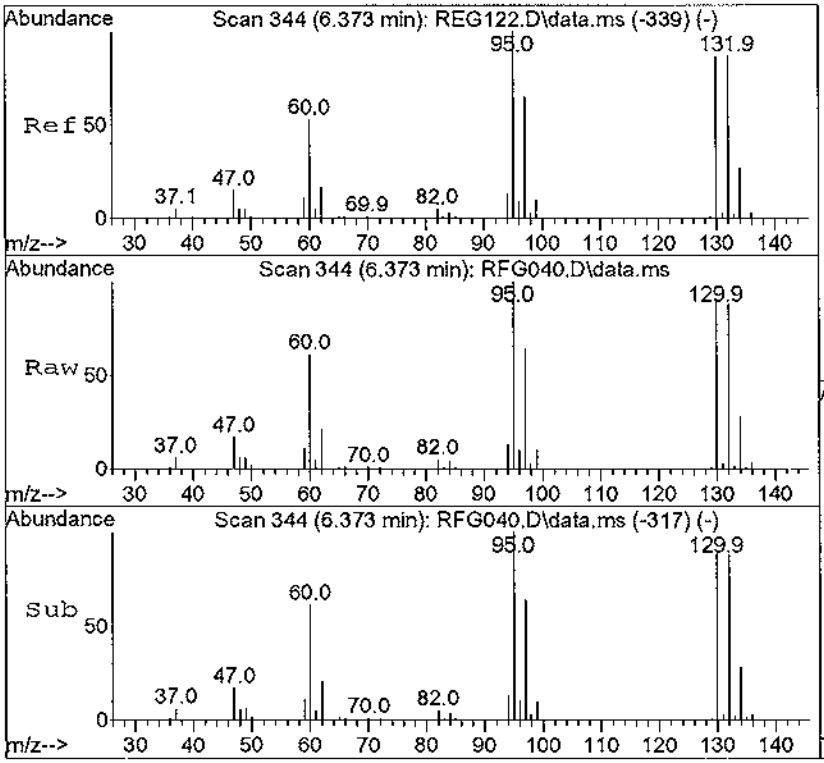



#32
cis-1,2-Dichloroethene
Concen: 1.03 ug/l
RT: 5.063 min Scan# 225
Delta R.T. 0.000 min
Lab File: RFG040.D
Acq: 8 Jun 2024 17:27

Tgt Ion: 96 Resp: 32720

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 63.4 | 33.9 | 93.9 |

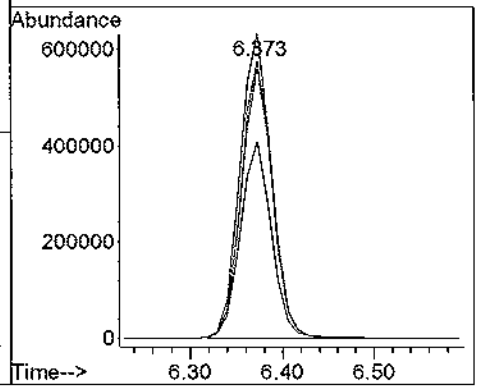



#45
Trichloroethene
Concen: 45.98 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG040.D
Acq: 8 Jun 2024 17:27

Tgt Ion:130 Resp: 1360606

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.5 | 67.6 | 127.6 |
| 95 | 108.5 | 82.6 | 142.6 |
| 97 | 69.6 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 12:57 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 17:51 |
| Sample ID | : T1AMF-MW055-MAY24 | Date Analyzed: | 06/08/24 17:51 |
| Lab Samp ID: | 24F004-04 | Dilution Factor: | 1 |
| Lab File ID: | RFG041 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.9 | 10.0 | 119* | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.0 | 100 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 11.0 | 10.0 | 110 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG041.D
Acq On : 8 Jun 2024 17:51
Sample : 24F004-04
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 11 15:31:16 2024
Quant Results File: VOE2E17.RES

Vial: 11
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 544754 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 461819 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 224403 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 366025 | 10.97 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 109.70% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 522812 | 11.86 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 118.60% | | |
| 56) Toluene-d8 | 7.594 | 98 | 941486 | 10.26 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.60% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 356225 | 10.00 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.00% | | |
| Target Compounds | | | | | | Qvalue |

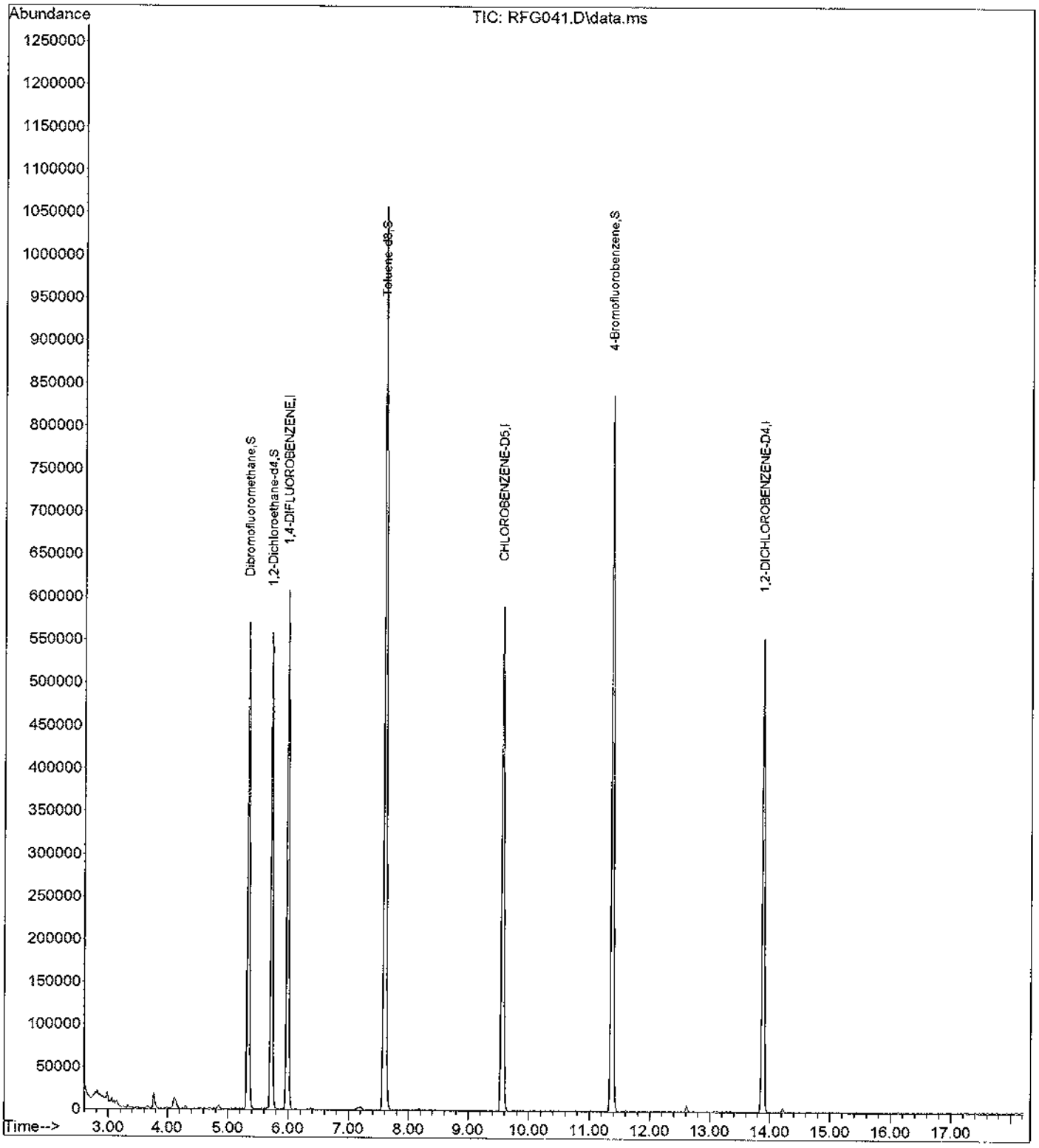
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG041.D
Acq On : 8 Jun 2024 17:51
Sample : 24F004-04
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 11 15:31:16 2024
Quant Results File: VOE2E17.RES

Vial: 11
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 13:31 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/10/24 18:48 |
| Sample ID | : T1AMF-MW043-MAY24 | Date Analyzed: | 06/10/24 18:48 |
| Lab Samp ID: | 24F004-05N | Dilution Factor: | 1 |
| Lab File ID: | RFG068 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | 0.13J | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.4 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.14J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 26 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.7 | 10.0 | 107 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.8 | 10.0 | 108 | 89-112 |
| Dibromofluoromethane | 9.69 | 10.0 | 97 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG068.D
Acq On : 10 Jun 2024 18:48
Sample : 24F004-05N
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 14:28:47 2024
Quant Results File: VOE2E17.RES

Vial: 8
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 660379 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 508072 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 238614 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 391928 | 9.69 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 96.90% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 570069 | 10.67 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.70% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1085395 | 10.75 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.50% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 401470 | 10.60 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.00% | | |
| Target Compounds | | | | | | Qvalue |
| 4) Vinyl chloride | 2.994 | 62 | 3151 | 0.11 | ug/l | 86 |
| 13) 1,1-Dichloroethene | 3.897 | 61 | 7451 | 0.13 | ug/l | 87 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 4351 | 0.14 | ug/l | 93 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 51083 | 1.42 | ug/l | 98 |
| 45) Trichloroethene | 6.373 | 130 | 862271 | 25.85 | ug/L | 98 |

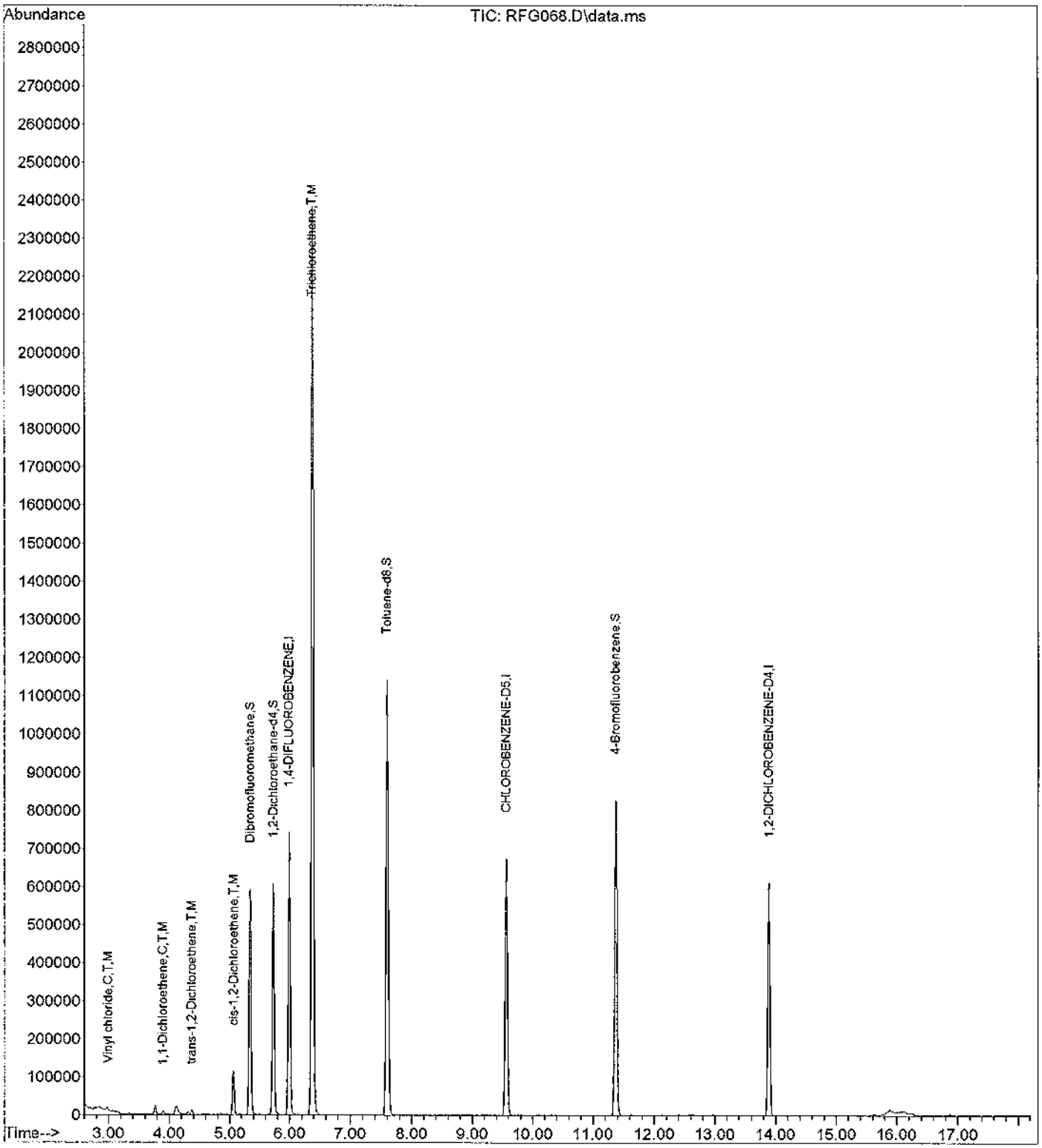
(#) = qualifier out of range (m) = manual integration (+) = signals summed

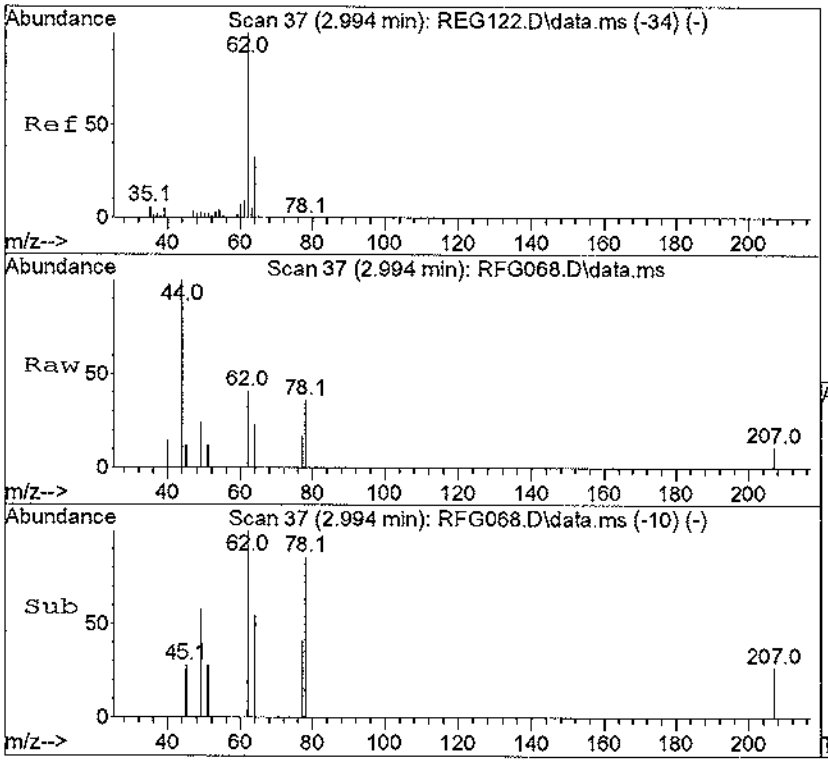
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG068.D
Acq On : 10 Jun 2024 18:48
Sample : 24F004-05N
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 14:28:47 2024
Quant Results File: VOE2E17.RES

Vial: 8
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

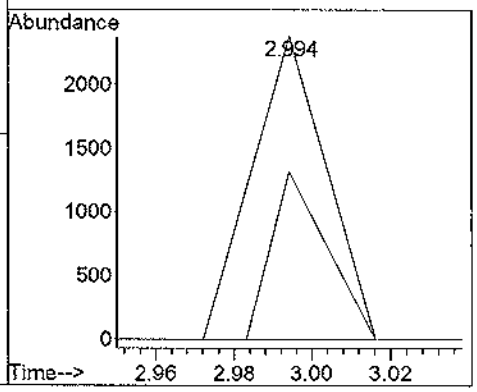


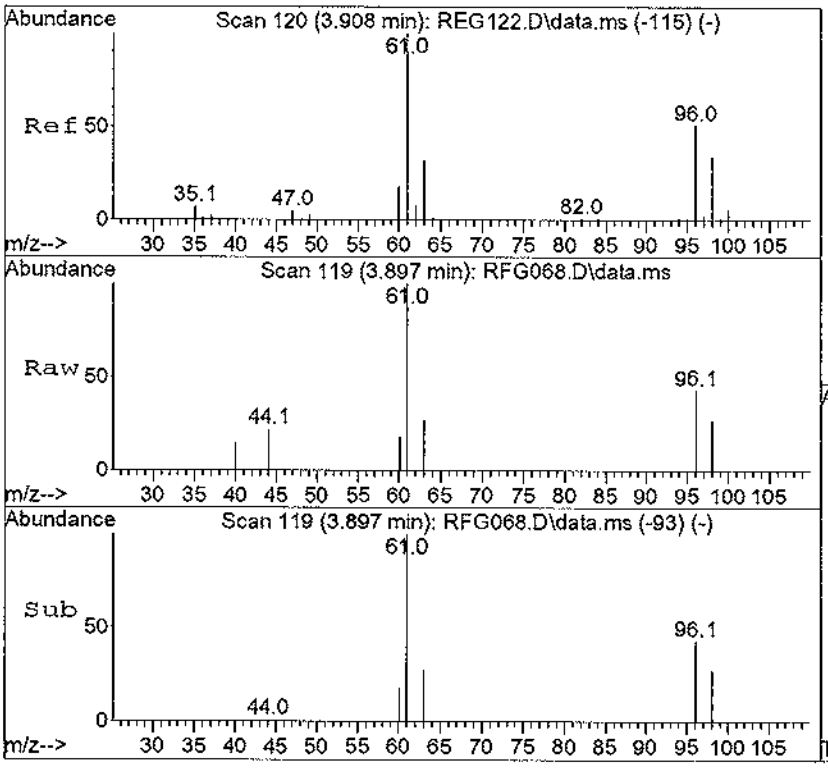



#4
Vinyl chloride
Concen: 0.11 ug/l
RT: 2.994 min Scan# 37
Delta R.T. 0.000 min
Lab File: RFG068.D
Acq: 10 Jun 2024 18:48

Tgt Ion: 62 Resp: 3151

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 62 | 100 | | |
| 64 | 41.3 | 3.2 | 63.2 |

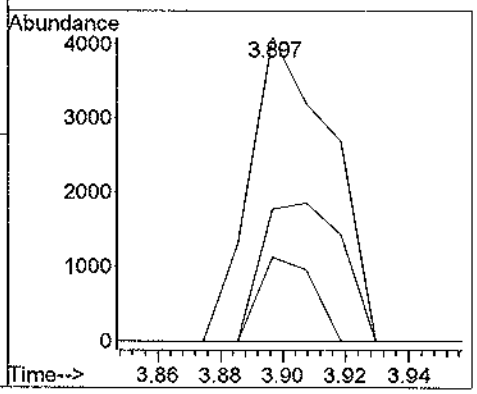


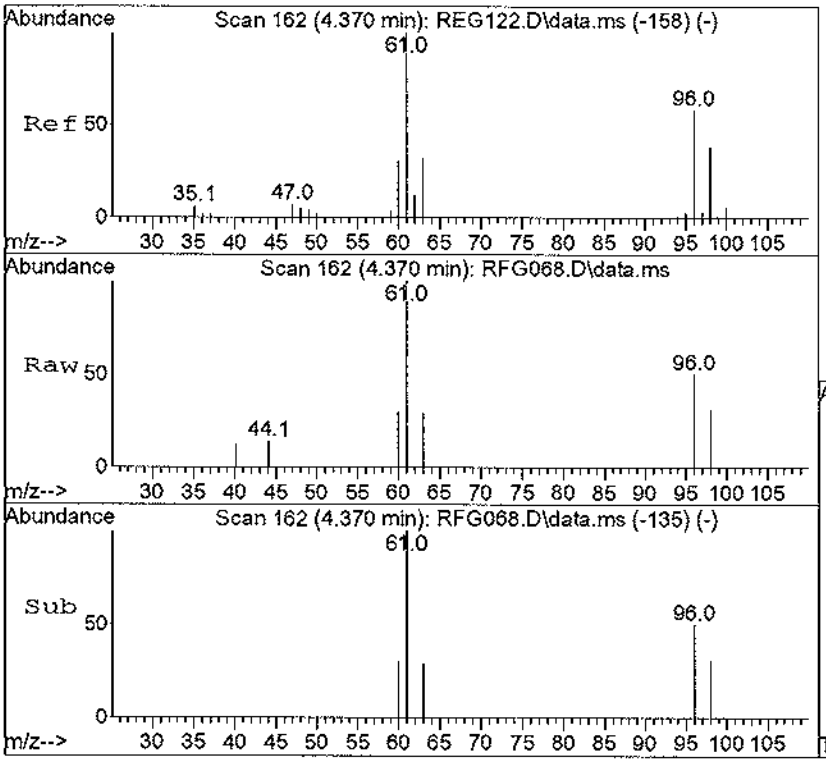




#13
1,1-Dichloroethene
Concen: 0.13 ug/l
RT: 3.897 min Scan# 119
Delta R.T. -0.011 min
Lab File: RFG068.D
Acq: 10 Jun 2024 18:48

Tgt Ion: 61 Resp: 7451

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 44.9 | 19.2 | 79.2 |
| 63 | 18.4 | 1.6 | 61.6 |

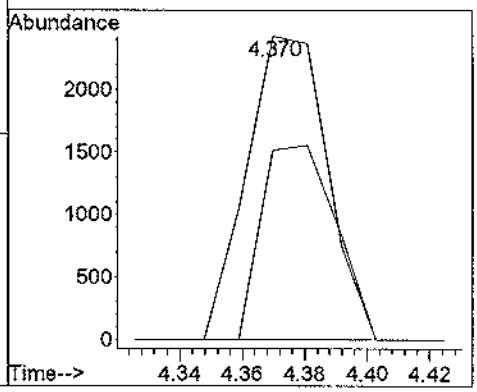


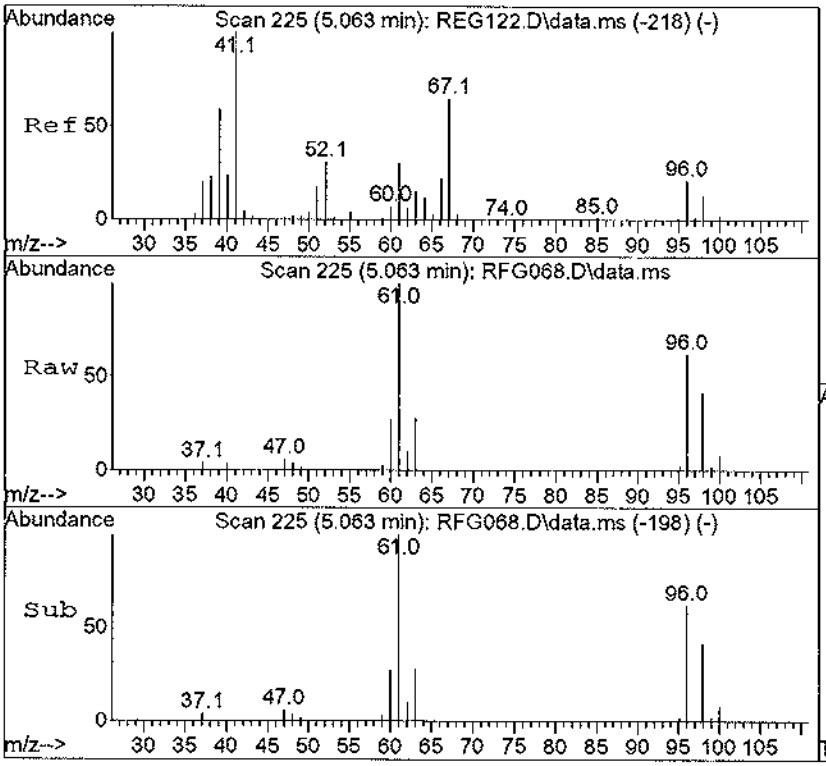



#22
trans-1,2-Dichloroethene
Concen: 0.14 ug/l
RT: 4.370 min Scan# 162
Delta R.T. 0.000 min
Lab File: RFG068.D
Acq: 10 Jun 2024 18:48

Tgt Ion: 96 Resp: 4351

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 59.2 | 34.4 | 94.4 |

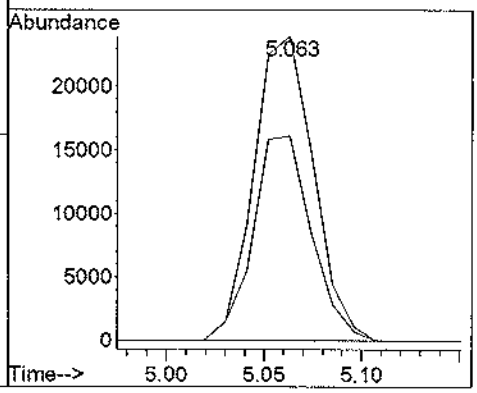


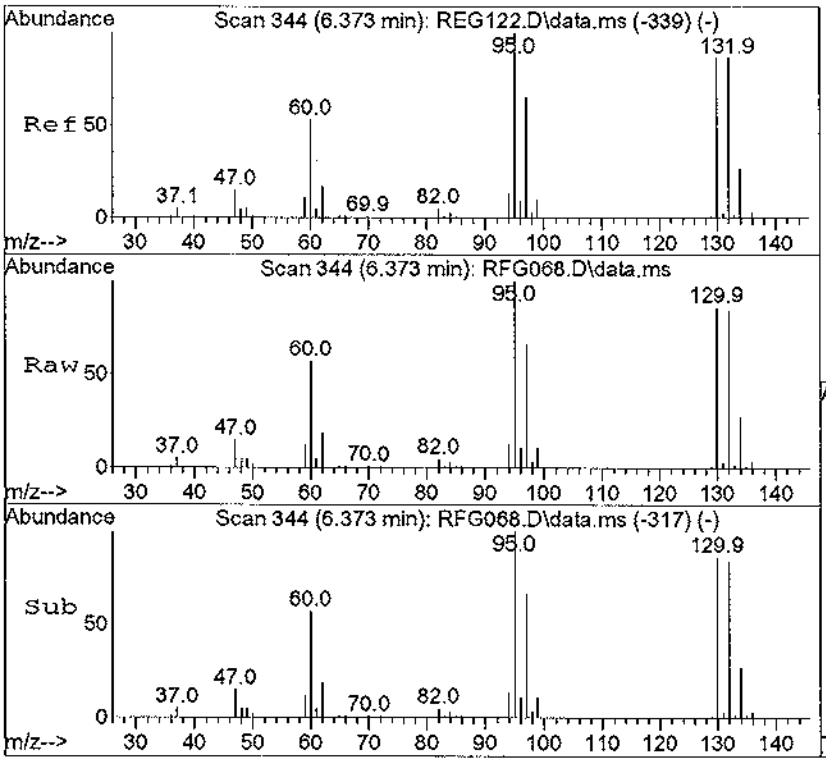




#32
cis-1,2-Dichloroethene
Concen: 1.42 ug/l
RT: 5.063 min Scan# 225
Delta R.T. 0.000 min
Lab File: RFG068.D
Acq: 10 Jun 2024 18:48

Tgt Ion: 96 Resp: 51083

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 65.8 | 33.9 | 93.9 |

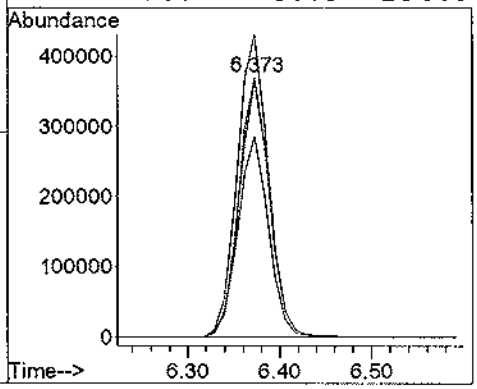





#45
Trichloroethene
Concen: 25.85 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG068.D
Acq: 10 Jun 2024 18:48

Tgt Ion:130 Resp: 862271

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.9 | 67.6 | 127.6 |
| 95 | 118.0 | 82.6 | 142.6 |
| 97 | 76.7 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 14:53 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/11/24 15:50 |
| Sample ID | : T1AMF-MW022-MAY24 | Date Analyzed: | 06/11/24 15:50 |
| Lab Samp ID: | 24F004-06N | Dilution Factor: | 1 |
| Lab File ID: | RFG097 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.97J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 43 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.7 | 10.0 | 107 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.66 | 10.0 | 97 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG097.D
Acq On : 11 Jun 2024 15:50
Sample : 24F004-06N
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 17:30:17 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 566942 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 442190 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 207301 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 335271 | 9.66 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 96.60% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 489601 | 10.67 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 106.70% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 930549 | 10.59 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.90% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 349014 | 10.61 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 106.10% | | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 29927 | 0.97 | ug/l | 94 |
| 45) Trichloroethene | 6.373 | 130 | 1239331 | 43.28 | ug/L | 97 |

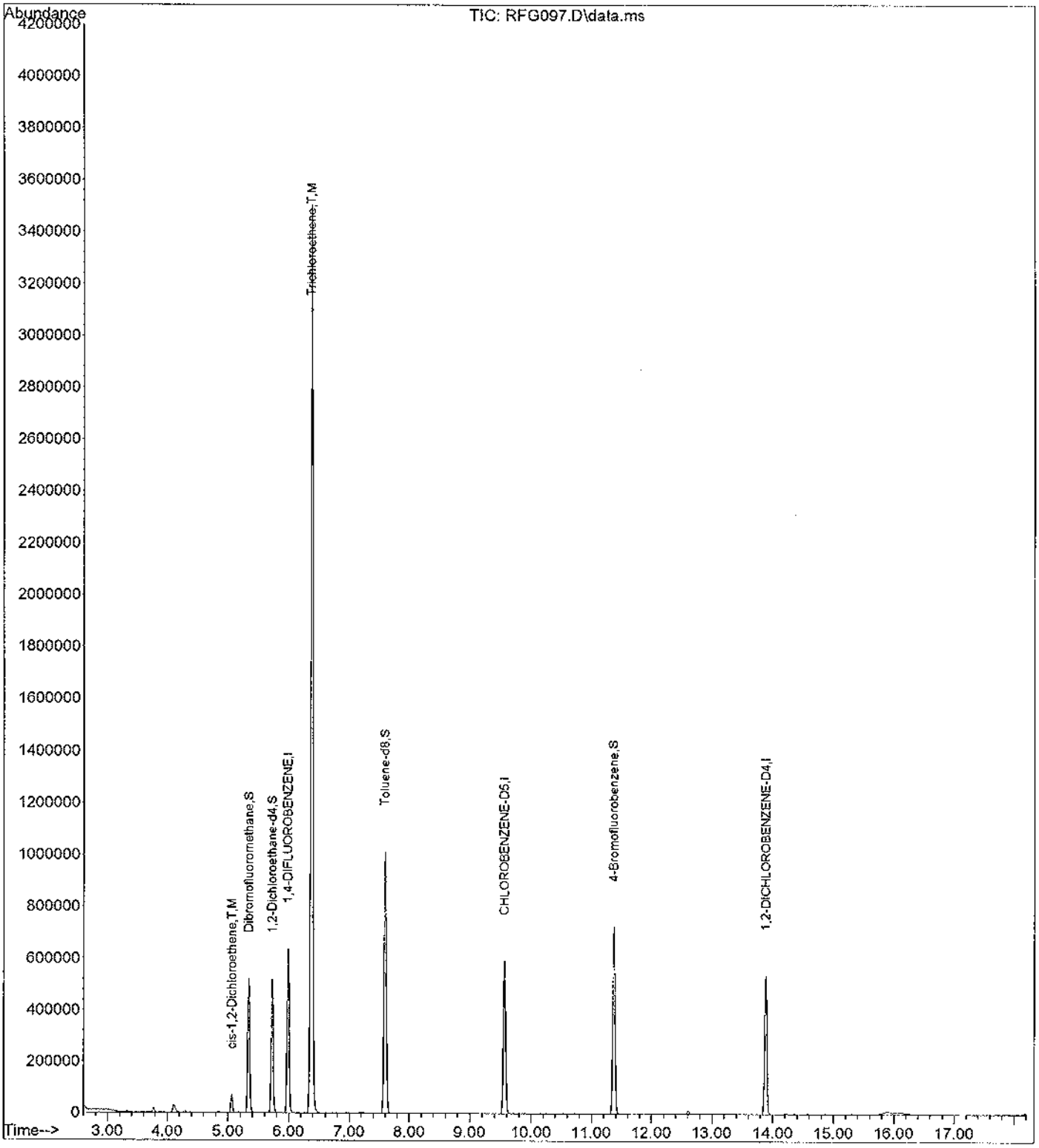
(#) = qualifier out of range (m) = manual integration (+) = signals summed

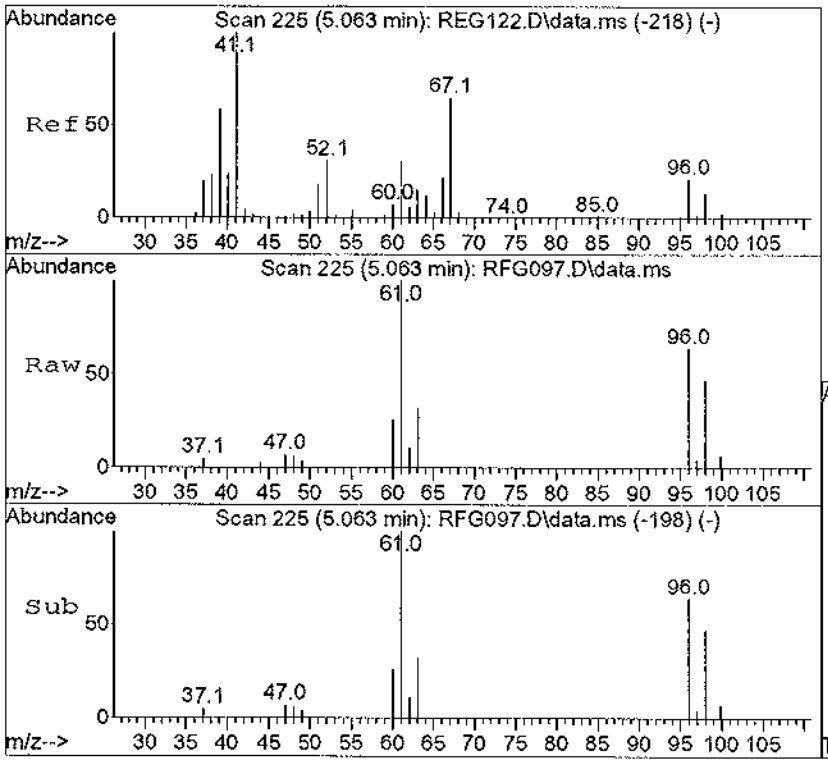
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG097.D
Acq On : 11 Jun 2024 15:50
Sample : 24F004-06N
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 17:30:17 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

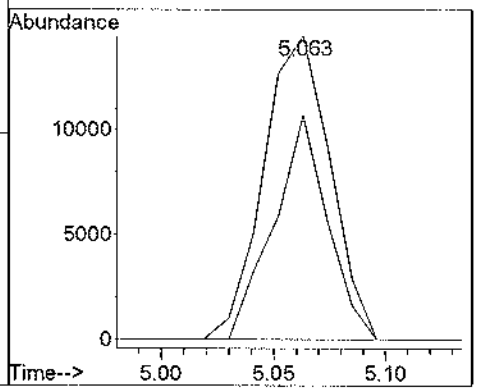


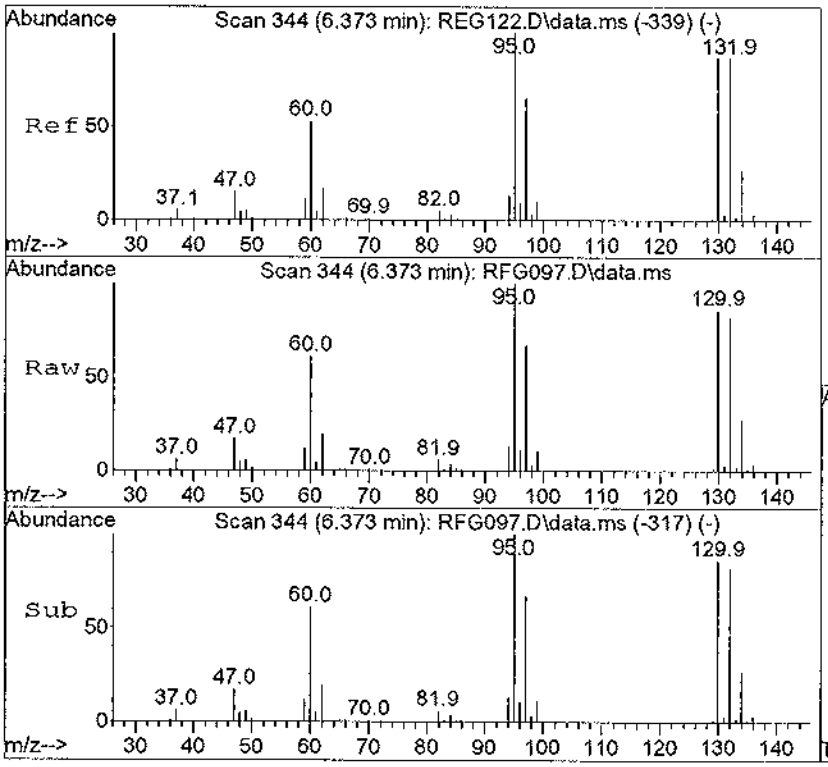



#32
cis-1,2-Dichloroethene
Concen: 0.97 ug/l
RT: 5.063 min Scan# 225
Delta R.T. -0.000 min
Lab File: RFG097.D
Acq: 11 Jun 2024 15:50

Tgt Ion: 96 Resp: 29927

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 59.6 | 33.9 | 93.9 |

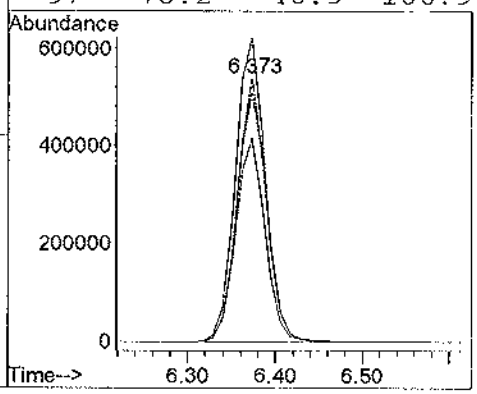



#45
Trichloroethene
Concen: 43.28 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG097.D
Acq: 11 Jun 2024 15:50

Tgt Ion:130 Resp: 1239331

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.3 | 67.6 | 127.6 |
| 95 | 119.0 | 82.6 | 142.6 |
| 97 | 78.2 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 15:01 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 19:03 # 06/10/24 19:36 |
| Sample ID | : T1AMF-MW045-MAY24 | Date Analyzed: | 06/08/24 19:03 # 06/10/24 19:36 |
| Lab Samp ID: | F004-07 #F004-07I | Dilution Factor: | 1 # 10 |
| Lab File ID: | RFG044 #RFG070 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 #VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 #REG122 | Instrument ID: | E2 # E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 5.7 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.34J | 1.0 | 0.10 | 0.20 |
| # Trichloroethene | 220 | 10 | 1.0 | 2.0 |
| Vinyl Chloride | 0.12J | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.7 | 10.0 | 117 | 81-118 |
| 4-Bromofluorobenzene | 9.72 | 10.0 | 97 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 11.1 | 10.0 | 111 | 80-119 |
| # 1,2-Dichloroethane-d4 | 104 | 100 | 104 | 81-118 |
| # 4-Bromofluorobenzene | 106 | 100 | 106 | 85-114 |
| # Toluene-d8 | 106 | 100 | 106 | 89-112 |
| # Dibromofluoromethane | 97.0 | 100 | 97 | 80-119 |

# Result(s) associated as marked on the header

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |
| # Sample Amount | : 1.0ml | Final Volume : | 10ml |
| # Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 15:01 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 19:03 |
| Sample ID | : T1AMF-MW045-MAY24 | Date Analyzed: | 06/08/24 19:03 |
| Lab Samp ID: | 24F004-07 | Dilution Factor: | 1 |
| Lab File ID: | RFG044 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 5.7 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | 0.34J | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 260E | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | 0.12J | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.7 | 10.0 | 117 | 81-118 |
| 4-Bromofluorobenzene | 9.72 | 10.0 | 97 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 11.1 | 10.0 | 111 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG044.D
Acq On : 8 Jun 2024 19:03
Sample : 24F004-07
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 10:23:43 2024
Quant Results File: VOE2E17.RES

Vial: 14
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 505850 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 420589 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 206594 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 343133 | 11.08 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 110.80% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 480283 | 11.73 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 117.30% | | |
| 56) Toluene-d8 | 7.594 | 98 | 855043 | 10.23 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.30% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 318697 | 9.72 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 97.20% | | |
| Target Compounds | | | | | | Qvalue |
| 4) Vinyl chloride | 2.994 | 62 | 2595 | 0.12 | ug/l | 77 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 8150 | 0.34 | ug/l | 88 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 156282 | 5.69 | ug/l | 98 |
| 33) Chloroform | 5.173 | 83 | 12674 | 0.21 | ug/l | 91 |
| 45) Trichloroethene | 6.373 | 130 | 6530553 | 255.60 | ug/L | 97 |

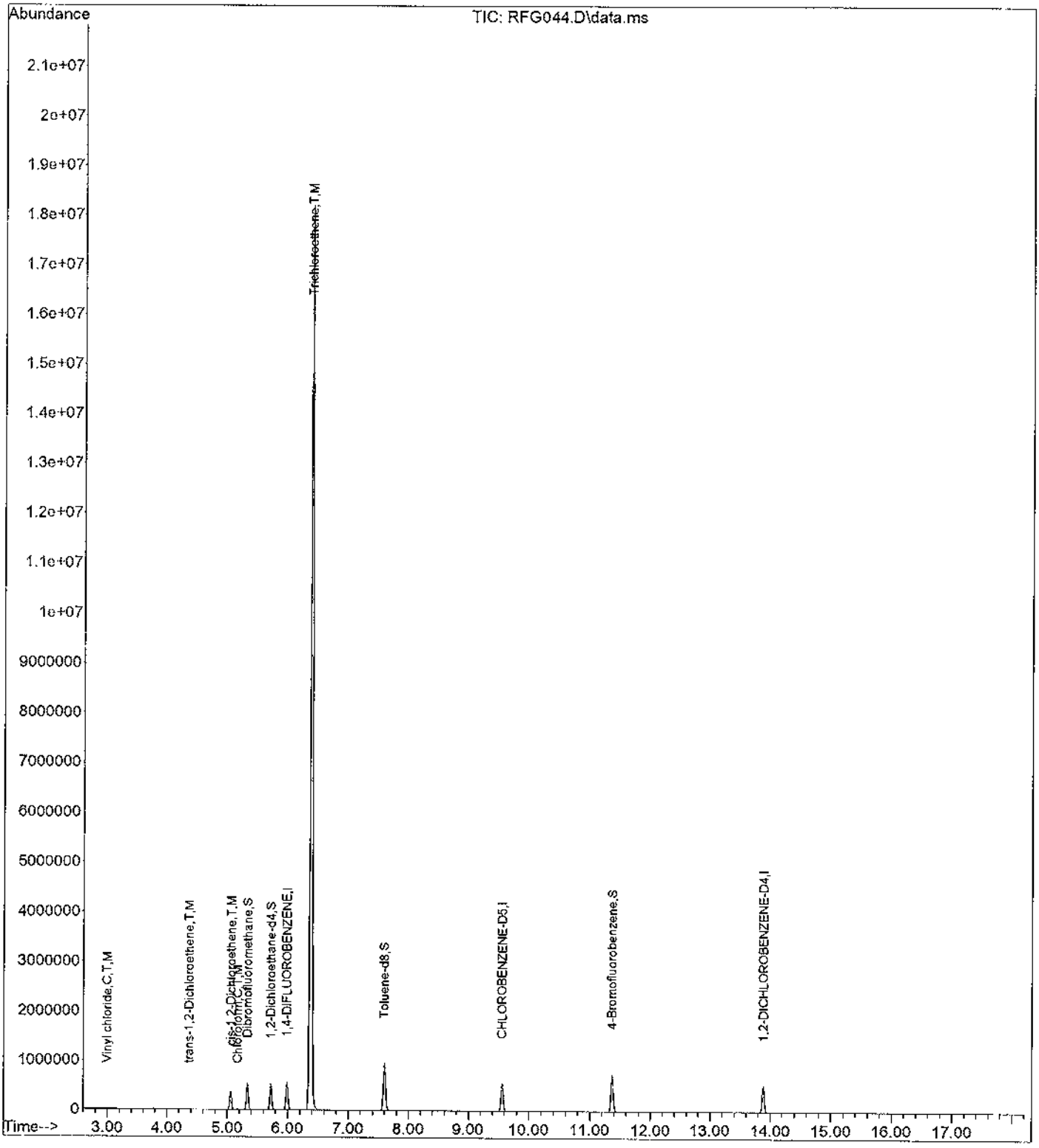
(#) = qualifier out of range (m) = manual integration (+) = signals summed

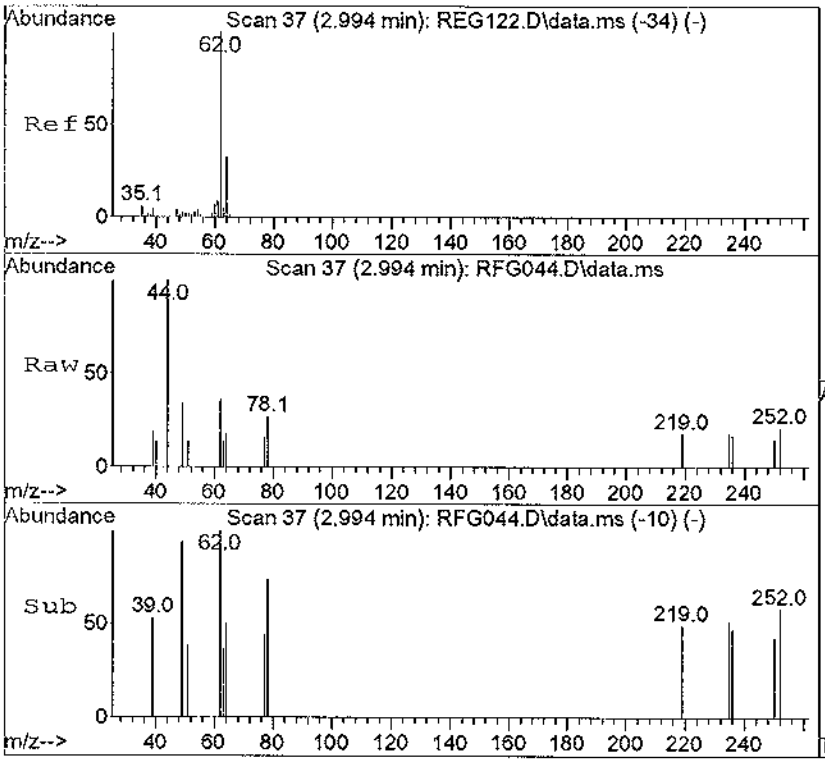
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG044.D
Acq On : 8 Jun 2024 19:03
Sample : 24F004-07
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 10:23:43 2024
Quant Results File: VOE2E17.RES

Vial: 14
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

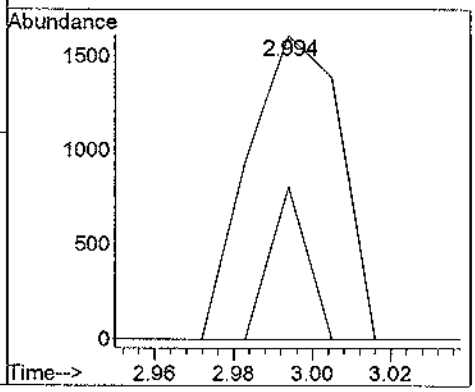


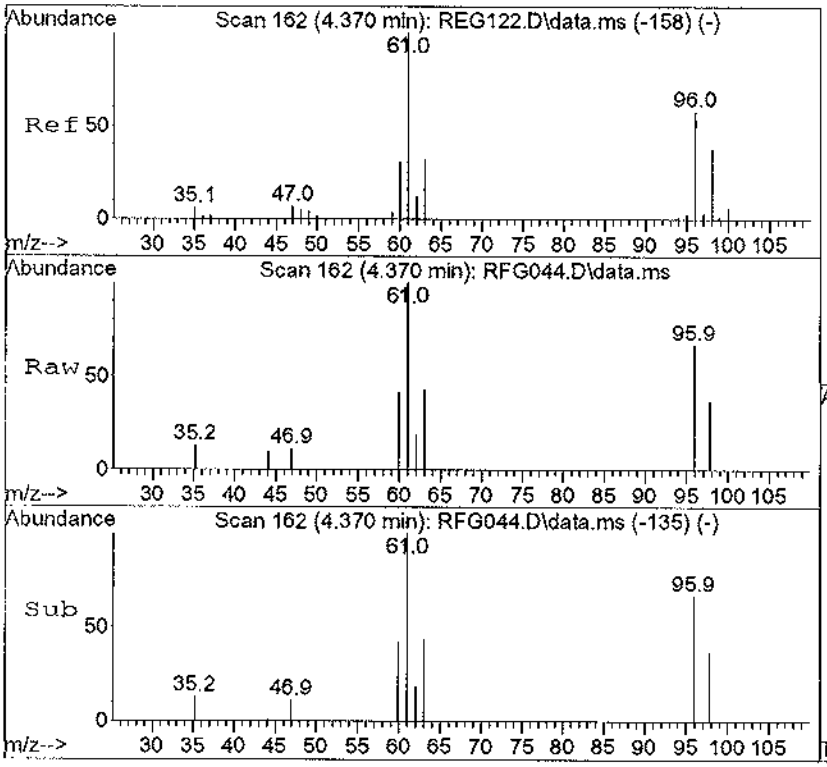



#4
Vinyl chloride
Concen: 0.12 ug/l
RT: 2.994 min Scan# 37
Delta R.T. -0.000 min
Lab File: RFG044.D
Acq: 8 Jun 2024 19:03

Tgt Ion: 62 Resp: 2595

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 62 | 100 | | |
| 64 | 20.4 | 3.2 | 63.2 |

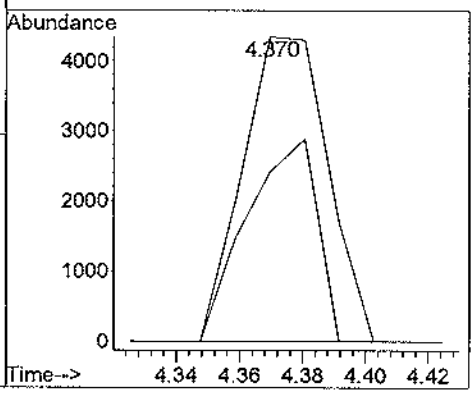


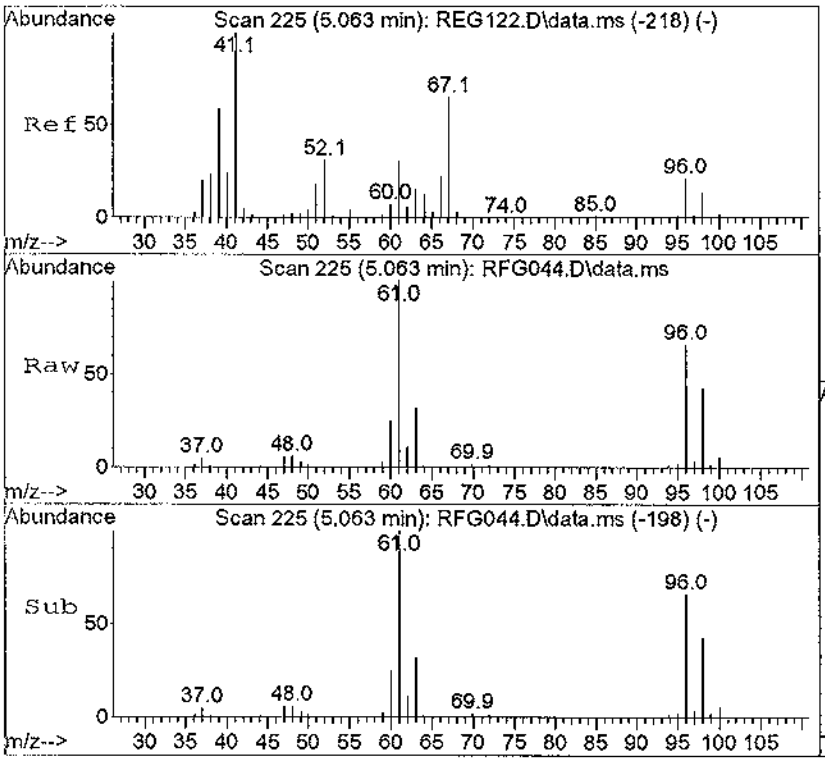




#22
trans-1,2-Dichloroethene
Concen: 0.34 ug/l
RT: 4.370 min Scan# 162
Delta R.T. -0.000 min
Lab File: RFG044.D
Acq: 8 Jun 2024 19:03

Tgt Ion: 96 Resp: 8150

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 54.9 | 34.4 | 94.4 |

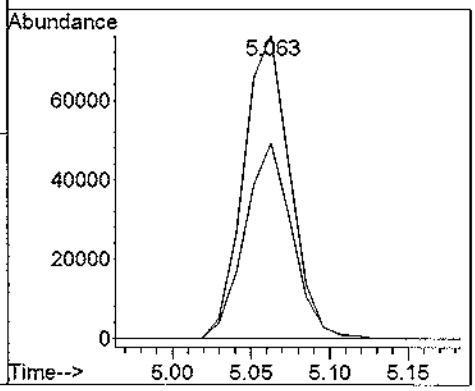


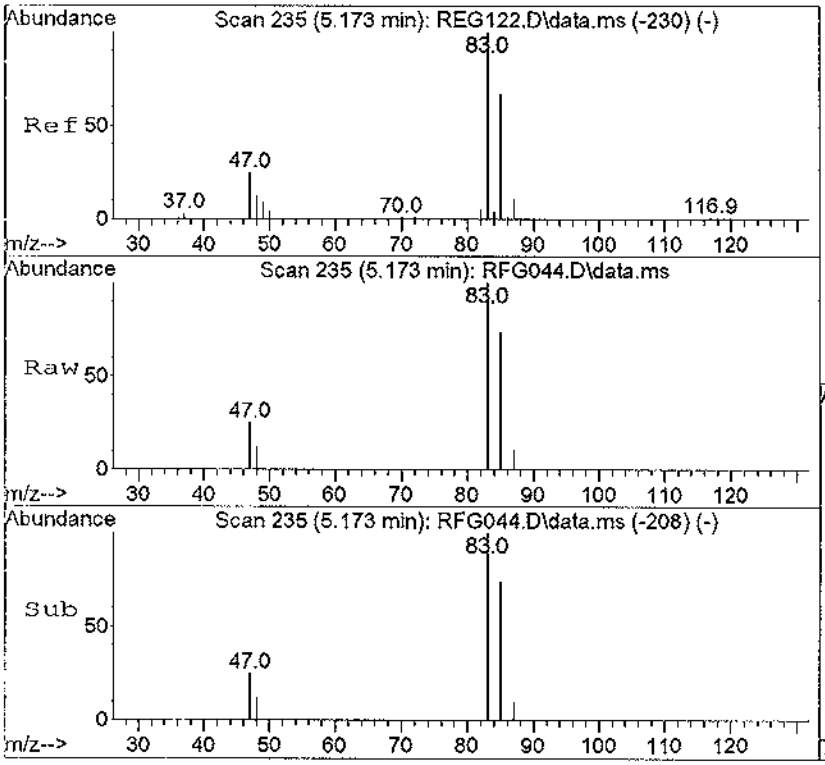



#32
cis-1,2-Dichloroethene
Concen: 5.69 ug/l
RT: 5.063 min Scan# 225
Delta R.T. -0.000 min
Lab File: RFG044.D
Acq: 8 Jun 2024 19:03

Tgt Ion: 96 Resp: 156282

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 65.8 | 33.9 | 93.9 |

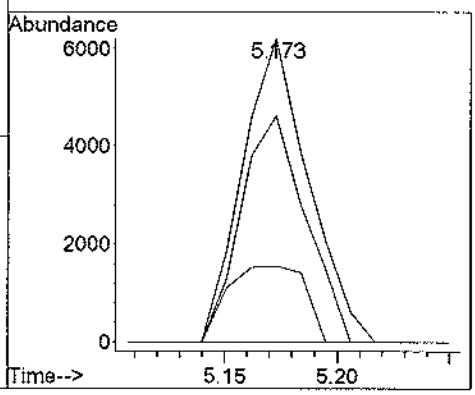


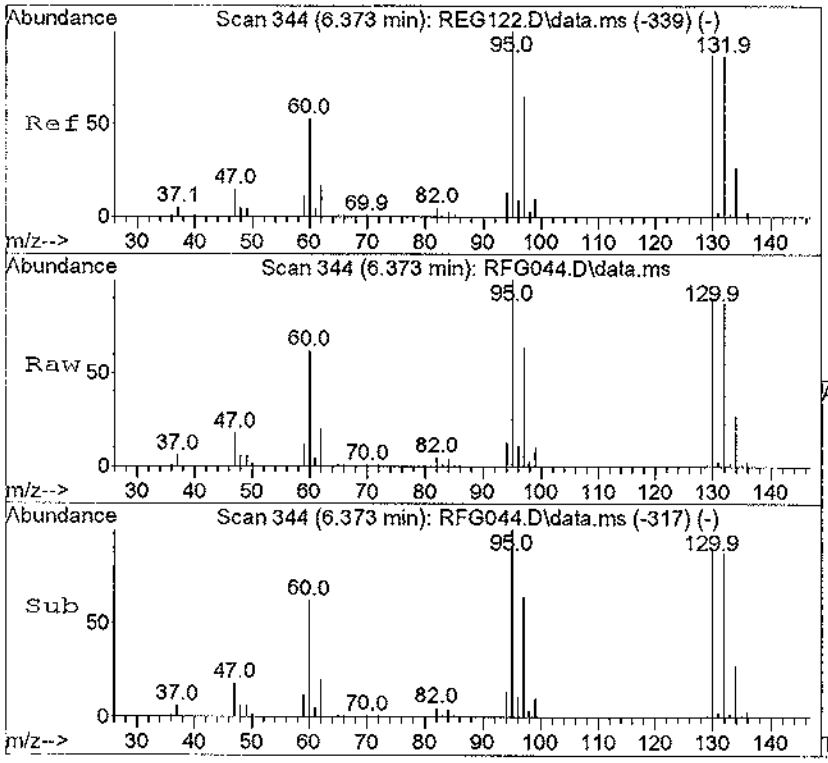




#33
Chloroform
Concen: 0.21 ug/l
RT: 5.173 min Scan# 235
Delta R.T. -0.000 min
Lab File: RFG044.D
Acq: 8 Jun 2024 19:03

Tgt Ion: 83 Resp: 12674

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 72.9 | 35.4 | 95.4 |
| 47 | 29.3 | 0.0 | 55.4 |

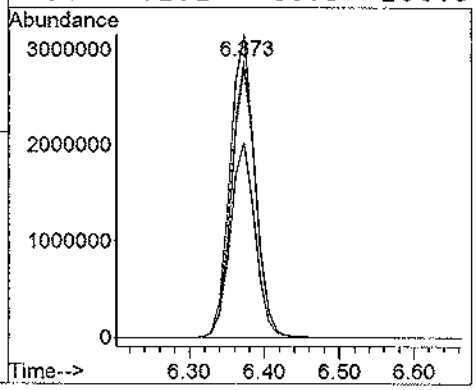





#45
Trichloroethene
Concen: 255.60 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG044.D
Acq: 8 Jun 2024 19:03

Tgt Ion:130 Resp: 6530553

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 97.0 | 67.6 | 127.6 |
| 95 | 110.3 | 82.6 | 142.6 |
| 97 | 71.1 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/28/24 15:01 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/10/24 19:36 |
| Sample ID | : T1AMF-MW045-MAY24 | Date Analyzed: | 06/10/24 19:36 |
| Lab Samp ID: | 24F004-071 | Dilution Factor: | 10 |
| Lab File ID: | RFG070 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10 | 1.0 | 2.0 |
| 1,4-Dichlorobenzene | ND | 10 | 1.0 | 2.0 |
| Benzene | ND | 10 | 1.0 | 2.0 |
| cis-1,2-Dichloroethene | 6.0J | 10 | 1.0 | 2.0 |
| Ethylbenzene | ND | 10 | 1.0 | 2.0 |
| m,p-Xylene | ND | 20 | 2.1 | 5.0 |
| o-Xylene | ND | 10 | 1.0 | 2.0 |
| Toluene | ND | 10 | 1.0 | 2.0 |
| Trans-1,2-Dichloroethene | ND | 10 | 1.0 | 2.0 |
| Trichloroethene | 220 | 10 | 1.0 | 2.0 |
| Vinyl Chloride | ND | 10 | 1.1 | 3.0 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | 100 | 104 | 81-118 |
| 4-Bromofluorobenzene | 106 | 100 | 106 | 85-114 |
| Toluene-d8 | 106 | 100 | 106 | 89-112 |
| Dibromofluoromethane | 97.0 | 100 | 97 | 80-119 |

Notes:
Sample Amount : 1.0ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG070.D
Acq On : 10 Jun 2024 19:36
Sample : 24F004-07I 10X
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 14:30:27 2024
Quant Results File: VOE2E17.RES

Vial: 10
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 598016 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 459152 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 215050 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 355357 | 9.70 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 97.00% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 501515 | 10.36 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 103.60% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 966286 | 10.59 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.90% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 363395 | 10.64 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 106.40% | | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 19321 | 0.60 | ug/l | 98 |
| 45) Trichloroethene | 6.373 | 130 | 663529 | 21.97 | ug/L | 98 |

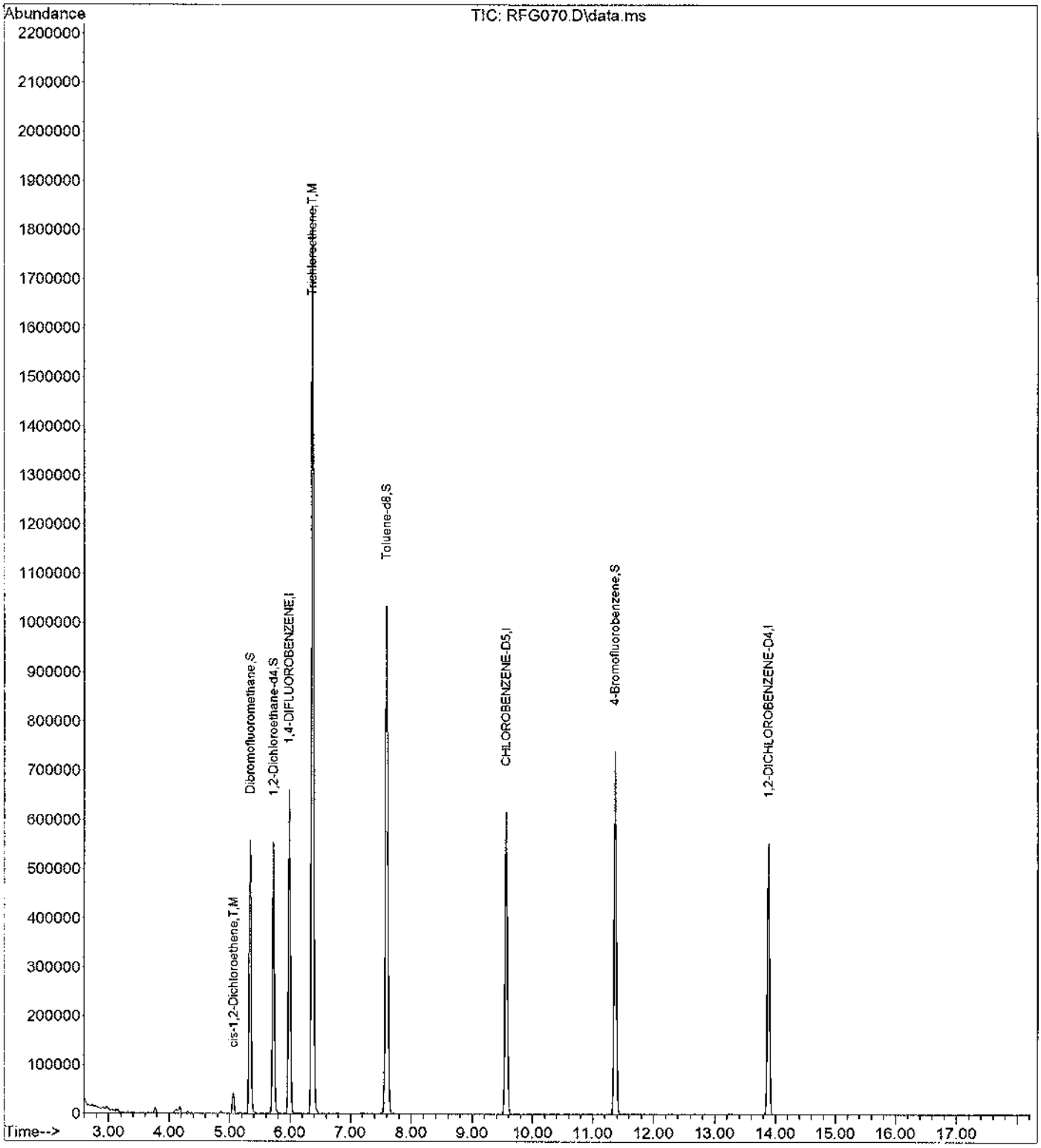
(#) = qualifier out of range (m) = manual integration (+) = signals summed

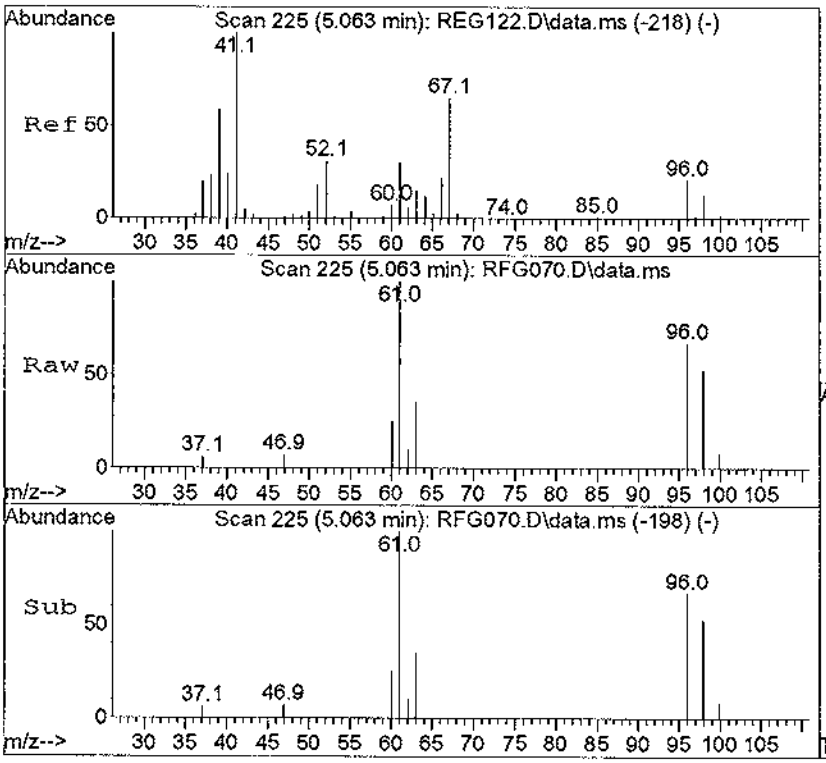
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG070.D
Acq On : 10 Jun 2024 19:36
Sample : 24F004-07I 10X
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 14:30:27 2024
Quant Results File: VOE2E17.RES

Vial: 10
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

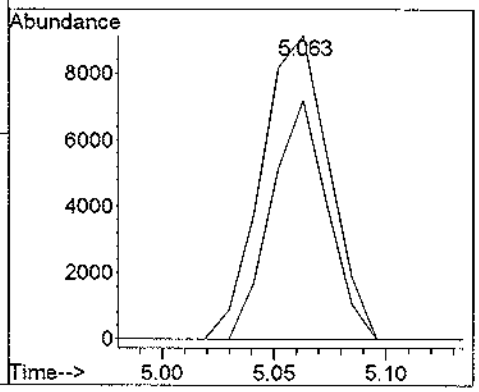


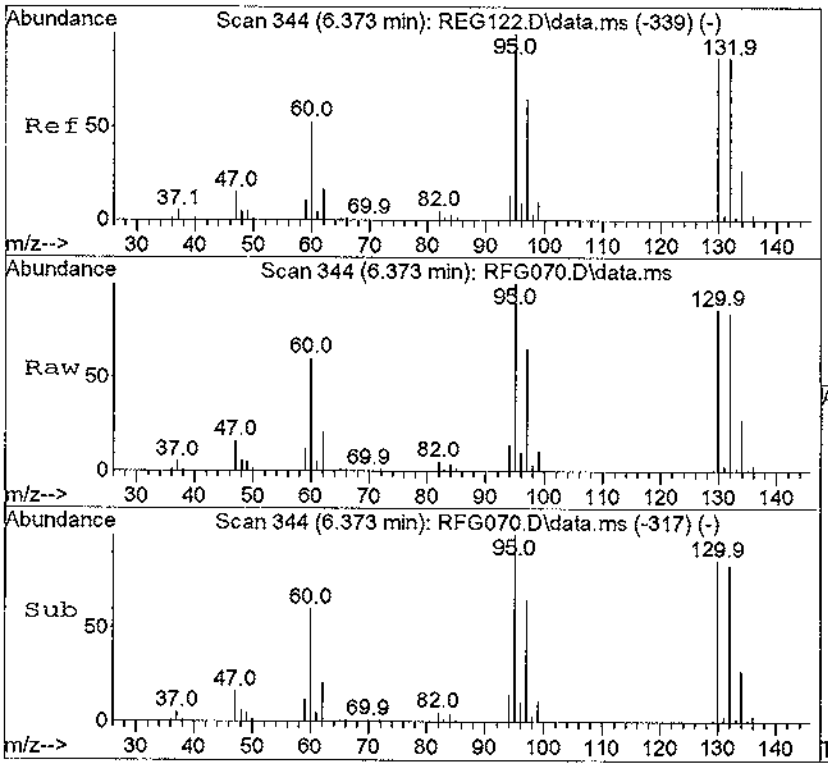



#32
cis-1,2-Dichloroethene
Concen: 0.60 ug/l
RT: 5.063 min Scan# 225
Delta R.T. -0.000 min
Lab File: RFG070.D
Acq: 10 Jun 2024 19:36

Tgt Ion: 96 Resp: 19321

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 65.2 | 33.9 | 93.9 |

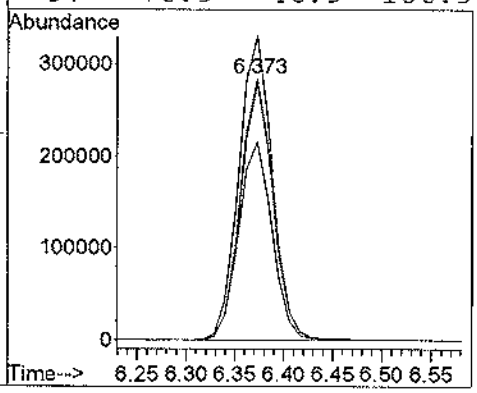



#45
Trichloroethene
Concen: 21.97 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG070.D
Acq: 10 Jun 2024 19:36

Tgt Ion:130 Resp: 663529

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.4 | 67.6 | 127.6 |
| 95 | 117.4 | 82.6 | 142.6 |
| 97 | 76.9 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 08:24 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 19:27 # 06/11/24 17:01 |
| Sample ID | : T1AMF-EW001-MAY24 | Date Analyzed: | 06/08/24 19:27 # 06/11/24 17:01 |
| Lab Samp ID: | F004-08 #F004-081 | Dilution Factor: | 1 # 10 |
| Lab File ID: | RFG045 #RFG100 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 #VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 #REG122 | Instrument ID: | E2 # E2 |

| | PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|---|
| | 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| | 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| | Benzene | ND | 1.0 | 0.10 | 0.20 |
| | cis-1,2-Dichloroethene | 11 | 1.0 | 0.10 | 0.20 |
| | Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| | m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| | o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| | Toluene | ND | 1.0 | 0.10 | 0.20 |
| | Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| # | Trichloroethene | 320 | 10 | 1.0 | 2.0 |
| | Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| | SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|---|
| | 1,2-Dichloroethane-d4 | 11.6 | 10.0 | 116 | 81-118 |
| | 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| | Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| | Dibromofluoromethane | 10.8 | 10.0 | 108 | 80-119 |
| # | 1,2-Dichloroethane-d4 | 111 | 100 | 111 | 81-118 |
| # | 4-Bromofluorobenzene | 100 | 100 | 100 | 85-114 |
| # | Toluene-d8 | 105 | 100 | 105 | 89-112 |
| # | Dibromofluoromethane | 99.9 | 100 | 100 | 80-119 |

# Result(s) associated as marked on the header

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |
| # Sample Amount | : 1.0ml | Final Volume : | 10ml |
| # Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 08:24 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 19:27 |
| Sample ID | : T1AMF-EW001-MAY24 | Date Analyzed: | 06/08/24 19:27 |
| Lab Samp ID: | 24F004-08 | Dilution Factor: | 1 |
| Lab File ID: | RFG045 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 11 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 370E | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.6 | 10.0 | 116 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 10.8 | 10.0 | 108 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG045.D
Acq On : 8 Jun 2024 19:27
Sample : 24F004-08
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 10:26:06 2024
Quant Results File: VOE2E17.RES

Vial: 15
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 493129 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 412092 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 195843 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 326757 | 10.82 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 108.20% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 462449 | 11.59 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 115.90% | | |
| 56) Toluene-d8 | 7.594 | 98 | 841308 | 10.27 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.70% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 319038 | 10.26 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.60% | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 287721 | 10.75 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 22627 | 0.38 | ug/l | 97 |
| 45) Trichloroethene | 6.373 | 130 | 9153889 | 367.52 | ug/L | 97 |

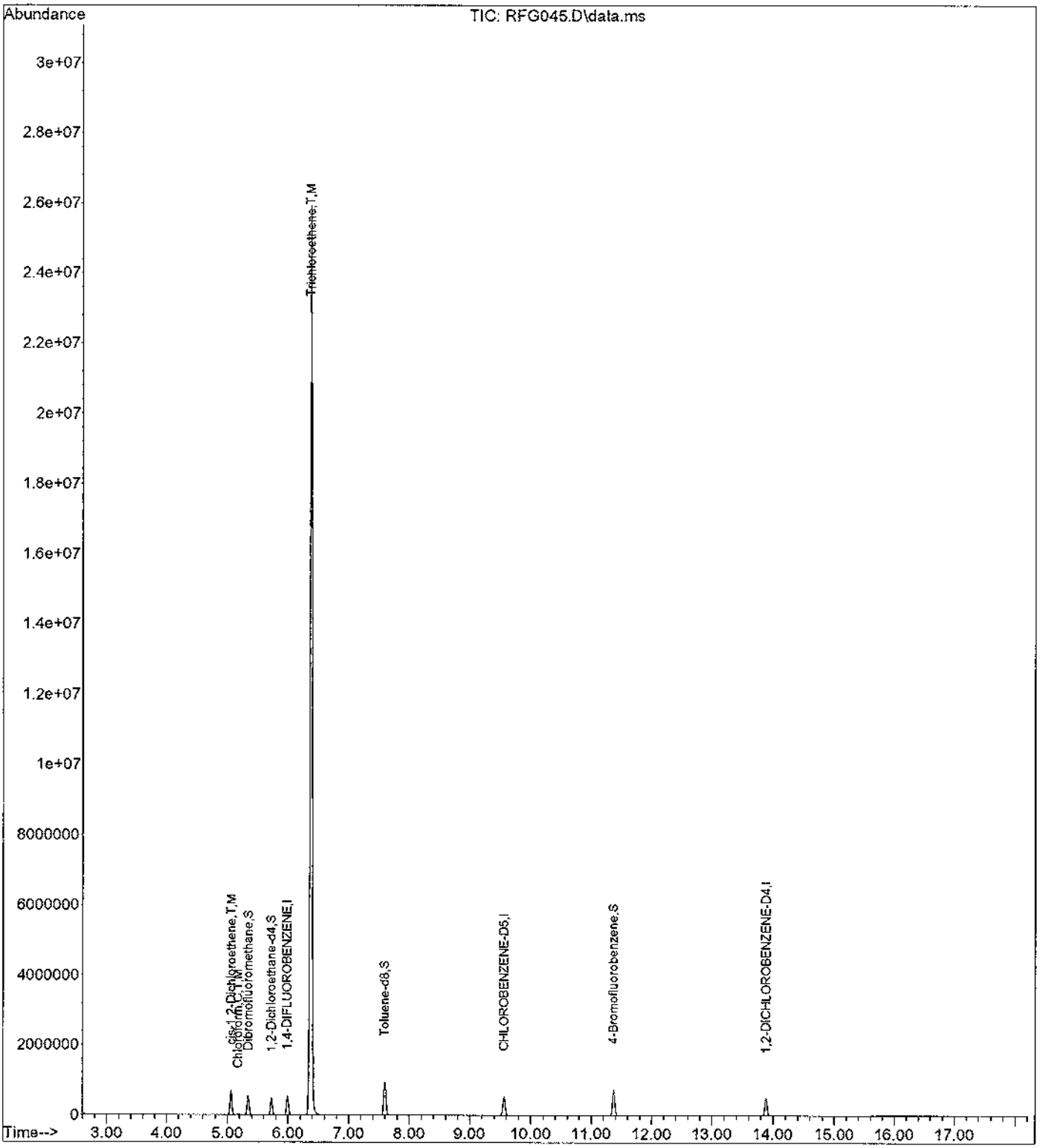
(#) = qualifier out of range (m) = manual integration (+) = signals summed

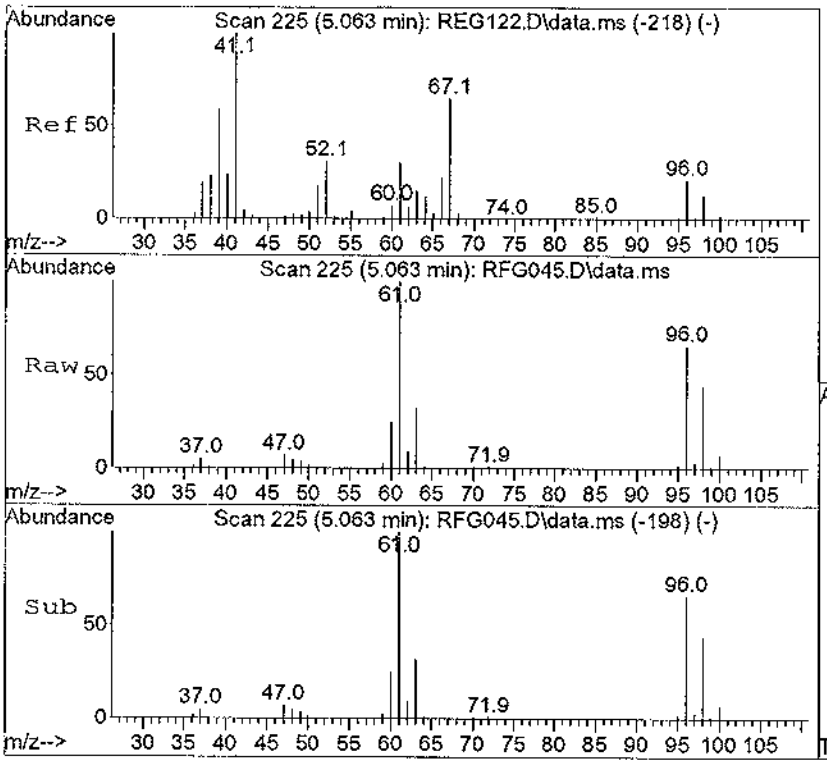
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG045.D
Acq On : 8 Jun 2024 19:27
Sample : 24F004-08
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 10:26:06 2024
Quant Results File: VOE2E17.RES

Vial: 15
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

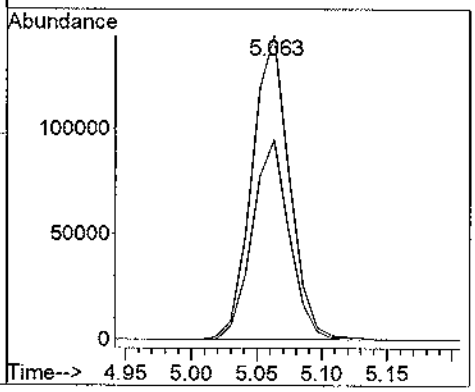


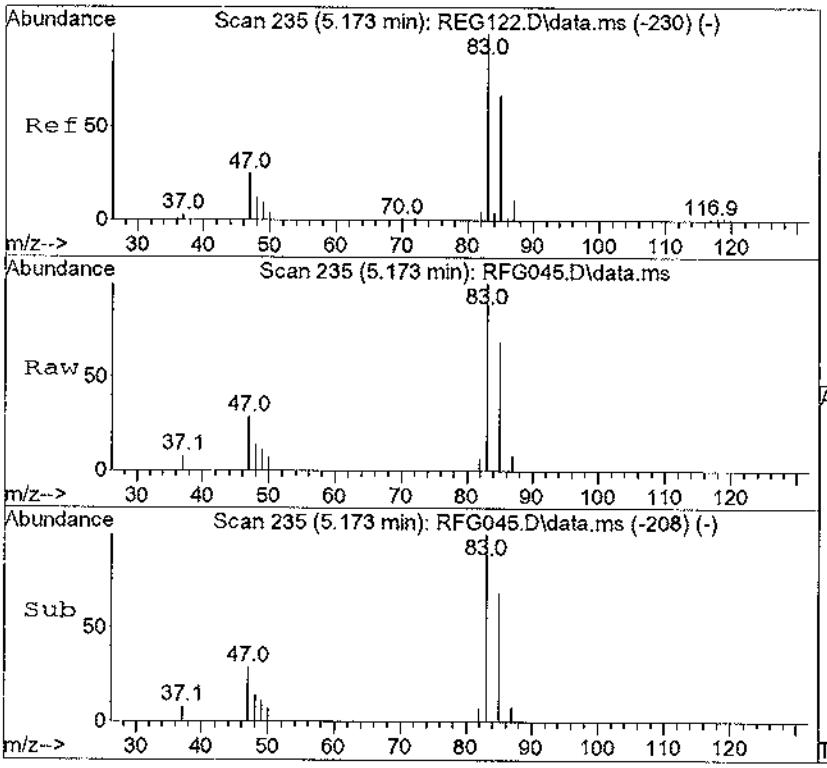



#32
cis-1,2-Dichloroethene
Concen: 10.75 ug/l
RT: 5.063 min Scan# 225
Delta R.T. 0.000 min
Lab File: RFG045.D
Acq: 8 Jun 2024 19:27

Tgt Ion: 96 Resp: 287721

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 64.9 | 33.9 | 93.9 |

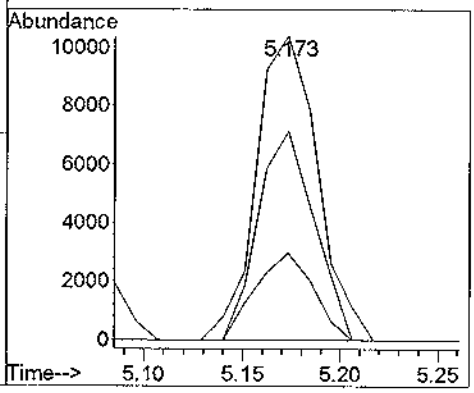


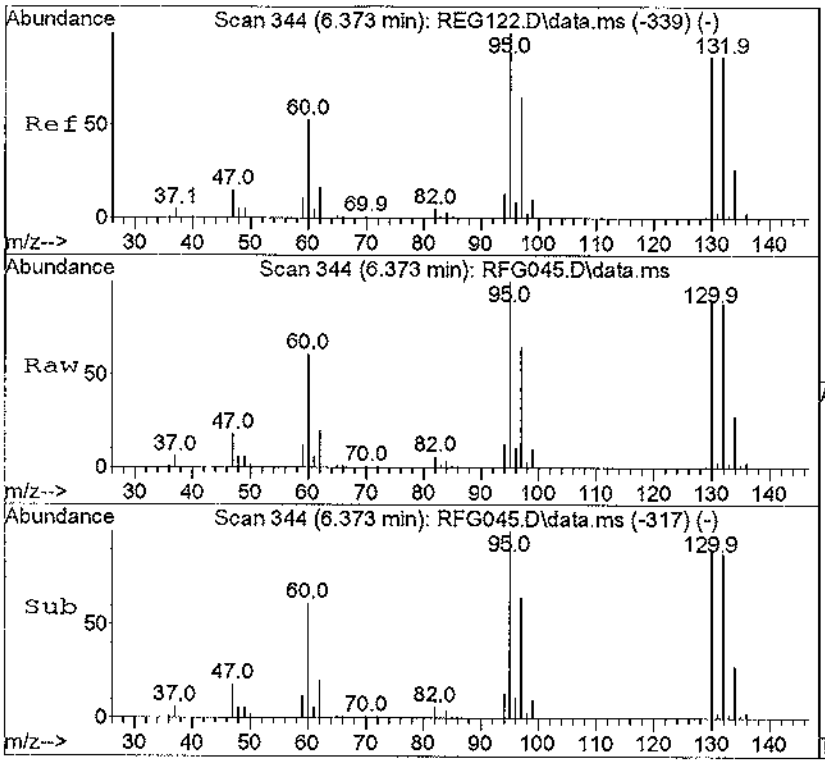




#33
Chloroform
Concen: 0.38 ug/l
RT: 5.173 min Scan# 235
Delta R.T. 0.000 min
Lab File: RFG045.D
Acq: 8 Jun 2024 19:27

Tgt Ion: 83 Resp: 22627

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 63.1 | 35.4 | 95.4 |
| 47 | 26.9 | 0.0 | 55.4 |

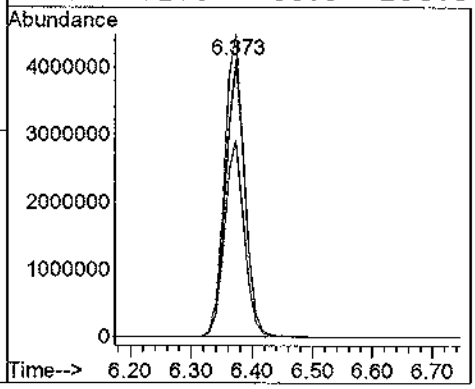





#45
Trichloroethene
Concen: 367.52 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG045.D
Acq: 8 Jun 2024 19:27

Tgt Ion:130 Resp: 9153889

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 97.2 | 67.6 | 127.6 |
| 95 | 110.6 | 82.6 | 142.6 |
| 97 | 71.5 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 08:24 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/11/24 17:01 |
| Sample ID | : TIAMF-EW001-MAY24 | Date Analyzed: | 06/11/24 17:01 |
| Lab Samp ID: | 24F004-081 | Dilution Factor: | 10 |
| Lab File ID: | RFG100 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10 | 1.0 | 2.0 |
| 1,4-Dichlorobenzene | ND | 10 | 1.0 | 2.0 |
| Benzene | ND | 10 | 1.0 | 2.0 |
| cis-1,2-Dichloroethene | 11 | 10 | 1.0 | 2.0 |
| Ethylbenzene | ND | 10 | 1.0 | 2.0 |
| m,p-Xylene | ND | 20 | 2.1 | 5.0 |
| o-Xylene | ND | 10 | 1.0 | 2.0 |
| Toluene | ND | 10 | 1.0 | 2.0 |
| Trans-1,2-Dichloroethene | ND | 10 | 1.0 | 2.0 |
| Trichloroethene | 320 | 10 | 1.0 | 2.0 |
| Vinyl Chloride | ND | 10 | 1.1 | 3.0 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 111 | 100 | 111 | 81-118 |
| 4-Bromofluorobenzene | 100 | 100 | 100 | 85-114 |
| Toluene-d8 | 105 | 100 | 105 | 89-112 |
| Dibromofluoromethane | 99.9 | 100 | 100 | 80-119 |

Notes:
Sample Amount : 1.0ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG100.D
Acq On : 11 Jun 2024 17:01
Sample : 24F004-08I 10X
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 17:26:59 2024
Quant Results File: VOE2E17.RES

Vial: 10
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 506438 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 398590 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 193637 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 309887 | 9.99 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 99.90% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 455083 | 11.10 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 111.00% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 834479 | 10.54 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.40% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 307818 | 10.01 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 100.10% | | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 30795 | 1.12 | ug/l | 99 |
| 45) Trichloroethene | 6.373 | 130 | 819820 | 32.05 | ug/L | 98 |

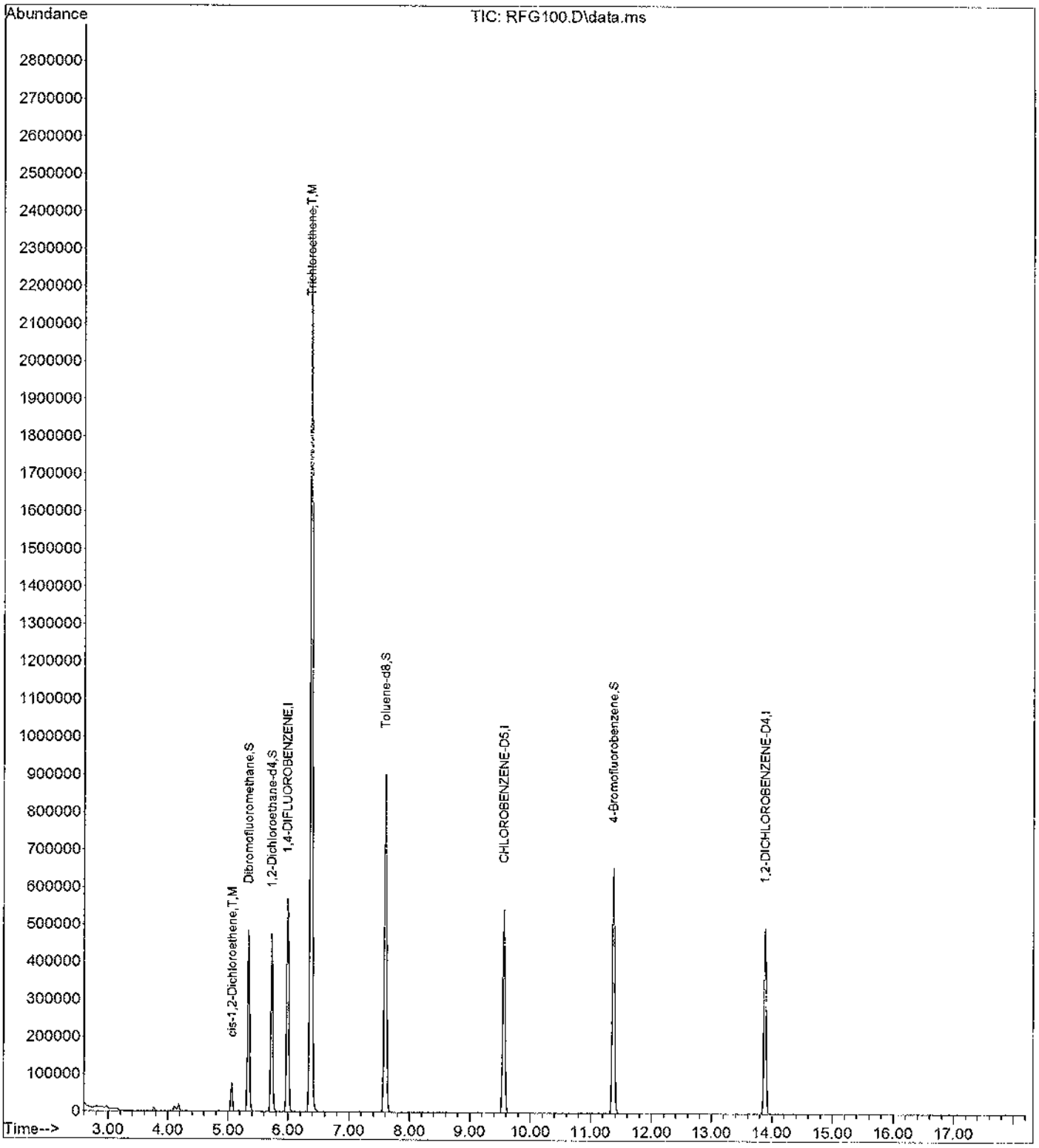
(#) = qualifier out of range (m) = manual integration (+) = signals summed

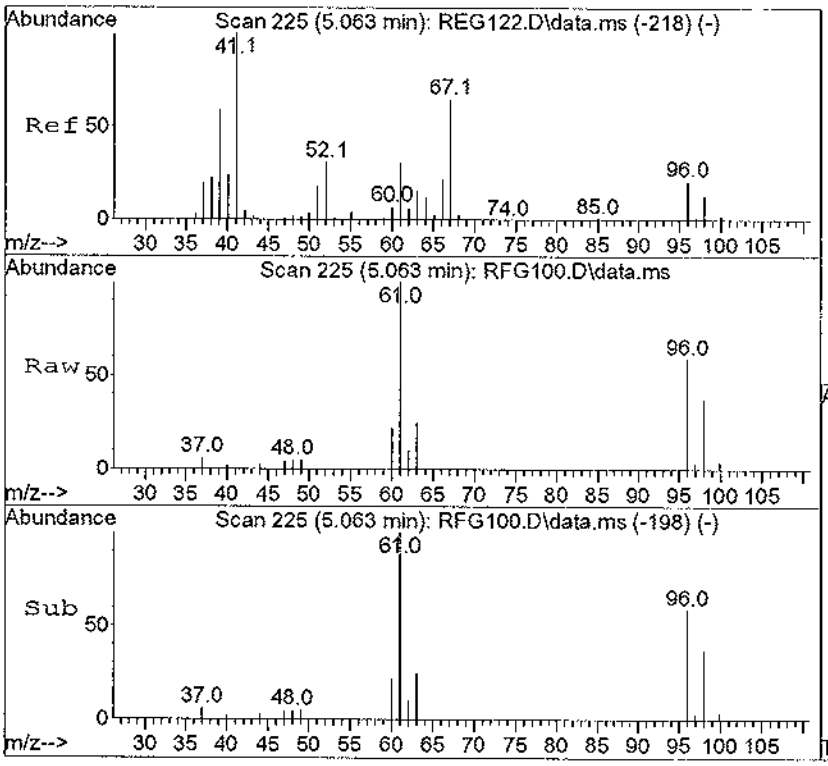
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG100.D
Acq On : 11 Jun 2024 17:01
Sample : 24F004-08I 10X
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 17:26:59 2024
Quant Results File: VOE2E17.RES

Vial: 10
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

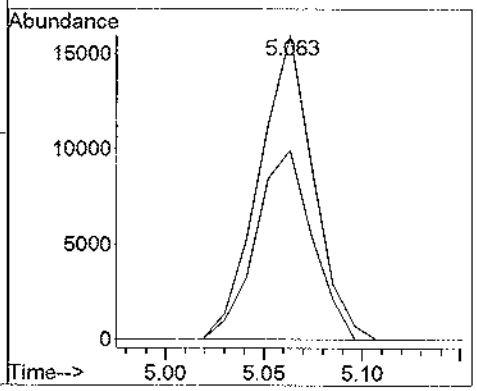


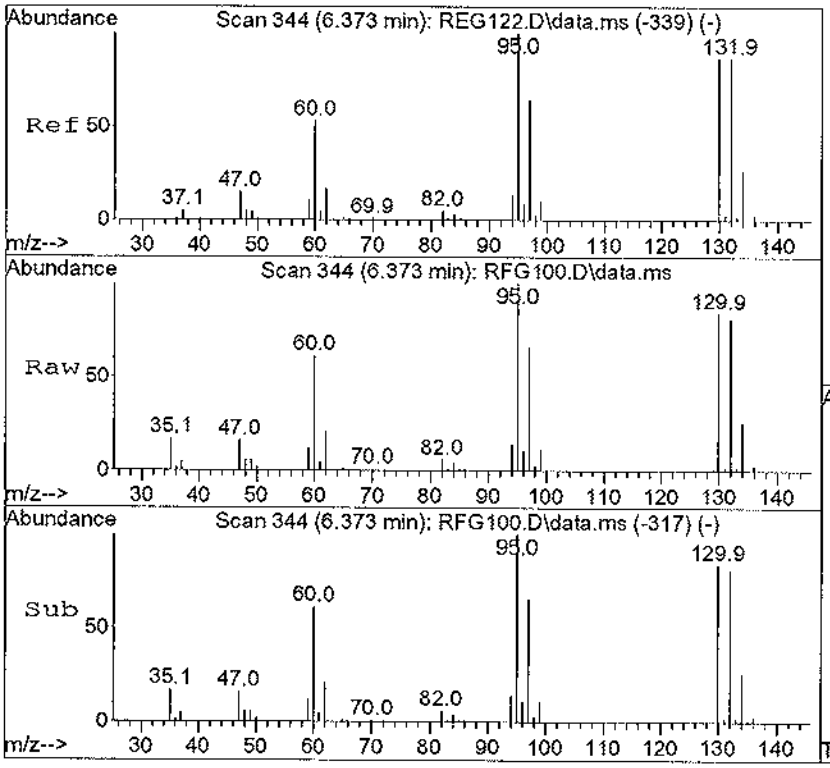



#32
cis-1,2-Dichloroethene
Concen: 1.12 ug/l
RT: 5.063 min Scan# 225
Delta R.T. 0.000 min
Lab File: RFG100.D
Acq: 11 Jun 2024 17:01

Tgt Ion: 96 Resp: 30795

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 64.7 | 33.9 | 93.9 |

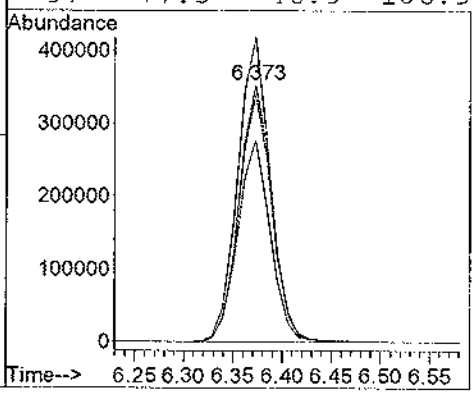



#45
Trichloroethene
Concen: 32.05 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG100.D
Acq: 11 Jun 2024 17:01

Tgt Ion:130 Resp: 819820

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.1 | 67.6 | 127.6 |
| 95 | 116.6 | 82.6 | 142.6 |
| 97 | 77.3 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 09:00 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/10/24 20:00 |
| Sample ID | : T1AMF-MW048-MAY24 | Date Analyzed: | 06/10/24 20:00 |
| Lab Samp ID: | 24F004-09N | Dilution Factor: | 1 |
| Lab File ID: | RFG071 | Matrix: | WATER |
| Ext Btch ID: | VQE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.7 | 10.0 | 107 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 9.62 | 10.0 | 96 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG071.D
Acq On : 10 Jun 2024 20:00
Sample : 24F004-09N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 14:17:40 2024
Quant Results File: VOE2E17.RES

Vial: 11
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 570196 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 441677 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 207331 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 335810 | 9.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 96.20% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 495802 | 10.74 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 107.40% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 919874 | 10.48 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 104.80% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 346467 | 10.53 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.30% | | | |
| Target Compounds | | | | | | Qvalue |

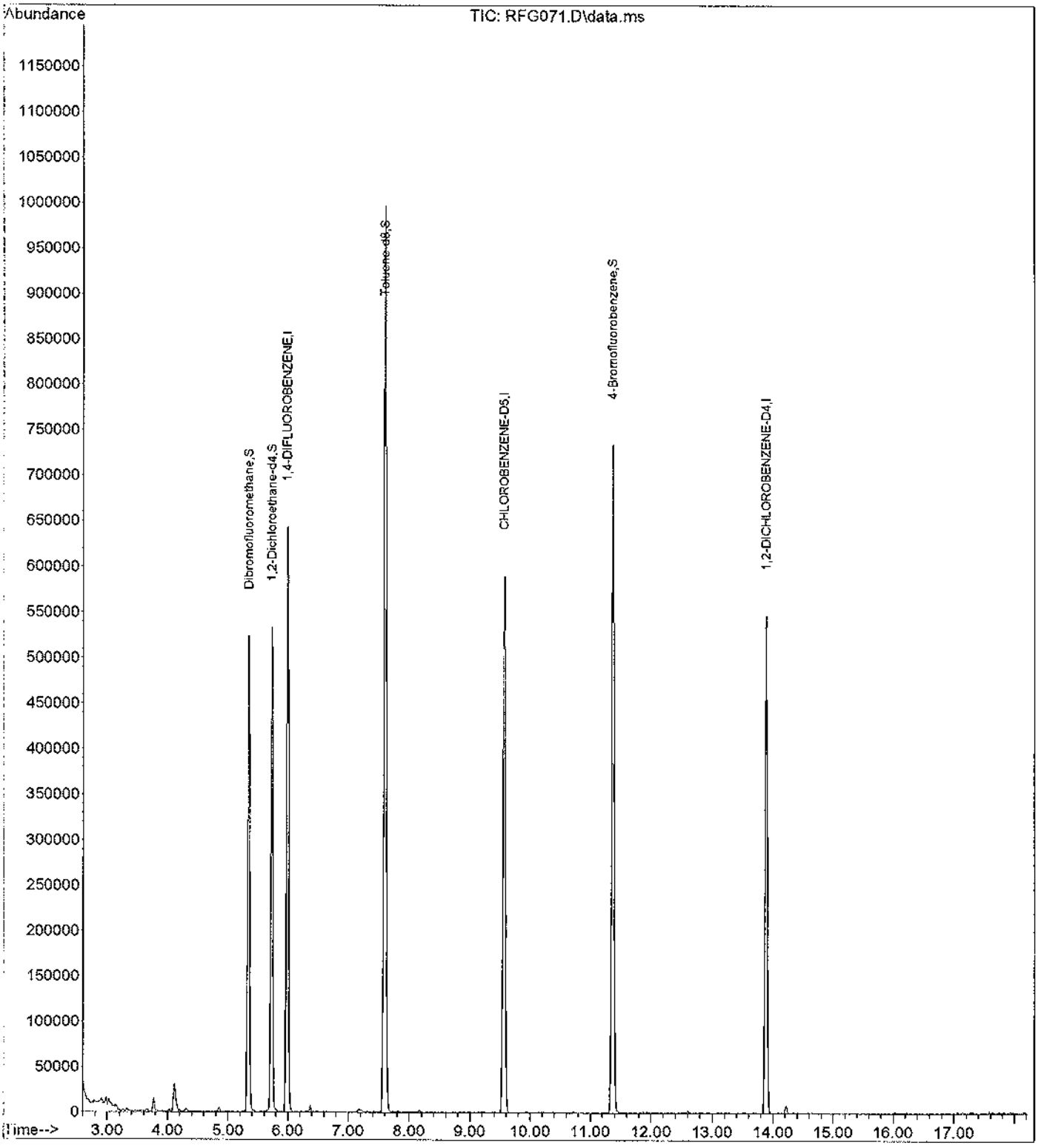
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG071.D
Acq On : 10 Jun 2024 20:00
Sample : 24F004-09N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 14:17:40 2024
Quant Results File: VOE2E17.RES

Vial: 11
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/29/24 09:45 |
| Project | : TITAN 1-A | Date Received: | 06/01/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/10/24 20:24 |
| Sample ID | : T1AMF-MW056-MAY24 | Date Analyzed: | 06/10/24 20:24 |
| Lab Samp ID: | 24F004-10N | Dilution Factor: | 1 |
| Lab File ID: | RFG072 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.20J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 13 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.8 | 10.0 | 108 | 81-118 |
| 4-Bromofluorobenzene | 10.2 | 10.0 | 102 | 85-114 |
| Toluene-d8 | 10.8 | 10.0 | 108 | 89-112 |
| Dibromofluoromethane | 9.68 | 10.0 | 97 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG072.D
Acq On : 10 Jun 2024 20:24
Sample : 24F004-10N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 14:26:27 2024
Quant Results File: VOE2E17.RES

Vial: 12
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 552850 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 420958 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 212301 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 327919 | 9.68 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 96.80% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 485270 | 10.85 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 108.50% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 906129 | 10.83 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 108.30% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 343139 | 10.18 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 101.80% | | | |
| Target Compounds | | | | | | Qvalue |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 6091 | 0.20 | ug/l | 95 |
| 45) Trichloroethene | 6.373 | 130 | 370919 | 13.28 | ug/L | 96 |

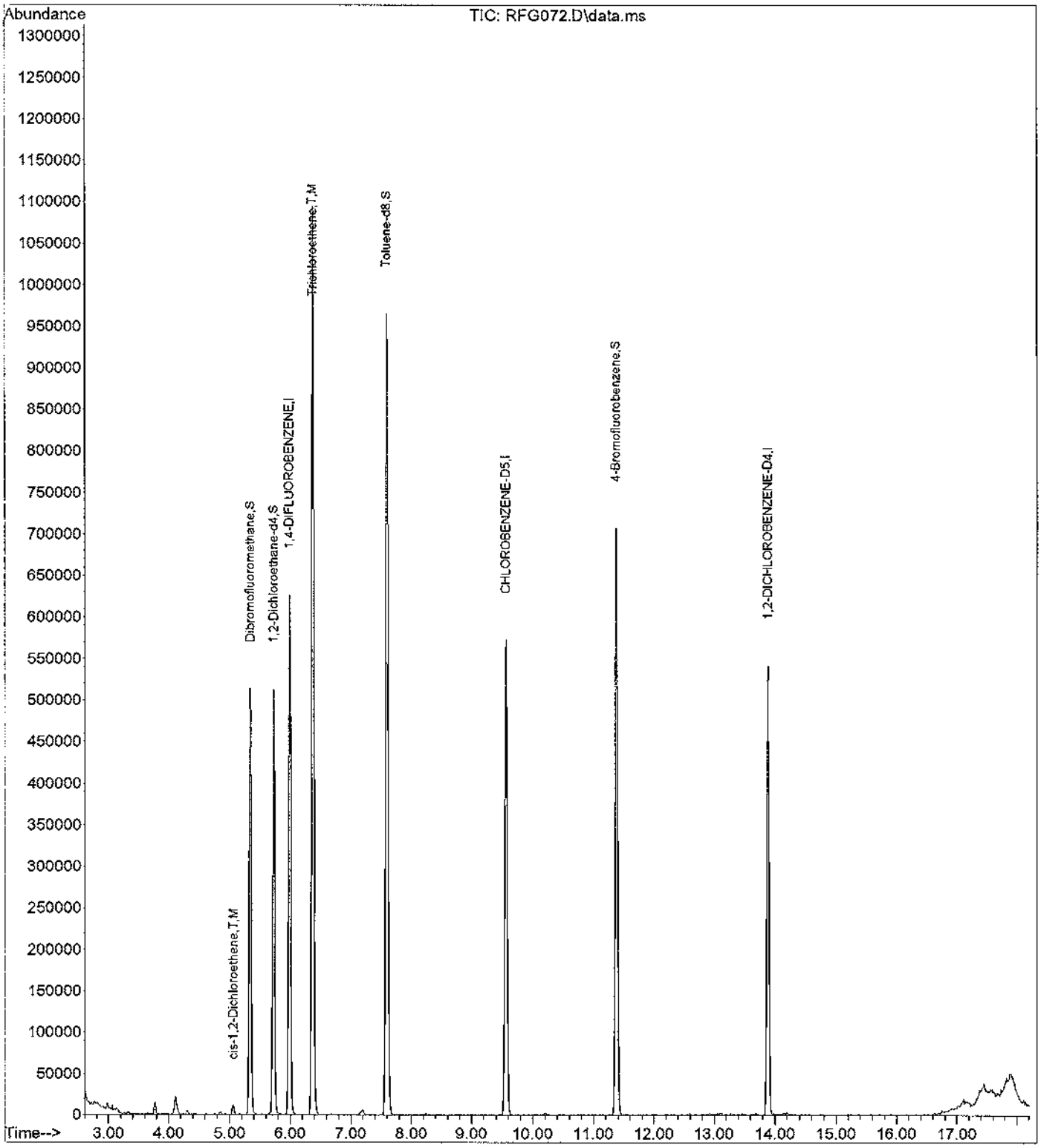
(#) = qualifier out of range (m) = manual integration (+) = signals summed

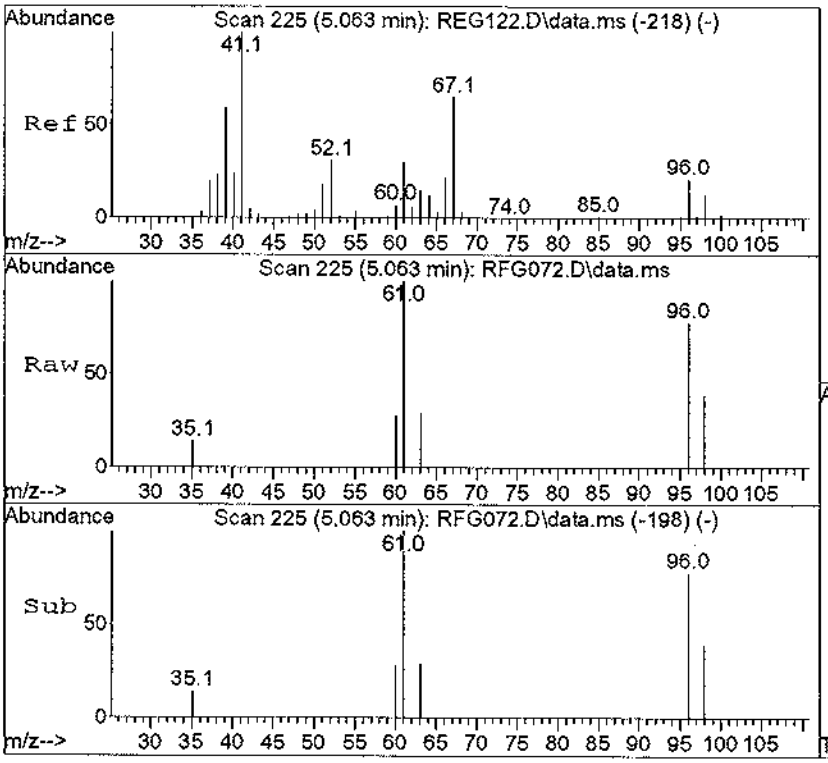
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG072.D
Acq On : 10 Jun 2024 20:24
Sample : 24F004-10N
Misc : 1.0mL
Integrator: RTE
Quant Time: Jun 13 14:26:27 2024
Quant Results File: VOE2E17.RES

Vial: 12
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

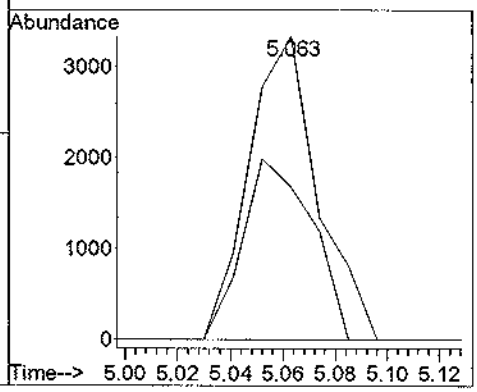


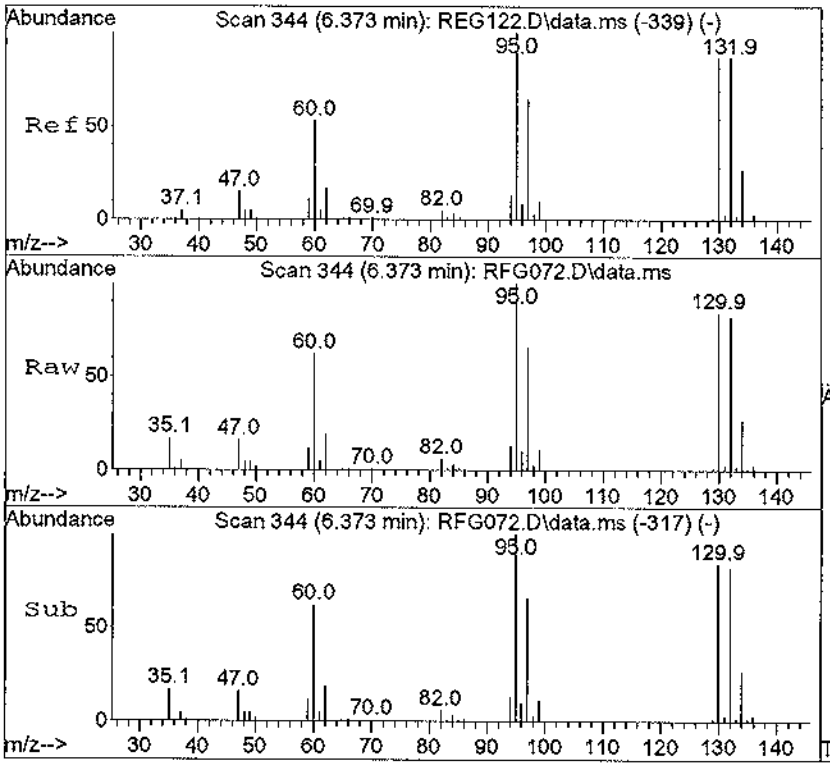



#32
cis-1,2-Dichloroethene
Concen: 0.20 ug/l
RT: 5.063 min Scan# 225
Delta R.T. -0.000 min
Lab File: RFG072.D
Acq: 10 Jun 2024 20:24

Tgt Ion: 96 Resp: 6091

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 60.0 | 33.9 | 93.9 |

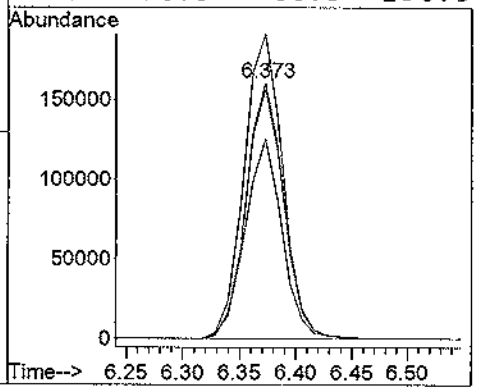



#45
Trichloroethene
Concen: 13.28 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG072.D
Acq: 10 Jun 2024 20:24

Tgt Ion:130 Resp: 370919

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 98.3 | 67.6 | 127.6 |
| 95 | 122.5 | 82.6 | 142.6 |
| 97 | 76.9 | 46.9 | 106.9 |



# QC SUMMARIES

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/08/24 16:16 |
| Project | : TITAN 1-A | Date Received: | 06/08/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/08/24 16:16 |
| Sample ID | : MBLK1W | Date Analyzed: | 06/08/24 16:16 |
| Lab Samp ID: | VOE2F02B | Dilution Factor: | 1 |
| Lab File ID: | RFG037 | Matrix: | WATER |
| Ext Btch ID: | VOE2F02 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.6 | 10.0 | 106 | 81-118 |
| 4-Bromofluorobenzene | 9.97 | 10.0 | 100 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 10.7 | 10.0 | 107 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F004
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK1W | LCS1W | LCD1W |
| LAB SAMPLE ID | : VOE2F02B | VOE2F02L | VOE2F02C |
| LAB FILE ID | : RFG037 | RFG034 | RFG035 |
| DATE PREPARED | : 06/08/24 16:16 | 06/08/24 15:04 | 06/08/24 15:28 |
| DATE ANALYZED | : 06/08/24 16:16 | 06/08/24 15:04 | 06/08/24 15:28 |
| PREP BATCH | : VOE2F02 | VOE2F02 | VOE2F02 |
| CALIBRATION REF: | REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 10.3 | 103 | 10.0 | 10.3 | 103 | 0 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 11.7 | 117 | 10.0 | 11.2 | 112 | 4 | 79-118 | 20 |
| Benzene | ND | 10.0 | 10.5 | 105 | 10.0 | 10.2 | 102 | 3 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 10.3 | 103 | 10.0 | 10.2 | 102 | 1 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.1 | 101 | 10.0 | 9.84 | 98 | 3 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 19.3 | 97 | 20.0 | 18.6 | 93 | 4 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.2 | 102 | 10.0 | 9.99 | 100 | 2 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.3 | 103 | 10.0 | 9.99 | 100 | 3 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 9.88 | 99 | 10.0 | 9.89 | 99 | 0 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 10.2 | 102 | 10.0 | 10.3 | 103 | 1 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 10.5 | 105 | 10.0 | 9.50 | 95 | 10 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.5 | 105 | 10.0 | 10.5 | 105 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.0 | 100 | 10.0 | 9.98 | 100 | 85-114 |
| Toluene-d8 | 10.0 | 10.2 | 102 | 10.0 | 10.3 | 103 | 89-112 |
| Dibromofluoromethane | 10.0 | 10.5 | 105 | 10.0 | 10.7 | 107 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/10/24 18:25 |
| Project | : TITAN 1-A | Date Received: | 06/10/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/10/24 18:25 |
| Sample ID | : MBLK2W | Date Analyzed: | 06/10/24 18:25 |
| Lab Samp ID: | VOE2F03B | Dilution Factor: | 1 |
| Lab File ID: | RFG067 | Matrix: | WATER |
| Ext Btch ID: | VOE2F03 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.3 | 10.0 | 103 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.8 | 10.0 | 108 | 89-112 |
| Dibromofluoromethane | 9.60 | 10.0 | 96 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

ENAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F004
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK2W | LCS2W | LCD2W |
| LAB SAMPLE ID | : VOE2F03B | VOE2F03L | VOE2F03C |
| LAB FILE ID | : RFG067 | RFG063 | RFG064 |
| DATE PREPARED | : 06/10/24 18:25 | 06/10/24 17:13 | 06/10/24 17:37 |
| DATE ANALYZED | : 06/10/24 18:25 | 06/10/24 17:13 | 06/10/24 17:37 |
| PREP BATCH | : VOE2F03 | VOE2F03 | VOE2F03 |
| CALIBRATION REF: | REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 10.3 | 103 | 10.0 | 10.6 | 106 | 3 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.9 | 109 | 10.0 | 11.5 | 115 | 5 | 79-118 | 20 |
| Benzene | ND | 10.0 | 10.7 | 107 | 10.0 | 11.1 | 111 | 4 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 10.2 | 102 | 10.0 | 10.6 | 106 | 4 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.7 | 107 | 10.0 | 11.4 | 114 | 6 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 20.8 | 104 | 20.0 | 22.2 | 111 | 7 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.9 | 109 | 10.0 | 11.8 | 118 | 8 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.8 | 108 | 10.0 | 11.7 | 117 | 8 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 10.1 | 101 | 10.0 | 10.2 | 102 | 1 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.31 | 93 | 10.0 | 9.74 | 97 | 5 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 10.1 | 101 | 10.0 | 9.12 | 91 | 10 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 9.95 | 100 | 10.0 | 9.88 | 99 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.4 | 104 | 10.0 | 10.8 | 108 | 85-114 |
| Toluene-d8 | 10.0 | 10.5 | 105 | 10.0 | 10.5 | 105 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.84 | 98 | 10.0 | 9.40 | 94 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/11/24 15:26 |
| Project | : TITAN 1-A | Date Received: | 06/11/24 |
| Batch No. | : 24F004 | Date Extracted: | 06/11/24 15:26 |
| Sample ID | : MBLK3W | Date Analyzed: | 06/11/24 15:26 |
| Lab Samp ID: | VOE2F04B | Dilution Factor: | 1 |
| Lab File ID: | RFG096 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.8 | 10.0 | 108 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.95 | 10.0 | 100 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

ENAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F004
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK3W | LCS3W | LCD3W |
| LAB SAMPLE ID | : VOE2F04B | VOE2F04L | VOE2F04C |
| LAB FILE ID | : RFG096 | RFG093 | RFG094 |
| DATE PREPARED | : 06/11/24 15:26 | 06/11/24 14:15 | 06/11/24 14:39 |
| DATE ANALYZED | : 06/11/24 15:26 | 06/11/24 14:15 | 06/11/24 14:39 |
| PREP BATCH | : VOE2F04 | VOE2F04 | VOE2F04 |
| CALIBRATION REF: | REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 9.69 | 97 | 10.0 | 9.34 | 93 | 4 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.7 | 107 | 10.0 | 10.3 | 103 | 4 | 79-118 | 20 |
| Benzene | ND | 10.0 | 9.98 | 100 | 10.0 | 9.74 | 97 | 2 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 9.91 | 99 | 10.0 | 9.49 | 95 | 4 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.5 | 105 | 10.0 | 10.4 | 104 | 1 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 20.4 | 102 | 20.0 | 20.2 | 101 | 1 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.7 | 107 | 10.0 | 10.6 | 106 | 1 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.4 | 104 | 10.0 | 10.3 | 103 | 1 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 9.39 | 94 | 10.0 | 9.07 | 91 | 3 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.00 | 90 | 10.0 | 8.65 | 87 | 4 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 11.0 | 110 | 10.0 | 10.4 | 104 | 6 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.6 | 106 | 10.0 | 10.1 | 101 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 11.1 | 111 | 10.0 | 10.6 | 106 | 85-114 |
| Toluene-d8 | 10.0 | 10.6 | 106 | 10.0 | 10.6 | 106 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.84 | 98 | 10.0 | 9.56 | 96 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

# QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG037.D
Acq On : 8 Jun 2024 16:16
Sample : VOE2F02B
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 10:09:30 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 702533 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 598134 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 288194 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 461894 | 10.73 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.30% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 605458 | 10.65 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1215479 | 10.23 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.30% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 456219 | 9.97 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.70% | | |
| Target Compounds | | | | | | Qvalue |

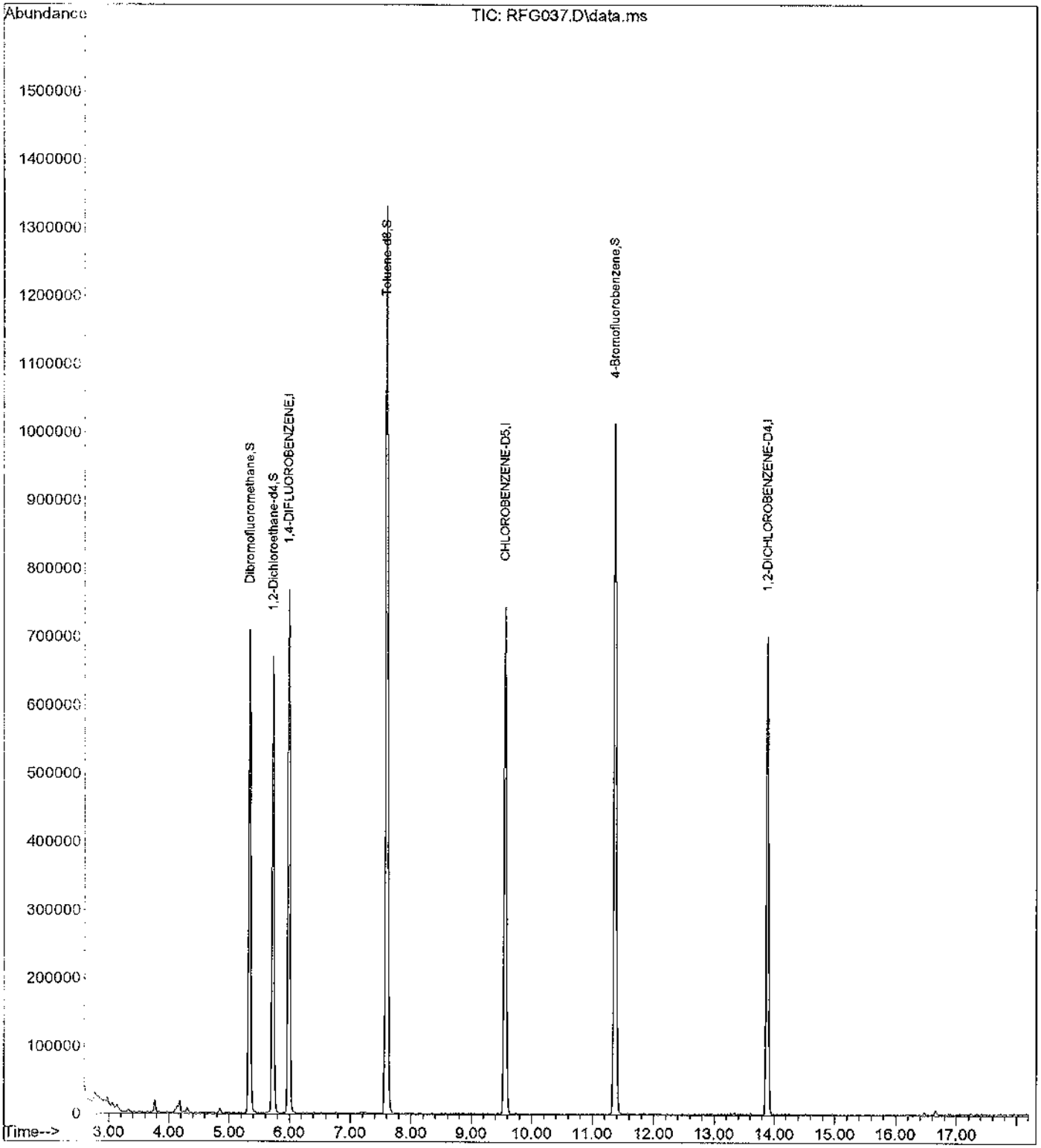
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG037.D
Acq On : 8 Jun 2024 16:16
Sample : VOE2F02B
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 10:09:30 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG034.D Vial: 4
Acq On : 8 Jun 2024 15:04 Operator: DNguye
Sample : VOE2F02L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 12 12:59:46 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 804216 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 688163 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 361553 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 517441 | 10.51 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.10% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 682818 | 10.49 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.90% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1399192 | 10.23 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.30% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 574077 | 10.00 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 487772 | 10.57 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 273464 | 8.26 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 366433 | 10.48 | ug/l | 100 |
| 5) Bromomethane | 3.313 | 94 | 188606 | 7.97 | ug/l | 99 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 882065 | 11.04 | ug/L | 98 |
| 7) Chloroethane | 3.346 | 64 | 152032 | 8.87 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 617669 | 7.86 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 207034 | 39.59 | ug/l | 95 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 357353 | 10.43 | ug/l | 95 |
| 11) Acetone | 3.775 | 43 | 541181 | 52.50 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 1084370 | 221.73 | ug/L | 95 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 742944 | 10.34 | ug/l | 97 |
| 14) Acetonitrile | 3.874 | 41 | 246890 | 101.73 | ug/L | 98 |
| 15) Allyl chloride | 4.105 | 76 | 210583 | 11.09 | ug/L | 100 |
| 16) Iodomethane | 4.149 | 142 | 467381 | 12.18 | ug/l | 97 |
| 18) Methylene chloride | 4.182 | 49 | 590980 | 11.60 | ug/l | 97 |
| 19) Acrylonitrile | 4.215 | 53 | 517321 | 42.78 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 1226873 | 10.21 | ug/L | 100 |
| 21) Carbon disulfide | 4.315 | 76 | 1061248 | 9.63 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 379003 | 9.88 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1392888 | 11.39 | ug/l | 97 |
| 24) Vinyl acetate | 4.546 | 43 | 466600 | 6.70 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 827459 | 10.67 | ug/l | 98 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1393527 | 9.38 | ug/l | 91 |
| 27) 2-Butanone | 4.854 | 72 | 161850 | 42.89 | ug/l | 98 |
| 28) Propionitrile | 4.909 | 54 | 428436 | 96.36 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 336578 | 214.25 | ug/L | 97 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 836439 | 10.77 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 730370 | 100.05 | ug/L | 94 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 449428 | 10.29 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 956761 | 9.95 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 268659 | 10.47 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.316 | 42 | 107408 | 10.60 | ug/L | 92 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 894852 | 10.32 | ug/l | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 278929 | 10.53 | ug/l | 100 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 192672 | 10.15 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 788349 | 10.74 | ug/L | 100 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 789620 | 10.68 | ug/L | 100 |
| 44) Benzene | 5.866 | 78 | 1546406 | 10.51 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG034.D Vial: 4
Acq On : 8 Jun 2024 15:04 Operator: DNguye
Sample : VOE2F02L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 12 12:59:46 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

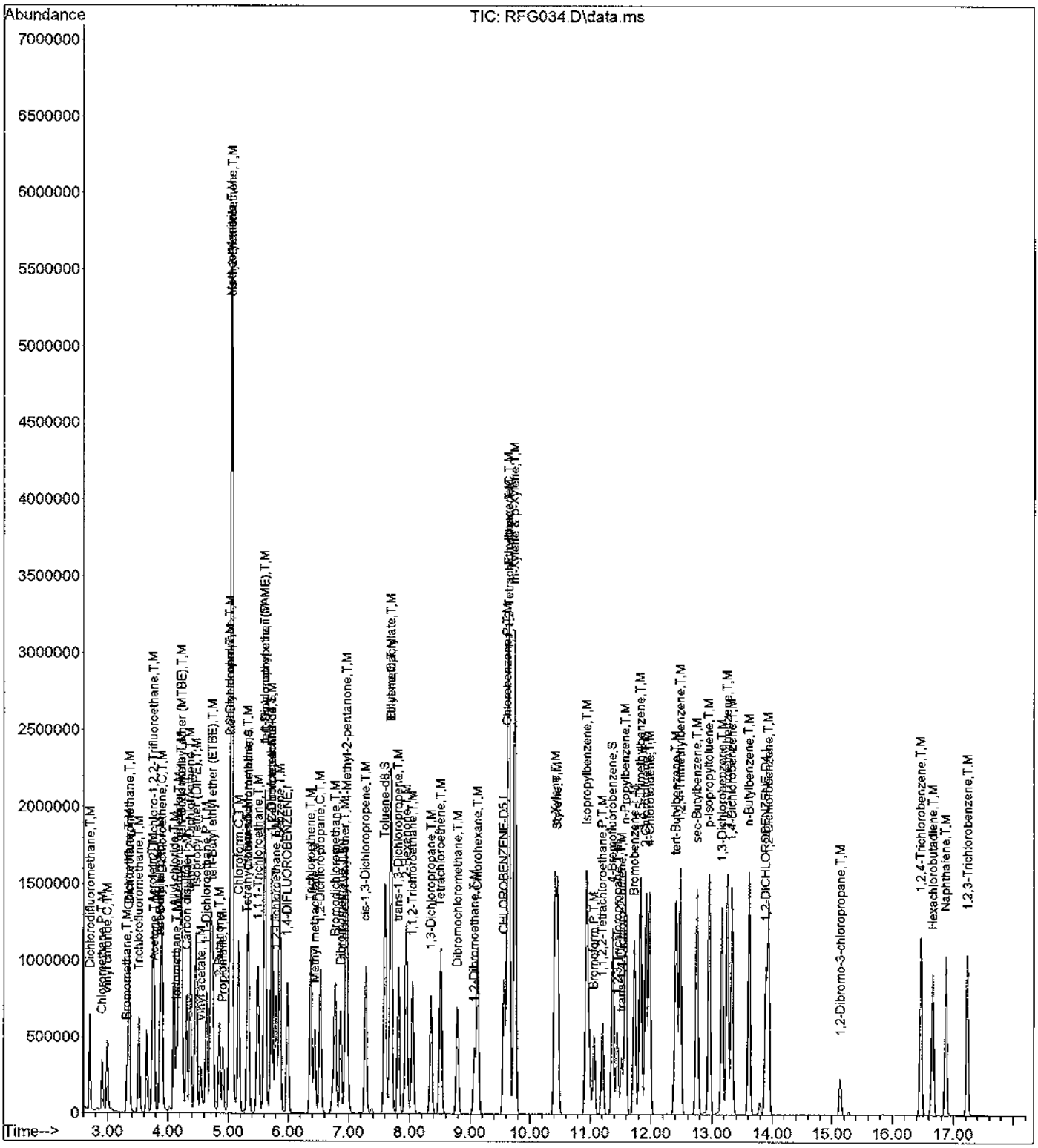
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.373 | 130 | 413995 | 10.19 | ug/L | 96 |
| 46) | Methyl methacrylate | 6.439 | 69 | 249501 | 6.93 | ug/L | 91 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 414489 | 11.04 | ug/L | 95 |
| 50) | Bromodichloromethane | 6.780 | 83 | 729489 | 10.26 | ug/L | 99 |
| 51) | Dibromomethane | 6.868 | 93 | 295986 | 9.69 | ug/L | 91 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 140266 | 7.54 | ug/L | 100 |
| 53) | 4-Methyl-2-pentanone | 6.967 | 43 | 1978662 | 48.09 | ug/L | 97 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 696795 | 10.61 | ug/L | 96 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 470553 | 10.02 | ug/L | 91 |
| 58) | Toluene | 7.693 | 91 | 1607420 | 10.30 | ug/l | 99 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 691172 | 10.35 | ug/l | 94 |
| 60) | 2-Hexanone | 7.946 | 43 | 1362585 | 48.29 | ug/l | 94 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 362664 | 9.79 | ug/l | 98 |
| 62) | 1,3-Dichloropropane | 8.353 | 76 | 576787 | 10.49 | ug/l | 100 |
| 63) | Tetrachloroethene | 8.508 | 164 | 397877 | 11.66 | ug/l | 90 |
| 64) | Dibromochloromethane | 8.794 | 129 | 537263 | 9.67 | ug/l | 99 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 389300 | 9.75 | ug/l | 98 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 529354 | 10.25 | ug/l | 97 |
| 67) | Chlorobenzene | 9.619 | 112 | 1047704 | 10.16 | ug/l | 100 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 449676 | 10.25 | ug/l | 100 |
| 69) | Ethylbenzene | 9.641 | 91 | 1911083 | 10.13 | ug/l | 99 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 2974366 | 19.33 | ug/l | 99 |
| 71) | o-Xylene | 10.422 | 91 | 1490148 | 10.23 | ug/l | 98 |
| 72) | Styrene | 10.455 | 104 | 1061944 | 10.43 | ug/l | 98 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1743378 | 10.50 | ug/L | 98 |
| 75) | Bromoform | 11.061 | 173 | 387157 | 9.81 | ug/l | 97 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 459297 | 9.11 | ug/l | 99 |
| 78) | 1,2,3-Trichloropropane | 11.457 | 110 | 127239 | 9.15 | ug/l | 97 |
| 79) | trans-1,4-Dichloro-2-b... | 11.523 | 53 | 138484 | 9.84 | ug/l | 92 |
| 80) | n-Propylbenzene | 11.578 | 91 | 2162370 | 9.43 | ug/l | 99 |
| 81) | Bromobenzene | 11.732 | 156 | 522254 | 10.38 | ug/l | 99 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 1448938 | 9.19 | ug/l | 97 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 1378164 | 9.74 | ug/l | 95 |
| 84) | 4-Chlorotoluene | 11.985 | 91 | 1253039 | 10.45 | ug/l | 92 |
| 85) | tert-Butylbenzene | 12.414 | 134 | 229472 | 9.41 | ug/l | 96 |
| 86) | 1,2,4-Trimethylbenzene | 12.480 | 105 | 1465105 | 9.51 | ug/l | 100 |
| 87) | sec-Butylbenzene | 12.756 | 105 | 1702753 | 9.53 | ug/l | 100 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 1418621 | 9.47 | ug/l | 98 |
| 89) | 1,3-Dichlorobenzene | 13.174 | 146 | 862467 | 12.02 | ug/l | 97 |
| 90) | 1,2,3-Trimethylbenzene | 13.262 | 105 | 1431729 | 9.37 | ug/L | 97 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 872351 | 11.70 | ug/l | 98 |
| 92) | n-Butylbenzene | 13.614 | 91 | 1345123 | 9.44 | ug/l | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 822850 | 10.42 | ug/l | 98 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 91936 | 8.97 | ug/l | 99 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 544400 | 11.38 | ug/l | 96 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 308450 | 11.30 | ug/l | 99 |
| 97) | Naphthalene | 16.871 | 128 | 1061974 | 8.70 | ug/l | 99 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 506922 | 11.14 | ug/l | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG034.D Vial: 4
Acq On : 8 Jun 2024 15:04 Operator: DNguye
Sample : VOE2F02L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 12 12:59:46 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG035.D
Acq On : 8 Jun 2024 15:28
Sample : VOE2F02C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 12 17:26:14 2024
Quant Results File: VOE2E17.RES

Vial: 5
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 788614 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 686122 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 360055 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 515443 | 10.67 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.70% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 669303 | 10.49 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.90% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1400819 | 10.27 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.70% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 570302 | 9.98 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.80% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 411635 | 9.10 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 246041 | 7.58 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 325969 | 9.50 | ug/l | 96 |
| 5) Bromomethane | 3.313 | 94 | 181868 | 7.84 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 850864 | 10.86 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 141672 | 8.43 | ug/l | 96 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 536371 | 6.96 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 221542 | 43.20 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 358008 | 10.66 | ug/l | 98 |
| 11) Acetone | 3.775 | 43 | 542959 | 53.83 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 1094032 | 228.13 | ug/L | 95 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 727304 | 10.32 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 238983 | 100.42 | ug/L | 94 |
| 15) Allyl chloride | 4.106 | 76 | 201636 | 10.83 | ug/L | 100 |
| 16) Iodomethane | 4.150 | 142 | 466685 | 12.40 | ug/l | 97 |
| 18) Methylene chloride | 4.183 | 49 | 578598 | 11.58 | ug/l | 96 |
| 19) Acrylonitrile | 4.216 | 53 | 544046 | 45.89 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1174679 | 9.97 | ug/L | 100 |
| 21) Carbon disulfide | 4.304 | 76 | 890734 | 8.25 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 371808 | 9.89 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1340576 | 11.18 | ug/l | 96 |
| 24) Vinyl acetate | 4.546 | 43 | 439101 | 6.43 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 802785 | 10.55 | ug/l | 98 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1335540 | 9.17 | ug/l | 91 |
| 27) 2-Butanone | 4.854 | 72 | 173093 | 46.77 | ug/l | 95 |
| 28) Propionitrile | 4.909 | 54 | 415172 | 95.22 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 329257 | 213.74 | ug/L | 97 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 797281 | 10.47 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 684968 | 95.69 | ug/L | 88 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 435601 | 10.17 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 904065 | 9.59 | ug/l | 99 |
| 34) Bromochloromethane | 5.327 | 130 | 257669 | 10.25 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.327 | 42 | 106843 | 10.75 | ug/L | 89 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 864947 | 10.17 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 266012 | 10.24 | ug/l | 97 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 190850 | 10.25 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 773713 | 10.75 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 755347 | 10.42 | ug/L | 99 |
| 44) Benzene | 5.866 | 78 | 1476414 | 10.23 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG035.D Vial: 5
Acq On : 8 Jun 2024 15:28 Operator: DNguye
Sample : VOE2F02C Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 12 17:26:14 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

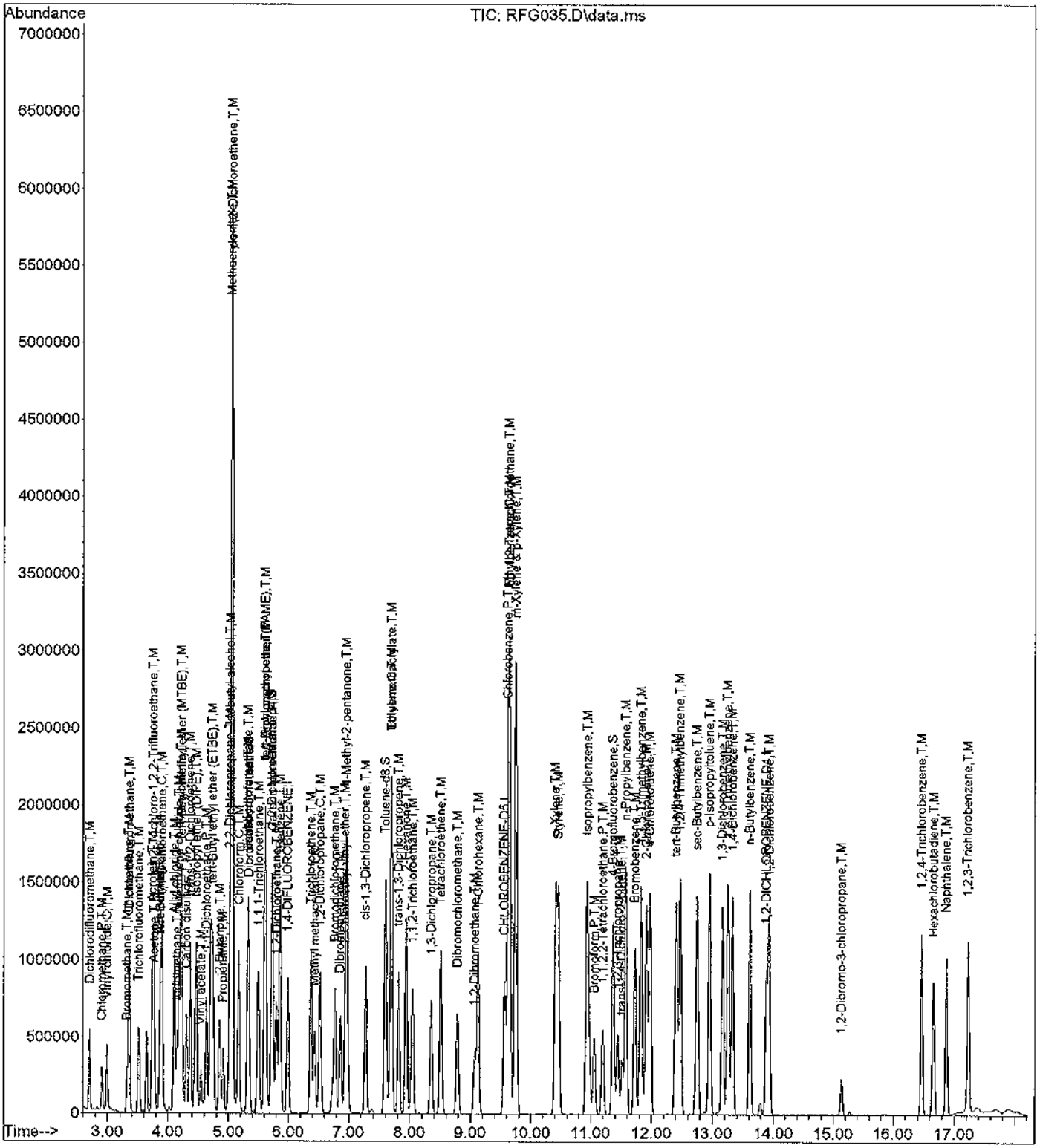
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.373 | 130 | 408856 | 10.26 | ug/L | 95 |
| 46) Methyl methacrylate | 6.439 | 69 | 249939 | 7.08 | ug/L | 86 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 400366 | 10.87 | ug/L | 96 |
| 50) Bromodichloromethane | 6.769 | 83 | 703163 | 10.09 | ug/L | 99 |
| 51) Dibromomethane | 6.857 | 93 | 289664 | 9.67 | ug/L | 91 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 137166 | 7.52 | ug/L | 96 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 2071318 | 51.34 | ug/L | 97 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 676012 | 10.50 | ug/L | 96 |
| 57) Ethyl methacrylate | 7.693 | 69 | 471425 | 10.07 | ug/L | 95 |
| 58) Toluene | 7.693 | 91 | 1555246 | 9.99 | ug/l | 99 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 665401 | 9.99 | ug/l | 97 |
| 60) 2-Hexanone | 7.935 | 43 | 1411671 | 50.18 | ug/l | 93 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 344914 | 9.34 | ug/l | 98 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 556058 | 10.14 | ug/l | 98 |
| 63) Tetrachloroethene | 8.508 | 164 | 385111 | 11.32 | ug/l | 90 |
| 64) Dibromochloromethane | 8.783 | 129 | 526232 | 9.50 | ug/l | 99 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 382194 | 9.60 | ug/l | 99 |
| 66) 1-Chlorohexane | 9.124 | 91 | 525617 | 10.21 | ug/l | 100 |
| 67) Chlorobenzene | 9.619 | 112 | 1007997 | 9.81 | ug/l | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 441991 | 10.11 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 1851851 | 9.84 | ug/l | 99 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 2845702 | 18.55 | ug/l | 98 |
| 71) o-Xylene | 10.412 | 91 | 1451281 | 9.99 | ug/l | 100 |
| 72) Styrene | 10.456 | 104 | 1015097 | 10.00 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 1666082 | 10.07 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 374898 | 9.54 | ug/l | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 440137 | 8.77 | ug/l | 98 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 125548 | 9.06 | ug/l | 100 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 131788 | 9.40 | ug/l | 93 |
| 80) n-Propylbenzene | 11.578 | 91 | 2085652 | 9.14 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 501473 | 10.01 | ug/l | 98 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 1414752 | 9.01 | ug/l | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1222689 | 8.68 | ug/l | 99 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 1312967 | 11.02 | ug/l | 100 |
| 85) tert-Butylbenzene | 12.403 | 134 | 230033 | 9.47 | ug/l | 97 |
| 86) 1,2,4-Trimethylbenzene | 12.470 | 105 | 1412017 | 9.20 | ug/l | 99 |
| 87) sec-Butylbenzene | 12.745 | 105 | 1646008 | 9.25 | ug/l | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1381522 | 9.26 | ug/l | 98 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 825485 | 11.54 | ug/l | 97 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 1385103 | 9.11 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 835511 | 11.23 | ug/l | 96 |
| 92) n-Butylbenzene | 13.614 | 91 | 1292631 | 9.11 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 795205 | 10.11 | ug/l | 96 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 88959 | 8.72 | ug/l | 99 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 524646 | 11.00 | ug/l | 94 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 300582 | 11.06 | ug/l | 98 |
| 97) Naphthalene | 16.872 | 128 | 1047842 | 8.62 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 499957 | 11.03 | ug/l | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG035.D Vial: 5
Acq On : 8 Jun 2024 15:28 Operator: DNguye
Sample : VOE2F02C Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 12 17:26:14 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG067.D
Acq On : 10 Jun 2024 18:25
Sample : VOE2F03B
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 13:49:41 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 727124 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 552730 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 266282 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 427619 | 9.60 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 96.00% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 605141 | 10.28 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.80% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1181499 | 10.76 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.60% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 441902 | 10.45 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.50% | | |
| Target Compounds | | | | | | Qvalue |

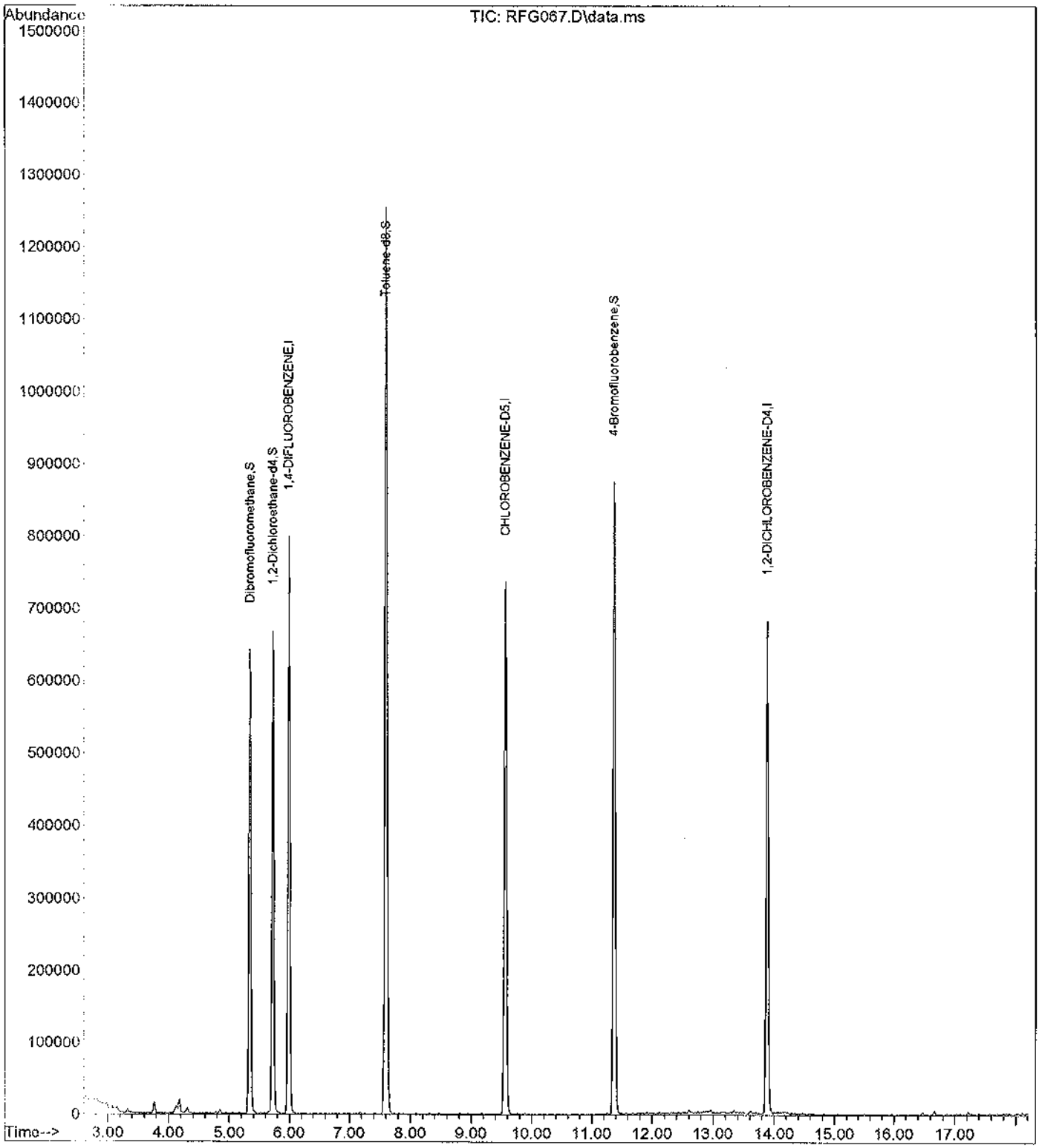
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG067.D
Acq On : 10 Jun 2024 18:25
Sample : VOE2F03B
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 13:49:41 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG063.D Vial: 3
Acq On : 10 Jun 2024 17:13 Operator: DNguye
Sample : VOE2F03L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:51:42 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 792750 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 646227 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 321378 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 477546 | 9.84 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.40% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 638295 | 9.95 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1343222 | 10.46 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.60% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 531007 | 10.41 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.10% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 478859 | 10.53 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 233171 | 7.14 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 348108 | 10.10 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 181644 | 7.79 | ug/l | 94 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 832894 | 10.57 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 155704 | 9.22 | ug/l | 97 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 617653 | 7.97 | ug/l | 99 |
| 9) Acrolein | 3.753 | 56 | 205312 | 39.82 | ug/l | 100 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 332677 | 9.85 | ug/l | 98 |
| 11) Acetone | 3.775 | 43 | 489540 | 47.77 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 1100962 | 228.38 | ug/L | 100 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 727261 | 10.26 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 219682 | 91.83 | ug/L | 97 |
| 15) Allyl chloride | 4.105 | 76 | 207943 | 11.11 | ug/L | 99 |
| 16) Iodomethane | 4.149 | 142 | 374701 | 9.96 | ug/l | 99 |
| 18) Methylene chloride | 4.182 | 49 | 535107 | 10.59 | ug/l | 95 |
| 19) Acrylonitrile | 4.215 | 53 | 513308 | 43.07 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 1253699 | 10.58 | ug/L | 97 |
| 21) Carbon disulfide | 4.315 | 76 | 1128646 | 10.39 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 381609 | 10.09 | ug/l | 97 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1226107 | 10.17 | ug/l | 98 |
| 24) Vinyl acetate | 4.546 | 43 | 414166 | 6.03 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 784954 | 10.26 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1370234 | 9.36 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 172408 | 46.35 | ug/l | 94 |
| 28) Propionitrile | 4.909 | 54 | 436654 | 99.63 | ug/L | 95 |
| 29) Isobutyl alcohol | 5.030 | 43 | 285794 | 184.55 | ug/L | 92 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 851307 | 11.12 | ug/l | 100 |
| 31) Methacrylonitrile | 5.063 | 52 | 680896 | 94.62 | ug/L | 86 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 438573 | 10.19 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 942656 | 9.94 | ug/l | 96 |
| 34) Bromochloromethane | 5.327 | 130 | 235437 | 9.31 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.327 | 42 | 95717 | 9.58 | ug/L | 94 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 911404 | 10.66 | ug/l | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 286008 | 10.95 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 183599 | 9.81 | ug/L | 97 |
| 42) Carbon tetrachloride | 5.734 | 119 | 744710 | 10.29 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 770942 | 10.58 | ug/L | 99 |
| 44) Benzene | 5.866 | 78 | 1552522 | 10.70 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG063.D Vial: 3
Acq On : 10 Jun 2024 17:13 Operator: DNguye
Sample : VOE2F03L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:51:42 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

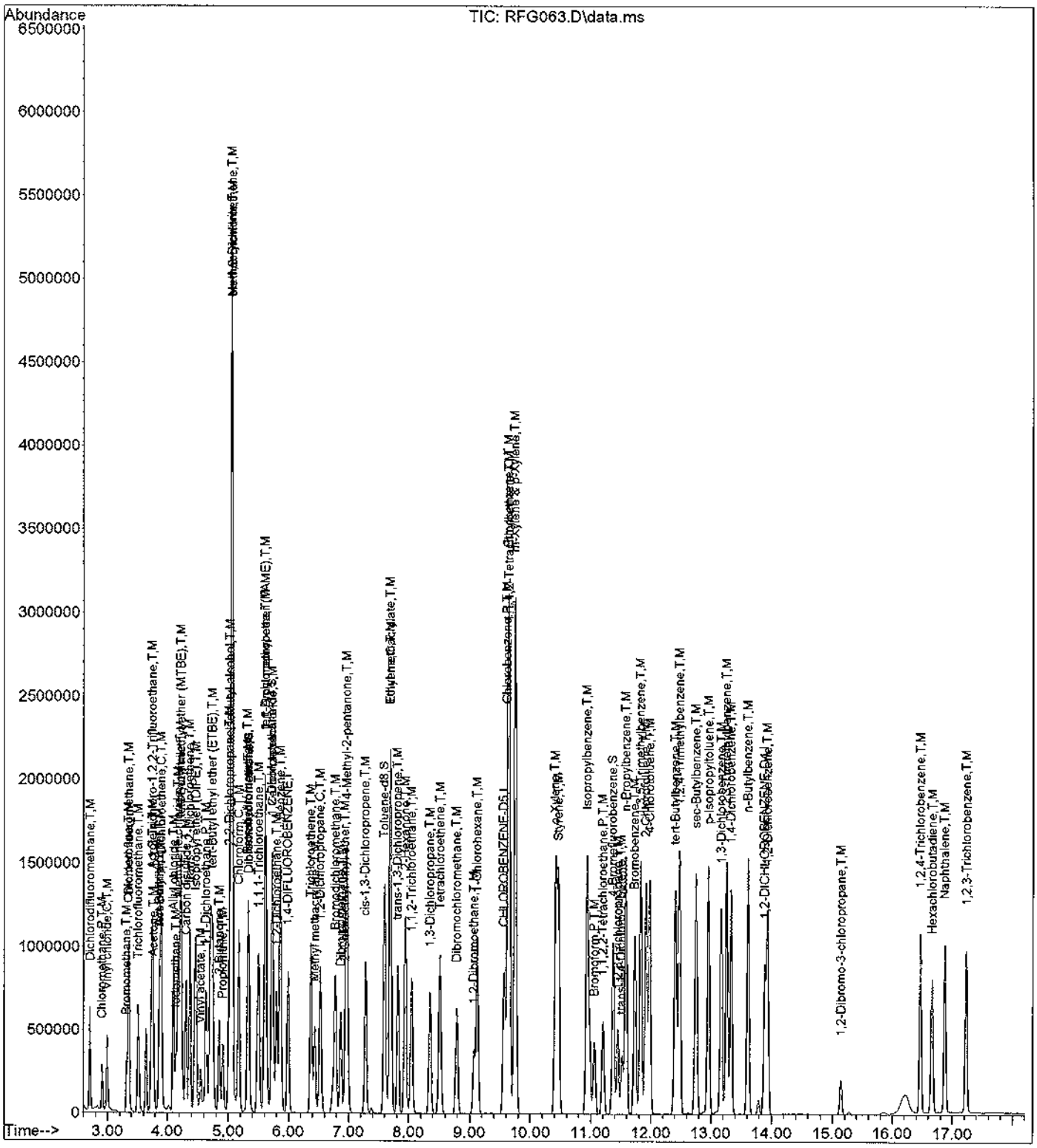
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.372 | 130 | 372826 | 9.31 | ug/L | | 96 |
| 46) Methyl methacrylate | 6.439 | 69 | 247156 | 6.97 | ug/L | # | 75 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 378642 | 10.23 | ug/L | | 97 |
| 50) Bromodichloromethane | 6.780 | 83 | 735082 | 10.49 | ug/L | | 97 |
| 51) Dibromomethane | 6.868 | 93 | 285885 | 9.49 | ug/L | | 97 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 133183 | 7.26 | ug/L | | 99 |
| 53) 4-Methyl-2-pentanone | 6.967 | 43 | 1765852 | 43.54 | ug/L | | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 686899 | 10.61 | ug/L | | 99 |
| 57) Ethyl methacrylate | 7.693 | 69 | 468696 | 10.63 | ug/L | | 94 |
| 58) Toluene | 7.693 | 91 | 1588600 | 10.84 | ug/l | | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 687479 | 10.96 | ug/l | | 96 |
| 60) 2-Hexanone | 7.946 | 43 | 1204034 | 45.44 | ug/l | | 100 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 351436 | 10.10 | ug/l | | 96 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 563627 | 10.91 | ug/l | | 98 |
| 63) Tetrachloroethene | 8.518 | 164 | 320887 | 10.02 | ug/l | | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 484738 | 9.29 | ug/l | | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 354988 | 9.47 | ug/l | | 97 |
| 66) 1-Chlorohexane | 9.124 | 91 | 525115 | 10.83 | ug/l | | 92 |
| 67) Chlorobenzene | 9.619 | 112 | 989338 | 10.22 | ug/l | | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 419449 | 10.18 | ug/l | | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 1896279 | 10.70 | ug/l | | 99 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 3005719 | 20.80 | ug/l | | 97 |
| 71) o-Xylene | 10.411 | 91 | 1488798 | 10.88 | ug/l | | 99 |
| 72) Styrene | 10.466 | 104 | 1007131 | 10.53 | ug/l | | 95 |
| 73) Isopropylbenzene | 10.940 | 105 | 1676815 | 10.76 | ug/L | | 99 |
| 75) Bromoform | 11.061 | 173 | 312344 | 8.91 | ug/l | | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 446381 | 9.97 | ug/l | | 94 |
| 78) 1,2,3-Trichloropropane | 11.457 | 110 | 124811 | 10.09 | ug/l | | 100 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 123107 | 9.84 | ug/l | | 98 |
| 80) n-Propylbenzene | 11.589 | 91 | 2135717 | 10.48 | ug/l | | 98 |
| 81) Bromobenzene | 11.732 | 156 | 438689 | 9.81 | ug/l | | 97 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 1439701 | 10.28 | ug/l | | 97 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1363566 | 10.84 | ug/l | | 91 |
| 84) 4-Chlorotoluene | 11.985 | 91 | 1241041 | 11.70 | ug/l | | 98 |
| 85) tert-Butylbenzene | 12.414 | 134 | 223517 | 10.31 | ug/l | | 91 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 1456697 | 10.63 | ug/l | | 94 |
| 87) sec-Butylbenzene | 12.755 | 105 | 1649768 | 10.39 | ug/l | | 99 |
| 88) p-Isopropyltoluene | 12.965 | 119 | 1339055 | 10.05 | ug/l | | 98 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 715813 | 11.19 | ug/l | | 98 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 1396943 | 10.29 | ug/L | | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 726522 | 10.93 | ug/l | | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 1336368 | 10.55 | ug/l | | 98 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 680865 | 9.70 | ug/l | | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 78629 | 8.63 | ug/l | | 100 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 449545 | 10.54 | ug/l | | 98 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 249558 | 10.28 | ug/l | | 99 |
| 97) Naphthalene | 16.871 | 128 | 1024859 | 9.44 | ug/l | | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 417961 | 10.31 | ug/l | | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG063.D Vial: 3
Acq On : 10 Jun 2024 17:13 Operator: DNguye
Sample : VOE2F03L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:51:42 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG064.D Vial: 4
Acq On : 10 Jun 2024 17:37 Operator: DNguye
Sample : VOE2F03C Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:52:36 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 821664 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 645570 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 324769 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 472839 | 9.40 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 94.00% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 656812 | 9.88 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.80% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1349262 | 10.52 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 556714 | 10.80 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 108.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 453005 | 9.61 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 237268 | 7.01 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 326070 | 9.12 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 192889 | 7.98 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 895959 | 10.97 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 148891 | 8.50 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 586245 | 7.30 | ug/l | 100 |
| 9) Acrolein | 3.753 | 56 | 220691 | 41.30 | ug/l | 95 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 347771 | 9.94 | ug/l | 100 |
| 11) Acetone | 3.775 | 43 | 535937 | 50.74 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.875 | 59 | 1287593 | 257.70 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 776635 | 10.57 | ug/l | 98 |
| 14) Acetonitrile | 3.875 | 41 | 246403 | 99.37 | ug/L | 96 |
| 15) Allyl chloride | 4.106 | 76 | 224772 | 11.59 | ug/L | 97 |
| 16) Iodomethane | 4.150 | 142 | 421560 | 10.78 | ug/l | 98 |
| 18) Methylene chloride | 4.183 | 49 | 576729 | 11.04 | ug/l | 97 |
| 19) Acrylonitrile | 4.216 | 53 | 557291 | 45.11 | ug/l | 97 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1375786 | 11.21 | ug/L | 98 |
| 21) Carbon disulfide | 4.315 | 76 | 1235125 | 10.98 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 401252 | 10.24 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 1306484 | 10.46 | ug/l | 95 |
| 24) Vinyl acetate | 4.546 | 43 | 462515 | 6.50 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 848741 | 10.71 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1475247 | 9.72 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 179219 | 46.48 | ug/l | 98 |
| 28) Propionitrile | 4.909 | 54 | 485890 | 106.96 | ug/L | 96 |
| 29) Isobutyl alcohol | 5.030 | 43 | 337014 | 209.97 | ug/L | 99 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 903272 | 11.38 | ug/l | 99 |
| 31) Methacrylonitrile | 5.063 | 52 | 780905 | 104.70 | ug/L | 87 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 471856 | 10.58 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 1017866 | 10.36 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 259303 | 9.90 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.327 | 42 | 106402 | 10.28 | ug/L | 98 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 981117 | 11.07 | ug/l | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 301193 | 11.12 | ug/l | 96 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 199530 | 10.28 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 800823 | 10.68 | ug/L | 100 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 835542 | 11.06 | ug/L | 100 |
| 44) Benzene | 5.866 | 78 | 1668033 | 11.10 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG064.D Vial: 4
Acq On : 10 Jun 2024 17:37 Operator: DNguye
Sample : VOE2F03C Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:52:36 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

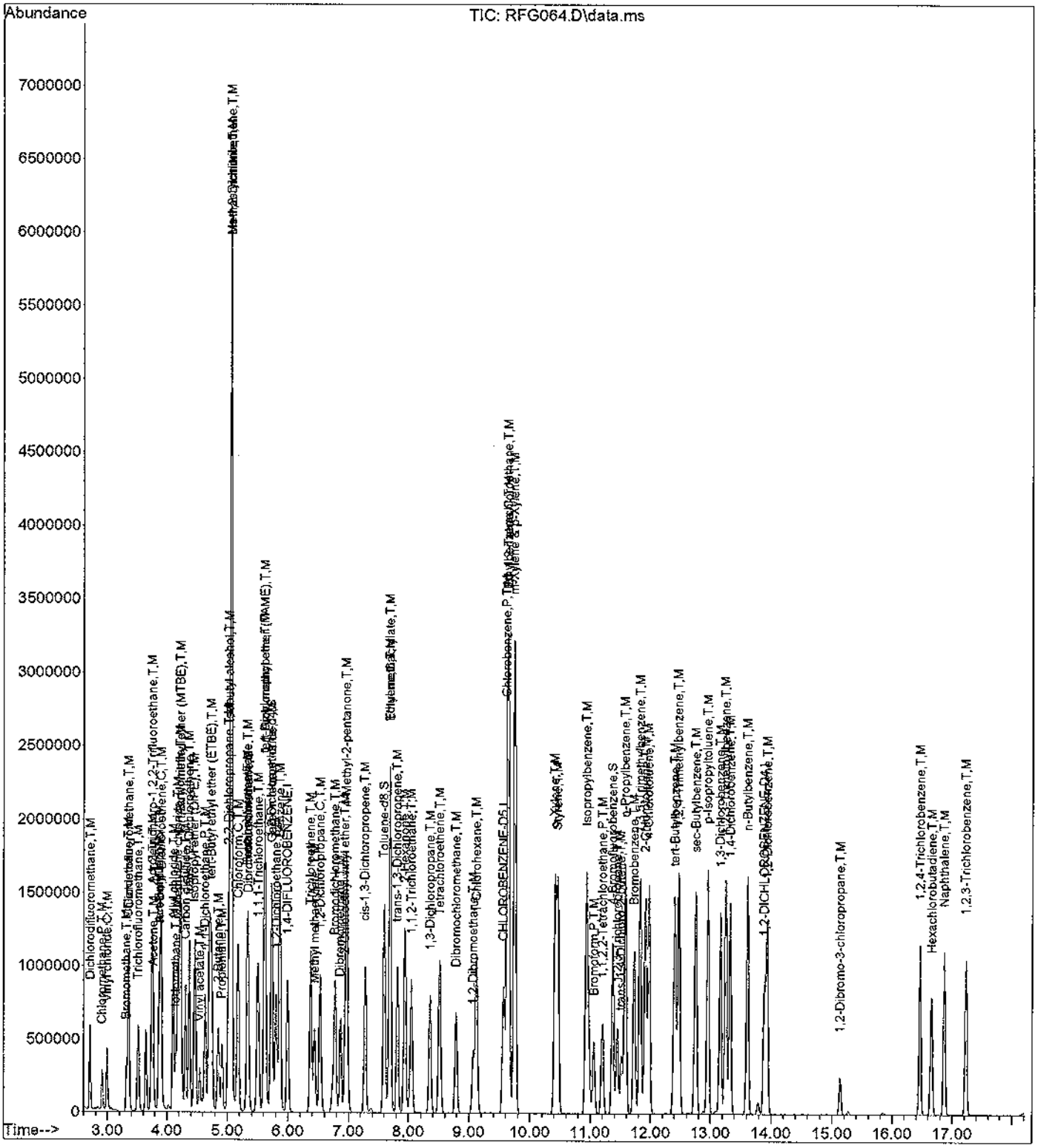
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.373 | 130 | 404017 | 9.74 | ug/L | | 97 |
| 46) Methyl methacrylate | 6.439 | 69 | 283019 | 7.70 | ug/L | # | 75 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 421811 | 10.99 | ug/L | | 98 |
| 50) Bromodichloromethane | 6.769 | 83 | 801790 | 11.04 | ug/L | | 95 |
| 51) Dibromomethane | 6.857 | 93 | 311905 | 9.99 | ug/L | | 98 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 146731 | 7.72 | ug/L | | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1865373 | 44.38 | ug/L | | 97 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 733120 | 10.93 | ug/L | | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 527493 | 11.97 | ug/L | | 95 |
| 58) Toluene | 7.693 | 91 | 1716084 | 11.72 | ug/l | | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 753010 | 12.02 | ug/l | | 95 |
| 60) 2-Hexanone | 7.935 | 43 | 1318604 | 49.81 | ug/l | | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 388988 | 11.19 | ug/l | | 95 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 626456 | 12.14 | ug/l | | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 347732 | 10.86 | ug/l | | 97 |
| 64) Dibromochloromethane | 8.783 | 129 | 532052 | 10.21 | ug/l | | 99 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 398916 | 10.65 | ug/l | | 98 |
| 66) 1-Chlorohexane | 9.124 | 91 | 564298 | 11.65 | ug/l | | 90 |
| 67) Chlorobenzene | 9.619 | 112 | 1074970 | 11.12 | ug/l | | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 442460 | 10.75 | ug/l | | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 2020341 | 11.41 | ug/l | | 99 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 3208719 | 22.23 | ug/l | | 99 |
| 71) o-Xylene | 10.412 | 91 | 1614283 | 11.81 | ug/l | | 98 |
| 72) Styrene | 10.456 | 104 | 1088636 | 11.39 | ug/l | | 96 |
| 73) Isopropylbenzene | 10.940 | 105 | 1816420 | 11.67 | ug/L | | 98 |
| 75) Bromoform | 11.061 | 173 | 352673 | 9.95 | ug/l | | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 505707 | 11.17 | ug/l | | 96 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 136147 | 10.89 | ug/l | | 98 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 152024 | 12.02 | ug/l | | 97 |
| 80) n-Propylbenzene | 11.578 | 91 | 2285053 | 11.10 | ug/l | | 99 |
| 81) Bromobenzene | 11.732 | 156 | 482356 | 10.67 | ug/l | | 97 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 1549813 | 10.95 | ug/l | | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1352671 | 10.64 | ug/l | | 96 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 1454780 | 13.64 | ug/l | | 96 |
| 85) tert-Butylbenzene | 12.415 | 134 | 228460 | 10.43 | ug/l | | 90 |
| 86) 1,2,4-Trimethylbenzene | 12.470 | 105 | 1521336 | 10.99 | ug/l | | 96 |
| 87) sec-Butylbenzene | 12.756 | 105 | 1765384 | 11.00 | ug/l | | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1447830 | 10.76 | ug/l | | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 768869 | 11.93 | ug/l | | 98 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 1489959 | 10.86 | ug/L | | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 772346 | 11.52 | ug/l | | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 1416978 | 11.07 | ug/l | | 98 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 721227 | 10.17 | ug/l | | 100 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 88450 | 9.61 | ug/l | | 98 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 457454 | 10.62 | ug/l | | 99 |
| 96) Hexachlorobutadiene | 16.663 | 225 | 259621 | 10.59 | ug/l | | 99 |
| 97) Naphthalene | 16.872 | 128 | 1123046 | 10.24 | ug/l | | 98 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 430678 | 10.52 | ug/l | | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG064.D Vial: 4
Acq On : 10 Jun 2024 17:37 Operator: DNguye
Sample : VOE2F03C Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:52:36 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG096.D
Acq On : 11 Jun 2024 15:26
Sample : VOE2F04B
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 17:06:01 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 600187 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 469288 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 222326 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 365937 | 9.95 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.50% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 524716 | 10.80 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 108.00% | | |
| 56) Toluene-d8 | 7.594 | 98 | 987879 | 10.59 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.90% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 374680 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.20% | | |
| Target Compounds | | | | | | Qvalue |

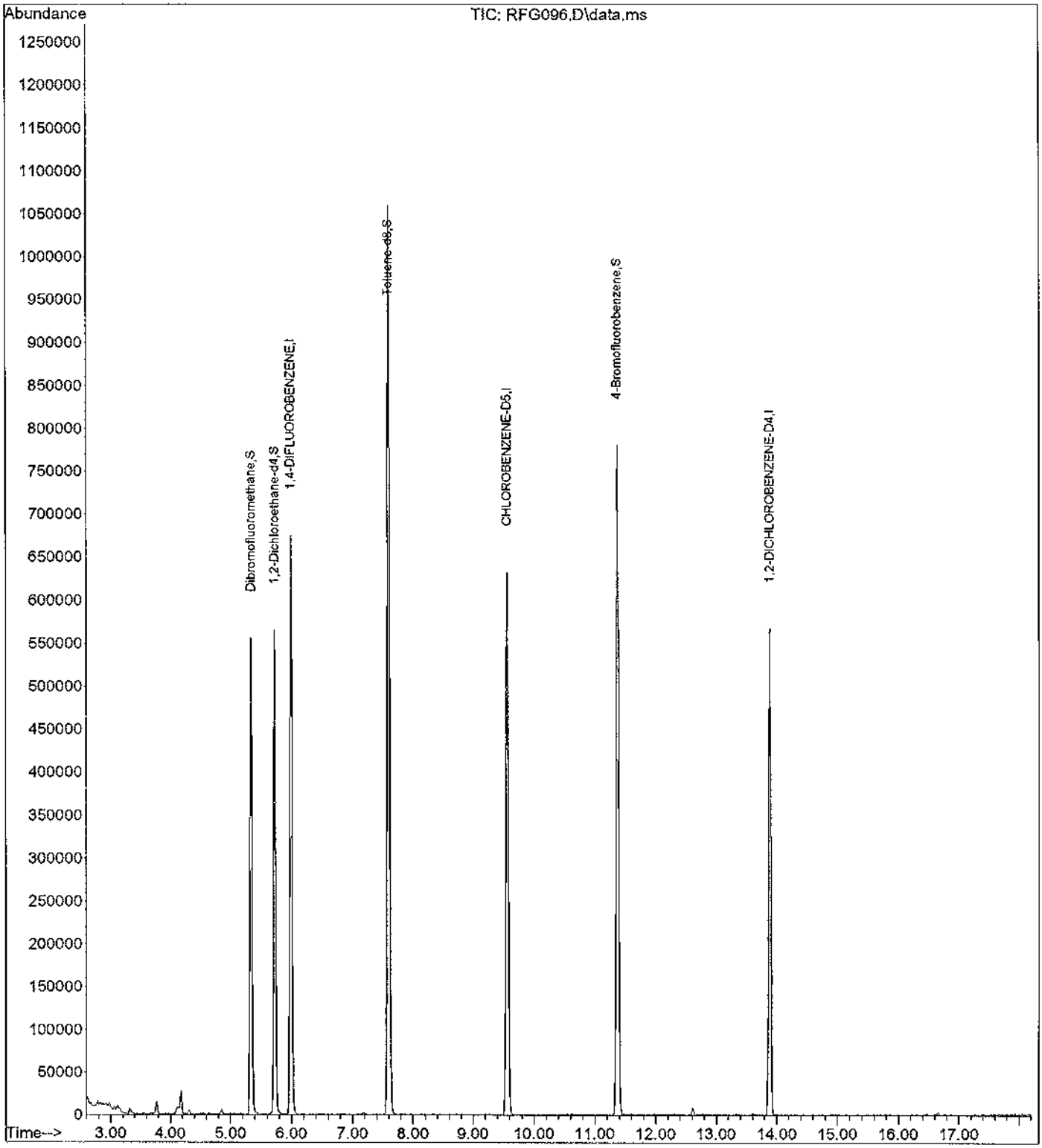
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG096.D
Acq On : 11 Jun 2024 15:26
Sample : VOE2F04B
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 17:06:01 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG093.D Vial: 3
Acq On : 11 Jun 2024 14:15 Operator: DNguye
Sample : VOE2F04L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 17:00:17 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 700127 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 552821 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 279028 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 421921 | 9.84 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.40% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 600152 | 10.59 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.90% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1166618 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 489887 | 11.06 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 110.60% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 454089 | 11.30 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 263643 | 9.14 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 333714 | 10.96 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 252289 | 12.25 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 719907 | 10.35 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 140485 | 9.42 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 603142 | 8.82 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 174984 | 38.43 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 283991 | 9.52 | ug/l | 99 |
| 11) Acetone | 3.765 | 43 | 420709 | 46.35 | ug/l | 98 |
| 12) tert-Butyl alcohol | 3.875 | 59 | 880251 | 206.75 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 606508 | 9.69 | ug/l | 98 |
| 14) Acetonitrile | 3.875 | 41 | 179260 | 84.84 | ug/L | 92 |
| 15) Allyl chloride | 4.106 | 76 | 172916 | 10.46 | ug/L | 99 |
| 16) Iodomethane | 4.150 | 142 | 405519 | 12.14 | ug/l | 93 |
| 18) Methylene chloride | 4.183 | 49 | 505043 | 11.37 | ug/l | 97 |
| 19) Acrylonitrile | 4.216 | 53 | 426217 | 40.49 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1076360 | 10.29 | ug/L | 97 |
| 21) Carbon disulfide | 4.304 | 76 | 936457 | 9.77 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 313496 | 9.39 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1010133 | 9.49 | ug/l | 97 |
| 24) Vinyl acetate | 4.546 | 43 | 453098 | 7.47 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 666915 | 9.88 | ug/l | 98 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1176130 | 9.10 | ug/l | 90 |
| 27) 2-Butanone | 4.854 | 72 | 140045 | 42.63 | ug/l | 96 |
| 28) Propionitrile | 4.909 | 54 | 340372 | 87.93 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 213474 | 156.09 | ug/L | 87 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 739363 | 10.94 | ug/l | 98 |
| 31) Methacrylonitrile | 5.052 | 52 | 600892 | 94.55 | ug/L | 92 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 376607 | 9.91 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 822837 | 9.83 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 201585 | 9.03 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.316 | 42 | 76582 | 8.68 | ug/L | 97 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 793370 | 10.51 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 237534 | 10.30 | ug/l | 98 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 157738 | 9.54 | ug/L | 100 |
| 42) Carbon tetrachloride | 5.734 | 119 | 658836 | 10.31 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 683149 | 10.61 | ug/L | 99 |
| 44) Benzene | 5.866 | 78 | 1278445 | 9.98 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG093.D Vial: 3
Acq On : 11 Jun 2024 14:15 Operator: DNguye
Sample : VOE2F04L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 17:00:17 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

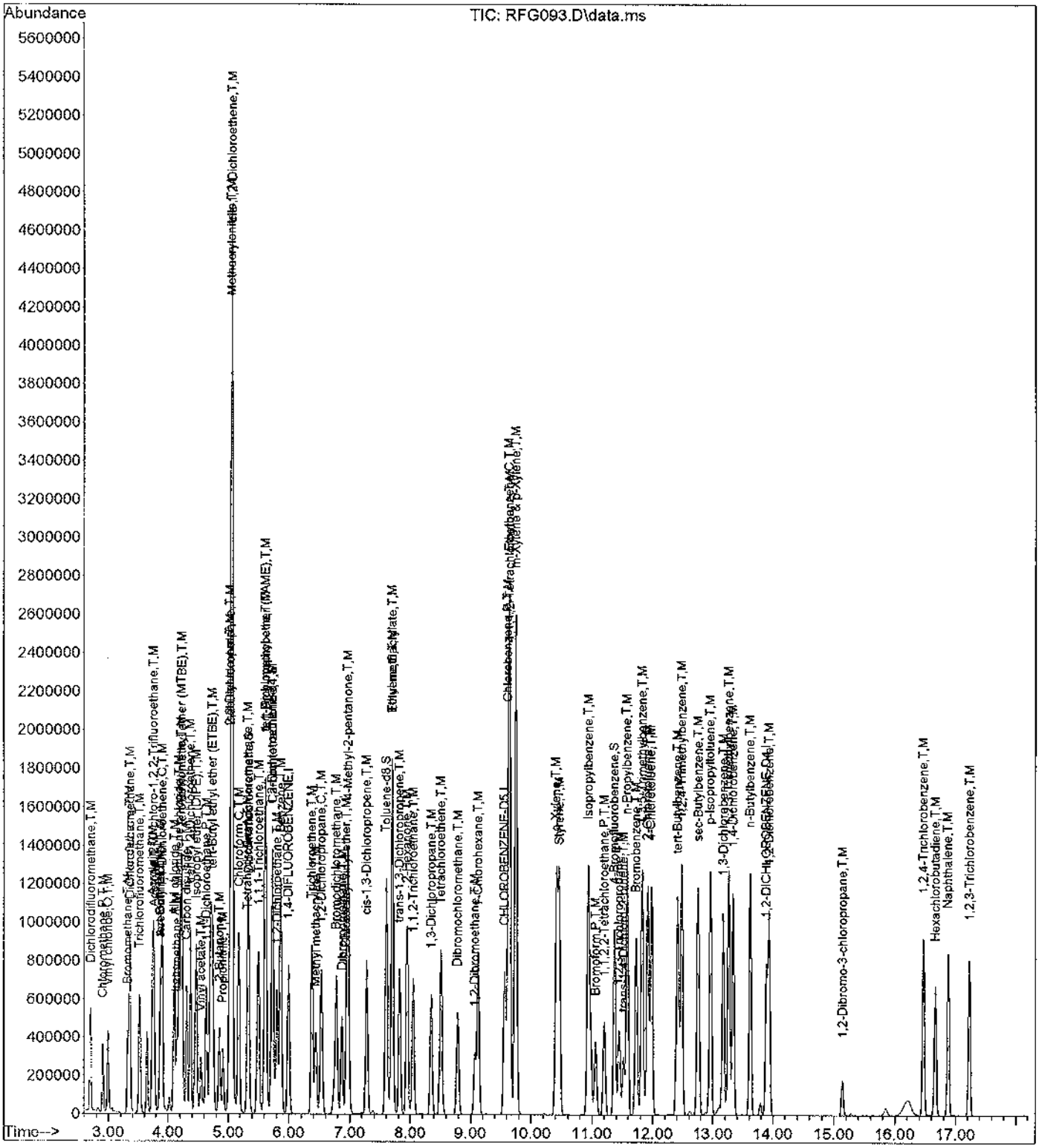
| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.373 | 130 | 318340 | 9.00 | ug/L | | 97 |
| 46) | Methyl methacrylate | 6.439 | 69 | 212881 | 6.79 | ug/L | # | 71 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 309313 | 9.46 | ug/L | | 90 |
| 50) | Bromodichloromethane | 6.769 | 83 | 641238 | 10.36 | ug/L | | 97 |
| 51) | Dibromomethane | 6.868 | 93 | 247594 | 9.31 | ug/L | | 95 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 108876 | 6.72 | ug/L | | 96 |
| 53) | 4-Methyl-2-pentanone | 6.967 | 43 | 1489659 | 41.59 | ug/L | | 98 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 569407 | 9.96 | ug/L | | 98 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 384317 | 10.19 | ug/L | | 98 |
| 58) | Toluene | 7.693 | 91 | 1307264 | 10.43 | ug/l | | 99 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 582395 | 10.86 | ug/l | | 99 |
| 60) | 2-Hexanone | 7.935 | 43 | 1022146 | 45.09 | ug/l | | 99 |
| 61) | 1,1,2-Trichloroethane | 8.046 | 97 | 294632 | 9.90 | ug/l | | 98 |
| 62) | 1,3-Dichloropropane | 8.354 | 76 | 463223 | 10.48 | ug/l | | 99 |
| 63) | Tetrachloroethene | 8.508 | 164 | 273046 | 9.96 | ug/l | | 98 |
| 64) | Dibromochloromethane | 8.783 | 129 | 406992 | 9.12 | ug/l | | 100 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 298958 | 9.32 | ug/l | | 99 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 421550 | 10.16 | ug/l | | 100 |
| 67) | Chlorobenzene | 9.619 | 112 | 826544 | 9.98 | ug/l | | 97 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 363656 | 10.32 | ug/l | | 98 |
| 69) | Ethylbenzene | 9.641 | 91 | 1585307 | 10.46 | ug/l | | 99 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 2524452 | 20.42 | ug/l | | 98 |
| 71) | o-Xylene | 10.412 | 91 | 1249901 | 10.68 | ug/l | | 97 |
| 72) | Styrene | 10.467 | 104 | 864317 | 10.56 | ug/l | | 96 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1400137 | 10.50 | ug/L | | 98 |
| 75) | Bromoform | 11.061 | 173 | 269912 | 8.86 | ug/l | | 98 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 369729 | 9.51 | ug/l | | 97 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 105995 | 9.87 | ug/l | | 94 |
| 79) | trans-1,4-Dichloro-2-b... | 11.523 | 53 | 113616 | 10.46 | ug/l | | 97 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1759863 | 9.95 | ug/l | | 98 |
| 81) | Bromobenzene | 11.732 | 156 | 372634 | 9.60 | ug/l | | 98 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 1202750 | 9.89 | ug/l | | 98 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 1155247 | 10.58 | ug/l | | 90 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 1040173 | 11.28 | ug/l | | 98 |
| 85) | tert-Butylbenzene | 12.415 | 134 | 183905 | 9.77 | ug/l | | 95 |
| 86) | 1,2,4-Trimethylbenzene | 12.481 | 105 | 1189538 | 10.00 | ug/l | | 97 |
| 87) | sec-Butylbenzene | 12.756 | 105 | 1353899 | 9.82 | ug/l | | 100 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 1115672 | 9.65 | ug/l | | 98 |
| 89) | 1,3-Dichlorobenzene | 13.174 | 146 | 604225 | 10.87 | ug/l | | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.262 | 105 | 1154202 | 9.79 | ug/L | | 99 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 620279 | 10.74 | ug/l | | 99 |
| 92) | n-Butylbenzene | 13.614 | 91 | 1095185 | 9.96 | ug/l | | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 573597 | 9.41 | ug/l | | 98 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 66232 | 8.38 | ug/l | | 99 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 372683 | 10.05 | ug/l | | 97 |
| 96) | Hexachlorobutadiene | 16.663 | 225 | 214530 | 10.18 | ug/l | | 98 |
| 97) | Naphthalene | 16.872 | 128 | 856628 | 9.09 | ug/l | | 99 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 344018 | 9.75 | ug/l | | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG093.D Vial: 3
Acq On : 11 Jun 2024 14:15 Operator: DNguye
Sample : VOE2F04L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 17:00:17 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG094.D Vial: 4
Acq On : 11 Jun 2024 14:39 Operator: DNguye
Sample : VOE2F04C Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:21:10 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 703905 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 550837 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 285241 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 412093 | 9.56 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 95.60% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 576775 | 10.12 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.20% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1162432 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 480962 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.20% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 429087 | 10.62 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 257185 | 8.87 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 319492 | 10.44 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 265338 | 12.82 | ug/l | 99 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 691592 | 9.89 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 140113 | 9.34 | ug/l | 94 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 588714 | 8.56 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 154395 | 33.73 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 270239 | 9.01 | ug/l | 99 |
| 11) Acetone | 3.775 | 43 | 371678 | 40.12 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 781645 | 182.61 | ug/L | 100 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 587741 | 9.34 | ug/l | 98 |
| 14) Acetonitrile | 3.874 | 41 | 159832 | 75.24 | ug/L | 97 |
| 15) Allyl chloride | 4.105 | 76 | 170855 | 10.28 | ug/L | 98 |
| 16) Iodomethane | 4.149 | 142 | 392698 | 11.70 | ug/l | 92 |
| 18) Methylene chloride | 4.183 | 49 | 491995 | 10.99 | ug/l | 96 |
| 19) Acrylonitrile | 4.216 | 53 | 391830 | 37.02 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1042482 | 9.91 | ug/L | 96 |
| 21) Carbon disulfide | 4.304 | 76 | 921603 | 9.56 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 304388 | 9.07 | ug/l | 97 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 997004 | 9.32 | ug/l | 97 |
| 24) Vinyl acetate | 4.546 | 43 | 408897 | 6.71 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 632418 | 9.31 | ug/l | 100 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1121655 | 8.63 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 126722 | 38.36 | ug/l | 95 |
| 28) Propionitrile | 4.909 | 54 | 306274 | 78.70 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 197729 | 143.80 | ug/L | 91 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 719885 | 10.59 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 555765 | 86.98 | ug/L | 92 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 362567 | 9.49 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 793893 | 9.43 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 194225 | 8.65 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.316 | 42 | 65118 | 7.34 | ug/L | 96 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 774383 | 10.20 | ug/l | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 233970 | 10.09 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 148685 | 8.95 | ug/L | 94 |
| 42) Carbon tetrachloride | 5.734 | 119 | 645169 | 10.04 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 669808 | 10.35 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 1254363 | 9.74 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG094.D Vial: 4
Acq On : 11 Jun 2024 14:39 Operator: DNguye
Sample : VOE2F04C Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:21:10 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

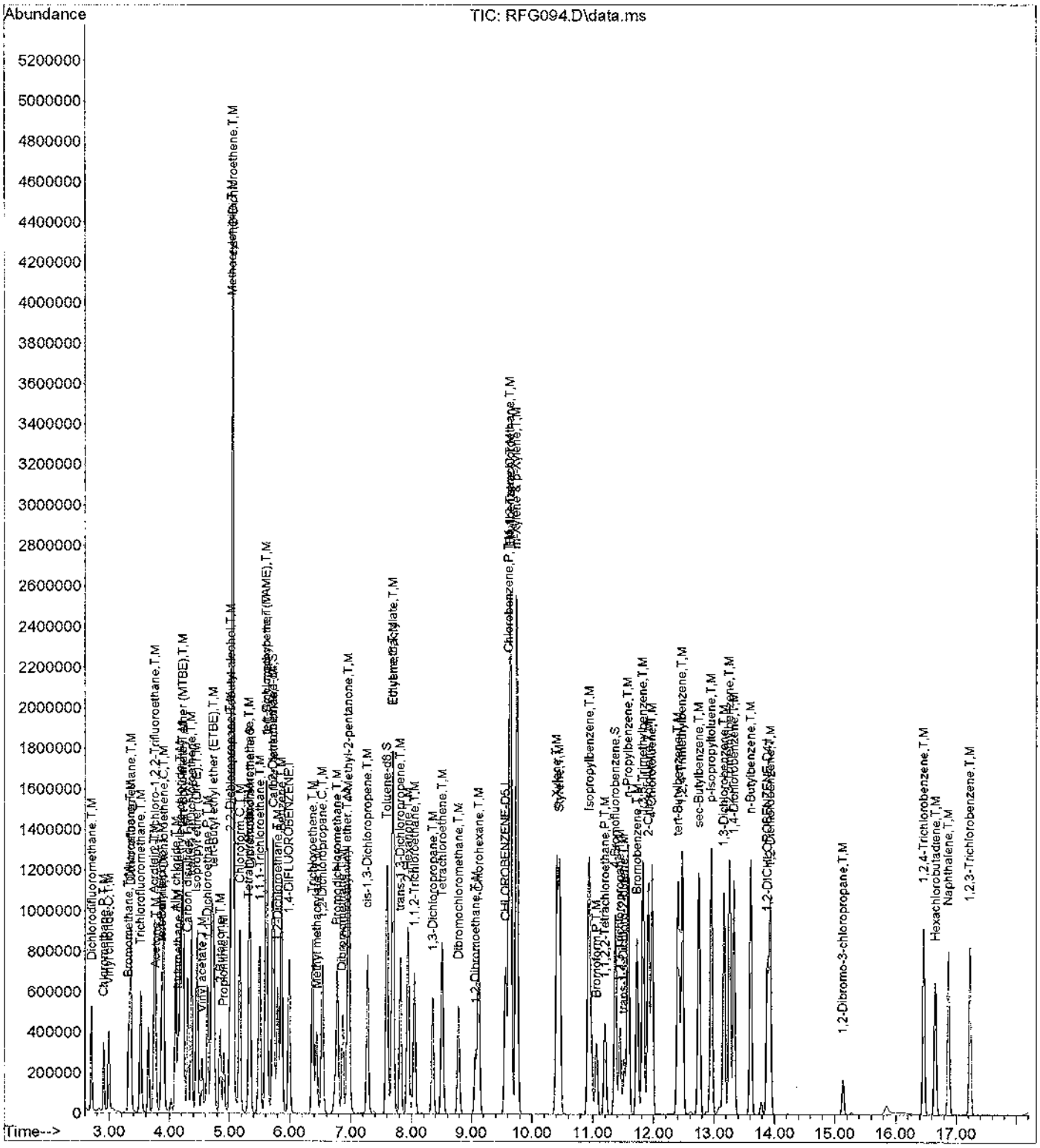
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.373 | 130 | 307489 | 8.65 | ug/L | 98 |
| 46) Methyl methacrylate | 6.439 | 69 | 188126 | 5.97 | ug/L | 78 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 309948 | 9.43 | ug/L | 91 |
| 50) Bromodichloromethane | 6.769 | 83 | 630062 | 10.13 | ug/L | 97 |
| 51) Dibromomethane | 6.857 | 93 | 235423 | 8.80 | ug/L | 97 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 102188 | 6.28 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1367442 | 37.97 | ug/L | 97 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 558773 | 9.72 | ug/L | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 377587 | 10.04 | ug/L | 95 |
| 58) Toluene | 7.693 | 91 | 1291225 | 10.34 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 571984 | 10.70 | ug/l | 99 |
| 60) 2-Hexanone | 7.935 | 43 | 934321 | 41.37 | ug/l | 100 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 284396 | 9.59 | ug/l | 96 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 450358 | 10.23 | ug/l | 99 |
| 63) Tetrachloroethene | 8.508 | 164 | 265229 | 9.71 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 402619 | 9.05 | ug/l | 98 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 289885 | 9.07 | ug/l | 99 |
| 66) 1-Chlorohexane | 9.124 | 91 | 429380 | 10.39 | ug/l | 99 |
| 67) Chlorobenzene | 9.619 | 112 | 829948 | 10.06 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 352598 | 10.04 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 1564560 | 10.36 | ug/l | 98 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 2486658 | 20.19 | ug/l | 98 |
| 71) o-Xylene | 10.411 | 91 | 1230876 | 10.56 | ug/l | 100 |
| 72) Styrene | 10.455 | 104 | 841026 | 10.32 | ug/l | 95 |
| 73) Isopropylbenzene | 10.940 | 105 | 1404173 | 10.57 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 252254 | 8.10 | ug/l | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 353612 | 8.89 | ug/l | 95 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 103207 | 9.40 | ug/l | 92 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 98217 | 8.84 | ug/l | 94 |
| 80) n-Propylbenzene | 11.578 | 91 | 1746437 | 9.66 | ug/l | 98 |
| 81) Bromobenzene | 11.732 | 156 | 360780 | 9.09 | ug/l | 98 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 1203026 | 9.68 | ug/l | 97 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1047325 | 9.38 | ug/l | 96 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 1126160 | 11.97 | ug/l | 96 |
| 85) tert-Butylbenzene | 12.403 | 134 | 181405 | 9.43 | ug/l | 97 |
| 86) 1,2,4-Trimethylbenzene | 12.469 | 105 | 1192047 | 9.80 | ug/l | 97 |
| 87) sec-Butylbenzene | 12.745 | 105 | 1337130 | 9.49 | ug/l | 99 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1112699 | 9.41 | ug/l | 98 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 600613 | 10.56 | ug/l | 98 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 1168204 | 9.70 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 609827 | 10.32 | ug/l | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 1101247 | 9.79 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 570193 | 9.15 | ug/l | 99 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 61363 | 7.59 | ug/l | 99 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 363876 | 9.58 | ug/l | 97 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 211631 | 9.83 | ug/l | 98 |
| 97) Naphthalene | 16.871 | 128 | 805049 | 8.36 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 343180 | 9.50 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG094.D Vial: 4
Acq On : 11 Jun 2024 14:39 Operator: DNguye
Sample : VOE2F04C Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:21:10 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



# INITIAL CALIBRATION(S)

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: REG116 BFB Injection Date: 05/17/24

Instrument ID: E2 BFB Injection Time: 11:23

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.276 |
| 75 | 30 - 60% of mass 95 | 50.050 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.720 |
| 173 | Less than 2% of mass 174 | 0.804(.96)1 |
| 174 | Greater than 50% of mass 95 | 83.334 |
| 175 | 5 - 9% of mass 174 | 6.239(7.49)1 |
| 176 | 95 - 101% % of mass 174 | 81.293(97.55)1 |
| 177 | 5 - 9% % of mass 176 | 5.264(6.48)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD0.5 | VOE2E172 | REG118 | 05/17/24 | 12:33 |
| 2 | VSTD1 | VOE2E173 | REG119 | 05/17/24 | 12:57 |
| 3 | VSTD2 | VOE2E174 | REG120 | 05/17/24 | 13:21 |
| 4 | VSTD5 | VOE2E175 | REG121 | 05/17/24 | 13:45 |
| 5 | VSTD10 | VOE2E176 | REG122 | 05/17/24 | 14:09 |
| 6 | VSTD30 | VOE2E177 | REG123 | 05/17/24 | 14:33 |
| 7 | VSTD50 | VOE2E178 | REG124 | 05/17/24 | 14:57 |
| 8 | VSTD100 | VOE2E179 | REG125 | 05/17/24 | 15:21 |
| 9 | VSTD200 | VOE2E1710 | REG126 | 05/17/24 | 15:44 |

Sm

5/24/24

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :G2
Beginning DateTime :05/17/24 12:33
Spike Units :PPB
IC File REG122

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :05/17/24 15:44
HPChem Method :V0E2R17

| M | IDX | Parameters | 5<br>12:33<br>REG118 | 1<br>12:57<br>REG119 | 2<br>13:21<br>REG120 | 5<br>13:45<br>REG121 | 10<br>14:09<br>REG122 | 10<br>14:33<br>REG123 | 50<br>14:57<br>REG124 | 100<br>15:21<br>REG125 | 200<br>15:44<br>REG126 | Av_RRF | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 5.9874 |
| | 2 | Dichlorodifluoromethane | 0.621 | 0.637 | 0.579 | 0.504 | 0.509 | 0.610 | 0.570 | 0.578 | 0.556 | 0.574 | 8.06 | 2.7078 |
| | 3 | Chloromethane | 0.526 | 0.465 | 0.434 | 0.383 | 0.373 | 0.477 | 0.368 | 0.382 | 0.398 | 0.412 | 13.00 | 2.9059 |
| | 4 | Vinyl chloride | 0.419 | 0.490 | 0.461 | 0.376 | 0.416 | 0.439 | 0.449 | 0.449 | 0.415 | 0.435 | 7.58 | 2.9903 |
| | 5 | Bromomethane | 0.348 | 0.326 | 0.291 | 0.268 | 0.244 | 0.267 | 0.278 | 0.296 | 0.330 | 0.294 | 11.62 | 3.3131 |
| | 6 | Dichlorofluoromethane | 1.071 | 1.087 | 0.974 | 1.099 | 0.990 | 1.025 | 0.930 | 0.904 | 0.865 | 0.994 | 8.41 | 3.3523 |
| | 7 | Chloroethane | 0.222 | 0.255 | 0.216 | 0.196 | 0.204 | 0.219 | 0.205 | 0.207 | 0.193 | 0.213 | 8.74 | 3.3461 |
| | 8 | Trichlorofluoromethane | 1.076 | 1.027 | 0.981 | 0.846 | 0.898 | 1.033 | 0.988 | 0.997 | 0.949 | 0.977 | 7.24 | 3.5112 |
| 5 | 9 | Acrolein | 0.074 | 0.076 | 0.063 | 0.070 | 0.064 | 0.060 | 0.059 | 0.060 | 0.059 | 0.065 | 10.21 | 3.7423 |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 0.510 | 0.445 | 0.389 | 0.475 | 0.409 | 0.418 | 0.409 | 0.396 | 0.383 | 0.426 | 10.04 | 3.7521 |
| 5 | 11 | Acetone | 0.325 | 0.240 | 0.181 | 0.149 | 0.137 | 0.118 | 0.119 | ------ | ------ | 0.181 | 42.17 | 3.7690 |
| 25 | 12 | tert-Butyl alcohol | 0.075 | 0.070 | 0.063 | 0.057 | 0.061 | 0.056 | 0.057 | 0.055 | 0.054 | 0.061 | 11.83 | 3.8744 |
| | 13 | 1,1-Dichloroethene | 0.972 | 0.970 | 0.870 | 1.007 | 0.889 | 0.901 | 0.818 | 0.823 | 0.795 | 0.894 | 8.46 | 3.9025 |
| 10 | 14 | Acetonitrile | ------ | 0.037 | 0.031 | 0.030 | 0.031 | 0.026 | 0.027 | ------ | ------ | 0.030 | 12.37 | 3.8744 |
| | 15 | Allyl chloride | 0.262 | 0.270 | 0.227 | 0.265 | 0.239 | 0.241 | 0.223 | 0.204 | 0.194 | 0.236 | 11.27 | 4.1055 |
| | 16 | Iodomethane | 0.335 | 0.312 | 0.310 | 0.409 | 0.432 | 0.563 | 0.530 | 0.509 | 0.459 | 0.429 | 22.23 | 4.1434 |
| | 17 | Methyl acetate | ------ | 0.410 | 0.337 | 0.344 | 0.341 | 0.293 | 0.304 | ------ | ------ | 0.338 | 12.15 | 4.0285 |
| | 18 | Methylene chloride | 1.122 | 1.095 | 0.930 | 0.852 | 0.731 | 0.698 | 0.612 | 0.596 | 0.570 | 0.801 | 26.33 | 4.1825 |
| 5 | 19 | Acrylonitrile | 0.187 | 0.165 | 0.144 | 0.155 | 0.158 | 0.140 | 0.134 | 0.135 | 0.136 | 0.150 | 11.69 | 4.2156 |
| | 20 | tert-Butyl methyl ether (MTBE) | 1.687 | 1.599 | 1.508 | 1.603 | 1.504 | 1.453 | 1.377 | 1.365 | 1.352 | 1.494 | 7.94 | 4.2266 |
| | 21 | Carbon disulfide | 1.587 | 1.493 | 1.289 | 1.218 | 1.375 | 1.338 | 1.287 | ------ | ------ | 1.370 | 9.42 | 4.3052 |
| | 22 | trans-1,2-Dichloroethene | 0.536 | 0.534 | 0.472 | 0.542 | 0.468 | 0.442 | 0.442 | 0.426 | 0.429 | 0.477 | 10.07 | 4.3696 |
| | 23 | Isopropyl ether (DIPE) | 1.738 | 1.638 | 1.535 | 1.682 | 1.513 | 1.489 | 1.394 | 1.379 | 1.317 | 1.520 | 9.47 | 4.4601 |
| | 24 | Vinyl acetate | 0.905 | 0.932 | 0.893 | 0.899 | 0.928 | 0.816 | 0.810 | 0.820 | 0.793 | 0.866 | 6.41 | 4.5457 |
| | 25 | 1,1-Dichloroethane | 1.123 | 1.084 | 0.958 | 1.041 | 0.935 | 0.964 | 0.901 | 0.851 | 0.823 | 0.965 | 10.57 | 4.6338 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 2.025 | 2.049 | 1.829 | 2.024 | 1.854 | 1.711 | 1.759 | 1.666 | 1.701 | 1.846 | 8.21 | 4.7328 |
| 5 | 27 | 2-Butanone | ------ | 0.059 | 0.048 | 0.040 | 0.049 | 0.043 | 0.043 | 0.042 | 0.042 | 0.047 | 12.56 | 4.8539 |
| 10 | 28 | Propionitrile | 0.067 | 0.061 | 0.059 | 0.057 | 0.053 | 0.051 | 0.051 | 0.048 | 0.050 | 0.055 | 11.17 | 4.9101 |
| 20 | 29 | Isobutyl alcohol | ------ | 0.024 | 0.020 | 0.019 | 0.020 | 0.018 | 0.019 | 0.017 | ------ | 0.020 | 12.47 | 5.0299 |
| | 30 | 2,2-Dichloropropane | 1.070 | 1.031 | 0.913 | 1.100 | 0.993 | 0.952 | 0.921 | 0.878 | 0.831 | 0.966 | 9.30 | 5.0202 |
| 10 | 31 | Methacrylonitrile | 0.105 | 0.103 | 0.092 | 0.099 | 0.089 | 0.088 | 0.084 | 0.080 | 0.076 | 0.091 | 11.02 | 5.0568 |
| | 32 | cis-1,2-Dichloroethene | 0.592 | 0.622 | 0.541 | 0.585 | 0.519 | 0.520 | 0.508 | 0.491 | 0.507 | 0.543 | 8.40 | 5.0630 |
| | 33 | Chloroform | 1.500 | 1.398 | 1.172 | 1.238 | 1.117 | 1.090 | 1.041 | 1.012 | ------ | 1.196 | 14.51 | 5.1730 |
| | 34 | Bromochloromethane | 0.354 | 0.366 | 0.325 | 0.348 | 0.326 | 0.321 | 0.296 | 0.275 | 0.259 | 0.319 | 11.29 | 5.3271 |
| | 35 | Tetrahydrofuran | ------ | 0.140 | 0.129 | 0.132 | 0.124 | 0.122 | 0.118 | 0.116 | ------ | 0.126 | 6.67 | 5.3192 |
| | 36 | Dibromofluoromethane | 0.677 | 0.642 | 0.571 | 0.613 | 0.624 | 0.588 | 0.573 | ------ | ------ | 0.612 | 6.30 | 5.3381 |
| | 37 | 1,1,1-Trichloroethane | 1.193 | 1.165 | 1.010 | 1.192 | 1.074 | 1.094 | 1.020 | 0.999 | 0.960 | 1.079 | 8.19 | 5.4971 |
| | 38 | Cyclohexane | 0.684 | 0.625 | 0.466 | 0.628 | 0.461 | 0.515 | 0.544 | 0.500 | 0.528 | 0.550 | 14.22 | 5.5484 |
| | 39 | tert-Amyl methyl ether (TAME) | 0.340 | 0.348 | 0.314 | 0.372 | 0.345 | 0.297 | 0.329 | 0.313 | 0.306 | 0.329 | 7.33 | 5.6144 |
| | 40 | 1,1-Dichloropropene | 0.262 | 0.251 | 0.222 | 0.266 | 0.242 | 0.218 | 0.228 | 0.219 | 0.217 | 0.236 | 8.29 | 5.6132 |
| | 41 | 1,2-Dichloroethane-d4 | 0.972 | 0.902 | 0.780 | 0.802 | 0.781 | 0.709 | 0.720 | ------ | ------ | 0.809 | 11.80 | 5.7233 |
| | 42 | Carbon tetrachloride | 0.945 | 0.992 | 0.834 | 1.044 | 0.930 | 0.901 | 0.890 | 0.840 | 0.838 | 0.913 | 8.01 | 5.7343 |
| | 43 | 1,2-Dichloroethane | 1.036 | 1.026 | 0.936 | 1.027 | 0.937 | 0.846 | 0.859 | 0.810 | 0.796 | 0.919 | 10.41 | 5.8003 |
| | 44 | Benzene | 2.100 | 2.054 | 1.772 | 1.904 | 1.819 | 1.719 | 1.753 | 1.684 | 1.662 | 1.830 | 8.64 | 5.8663 |
| | 45 | Trichloroethene | 0.573 | 0.564 | 0.458 | 0.553 | 0.494 | 0.496 | 0.481 | 0.460 | 0.468 | 0.505 | 9.09 | 6.3714 |
| | 46 | Methyl methacrylate | 0.521 | 0.497 | 0.421 | 0.494 | 0.427 | 0.401 | 0.430 | 0.422 | 0.415 | 0.448 | 9.77 | 6.4386 |
| | 47 | Methylcyclohexane | ------ | 0.701 | 0.528 | 0.712 | 0.530 | 0.546 | 0.606 | 0.586 | 0.600 | 0.601 | 11.92 | 6.4537 |
| | 48 | 1,2-Dichloropropane | 0.559 | 0.532 | 0.465 | 0.483 | 0.464 | 0.418 | 0.437 | 0.427 | 0.418 | 0.467 | 10.74 | 6.5266 |
| 20 | 49 | 1,4-Dioxane | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 50 | Bromodichloromethane | ------ | 1.077 | 0.909 | 0.968 | 0.886 | 0.841 | 0.821 | 0.796 | 0.773 | 0.884 | 11.38 | 6.7687 |
| | 51 | Dibromomethane | 0.454 | 0.430 | 0.373 | 0.417 | 0.371 | 0.368 | 0.349 | 0.344 | 0.315 | 0.380 | 11.79 | 6.8568 |
| | 52 | 2-Chloroethyl vinyl ether | 0.233 | 0.250 | 0.232 | 0.253 | 0.238 | 0.229 | 0.224 | 0.216 | 0.206 | 0.231 | 6.45 | 6.9338 |
| 5 | 53 | 4-Methyl-2-pentanone | 0.591 | 0.572 | 0.496 | 0.557 | 0.534 | 0.467 | 0.473 | 0.467 | 0.447 | 0.512 | 10.35 | 6.9571 |
| | 54 | cis-1,3-Dichloropropene | 0.921 | 0.873 | 0.791 | 0.882 | 0.822 | 0.782 | 0.775 | 0.759 | 0.743 | 0.817 | 7.57 | 7.2750 |
| | 55 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9.5641 |
| | 56 | Toluene-d8 | ------ | 2.328 | 1.900 | 1.960 | 2.006 | 1.860 | 1.868 | ------ | ------ | 1.987 | 8.88 | 7.5941 |
| | 57 | Ethyl methacrylate | 0.687 | 0.714 | 0.662 | 0.753 | 0.707 | 0.647 | 0.685 | 0.635 | 0.651 | 0.682 | 5.59 | 7.6932 |
| | 58 | Toluene | 2.522 | 2.598 | 2.196 | 2.483 | 2.250 | 2.053 | 2.185 | 2.012 | 2.114 | 2.268 | 9.46 | 7.6932 |
| | 59 | trans-1,3-Dichloropropene | 1.019 | 1.031 | 0.921 | 1.072 | 0.988 | 0.969 | 0.957 | 0.878 | 0.899 | 0.970 | 6.61 | 7.8143 |
| 5 | 60 | 2-Hexanone | 0.494 | 0.448 | 0.391 | 0.437 | 0.433 | 0.389 | 0.385 | 0.352 | 0.362 | 0.410 | 11.13 | 7.9378 |
| | 61 | 1,1,2-Trichloroethane | 0.616 | 0.606 | 0.548 | 0.580 | 0.535 | 0.538 | 0.494 | 0.461 | 0.466 | 0.538 | 10.51 | 8.0454 |
| | 62 | 1,3-Dichloropropane | 0.881 | 0.932 | 0.787 | 0.866 | 0.785 | 0.770 | 0.765 | 0.707 | 0.701 | 0.799 | 9.83 | 8.3535 |
| | 63 | Tetrachloroethene | 0.591 | 0.595 | 0.494 | 0.529 | 0.477 | 0.495 | 0.463 | 0.431 | 0.448 | 0.496 | 12.71 | 8.5088 |
| | 64 | Dibromochloromethane | ------ | 1.038 | 0.826 | 0.858 | 0.788 | 0.824 | 0.742 | 0.693 | 0.690 | 0.807 | 13.87 | 8.7827 |
| | 65 | 1,2-Dibromoethane | 0.651 | 0.619 | 0.556 | 0.621 | 0.592 | 0.594 | 0.549 | 0.522 | 0.516 | 0.580 | 8.08 | 9.0688 |
| | 66 | 1-Chlorohexane | 0.844 | 0.848 | 0.651 | 0.843 | 0.747 | 0.751 | 0.722 | 0.671 | 0.677 | 0.751 | 10.45 | 9.1239 |
| | 67 | Chlorobenzene | 1.802 | 1.685 | 1.395 | 1.599 | 1.466 | 1.486 | 1.389 | 1.323 | 1.338 | 1.498 | 11.00 | 9.6191 |
| | 68 | 1,1,1,2-Tetrachloroethane | 0.713 | 0.709 | 0.595 | 0.685 | 0.647 | 0.654 | 0.606 | 0.565 | 0.563 | 0.637 | 9.12 | 9.6460 |
| | 69 | Ethylbenzene | 3.192 | 3.179 | 2.449 | 2.920 | 2.662 | 2.734 | 2.599 | 2.475 | 2.468 | 2.742 | 10.66 | 9.6411 |
| 2 | 70 | m-Xylene & p-Xylene | 2.549 | 2.503 | 1.987 | 2.323 | 2.078 | 2.117 | 2.094 | ------ | ------ | 2.236 | 9.97 | 9.7496 |
| | 71 | o-Xylene | 2.536 | 2.361 | 1.926 | 2.321 | 2.112 | 1.978 | 2.058 | 1.894 | 1.863 | 2.117 | 11.21 | 10.4127 |
| | 72 | Styrene | 1.648 | 1.724 | 1.354 | 1.615 | 1.493 | 1.415 | 1.441 | 1.328 | 1.303 | 1.480 | 10.19 | 10.4580 |
| | 73 | Isopropylbenzene | 2.835 | 2.945 | 2.240 | 2.644 | 2.424 | 2.142 | 2.250 | 2.149 | 2.077 | 2.412 | 13.33 | 10.9397 |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 13.8891 |
| | 75 | Bromoform | 1.246 | 1.192 | 1.112 | 1.177 | 1.072 | 1.033 | 1.055 | 0.974 | 0.961 | 1.091 | 9.03 | 11.0608 |
| | 76 | 1,1,2,2-Tetrachloroethane | 1.731 | 1.658 | 1.370 | 1.490 | 1.349 | 1.248 | 1.296 | 1.218 | 1.184 | 1.394 | 11.93 | 11.2026 |
| | 77 | 4-Bromofluorobenzene | ------ | 1.901 | 1.601 | 1.620 | 1.559 | 1.327 | 1.516 | ------ | ------ | 1.587 | 11.73 | 11.3689 |
| | 78 | 1,2,3-Trichloropropane | 0.441 | 0.449 | 0.384 | 0.439 | 0.374 | 0.344 | 0.366 | 0.344 | 0.322 | 0.385 | 12.26 | 11.4460 |
| | 79 | trans-1,4-Dichloro-2-butene | 0.345 | 0.390 | 0.351 | 0.456 | 0.395 | 0.395 | 0.414 | 0.380 | 0.379 | 0.389 | 8.47 | 11.5132 |
| | 80 | n-Propylbenzene | 7.684 | 7.739 | 5.851 | 7.164 | 6.006 | 5.607 | 5.968 | 5.582 | 5.465 | 6.341 | 14.55 | 11.5780 |
| | 81 | Bromobenzene | 1.646 | 1.681 | 1.348 | 1.563 | 1.386 | 1.206 | 1.293 | 1.208 | 1.192 | 1.392 | 13.87 | 11.7321 |
| | 82 | 1,3,5-Trimethylbenzene | 5.366 | 5.227 | 4.073 | 4.881 | 4.205 | 3.892 | 4.064 | 3.785 | 3.738 | 4.359 | 14.43 | 11.8287 |
| | 83 | 2-Chlorotoluene | ------ | 4.800 | 3.579 | 4.665 | 3.671 | 3.653 | 3.858 | 3.598 | 3.483 | 3.914 | 13.23 | 11.9192 |
| | 84 | 4-Chlorotoluene | 4.791 | 5.151 | 3.841 | 3.940 | 3.868 | 2.881 | 3.359 | 3.161 | 3.176 | 3.796 | 20.12 | 11.9754 |
| | 85 | tert-Butylbenzene | 0.747 | 0.829 | 0.605 | 0.740 | 0.648 | 0.561 | 0.592 | ------ | ------ | 0.675 | 14.63 | 12.4081 |
| | 86 | 1,2,4-Trimethylbenzene | 5.058 | 5.235 | 4.012 | 4.761 | 4.182 | 3.747 | 3.973 | 3.721 | 3.680 | 4.263 | 14.07 | 12.4780 |
| | 87 | sec-Butylbenzene | ------ | 6.256 | 4.523 | 5.517 | 4.832 | 4.450 | 4.638 | 4.362 | ------ | 4.940 | 14.11 | 12.7493 |
| | 88 | p-Isopropyltoluene | 5.045 | 5.046 | 3.819 | 4.703 | 3.968 | 3.664 | 3.821 | 3.689 | 3.551 | 4.145 | 14.69 | 12.9549 |
| | 89 | 1,3-Dichlorobenzene | 3.020 | 2.992 | 2.191 | 2.485 | 2.182 | 2.011 | 2.088 | 1.908 | 1.849 | 2.303 | 19.08 | 13.1652 |
| | 90 | 1,2,3-Trimethylbenzene | 4.849 | 5.175 | 3.973 | 4.777 | 4.170 | 3.766 | 3.928 | 3.729 | 3.652 | 4.224 | 13.33 | 13.2545 |
| | 91 | 1,4-Dichlorobenzene | 3.022 | 3.108 | 2.117 | 2.540 | 2.221 | 2.073 | 2.138 | 1.953 | 1.965 | 2.349 | 18.81 | 13.3278 |
| | 92 | n-Butylbenzene | 4.979 | 4.820 | 3.500 | 4.168 | 3.792 | 3.621 | 3.712 | 3.405 | 3.483 | 3.942 | 14.93 | 13.6140 |
| | 93 | 1,2-Dichlorobenzene | ------ | 2.697 | 2.183 | 2.392 | 2.013 | 1.895 | 1.926 | ------ | ------ | 2.184 | 14.28 | 13.9331 |
| | 94 | 1,2-Dibromo-3-chloropropane | 0.324 | 0.328 | 0.262 | 0.286 | 0.265 | 0.273 | 0.269 | 0.273 | 0.271 | 0.283 | 8.87 | 15.1339 |
| | 95 | 1,2,4-Trichlorobenzene | 2.154 | 2.073 | 1.349 | 1.477 | 1.289 | 1.277 | 1.274 | 1.228 | 1.317 | 1.493 | 24.05 | 16.4643 |
| | 96 | Hexachlorobutadiene | ------ | 0.968 | 0.705 | 0.840 | 0.750 | 0.697 | 0.696 | 0.668 | 0.717 | 0.755 | 13.33 | 16.6624 |
| | 97 | Naphthalene | ------ | 4.357 | 3.062 | 3.424 | 3.316 | 3.128 | 3.237 | 3.113 | 3.376 | 3.377 | 12.35 | 16.8715 |
| | 98 | 1,2,3-Trichlorobenzene | 2.077 | 1.941 | 1.298 | 1.377 | 1.232 | 1.225 | 1.192 | 1.180 | 1.249 | 1.419 | 24.06 | 17.2310 |

Spike Amount = Nominal Amount * M
Ave_%RSD : 11.8 Max_%RSD : 42.2

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = x0 + x1 * Amt_Ratio

| IDX | Parameter | x0 | x1 | CCF |
|---|---|---|---|---|
| 11 | Acetone | 0.05832 | 0.11706 | 0.9992 |
| 16 | Iodomethane | -0.01397 | 0.48870 | 0.9969 |
| 18 | Methylene chloride | 0.04658 | 0.59178 | 0.9974 |
| 84 | 4-Chlorotoluene | 0.14395 | 3.17771 | 0.9987 |
| 89 | 1,3-Dichlorobenzene | 0.09201 | 1.90749 | 0.9986 |
| 91 | 1,4-Dichlorobenzene | 0.08106 | 1.99157 | 0.9991 |
| 95 | 1,2,4-Trichlorobenzene | 0.04972 | 1.27956 | 0.9993 |
| 98 | 1,2,3-Trichlorobenzene | 0.04722 | 1.21614 | 0.9995 |

5/24/24

Instrument ID :E2
Beginning DateTime :05/17/24 12:33
Spike Units :PPB
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :05/17/24 15:44
HPChem Method :VOE2E17

| M | IDX | Parameters | .5<br>12:33<br>REG118 | 1<br>12:57<br>REG119 | 2<br>13:21<br>REG120 | 5<br>13:45<br>REG121 | 10<br>14:09<br>REG122 | 30<br>14:33<br>REG123 | 50<br>14:57<br>REG124 | 100<br>15:21<br>REG125 | 200<br>15:44<br>REG126 | AvDRec | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 5.9874 |
| | 2 | Dichlorodifluoromethane | 108 | 111 | 101 | 88 | 89 | 106 | 99 | 101 | 97 | 6 | 8.06 | 2.7078 |
| | 3 | Chloromethane | 128 | 113 | 105 | 93 | 91 | 92 | 89 | 93 | 97 | 10.2 | 13.00 | 2.9059 |
| | 4 | Vinyl chloride | 96 | 113 | 106 | 86 | 96 | 101 | 103 | 103 | 95 | 5.8 | 7.58 | 2.9903 |
| | 5 | Bromomethane | 118 | 111 | 99 | 91 | 83 | 91 | 95 | 101 | 112 | 9.3 | 11.62 | 3.3131 |
| | 6 | Dichlorofluoromethane | 108 | 109 | 98 | 111 | 100 | 103 | 94 | 91 | 87 | 6.9 | 8.41 | 3.3523 |
| | 7 | Chloroethane | 104 | 120 | 101 | 92 | 96 | 103 | 96 | 97 | 91 | 6.3 | 8.74 | 3.3461 |
| | 8 | Trichlorofluoromethane | 110 | 105 | 100 | 87 | 92 | 106 | 101 | 102 | 97 | 5.4 | 7.24 | 3.5112 |
| 5 | 9 | Acrolein | 114 | 117 | 97 | 108 | 98 | 92 | 91 | 92 | 91 | 8.5 | 10.21 | 3.7423 |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 120 | 104 | 91 | 112 | 96 | 98 | 96 | 93 | 90 | 7.9 | 10.04 | 3.7521 |
| 5 | 11 | Acetone | 78 | 105 | 105 | 107 | 107 | 97 | 99 | ------ | ------ | 31.9 | 42.17 | 3.7690 |
| 25 | 12 | tert-Butyl alcohol | 123 | 115 | 103 | 93 | 100 | 92 | 93 | 90 | 89 | 9.3 | 11.83 | 3.8744 |
| | 13 | 1,1-Dichloroethene | 109 | 109 | 97 | 113 | 99 | 101 | 91 | 92 | 89 | 6.8 | 8.46 | 3.9025 |
| 10 | 14 | Acetonitrile | ------ | 123 | 103 | 100 | 103 | 87 | 90 | ------ | ------ | 8.9 | 12.37 | 3.8744 |
| | 15 | Allyl chloride | 111 | 114 | 96 | 112 | 101 | 102 | 94 | 86 | 82 | 9.1 | 11.27 | 4.1055 |
| | 16 | Iodomethane | 126 | 92 | 78 | 89 | 91 | 116 | 109 | 104 | 94 | 18.1 | 22.23 | 4.1434 |
| | 17 | Methyl acetate | ------ | 121 | 100 | 102 | 101 | 87 | 90 | ------ | ------ | 7.9 | 12.15 | 4.0285 |
| | 18 | Methylene chloride | 26 | 103 | 116 | 128 | 115 | 115 | 102 | 100 | 96 | 22.1 | 26.33 | 4.1825 |
| 5 | 19 | Acrylonitrile | 125 | 110 | 96 | 103 | 105 | 93 | 89 | 90 | 91 | 9.3 | 11.69 | 4.2156 |
| | 20 | tert-Butyl methyl ether (MTBE) | 113 | 107 | 101 | 107 | 101 | 97 | 92 | 91 | 90 | 6.4 | 7.94 | 4.2266 |
| | 21 | Carbon disulfide | 116 | 109 | 94 | 89 | 100 | 98 | 94 | ------ | ------ | 7.2 | 9.42 | 4.3052 |
| | 22 | trans-1,2-Dichloroethene | 112 | 112 | 99 | 114 | 98 | 93 | 93 | 89 | 90 | 8.5 | 10.07 | 4.3696 |
| | 23 | Isopropyl ether (DIPE) | 114 | 108 | 101 | 111 | 100 | 98 | 92 | 91 | 87 | 7.5 | 9.47 | 4.4601 |
| | 24 | Vinyl acetate | 105 | 108 | 103 | 104 | 107 | 94 | 94 | 95 | 92 | 5.8 | 6.41 | 4.5457 |
| | 25 | 1,1-Dichloroethane | 116 | 112 | 99 | 108 | 97 | 100 | 93 | 88 | 85 | 8.2 | 10.57 | 4.6338 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 110 | 111 | 99 | 110 | 100 | 93 | 95 | 90 | 92 | 6.8 | 8.21 | 4.7328 |
| 5 | 27 | 2-Butanone | ------ | 126 | 102 | 102 | 104 | 91 | 91 | 89 | 89 | 9 | 12.56 | 4.8539 |
| 10 | 28 | Propionitrile | 122 | 111 | 107 | 104 | 96 | 93 | 93 | 87 | 91 | 9.3 | 11.17 | 4.9101 |
| 20 | 29 | Isobutyl alcohol | ------ | 120 | 100 | 95 | 100 | 90 | 95 | 85 | ------ | 7.9 | 12.47 | 5.0299 |
| | 30 | 2,2-Dichloropropane | 111 | 107 | 95 | 114 | 103 | 99 | 95 | 91 | 86 | 7.6 | 9.30 | 5.0202 |
| 10 | 31 | Methacrylonitrile | 115 | 113 | 101 | 109 | 98 | 97 | 92 | 88 | 84 | 8.9 | 11.02 | 5.0568 |
| | 32 | cis-1,2-Dichloroethene | 109 | 115 | 100 | 108 | 96 | 96 | 94 | 90 | 93 | 7 | 8.40 | 5.0630 |
| | 33 | Chloroform | 125 | 117 | 98 | 104 | 93 | 91 | 87 | 85 | ------ | 11.5 | 14.51 | 5.1730 |
| | 34 | Bromochloromethane | 111 | 115 | 102 | 109 | 102 | 101 | 93 | 86 | 81 | 8.8 | 11.29 | 5.3271 |
| | 35 | Tetrahydrofuran | ------ | 111 | 102 | 105 | 98 | 97 | 94 | 92 | ------ | 5.3 | 6.67 | 5.3102 |
| | 36 | Dibromofluoromethane | 111 | 105 | 93 | 100 | 102 | 96 | 94 | ------ | ------ | 4.9 | 6.30 | 5.3381 |
| | 37 | 1,1,1-Trichloroethane | 111 | 108 | 94 | 110 | 100 | 101 | 95 | 93 | 89 | 6.8 | 8.19 | 5.4971 |
| | 38 | Cyclohexane | 124 | 114 | 85 | 114 | 84 | 94 | 99 | 91 | 96 | 11.6 | 14.22 | 5.5484 |
| | 39 | tert-Amyl methyl ether (TAME) | 103 | 106 | 95 | 113 | 105 | 90 | 100 | 95 | 93 | 5.9 | 7.33 | 5.6144 |
| | 40 | 1,1-Dichloropropene | 111 | 106 | 94 | 113 | 103 | 92 | 97 | 93 | 92 | 7.2 | 8.29 | 5.6132 |
| | 41 | 1,2-Dichloroethane-d4 | 120 | 111 | 96 | 99 | 97 | 88 | 89 | ------ | ------ | 9 | 11.80 | 5.7233 |
| | 42 | Carbon tetrachloride | 104 | 109 | 91 | 114 | 102 | 99 | 97 | 92 | 92 | 6.3 | 8.01 | 5.7343 |
| | 43 | 1,2-Dichloroethane | 113 | 112 | 102 | 112 | 102 | 92 | 93 | 88 | 87 | 8.9 | 10.41 | 5.8003 |
| | 44 | Benzene | 115 | 112 | 97 | 104 | 99 | 94 | 96 | 92 | 91 | 6.9 | 8.64 | 5.8663 |
| | 45 | Trichloroethene | 113 | 112 | 91 | 110 | 98 | 98 | 95 | 91 | 93 | 7.7 | 9.09 | 6.3714 |
| | 46 | Methyl methacrylate | 116 | 111 | 94 | 110 | 95 | 90 | 96 | 94 | 93 | 8.4 | 9.77 | 6.4386 |
| | 47 | Methylcyclohexane | ------ | 117 | 88 | 118 | 88 | 91 | 101 | 98 | 100 | 9 | 11.92 | 6.4537 |
| | 48 | 1,2-Dichloropropane | 120 | 114 | 100 | 103 | 99 | 90 | 94 | 91 | 90 | 8.2 | 10.74 | 6.5266 |
| 20 | 49 | 1,4-Dioxane | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 50 | Bromodichloromethane | ------ | 122 | 103 | 110 | 100 | 95 | 93 | 90 | 87 | 8.6 | 11.38 | 6.7687 |
| | 51 | Dibromomethane | 119 | 113 | 98 | 110 | 98 | 97 | 92 | 91 | 83 | 9.4 | 11.79 | 6.8568 |
| | 52 | 2-Chloroethyl vinyl ether | 101 | 108 | 100 | 110 | 103 | 99 | 97 | 94 | 89 | 4.8 | 6.45 | 6.9338 |
| 5 | 53 | 4-Methyl-2-pentanone | 115 | 112 | 97 | 109 | 104 | 91 | 92 | 91 | 87 | 9 | 10.35 | 6.9571 |
| | 54 | cis-1,3-Dichloropropene | 113 | 107 | 97 | 108 | 101 | 96 | 95 | 93 | 91 | 6.3 | 7.57 | 7.2750 |
| | 55 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9.5641 |
| | 56 | Toluene-d8 | ------ | 117 | 96 | 99 | 101 | 94 | 94 | ------ | ------ | 6 | 8.88 | 7.5941 |
| | 57 | Ethyl methacrylate | 101 | 105 | 97 | 110 | 104 | 95 | 100 | 93 | 95 | 4.4 | 5.59 | 7.6932 |
| | 58 | Toluene | 111 | 115 | 97 | 109 | 99 | 91 | 96 | 89 | 93 | 7.8 | 9.46 | 7.6932 |
| | 59 | trans-1,3-Dichloropropene | 105 | 106 | 95 | 111 | 102 | 100 | 99 | 91 | 93 | 5.2 | 6.61 | 7.8143 |
| 5 | 60 | 2-Hexanone | 120 | 109 | 95 | 107 | 106 | 95 | 94 | 86 | 88 | 9.3 | 11.13 | 7.9378 |
| | 61 | 1,1,2-Trichloroethane | 114 | 113 | 102 | 108 | 99 | 100 | 92 | 86 | 87 | 8.1 | 10.51 | 8.0454 |
| | 62 | 1,3-Dichloropropane | 110 | 117 | 98 | 108 | 98 | 96 | 96 | 88 | 88 | 7.8 | 9.83 | 8.3535 |
| | 63 | Tetrachloroethene | 119 | 120 | 88 | 107 | 96 | 100 | 93 | 87 | 90 | 10.2 | 12.71 | 8.5088 |
| | 64 | Dibromochloromethane | ------ | 129 | 102 | 106 | 98 | 102 | 92 | 86 | 86 | 9.8 | 13.87 | 8.7827 |
| | 65 | 1,2-Dibromoethane | 112 | 107 | 96 | 107 | 102 | 102 | 95 | 90 | 89 | 6.8 | 8.08 | 9.0688 |
| | 66 | 1-Chlorohexane | 112 | 113 | 87 | 112 | 99 | 100 | 96 | 89 | 90 | 8.4 | 10.45 | 9.1239 |
| | 67 | Chlorobenzene | 120 | 112 | 93 | 107 | 98 | 99 | 93 | 88 | 89 | 8.8 | 11.00 | 9.6191 |
| | 68 | 1,1,1,2-Tetrachloroethane | 112 | 111 | 93 | 108 | 102 | 103 | 95 | 89 | 88 | 7.7 | 9.12 | 9.6460 |
| | 69 | Ethylbenzene | 116 | 116 | 89 | 106 | 97 | 100 | 95 | 90 | 90 | 8.6 | 10.66 | 9.6411 |
| 2 | 70 | m-Xylene & p-Xylene | 114 | 112 | 89 | 104 | 93 | 95 | 94 | ------ | ------ | 8.5 | 9.97 | 9.7496 |
| | 71 | o-Xylene | 120 | 112 | 91 | 110 | 100 | 93 | 97 | 89 | 88 | 9.1 | 11.21 | 10.4127 |
| | 72 | Styrene | 111 | 116 | 91 | 109 | 101 | 96 | 97 | 90 | 88 | 8.4 | 10.19 | 10.4580 |
| | 73 | Isopropylbenzene | 118 | 122 | 93 | 110 | 100 | 89 | 93 | 89 | 86 | 11.1 | 13.33 | 10.9397 |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 13.8891 |
| | 75 | Bromoform | 114 | 109 | 102 | 108 | 98 | 95 | 97 | 89 | 88 | 7.4 | 9.03 | 11.0608 |
| | 76 | 1,1,2,2-Tetrachloroethane | 124 | 119 | 98 | 107 | 97 | 90 | 93 | 87 | 85 | 11.1 | 13.93 | 11.2026 |
| | 77 | 4-Bromofluorobenzene | ------ | 120 | 101 | 102 | 98 | 84 | 96 | ------ | ------ | 7.6 | 11.73 | 11.3689 |
| | 78 | 1,2,3-Trichloropropane | 115 | 117 | 100 | 114 | 97 | 89 | 95 | 89 | 84 | 10.1 | 12.26 | 11.4460 |
| | 79 | trans-1,4-Dichloro-2-butene | 89 | 100 | 90 | 117 | 102 | 102 | 106 | 98 | 97 | 5.9 | 8.47 | 11.5132 |
| | 80 | n-Propylbenzene | 121 | 122 | 92 | 113 | 95 | 88 | 94 | 88 | 86 | 12.5 | 14.55 | 11.5780 |
| | 81 | Bromobenzene | 118 | 121 | 97 | 112 | 100 | 87 | 93 | 87 | 86 | 11.4 | 13.87 | 11.7321 |
| | 82 | 1,3,5-Trimethylbenzene | 123 | 120 | 93 | 112 | 96 | 89 | 93 | 87 | 86 | 12.2 | 14.43 | 11.8287 |
| | 83 | 2-Chlorotoluene | ------ | 123 | 91 | 119 | 94 | 93 | 99 | 92 | 89 | 10.5 | 13.23 | 11.9192 |
| | 84 | 4-Chlorotoluene | 60 | 117 | 98 | 115 | 117 | 89 | 105 | 99 | 100 | 15.3 | 20.12 | 11.9754 |
| | 85 | tert-Butylbenzene | 111 | 123 | 90 | 110 | 96 | 83 | 88 | ------ | ------ | 12.4 | 14.63 | 12.4081 |
| | 86 | 1,2,4-Trimethylbenzene | 119 | 123 | 94 | 112 | 98 | 88 | 93 | 87 | 86 | 11.8 | 14.07 | 12.4780 |
| | 87 | sec-Butylbenzene | ------ | 127 | 92 | 112 | 98 | 90 | 94 | 88 | ------ | 11 | 14.11 | 12.7493 |
| | 88 | p-Isopropyltoluene | 122 | 122 | 92 | 113 | 96 | 88 | 92 | 89 | 86 | 12.6 | 14.69 | 12.9549 |
| | 89 | 1,3-Dichlorobenzene | 62 | 109 | 90 | 120 | 110 | 104 | 108 | 100 | 97 | 15.3 | 19.08 | 13.1652 |
| | 90 | 1,2,3-Trimethylbenzene | 115 | 123 | 94 | 113 | 99 | 89 | 93 | 88 | 86 | 11.2 | 13.33 | 13.2545 |
| | 91 | 1,4-Dichlorobenzene | 126 | 114 | 86 | 119 | 107 | 103 | 106 | 98 | 98 | 15.4 | 18.81 | 13.3278 |
| | 92 | n-Butylbenzene | 126 | 122 | 89 | 106 | 96 | 92 | 94 | 86 | 88 | 12.1 | 14.93 | 13.6140 |
| | 93 | 1,2-Dichlorobenzene | ------ | 123 | 100 | 110 | 92 | 87 | 88 | ------ | ------ | 11 | 14.28 | 13.9331 |
| | 94 | 1,2-Dibromo-3-chloropropane | 114 | 116 | 93 | 101 | 94 | 96 | 95 | 96 | 96 | 6.8 | 8.87 | 15.1339 |
| | 95 | 1,2,4-Trichlorobenzene | 90 | 123 | 86 | 108 | 97 | 98 | 99 | 90 | 103 | 18.5 | 24.05 | 16.4643 |
| | 96 | Hexachlorobutadiene | ------ | 128 | 93 | 111 | 99 | 92 | 92 | 88 | 95 | 9.9 | 13.33 | 16.6624 |
| | 97 | Naphthalene | ------ | 129 | 91 | 101 | 98 | 93 | 96 | 92 | 100 | 7.6 | 12.35 | 16.8715 |
| | 98 | 1,2,3-Trichlorobenzene | 94 | 121 | 88 | 105 | 97 | 97 | 97 | 97 | 102 | 18.5 | 24.06 | 17.2310 |

For 8260C
SCC
5/29/24

Compound List Report E2

Method Path : C:\MSDCHEM\1\METHODS\
Method File : VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024
Response Via : Initial Calibration

Total Cpnds : 98

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 114 | 5.987 | 1.000 | A | 1 | A | B |
| 2 | T | Dichlorodifluoromethane | 85 | 2.708 | 0.452 | A | 1 | A | B |
| 3 | T | Chloromethane | 50 | 2.906 | 0.485 | A | 1 | A | B |
| 4 | T | Vinyl chloride | 62 | 2.994 | 0.500 | A | 1 | A | B |
| 5 | T | Bromomethane | 94 | 3.313 | 0.553 | A | 1 | A | B |
| 6 | T | Dichlorofluoromethane | 67 | 3.357 | 0.561 | A | 1 | A | B |
| 7 | T | Chloroethane | 64 | 3.346 | 0.559 | A | 1 | A | B |
| 8 | T | Trichlorofluoromethane | 101 | 3.511 | 0.586 | A | 1 | A | B |
| 9 | T | Acrolein | 56 | 3.742 | 0.625 | A | 1 | A | B |
| 10 | T | 1,1,2-Trichloro-1,2,2-Trifl... | 151 | 3.753 | 0.627 | A | 1 | A | B |
| 11 | T | Acetone | 43 | 3.764 | 0.629 | L | 1 | A | B |
| 12 | T | tert-Butyl alcohol | 59 | 3.874 | 0.647 | A | 1 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 3.908 | 0.653 | A | 2 | A | B |
| 14 | T | Acetonitrile | 41 | 3.874 | 0.647 | A | 1 | A | B |
| 15 | T | Allyl chloride | 76 | 4.106 | 0.686 | A | 1 | A | B |
| 16 | T | Iodomethane | 142 | 4.150 | 0.693 | L | 1 | A | B |
| 17 | T | Methyl acetate | 43 | 4.029 | 0.673 | A | 1 | A | B |
| 18 | T | Methylene chloride | 49 | 4.183 | 0.699 | L | 2 | A | B |
| 19 | T | Acrylonitrile | 53 | 4.216 | 0.704 | A | 2 | A | B |
| 20 | T | tert-Butyl methyl ether (MTBE) | 73 | 4.227 | 0.706 | A | 1 | A | B |
| 21 | T | Carbon disulfide | 76 | 4.304 | 0.719 | A | 1 | A | B |
| 22 | T | trans-1,2-Dichloroethene | 96 | 4.370 | 0.730 | A | 1 | A | B |
| 23 | T | Isopropyl ether (DIPE) | 45 | 4.458 | 0.745 | A | 1 | A | B |
| 24 | T | Vinyl acetate | 43 | 4.546 | 0.759 | A | 1 | A | B |
| 25 | T | 1,1-Dichloroethane | 63 | 4.634 | 0.774 | A | 2 | A | B |
| 26 | T | tert-Butyl ethyl ether (ETBE) | 59 | 4.733 | 0.791 | A | 1 | A | B |
| 27 | T | 2-Butanone | 72 | 4.854 | 0.811 | A | 1 | A | B |
| 28 | T | Propionitrile | 54 | 4.909 | 0.820 | A | 1 | A | B |
| 29 | T | Isobutyl alcohol | 43 | 5.030 | 0.840 | A | 1 | A | B |
| 30 | T | 2,2-Dichloropropane | 77 | 5.019 | 0.838 | A | 2 | A | B |
| 31 | T | Methacrylonitrile | 52 | 5.052 | 0.844 | A | 1 | A | B |
| 32 | T | cis-1,2-Dichloroethene | 96 | 5.063 | 0.846 | A | 1 | A | B |
| 33 | T | Chloroform | 83 | 5.173 | 0.864 | A | 2 | A | B |
| 34 | T | Bromochloromethane | 130 | 5.327 | 0.890 | A | 1 | A | B |
| 35 | T | Tetrahydrofuran | 42 | 5.327 | 0.890 | A | 2 | A | B |
| 36 | S | Dibromofluoromethane | 111 | 5.338 | 0.892 | A | 1 | A | B |
| 37 | T | 1,1,1-Trichloroethane | 97 | 5.492 | 0.917 | A | 2 | A | B |
| 38 | T | Cyclohexane | 84 | 5.547 | 0.927 | A | 1 | A | B |
| 39 | T | tert-Amyl methyl ether (TAME) | 87 | 5.613 | 0.938 | A | 1 | A | B |
| 40 | T | 1,1-Dichloropropene | 110 | 5.613 | 0.938 | A | 1 | A | B |
| 41 | S | 1,2-Dichloroethane-d4 | 65 | 5.723 | 0.956 | A | 1 | A | B |
| 42 | T | Carbon tetrachloride | 119 | 5.734 | 0.958 | A | 1 | A | B |
| 43 | T | 1,2-Dichloroethane | 62 | 5.800 | 0.969 | A | 1 | A | B |
| 44 | T | Benzene | 78 | 5.866 | 0.980 | A | 2 | A | B |
| 45 | T | Trichloroethene | 130 | 6.373 | 1.064 | A | 3 | A | B |
| 46 | T | Methyl methacrylate | 69 | 6.439 | 1.075 | A | 1 | A | B |
| 47 | T | Methylcyclohexane | 83 | 6.450 | 1.077 | A | 2 | A | B |
| 48 | T | 1,2-Dichloropropane | 63 | 6.527 | 1.090 | A | 1 | A | B |
| 49 | T | 1,4-Dioxane | 88 | 6.725 | 1.123 | A | 1 | A | B |
| 50 | T | Bromodichloromethane | 83 | 6.769 | 1.131 | A | 1 | A | B |
| 51 | T | Dibromomethane | 93 | 6.857 | 1.145 | A | 2 | A | B |
| 52 | T | 2-Chloroethyl vinyl ether | 63 | 6.934 | 1.158 | A | 1 | A | B |
| 53 | T | 4-Methyl-2-pentanone | 43 | 6.956 | 1.162 | A | 3 | A | B |
| 54 | T | cis-1,3-Dichloropropene | 75 | 7.275 | 1.215 | A | 3 | A | B |
| 55 | I | CHLOROBENZENE-D5 | 117 | 9.564 | 1.000 | A | 2 | A | B |

5/24/24

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 56 | S | Toluene-d8 | 98 | 7.594 | 0.794 | A | 1 | A | B |
| 57 | T | Ethyl methacrylate | 69 | 7.693 | 0.804 | A | 1 | A | B |
| 58 | T | Toluene | 91 | 7.693 | 0.804 | A | 1 | A | B |
| 59 | T | trans-1,3-Dichloropropene | 75 | 7.814 | 0.817 | A | 1 | A | B |
| 60 | T | 2-Hexanone | 43 | 7.935 | 0.830 | A | 1 | A | B |
| 61 | T | 1,1,2-Trichloroethane | 97 | 8.045 | 0.841 | A | 2 | A | B |
| 62 | T | 1,3-Dichloropropane | 76 | 8.354 | 0.873 | A | 1 | A | B |
| 63 | T | Tetrachloroethene | 164 | 8.508 | 0.890 | A | 3 | A | B |
| 64 | T | Dibromochloromethane | 129 | 8.783 | 0.918 | A | 1 | A | B |
| 65 | T | 1,2-Dibromoethane | 107 | 9.069 | 0.948 | A | 1 | A | B |
| 66 | T | 1-Chlorohexane | 91 | 9.124 | 0.954 | A | 1 | A | B |
| 67 | T | Chlorobenzene | 112 | 9.619 | 1.006 | A | 1 | A | B |
| 68 | T | 1,1,1,2-Tetrachloroethane | 131 | 9.652 | 1.009 | A | 1 | A | B |
| 69 | T | Ethylbenzene | 91 | 9.641 | 1.008 | A | 1 | A | B |
| 70 | T | m-Xylene & p-Xylene | 91 | 9.740 | 1.018 | A | 1 | A | B |
| 71 | T | o-Xylene | 91 | 10.412 | 1.089 | A | 1 | A | B |
| 72 | T | Styrene | 104 | 10.456 | 1.093 | A | 2 | A | B |
| 73 | T | Isopropylbenzene | 105 | 10.940 | 1.144 | A | 3 | A | B |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 152 | 13.889 | 1.000 | A | 1 | A | B |
| 75 | T | Bromoform | 173 | 11.061 | 0.796 | A | 2 | A | B |
| 76 | T | 1,1,2,2-Tetrachloroethane | 83 | 11.204 | 0.807 | A | 1 | A | B |
| 77 | S | 4-Bromofluorobenzene | 95 | 11.369 | 0.819 | A | 2 | A | B |
| 78 | T | 1,2,3-Trichloropropane | 110 | 11.446 | 0.824 | A | 1 | A | B |
| 79 | T | trans-1,4-Dichloro-2-butene | 53 | 11.512 | 0.829 | A | 1 | A | B |
| 80 | T | n-Propylbenzene | 91 | 11.578 | 0.834 | A | 2 | A | B |
| 81 | T | Bromobenzene | 156 | 11.732 | 0.845 | A | 1 | A | B |
| 82 | T | 1,3,5-Trimethylbenzene | 105 | 11.831 | 0.852 | A | 2 | A | B |
| 83 | T | 2-Chlorotoluene | 91 | 11.919 | 0.858 | A | 1 | A | B |
| 84 | T | 4-Chlorotoluene | 91 | 11.974 | 0.862 | L | 1 | A | B |
| 85 | T | tert-Butylbenzene | 134 | 12.415 | 0.894 | A | 1 | A | B |
| 86 | T | 1,2,4-Trimethylbenzene | 105 | 12.470 | 0.898 | A | 1 | A | B |
| 87 | T | sec-Butylbenzene | 105 | 12.745 | 0.918 | A | 1 | A | B |
| 88 | T | p-Isopropyltoluene | 119 | 12.954 | 0.933 | A | 2 | A | B |
| 89 | T | 1,3-Dichlorobenzene | 146 | 13.163 | 0.948 | L | 2 | A | B |
| 90 | T | 1,2,3-Trimethylbenzene | 105 | 13.251 | 0.954 | A | 2 | A | B |
| 91 | T | 1,4-Dichlorobenzene | 146 | 13.328 | 0.960 | L | 2 | A | B |
| 92 | T | n-Butylbenzene | 91 | 13.614 | 0.980 | A | 2 | A | B |
| 93 | T | 1,2-Dichlorobenzene | 146 | 13.933 | 1.003 | A | 1 | A | B |
| 94 | T | 1,2-Dibromo-3-chloropropane | 157 | 15.133 | 1.090 | A | 1 | A | B |
| 95 | T | 1,2,4-Trichlorobenzene | 180 | 16.464 | 1.185 | L | 2 | A | B |
| 96 | T | Hexachlorobutadiene | 225 | 16.663 | 1.200 | A | 2 | A | B |
| 97 | T | Naphthalene | 128 | 16.872 | 1.215 | A | 1 | A | B |
| 98 | T | 1,2,3-Trichlorobenzene | 180 | 17.224 | 1.240 | L | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

---

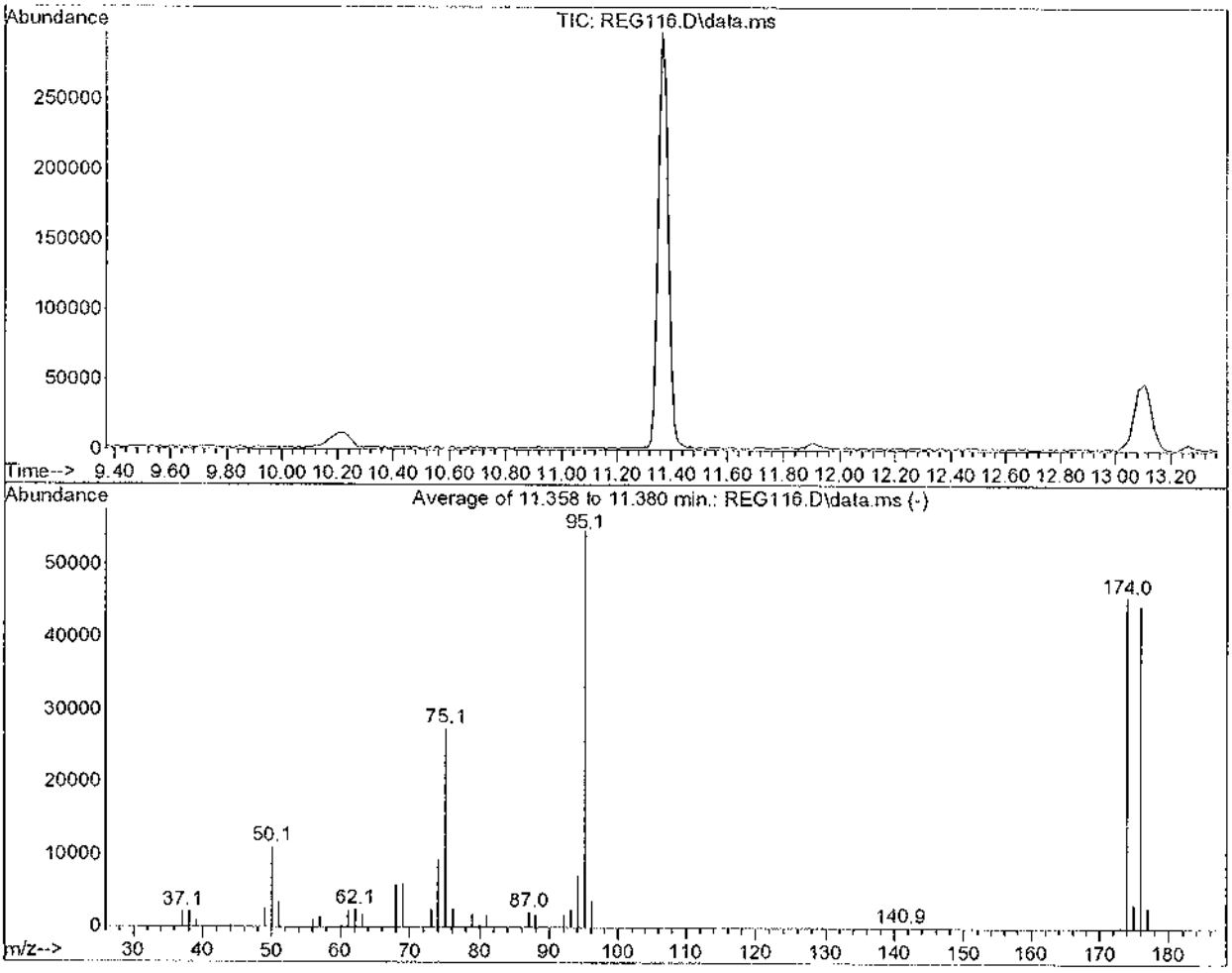
VOE2E17.M Tue May 21 20:46:28 2024

5/24/24

Data Path : D:\Data\24E17\
Data File : REG116.D
Acq On : 17 May 2024 11:23
Operator : DNguye
Sample : BFBE2E09
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




AutoFind: Scans 797, 798, 799; Background Corrected with Scan 791

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 20.3 | 11125 | PASS |
| 75 | 95 | 30 | 60 | 50.1 | 27461 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 54867 | PASS |
| 96 | 95 | 5 | 9 | 6.7 | 3687 | PASS |
| 173 | 174 | 0.00 | 2 | 1.0 | 441 | PASS |
| 174 | 95 | 50 | 100 | 83.3 | 45723 | PASS |
| 175 | 174 | 5 | 9 | 7.5 | 3423 | PASS |
| 176 | 174 | 95 | 101 | 97.6 | 44603 | PASS |
| 177 | 176 | 5 | 9 | 6.5 | 2888 | PASS |

SU 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG118.D Vial: 3
Acq On : 17 May 2024 12:33 Operator: DNguye
Sample : VOE2E172 0.02 Inst : E2
Misc : 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:44 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 549104 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 464476 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 212499 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 18576 | 0.55 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 5.50% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 26686 | 0.60 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 6.00% | | |
| 56) Toluene-d8 | 7.594 | 98 | 57312 | 0.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 6.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 22723 | 0.67 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 6.70% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 17056 | 0.54 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 14446 | 0.64 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 11508 | 0.48 | ug/l | 73 |
| 5) Bromomethane | 3.313 | 94 | 9554 | 0.59 | ug/l | 94 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 29410 | 0.54 | ug/L | 96 |
| 7) Chloroethane | 3.346 | 64 | 6087 | 0.52 | ug/l | 85 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 29529 | 0.55 | ug/l | 98 |
| 9) Acrolein | 3.742 | 56 | 10194 | 2.85 | ug/l | 91 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 14012 | 0.60 | ug/l | 91 |
| 11) Acetone | 3.764 | 43 | 44639 | 1.96 | ug/l | 96 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 51406 | 15.40 | ug/L | 97 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 26690 | 0.54 | ug/l | 96 |
| 14) Acetonitrile | 3.874 | 41 | 10893 | 6.57 | ug/L | 98 |
| 15) Allyl chloride | 4.106 | 76 | 7180 | 0.55 | ug/L | 98 |
| 16) Iodomethane | 4.139 | 142 | 9193 | 0.63 | ug/l | 87 |
| 17) Methyl acetate | 4.029 | 43 | 14730 | 0.79 | ug/L | 85 |
| 18) Methylene chloride | 4.183 | 49 | 30803 | 0.13 | ug/l | 98 |
| 19) Acrylonitrile | 4.216 | 53 | 25634 | 3.11 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 46315 | 0.56 | ug/L | 96 |
| 21) Carbon disulfide | 4.304 | 76 | 43578 | 0.58 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 14728 | 0.56 | ug/l | 97 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 47724 | 0.57 | ug/l | 94 |
| 24) Vinyl acetate | 4.546 | 43 | 24849 | 0.52 | ug/l | 95 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 30845 | 0.58 | ug/l | 92 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 55588 | 0.55 | ug/l | 98 |
| 27) 2-Butanone | 4.854 | 72 | 11165 | 4.33 | ug/l | 86 |
| 28) Propionitrile | 4.909 | 54 | 18460 | 6.08 | ug/L | 91 |
| 29) Isobutyl alcohol | 5.030 | 43 | 14416 | 13.44 | ug/L | 87 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 29380 | 0.55 | ug/l | 97 |
| 31) Methacrylonitrile | 5.052 | 52 | 28918 | 5.80 | ug/L | 100 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 16247 | 0.54 | ug/l | 98 |
| 33) Chloroform | 5.173 | 83 | 41179 | 0.63 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 9713 | 0.55 | ug/l | 96 |
| 35) Tetrahydrofuran | 5.316 | 42 | 5046 | 0.73 | ug/L | 71 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 32762 | 0.55 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 18767 | 0.62 | ug/L | 95 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 9348 | 0.52 | ug/l | 84 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 7182 | 0.55 | ug/L | 93 |
| 42) Carbon tetrachloride | 5.734 | 119 | 25943 | 0.52 | ug/L | 94 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG118.D
Acq On : 17 May 2024 12:33
Sample : VOE2E172 0.02
Misc : 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 28450 | 0.56 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 57665 | 0.57 | ug/L | 99 |
| 45) Trichloroethene | 6.362 | 130 | 15745 | 0.57 | ug/L | 92 |
| 46) Methyl methacrylate | 6.439 | 69 | 14294 | 0.58 | ug/L | 92 |
| 47) Methylcyclohexane | 6.450 | 83 | 24801 | 0.75 | ug/L | 98 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 15344 | 0.60 | ug/L | 87 |
| 50) Bromodichloromethane | 6.769 | 83 | 36002 | 0.74 | ug/L | 94 |
| 51) Dibromomethane | 6.857 | 93 | 12457 | 0.60 | ug/L | 89 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 6395 | 0.50 | ug/L | 87 |
| 53) 4-Methyl-2-pentanone | 6.967 | 43 | 81159 | 2.89 | ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 25278 | 0.56 | ug/L | 99 |
| 57) Ethyl methacrylate | 7.693 | 69 | 15961 | 0.50 | ug/L | 97 |
| 58) Toluene | 7.693 | 91 | 58579 | 0.56 | ug/l | 98 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 23673 | 0.53 | ug/l | 98 |
| 60) 2-Hexanone | 7.946 | 43 | 57309 | 3.01 | ug/l | 96 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 14308 | 0.57 | ug/l | 96 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 20459 | 0.55 | ug/l | 96 |
| 63) Tetrachloroethene | 8.508 | 164 | 13727 | 0.60 | ug/l | 96 |
| 64) Dibromochloromethane | 8.783 | 129 | 29407 | 0.78 | ug/l | 97 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 15125 | 0.56 | ug/l | 99 |
| 66) 1-Chlorohexane | 9.124 | 91 | 19608 | 0.56 | ug/l | 96 |
| 67) Chlorobenzene | 9.619 | 112 | 41842 | 0.60 | ug/l | 98 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 16551 | 0.56 | ug/l | 98 |
| 69) Ethylbenzene | 9.641 | 91 | 74129 | 0.58 | ug/l | 99 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 118397 | 1.14 | ug/l | 100 |
| 71) o-Xylene | 10.423 | 91 | 58892 | 0.60 | ug/l | 99 |
| 72) Styrene | 10.467 | 104 | 38267 | 0.56 | ug/l | 96 |
| 73) Isopropylbenzene | 10.940 | 105 | 65839 | 0.59 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 13240 | 0.57 | ug/l | 96 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 18390 | 0.62 | ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 4683 | 0.57 | ug/l | 89 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 3669 | 0.44 | ug/l | 65 |
| 80) n-Propylbenzene | 11.578 | 91 | 81637 | 0.61 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 17493 | 0.59 | ug/l | 90 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 57014 | 0.62 | ug/l | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 55924 | 0.67 | ug/l | 97 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 50900 | 0.30 | ug/l | 88 |
| 85) tert-Butylbenzene | 12.414 | 134 | 7933 | 0.55 | ug/l | 81 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 53741 | 0.59 | ug/l | 100 |
| 87) sec-Butylbenzene | 12.756 | 105 | 65405 | 0.62 | ug/l | 99 |
| 88) p-Isopropyltoluene | 12.965 | 119 | 53602 | 0.61 | ug/l | 97 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 32090 | 0.31 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 51524 | 0.57 | ug/L | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 32107 | 0.34 | ug/l | 100 |
| 92) n-Butylbenzene | 13.614 | 91 | 52899 | 0.63 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 31197 | 0.67 | ug/l | 99 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 3444 | 0.57 | ug/l | 77 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 22885 | 0.45 | ug/l | 96 |
| 96) Hexachlorobutadiene | 16.651 | 225 | 14673 | 0.91 | ug/l | 99 |
| 97) Naphthalene | 16.872 | 128 | 48991 | 0.68 | ug/l | 95 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 22069 | 0.47 | ug/l | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOE2E17.M Thu May 23 12:44:53 2024

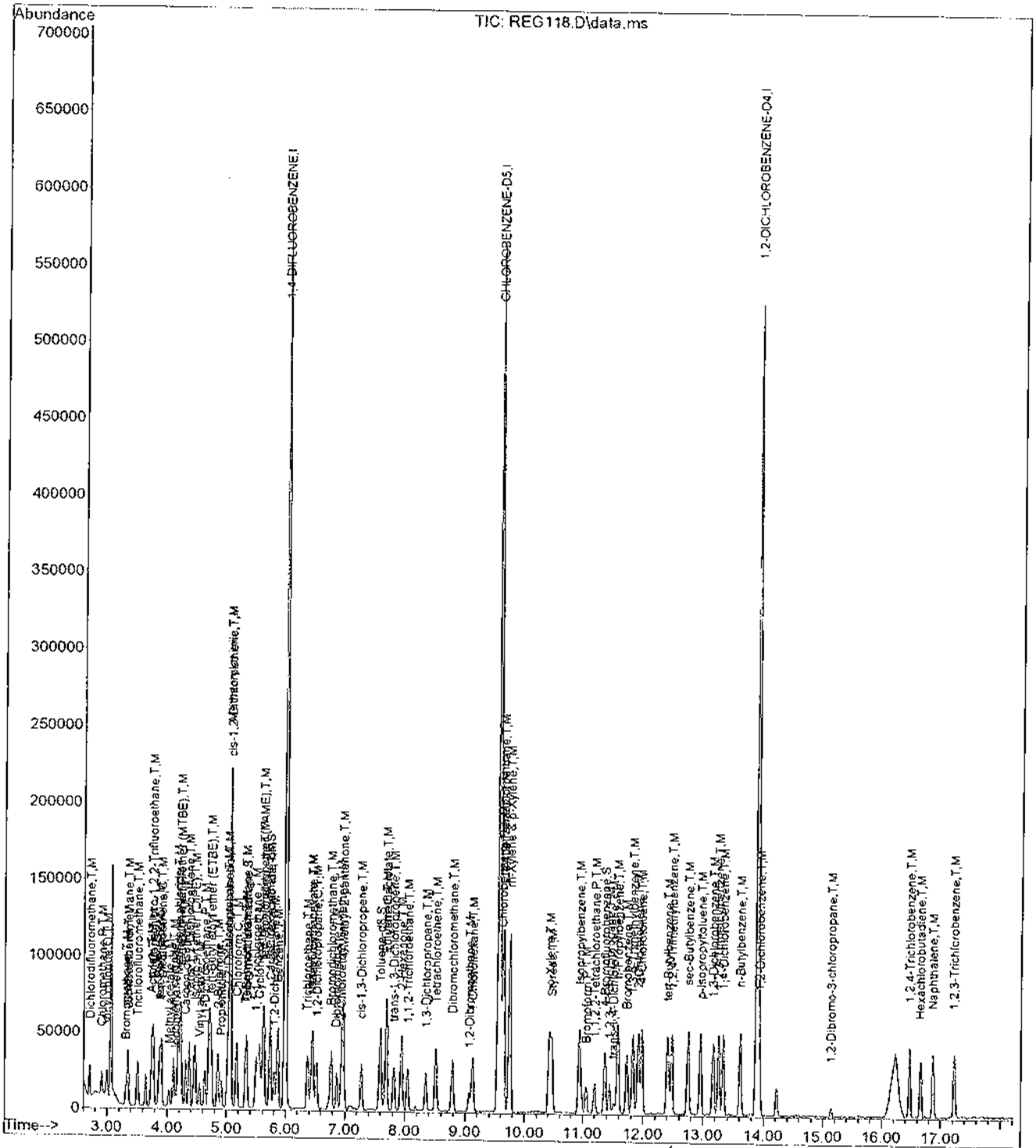
SU 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG118.D
Acq On : 17 May 2024 12:33
Sample : VOE2E172 0.02
Misc : 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:44:53 2024

SU 5/24/24

Page: 3

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG119.D
Acq On : 17 May 2024 12:57
Sample : VOE2E173 0.04
Misc : 1.0ppb 8260/5.0ppb KET-AA/25ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:47 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 528810 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 434355 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 203881 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 33928 | 1.05 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 10.50% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 47681 | 1.11 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 11.10% | | |
| 56) Toluene-d8 | 7.594 | 98 | 101137 | 1.17 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 11.70% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 38761 | 1.20 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 12.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 33711 | 1.11 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 24615 | 1.13 | ug/l | 97 |
| 4) Vinyl chloride | 2.994 | 62 | 25933 | 1.13 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 17186 | 1.10 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 57478 | 1.09 | ug/L | 98 |
| 7) Chloroethane | 3.346 | 64 | 13510 | 1.20 | ug/l | 94 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 54306 | 1.05 | ug/l | 91 |
| 9) Acrolein | 3.742 | 56 | 20066 | 5.83 | ug/l | 93 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 23511 | 1.04 | ug/l | 98 |
| 11) Acetone | 3.775 | 43 | 63395 | 5.26 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 92364 | 28.72 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 51276 | 1.08 | ug/l | 98 |
| 14) Acetonitrile | 3.874 | 41 | 19387 | 12.15 | ug/L | 92 |
| 15) Allyl chloride | 4.105 | 76 | 14259 | 1.14 | ug/L | 90 |
| 16) Iodomethane | 4.149 | 142 | 16513 | 0.92 | ug/l | 95 |
| 17) Methyl acetate | 4.028 | 43 | 21690 | 1.21 | ug/L | 99 |
| 18) Methylene chloride | 4.183 | 49 | 57918 | 1.03 | ug/l | 99 |
| 19) Acrylonitrile | 4.216 | 53 | 43571 | 5.48 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 84545 | 1.07 | ug/L | 98 |
| 21) Carbon disulfide | 4.304 | 76 | 78967 | 1.09 | ug/l | 98 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 28258 | 1.12 | ug/l | 93 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 86599 | 1.08 | ug/l | 100 |
| 24) Vinyl acetate | 4.546 | 43 | 49261 | 1.08 | ug/l | 97 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 57329 | 1.12 | ug/l | 96 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 108334 | 1.11 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 15702 | 6.33 | ug/l | 98 |
| 28) Propionitrile | 4.909 | 54 | 32216 | 11.02 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 25893 | 25.07 | ug/L | 94 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 54501 | 1.07 | ug/l | 99 |
| 31) Methacrylonitrile | 5.063 | 52 | 54305 | 11.31 | ug/L | 99 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 32895 | 1.15 | ug/l | 94 |
| 33) Chloroform | 5.173 | 83 | 73903 | 1.17 | ug/l | 96 |
| 34) Bromochloromethane | 5.327 | 130 | 19362 | 1.15 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.327 | 42 | 7423 | 1.11 | ug/L | 88 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 61622 | 1.08 | ug/l | 99 |
| 38) Cyclohexane | 5.558 | 84 | 33028 | 1.14 | ug/L | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 18421 | 1.06 | ug/l | 94 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 13272 | 1.06 | ug/L | 97 |
| 42) Carbon tetrachloride | 5.734 | 119 | 52471 | 1.09 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG119.D
Acq On : 17 May 2024 12:57
Sample : VOE2E173 0.04
Misc : 1.0ppb 8260/5.0ppb KET-AA/25ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:47 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

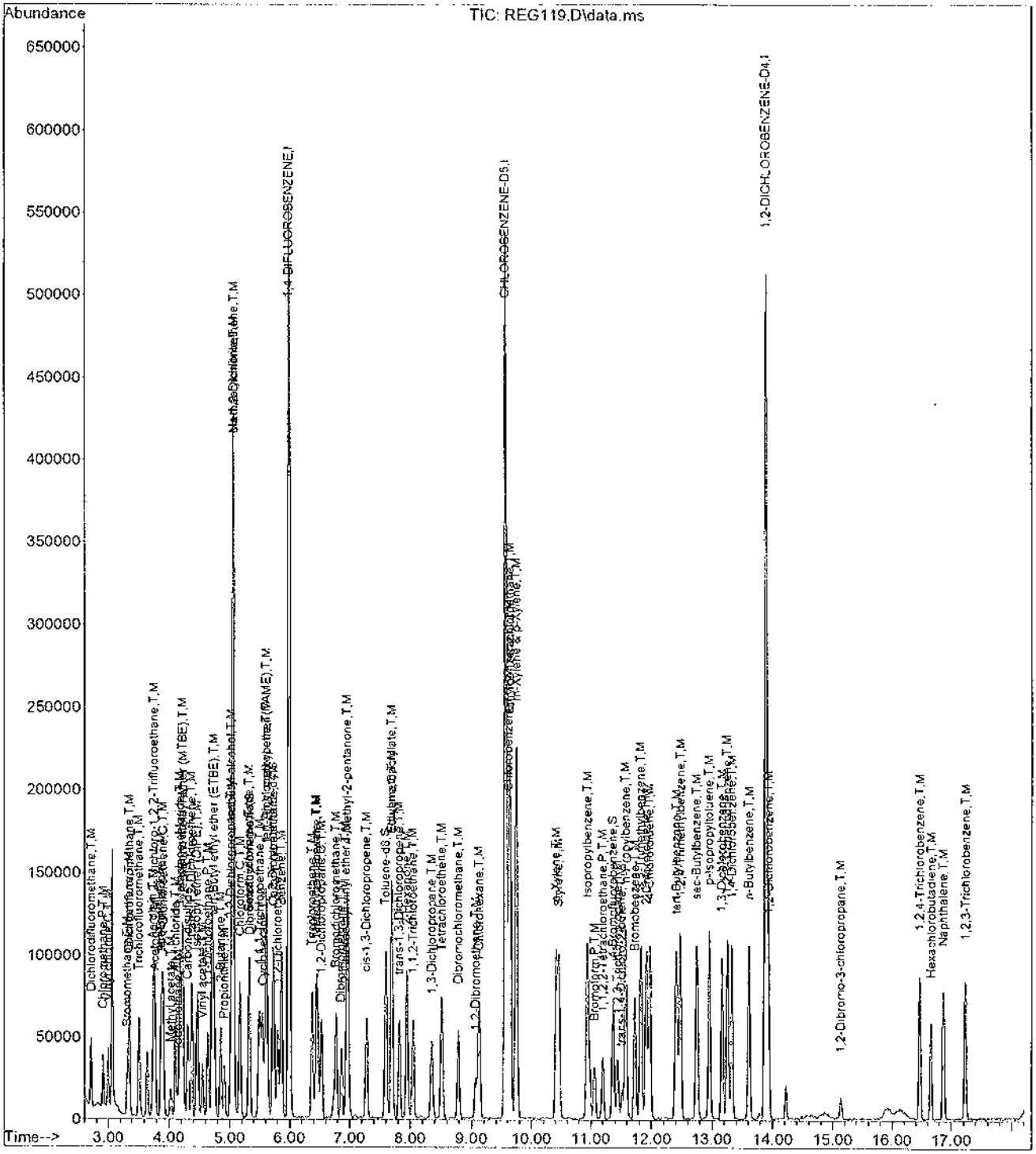
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 54277 | 1.12 | ug/L | 96 |
| 44) Benzene | 5.866 | 78 | 108613 | 1.12 | ug/L | 99 |
| 45) Trichloroethene | 6.373 | 130 | 29804 | 1.12 | ug/L | 97 |
| 46) Methyl methacrylate | 6.439 | 69 | 26306 | 1.11 | ug/L | 98 |
| 47) Methylcyclohexane | 6.450 | 83 | 37063 | 1.17 | ug/L | 98 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 28108 | 1.14 | ug/L | 100 |
| 50) Bromodichloromethane | 6.769 | 83 | 56931 | 1.22 | ug/L | 98 |
| 51) Dibromomethane | 6.857 | 93 | 22728 | 1.13 | ug/L | 92 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 13231 | 1.08 | ug/L | 90 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 151354 | 5.59 | ug/L | 99 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 46187 | 1.07 | ug/L | 99 |
| 57) Ethyl methacrylate | 7.693 | 69 | 31012 | 1.05 | ug/L | 98 |
| 58) Toluene | 7.693 | 91 | 112834 | 1.15 | ug/l | 97 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 44780 | 1.06 | ug/l | 97 |
| 60) 2-Hexanone | 7.935 | 43 | 97204 | 5.46 | ug/l | 98 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 26335 | 1.13 | ug/l | 98 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 40485 | 1.17 | ug/l | 97 |
| 63) Tetrachloroethene | 8.508 | 164 | 25854 | 1.20 | ug/l | 93 |
| 64) Dibromochloromethane | 8.783 | 129 | 45093 | 1.29 | ug/l | 97 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 26886 | 1.07 | ug/l | 93 |
| 66) 1-Chlorohexane | 9.124 | 91 | 36853 | 1.13 | ug/l | 94 |
| 67) Chlorobenzene | 9.619 | 112 | 73176 | 1.12 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 30816 | 1.11 | ug/l | 100 |
| 69) Ethylbenzene | 9.641 | 91 | 138084 | 1.16 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 217417 | 2.24 | ug/l | 99 |
| 71) o-Xylene | 10.411 | 91 | 102543 | 1.12 | ug/l | 99 |
| 72) Styrene | 10.455 | 104 | 74867 | 1.16 | ug/l | 96 |
| 73) Isopropylbenzene | 10.940 | 105 | 127896 | 1.22 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 24303 | 1.09 | ug/l | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 33812 | 1.19 | ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 9149 | 1.17 | ug/l | 96 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 7950 | 1.00 | ug/l | 84 |
| 80) n-Propylbenzene | 11.578 | 91 | 157786 | 1.22 | ug/l | 98 |
| 81) Bromobenzene | 11.732 | 156 | 34281 | 1.21 | ug/l | 98 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 106571 | 1.20 | ug/l | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 97870 | 1.23 | ug/l | 99 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 105023 | 1.17 | ug/l | 98 |
| 85) tert-Butylbenzene | 12.414 | 134 | 16901 | 1.23 | ug/l | 88 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 106726 | 1.23 | ug/l | 99 |
| 87) sec-Butylbenzene | 12.745 | 105 | 127554 | 1.27 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 102878 | 1.22 | ug/l | 98 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 61010 | 1.09 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 105503 | 1.22 | ug/L | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 63367 | 1.14 | ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 98269 | 1.22 | ug/l | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 54994 | 1.23 | ug/l | 94 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 6688 | 1.16 | ug/l | 90 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 42271 | 1.23 | ug/l | 95 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 19735 | 1.28 | ug/l | 96 |
| 97) Naphthalene | 16.871 | 128 | 88837 | 1.29 | ug/l | 100 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 39581 | 1.21 | ug/l | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG119.D Vial: 4
Acq On : 17 May 2024 12:57 Operator: DNguye
Sample : VOE2E173 0.04 Inst : E2
Misc : 1.0ppb 8260/5.0ppb KET-AA/25ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:47 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M






5a 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG120.D
Acq On : 17 May 2024 13:21
Sample : VOE2E174 0.08
Misc : 2.0ppb 8260/10ppb KET-AA/50ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:50 2024
Quant Results File: VOE2E17.RES

Vial: 5
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 504172 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 426041 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 198013 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 57595 | 1.87 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 18.70% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 78644 | 1.93 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 19.30% | | |
| 56) Toluene-d8 | 7.594 | 98 | 161890 | 1.91 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 19.10% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 63415 | 2.02 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 20.20% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 58393 | 2.02 | ug/l | 96 |
| 3) Chloromethane | 2.906 | 50 | 43714 | 2.11 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 46513 | 2.12 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 29298 | 1.98 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 98226 | 1.96 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 21773 | 2.03 | ug/l | 96 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 98938 | 2.01 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 31812 | 9.70 | ug/l | 96 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 39243 | 1.83 | ug/l | 92 |
| 11) Acetone | 3.764 | 43 | 91425 | 10.51 | ug/l | 95 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 158265 | 51.62 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 87690 | 1.95 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 31277 | 20.56 | ug/L | 94 |
| 15) Allyl chloride | 4.106 | 76 | 22925 | 1.93 | ug/L | 99 |
| 16) Iodomethane | 4.150 | 142 | 31220 | 1.55 | ug/l | 89 |
| 17) Methyl acetate | 4.028 | 43 | 33958 | 1.99 | ug/L | 99 |
| 18) Methylene chloride | 4.183 | 49 | 93752 | 2.32 | ug/l | 95 |
| 19) Acrylonitrile | 4.216 | 53 | 72852 | 9.61 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 152103 | 2.02 | ug/L | 99 |
| 21) Carbon disulfide | 4.304 | 76 | 130016 | 1.88 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 47642 | 1.98 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 154819 | 2.02 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 90028 | 2.06 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 96551 | 1.99 | ug/l | 97 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 184438 | 1.98 | ug/l | 97 |
| 27) 2-Butanone | 4.854 | 72 | 24326 | 10.28 | ug/l | 96 |
| 28) Propionitrile | 4.909 | 54 | 59115 | 21.21 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 40617 | 41.24 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 92101 | 1.89 | ug/l | 98 |
| 31) Methacrylonitrile | 5.063 | 52 | 93184 | 20.36 | ug/L | 99 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 54578 | 1.99 | ug/l | 97 |
| 33) Chloroform | 5.173 | 83 | 118215 | 1.96 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 32779 | 2.04 | ug/l | 93 |
| 35) Tetrahydrofuran | 5.316 | 42 | 13038 | 2.05 | ug/L | 90 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 101793 | 1.87 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 46966 | 1.69 | ug/L | 97 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 31686 | 1.91 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 22400 | 1.88 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 84046 | 1.83 | ug/L | 99 |



5/23/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG120.D
Acq On : 17 May 2024 13:21
Sample : VOE2E174 0.08
Misc : 2.0ppb 8260/10ppb KET-AA/50ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:50 2024
Quant Results File: VOE2E17.RES

Vial: 5
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 94348 | 2.04 | ug/L | 97 |
| 44) Benzene | 5.866 | 78 | 178713 | 1.94 | ug/L | 99 |
| 45) Trichloroethene | 6.373 | 130 | 46157 | 1.81 | ug/L | 99 |
| 46) Methyl methacrylate | 6.439 | 69 | 42439 | 1.88 | ug/L | 99 |
| 47) Methylcyclohexane | 6.450 | 83 | 53240 | 1.76 | ug/L | 98 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 46865 | 1.99 | ug/L | 96 |
| 50) Bromodichloromethane | 6.769 | 83 | 91675 | 2.06 | ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 37625 | 1.96 | ug/L | 98 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 23373 | 2.00 | ug/L | 93 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 249599 | 9.68 | ug/L | 99 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 79803 | 1.94 | ug/L | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 56408 | 1.94 | ug/L | 95 |
| 58) Toluene | 7.693 | 91 | 187086 | 1.94 | ug/l | 97 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 78497 | 1.90 | ug/l | 99 |
| 60) 2-Hexanone | 7.935 | 43 | 166637 | 9.54 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 46722 | 2.04 | ug/l | 94 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 67082 | 1.97 | ug/l | 99 |
| 63) Tetrachloroethene | 8.519 | 164 | 36950 | 1.75 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 70358 | 2.05 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 47406 | 1.92 | ug/l | 95 |
| 66) 1-Chlorohexane | 9.124 | 91 | 55496 | 1.74 | ug/l | 97 |
| 67) Chlorobenzene | 9.619 | 112 | 118853 | 1.86 | ug/l | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 50691 | 1.87 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 208714 | 1.79 | ug/l | 97 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 338673 | 3.56 | ug/l | 98 |
| 71) o-Xylene | 10.411 | 91 | 164095 | 1.82 | ug/l | 100 |
| 72) Styrene | 10.466 | 104 | 115396 | 1.83 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 190859 | 1.86 | ug/L | 98 |
| 75) Bromoform | 11.061 | 173 | 44022 | 2.04 | ug/l | 95 |
| 76) 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 54240 | 1.97 | ug/l | 97 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 15209 | 2.00 | ug/l | 95 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 13882 | 1.80 | ug/l | 85 |
| 80) n-Propylbenzene | 11.578 | 91 | 231734 | 1.85 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 53404 | 1.94 | ug/l | 100 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 161315 | 1.87 | ug/l | 100 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 141734 | 1.83 | ug/l | 97 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 152101 | 1.96 | ug/l | 97 |
| 85) tert-Butylbenzene | 12.403 | 134 | 23967 | 1.79 | ug/l | 96 |
| 86) 1,2,4-Trimethylbenzene | 12.469 | 105 | 158867 | 1.88 | ug/l | 98 |
| 87) sec-Butylbenzene | 12.745 | 105 | 179127 | 1.83 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 151252 | 1.84 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 86761 | 1.81 | ug/l | 98 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 157347 | 1.88 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 83842 | 1.71 | ug/l | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 138593 | 1.78 | ug/l | 97 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 86457 | 2.00 | ug/l | 94 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 10369 | 1.85 | ug/l | 98 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 53437 | 1.72 | ug/l | 96 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 27904 | 1.87 | ug/l | 93 |
| 97) Naphthalene | 16.872 | 128 | 121259 | 1.81 | ug/l | 98 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 51397 | 1.75 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed



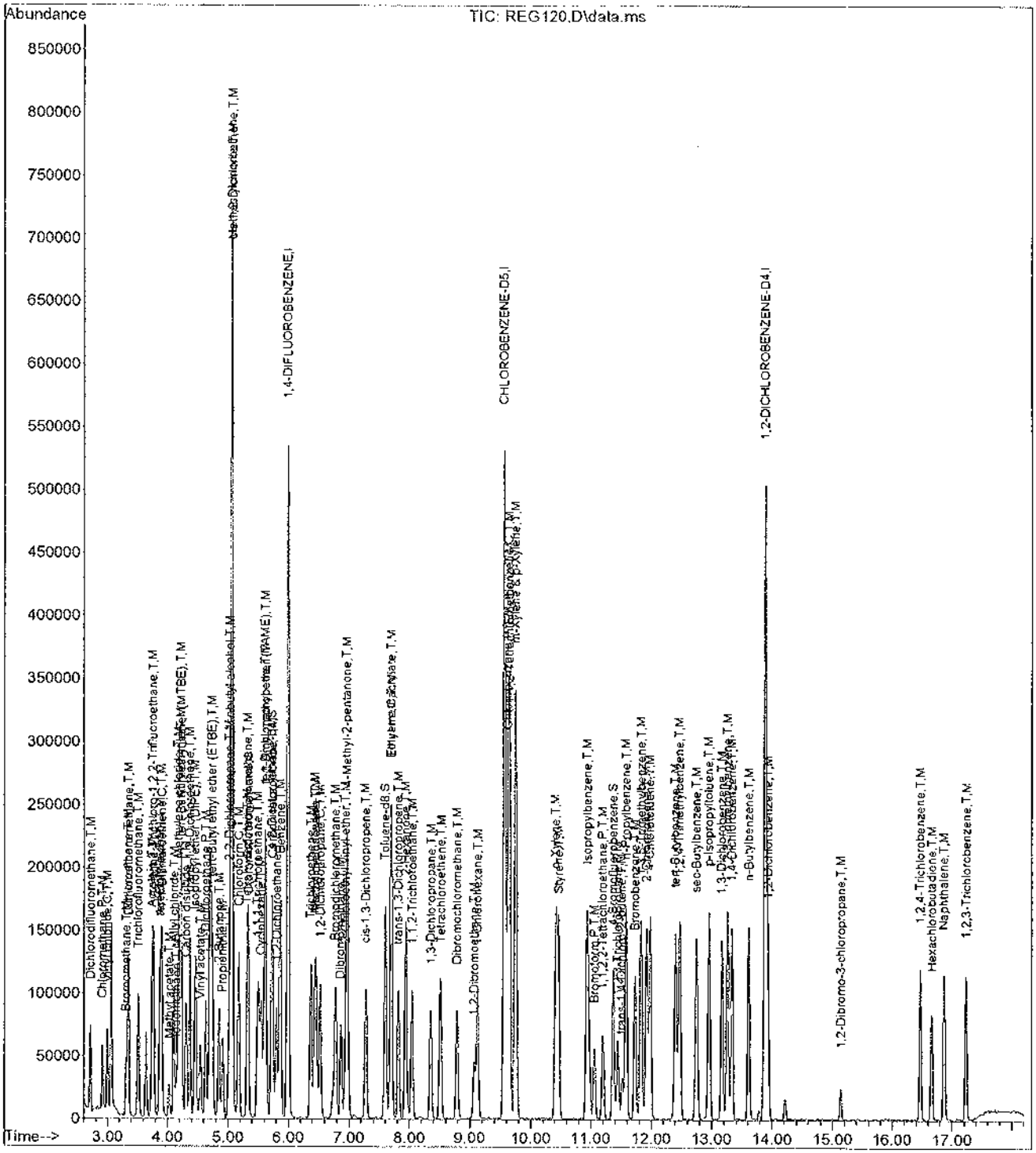
5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG120.D
Acq On : 17 May 2024 13:21
Sample : VOE2E174 0.08
Misc : 2.0ppb 8260/10ppb KET-AA/50ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:50 2024
Quant Results File: VOE2E17.RES

Vial: 5
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M






5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG121.D
Acq On : 17 May 2024 13:45
Sample : VOE2E175 0.2
Misc : 5.0ppb 8260/25ppb KET-AA/125ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:53 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 487048 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 411703 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 191679 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 149306 | 5.01 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 50.10% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 195277 | 4.95 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 49.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 403502 | 4.93 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 49.30% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 155282 | 5.10 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 51.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 122648 | 4.39 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 93317 | 4.65 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 91465 | 4.32 | ug/l | 100 |
| 5) Bromomethane | 3.313 | 94 | 65335 | 4.56 | ug/l | 94 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 267634 | 5.53 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 47747 | 4.60 | ug/l | 99 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 206005 | 4.33 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 85202 | 26.90 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 115708 | 5.58 | ug/l | 99 |
| 11) Acetone | 3.775 | 43 | 181295 | 26.82 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 344659 | 116.37 | ug/L | 98 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 245176 | 5.63 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 72381 | 49.24 | ug/L | 98 |
| 15) Allyl chloride | 4.106 | 76 | 64414 | 5.60 | ug/L | 96 |
| 16) Iodomethane | 4.150 | 142 | 99500 | 4.47 | ug/l | 98 |
| 17) Methyl acetate | 4.028 | 43 | 83812 | 5.09 | ug/L | 98 |
| 18) Methylene chloride | 4.183 | 49 | 207529 | 6.38 | ug/l | 99 |
| 19) Acrylonitrile | 4.216 | 53 | 188186 | 25.70 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 390334 | 5.36 | ug/L | 99 |
| 21) Carbon disulfide | 4.315 | 76 | 296530 | 4.45 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 131904 | 5.68 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 409571 | 5.53 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 218833 | 5.19 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 253600 | 5.40 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 492810 | 5.48 | ug/l | 98 |
| 27) 2-Butanone | 4.854 | 72 | 58944 | 25.79 | ug/l | 99 |
| 28) Propionitrile | 4.909 | 54 | 138597 | 51.47 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 91136 | 95.79 | ug/L | 90 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 267884 | 5.70 | ug/l | 100 |
| 31) Methacrylonitrile | 5.052 | 52 | 241029 | 54.52 | ug/L | 98 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 142504 | 5.39 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 301423 | 5.17 | ug/l | 100 |
| 34) Bromochloromethane | 5.327 | 130 | 84672 | 5.45 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 32093 | 5.23 | ug/L | 97 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 290344 | 5.53 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 153001 | 5.71 | ug/L | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 90625 | 5.65 | ug/l | 97 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 64894 | 5.64 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 254324 | 5.72 | ug/L | 99 |



SW 5/29/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG121.D
Acq On : 17 May 2024 13:45
Sample : VOE2E175 0.2
Misc : 5.0ppb 8260/25ppb KET-AA/125ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:53 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 249997 | 5.58 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 463725 | 5.20 | ug/L | 99 |
| 45) Trichloroethene | 6.373 | 130 | 134582 | 5.47 | ug/L | 99 |
| 46) Methyl methacrylate | 6.439 | 69 | 120215 | 5.52 | ug/L | 98 |
| 47) Methylcyclohexane | 6.461 | 83 | 173338 | 5.92 | ug/L | 100 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 117555 | 5.17 | ug/L | 98 |
| 50) Bromodichloromethane | 6.769 | 83 | 235788 | 5.48 | ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 101452 | 5.48 | ug/L | 97 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 61615 | 5.47 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 678153 | 27.22 | ug/L | 99 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 214825 | 5.40 | ug/L | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 155089 | 5.52 | ug/L | 99 |
| 58) Toluene | 7.693 | 91 | 511175 | 5.47 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 220626 | 5.52 | ug/l | 97 |
| 60) 2-Hexanone | 7.935 | 43 | 449735 | 26.64 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 119322 | 5.38 | ug/l | 99 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 178297 | 5.42 | ug/l | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 108809 | 5.33 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 176521 | 5.31 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 127798 | 5.35 | ug/l | 96 |
| 66) 1-Chlorohexane | 9.124 | 91 | 173438 | 5.61 | ug/l | 98 |
| 67) Chlorobenzene | 9.619 | 112 | 329167 | 5.34 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 141011 | 5.37 | ug/l | 97 |
| 69) Ethylbenzene | 9.641 | 91 | 601100 | 5.32 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 956464 | 10.39 | ug/l | 100 |
| 71) o-Xylene | 10.411 | 91 | 477831 | 5.48 | ug/l | 100 |
| 72) Styrene | 10.456 | 104 | 332459 | 5.46 | ug/l | 98 |
| 73) Isopropylbenzene | 10.940 | 105 | 544298 | 5.48 | ug/L | 100 |
| 75) Bromoform | 11.061 | 173 | 112822 | 5.39 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 142828 | 5.35 | ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 42035 | 5.70 | ug/l | 97 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 43660 | 5.85 | ug/l | 88 |
| 80) n-Propylbenzene | 11.578 | 91 | 686564 | 5.65 | ug/l | 100 |
| 81) Bromobenzene | 11.732 | 156 | 149808 | 5.62 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 467836 | 5.60 | ug/l | 99 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 447056 | 5.96 | ug/l | 93 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 377625 | 5.75 | ug/l | 93 |
| 85) tert-Butylbenzene | 12.403 | 134 | 70940 | 5.49 | ug/l | 98 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 456338 | 5.58 | ug/l | 99 |
| 87) sec-Butylbenzene | 12.756 | 105 | 528792 | 5.58 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 450688 | 5.67 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 238171 | 6.03 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 457826 | 5.65 | ug/L | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 243444 | 5.96 | ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 399502 | 5.29 | ug/l | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 229291 | 5.48 | ug/l | 97 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 27435 | 5.05 | ug/l | 92 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 141573 | 5.38 | ug/l | 98 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 80493 | 5.56 | ug/l | 98 |
| 97) Naphthalene | 16.872 | 128 | 328141 | 5.07 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 131993 | 5.27 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed



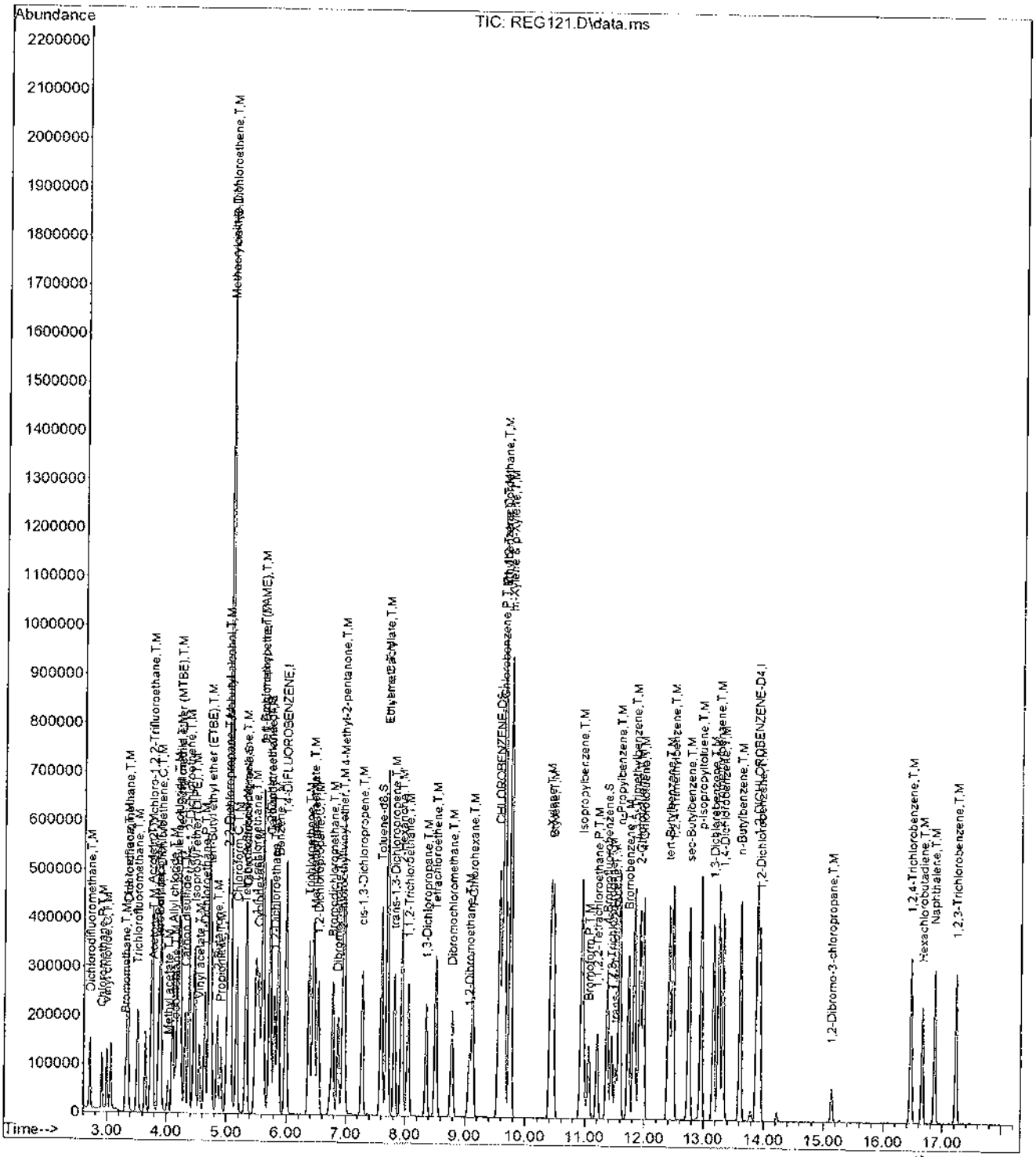
5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG121.D
Acq On : 17 May 2024 13:45
Sample : VOE2E175 0.2
Misc : 5.0ppb 8260/25ppb KET-AA/125ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:53 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:45:41 2024 5/24/24 Page: 3

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG122.D
Acq On : 17 May 2024 14:09
Sample : VOE2E176 0.4
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:56 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 483746 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 409470 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 197951 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 301711 | 10.18 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.80% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 377680 | 9.65 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 96.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 821380 | 10.10 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.00% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 308588 | 9.82 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.20% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 246373 | 8.87 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 180605 | 9.07 | ug/l | 100 |
| 4) Vinyl chloride | 2.994 | 62 | 201033 | 9.56 | ug/l | 100 |
| 5) Bromomethane | 3.313 | 94 | 118097 | 8.30 | ug/l | 100 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 478884 | 9.96 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 98570 | 9.56 | ug/l | 100 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 434256 | 9.19 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 154311 | 49.05 | ug/l | 100 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 197908 | 9.60 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 331949 | 53.64 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 735955 | 250.18 | ug/L | 100 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 429898 | 9.94 | ug/l | 100 |
| 14) Acetonitrile | 3.874 | 41 | 147981 | 101.37 | ug/L | 100 |
| 15) Allyl chloride | 4.106 | 76 | 115842 | 10.15 | ug/L | 100 |
| 16) Iodomethane | 4.150 | 142 | 208961 | 9.12 | ug/l | 100 |
| 17) Methyl acetate | 4.029 | 43 | 164848 | 10.08 | ug/L | 100 |
| 18) Methylene chloride | 4.183 | 49 | 353501 | 11.53 | ug/l | 100 |
| 19) Acrylonitrile | 4.216 | 53 | 382339 | 52.57 | ug/l | 100 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 727615 | 10.07 | ug/L | 100 |
| 21) Carbon disulfide | 4.304 | 76 | 664916 | 10.04 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 226218 | 9.81 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 731712 | 9.95 | ug/l | 100 |
| 24) Vinyl acetate | 4.546 | 43 | 449067 | 10.72 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 452304 | 9.69 | ug/l | 100 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 897009 | 10.04 | ug/l | 100 |
| 27) 2-Butanone | 4.854 | 72 | 119149 | 52.49 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 258325 | 96.59 | ug/L | 100 |
| 29) Isobutyl alcohol | 5.030 | 43 | 190070 | 201.14 | ug/L | 100 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 480537 | 10.29 | ug/l | 100 |
| 31) Methacrylonitrile | 5.052 | 52 | 430956 | 98.15 | ug/L | 100 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 250974 | 9.56 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 540252 | 9.34 | ug/l | 100 |
| 34) Bromochloromethane | 5.327 | 130 | 157824 | 10.23 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.327 | 42 | 59974 | 9.84 | ug/L | 100 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 519526 | 9.96 | ug/l | 100 |
| 38) Cyclohexane | 5.547 | 84 | 222928 | 8.38 | ug/L | 100 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 167095 | 10.48 | ug/l | 100 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 116920 | 10.24 | ug/L | 100 |
| 42) Carbon tetrachloride | 5.734 | 119 | 449910 | 10.19 | ug/L | 100 |

VOE2E17.M Thu May 23 12:46:00 2024 Page: 1

5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG122.D Vial: 7
Acq On : 17 May 2024 14:09 Operator: DNguyc
Sample : VOE2E176 0.4 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:56 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 453385 | 10.20 | ug/L | 100 |
| 44) Benzene | 5.866 | 78 | 879735 | 9.94 | ug/L | 100 |
| 45) Trichloroethene | 6.373 | 130 | 238953 | 9.78 | ug/L | 100 |
| 46) Methyl methacrylate | 6.439 | 69 | 206743 | 9.55 | ug/L | 100 |
| 47) Methylcyclohexane | 6.450 | 83 | 256180 | 8.81 | ug/L | 100 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 224657 | 9.94 | ug/L | 100 |
| 50) Bromodichloromethane | 6.769 | 83 | 428587 | 10.02 | ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 179645 | 9.77 | ug/L | 100 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 115157 | 10.29 | ug/L | 100 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1291475 | 52.18 | ug/L | 100 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 397661 | 10.07 | ug/L | 100 |
| 57) Ethyl methacrylate | 7.693 | 69 | 289621 | 10.36 | ug/L | 100 |
| 58) Toluene | 7.693 | 91 | 921140 | 9.92 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 404411 | 10.18 | ug/l | 100 |
| 60) 2-Hexanone | 7.935 | 43 | 885849 | 52.76 | ug/l | 100 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 219004 | 9.94 | ug/l | 100 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 321452 | 9.82 | ug/l | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 195205 | 9.62 | ug/l | 100 |
| 64) Dibromochloromethane | 8.783 | 129 | 322653 | 9.76 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 242214 | 10.20 | ug/l | 100 |
| 66) 1-Chlorohexane | 9.124 | 91 | 305963 | 9.96 | ug/l | 100 |
| 67) Chlorobenzene | 9.619 | 112 | 600211 | 9.79 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 264761 | 10.14 | ug/l | 100 |
| 69) Ethylbenzene | 9.641 | 91 | 1089978 | 9.71 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 1701702 | 18.59 | ug/l | 100 |
| 71) o-Xylene | 10.412 | 91 | 864880 | 9.98 | ug/l | 100 |
| 72) Styrene | 10.456 | 104 | 611307 | 10.09 | ug/l | 100 |
| 73) Isopropylbenzene | 10.940 | 105 | 992355 | 10.05 | ug/L | 100 |
| 75) Bromoform | 11.061 | 173 | 212173 | 9.82 | ug/l | 100 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 266964 | 9.68 | ug/l | 100 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 74100 | 9.73 | ug/l | 100 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 78273 | 10.15 | ug/l | 100 |
| 80) n-Propylbenzene | 11.578 | 91 | 1188848 | 9.47 | ug/l | 100 |
| 81) Bromobenzene | 11.732 | 156 | 274398 | 9.96 | ug/l | 100 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 832454 | 9.65 | ug/l | 100 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 727012 | 9.38 | ug/l | 100 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 765752 | 11.72 | ug/l | 100 |
| 85) tert-Butylbenzene | 12.415 | 134 | 128240 | 9.60 | ug/l | 100 |
| 86) 1,2,4-Trimethylbenzene | 12.470 | 105 | 827835 | 9.81 | ug/l | 100 |
| 87) sec-Butylbenzene | 12.745 | 105 | 956488 | 9.78 | ug/l | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 785422 | 9.57 | ug/l | 100 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 431882 | 10.96 | ug/l | 100 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 825411 | 9.87 | ug/L | 100 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 439674 | 10.74 | ug/l | 100 |
| 92) n-Butylbenzene | 13.614 | 91 | 750645 | 9.62 | ug/l | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 398438 | 9.21 | ug/l | 100 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 52427 | 9.34 | ug/l | 100 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 255192 | 9.69 | ug/l | 100 |
| 96) Hexachlorobutadiene | 16.663 | 225 | 148449 | 9.93 | ug/l | 100 |
| 97) Naphthalene | 16.872 | 128 | 656492 | 9.82 | ug/l | 100 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 243924 | 9.74 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed



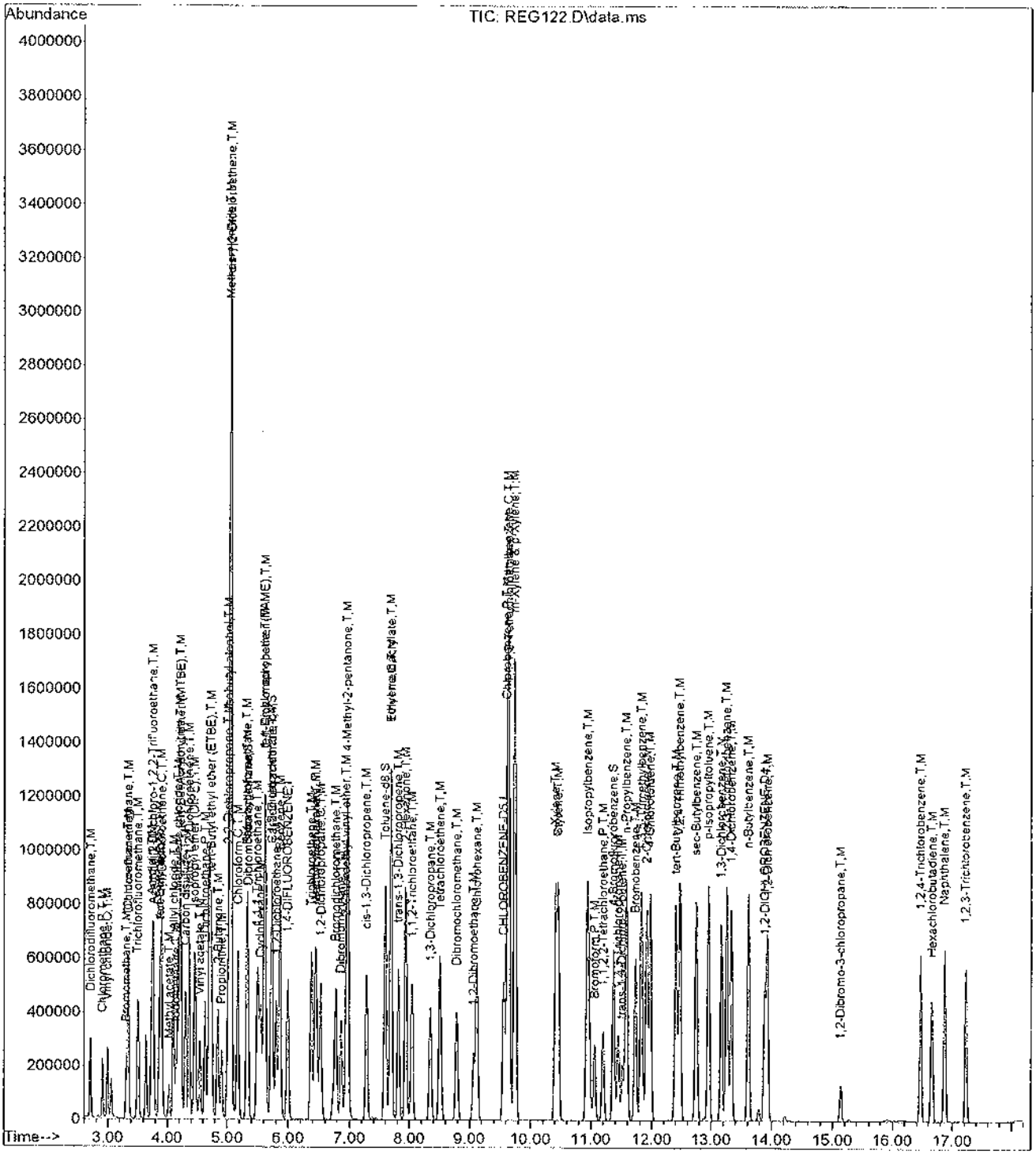
SV 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG122.D
Acq On : 17 May 2024 14:09
Sample : VOE2E176 0.4
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:56 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:46:00 2024 Page: 3

5W 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG123.D
Acq On : 17 May 2024 14:33
Sample : VOE2E177 1.2uL
Misc : 30ppb 8260/150ppb KET-AA/750ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:59 2024
Quant Results File: VOE2E17.RES

Vial: 8
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 462286 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 374024 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 201423 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 815119 | 28.79 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 287.90% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 982827 | 26.27 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 262.70% | | |
| 56) Toluene-d8 | 7.594 | 98 | 2087230 | 28.08 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 280.80% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 802113 | 25.09 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 250.90% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 846669 | 31.91 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 522797 | 27.46 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 609327 | 30.31 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 369689 | 27.19 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.346 | 67 | 1420838 | 30.93 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 303543 | 30.82 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 1432296 | 31.71 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 417245 | 138.78 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 579513 | 29.43 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 817529 | 146.08 | ug/l | 98 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 1936975 | 689.03 | ug/L | 98 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 1249367 | 30.24 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 365485 | 261.98 | ug/L | 96 |
| 15) Allyl chloride | 4.105 | 76 | 333837 | 30.59 | ug/L | 100 |
| 16) Iodomethane | 4.138 | 142 | 780631 | 34.84 | ug/l | 100 |
| 17) Methyl acetate | 4.028 | 43 | 406413 | 26.00 | ug/L | 99 |
| 18) Methylene chloride | 4.182 | 49 | 967460 | 34.54 | ug/l | 100 |
| 19) Acrylonitrile | 4.215 | 53 | 969202 | 139.45 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 2015467 | 29.18 | ug/L | 99 |
| 21) Carbon disulfide | 4.304 | 76 | 1855534 | 29.31 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 612820 | 27.80 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 2064589 | 29.37 | ug/l | 100 |
| 24) Vinyl acetate | 4.546 | 43 | 1131522 | 28.26 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 1337320 | 29.99 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 2373481 | 27.81 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 300066 | 138.32 | ug/l | 99 |
| 28) Propionitrile | 4.909 | 54 | 714086 | 279.39 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 493388 | 546.37 | ug/L | 95 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 1320182 | 29.57 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 1220341 | 290.82 | ug/L | 99 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 721585 | 28.75 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 1512101 | 27.35 | ug/l | 99 |
| 34) Bromochloromethane | 5.327 | 130 | 444977 | 30.18 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.316 | 42 | 169251 | 29.05 | ug/L | 99 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 1516650 | 30.42 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 713565 | 28.07 | ug/L | 100 |
| 39) tert-Amyl methyl ether... | 5.624 | 87 | 411481 | 27.01 | ug/l | 97 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 302266 | 27.69 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 1249927 | 29.62 | ug/L | 100 |



5/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG123.D
Acq On : 17 May 2024 14:33
Sample : VOE2E177 1.2uL
Misc : 30ppb 8260/150ppb KET-AA/750ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:59 2024
Quant Results File: VOE2E17.RES

Vial: 8
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 1173740 | 27.62 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 2384286 | 28.19 | ug/L | 99 |
| 45) Trichloroethene | 6.372 | 130 | 687887 | 29.46 | ug/L | 99 |
| 46) Methyl methacrylate | 6.439 | 69 | 555814 | 26.87 | ug/L | 98 |
| 47) Methylcyclohexane | 6.450 | 83 | 757727 | 27.27 | ug/L | 99 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 580328 | 26.88 | ug/L | 99 |
| 50) Bromodichloromethane | 6.769 | 83 | 1166514 | 28.55 | ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 509682 | 29.01 | ug/L | 99 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 318157 | 29.75 | ug/L | 98 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 3236906 | 136.87 | ug/L | 99 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 1085125 | 28.74 | ug/L | 99 |
| 57) Ethyl methacrylate | 7.693 | 69 | 725765 | 28.43 | ug/L | 99 |
| 58) Toluene | 7.693 | 91 | 2303744 | 27.16 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 1087593 | 29.96 | ug/l | 96 |
| 60) 2-Hexanone | 7.935 | 43 | 2184077 | 142.41 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 603118 | 29.96 | ug/l | 98 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 863785 | 28.89 | ug/l | 99 |
| 63) Tetrachloroethene | 8.508 | 164 | 555090 | 29.93 | ug/l | 99 |
| 64) Dibromochloromethane | 8.783 | 129 | 924244 | 30.61 | ug/l | 99 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 666966 | 30.74 | ug/l | 99 |
| 66) 1-Chlorohexane | 9.124 | 91 | 842844 | 30.02 | ug/l | 99 |
| 67) Chlorobenzene | 9.619 | 112 | 1667775 | 29.77 | ug/l | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 734053 | 30.79 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 3067459 | 29.91 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 4750507 | 56.81 | ug/l | 100 |
| 71) o-Xylene | 10.411 | 91 | 2219339 | 28.03 | ug/l | 100 |
| 72) Styrene | 10.455 | 104 | 1588178 | 28.69 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 2403503 | 26.65 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 624115 | 28.39 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 753832 | 26.85 | ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 208161 | 26.86 | ug/l | 97 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 238944 | 30.47 | ug/l | 94 |
| 80) n-Propylbenzene | 11.578 | 91 | 3388197 | 26.53 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 728501 | 25.99 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 2352083 | 26.79 | ug/l | 99 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 2207144 | 28.00 | ug/l | 95 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 1740784 | 26.74 | ug/l | 92 |
| 85) tert-Butylbenzene | 12.403 | 134 | 339280 | 24.97 | ug/l | 96 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 2264161 | 26.37 | ug/l | 97 |
| 87) sec-Butylbenzene | 12.745 | 105 | 2689041 | 27.03 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 2214069 | 26.52 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 1215294 | 31.15 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 2275474 | 26.74 | ug/L | 100 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 1252767 | 30.81 | ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 2188046 | 27.56 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 1144996 | 26.02 | ug/l | 97 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 164843 | 28.88 | ug/l | 98 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 771713 | 29.55 | ug/l | 97 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 421350 | 27.70 | ug/l | 98 |
| 97) Naphthalene | 16.871 | 128 | 1890327 | 27.79 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 740467 | 29.84 | ug/l | 99 |

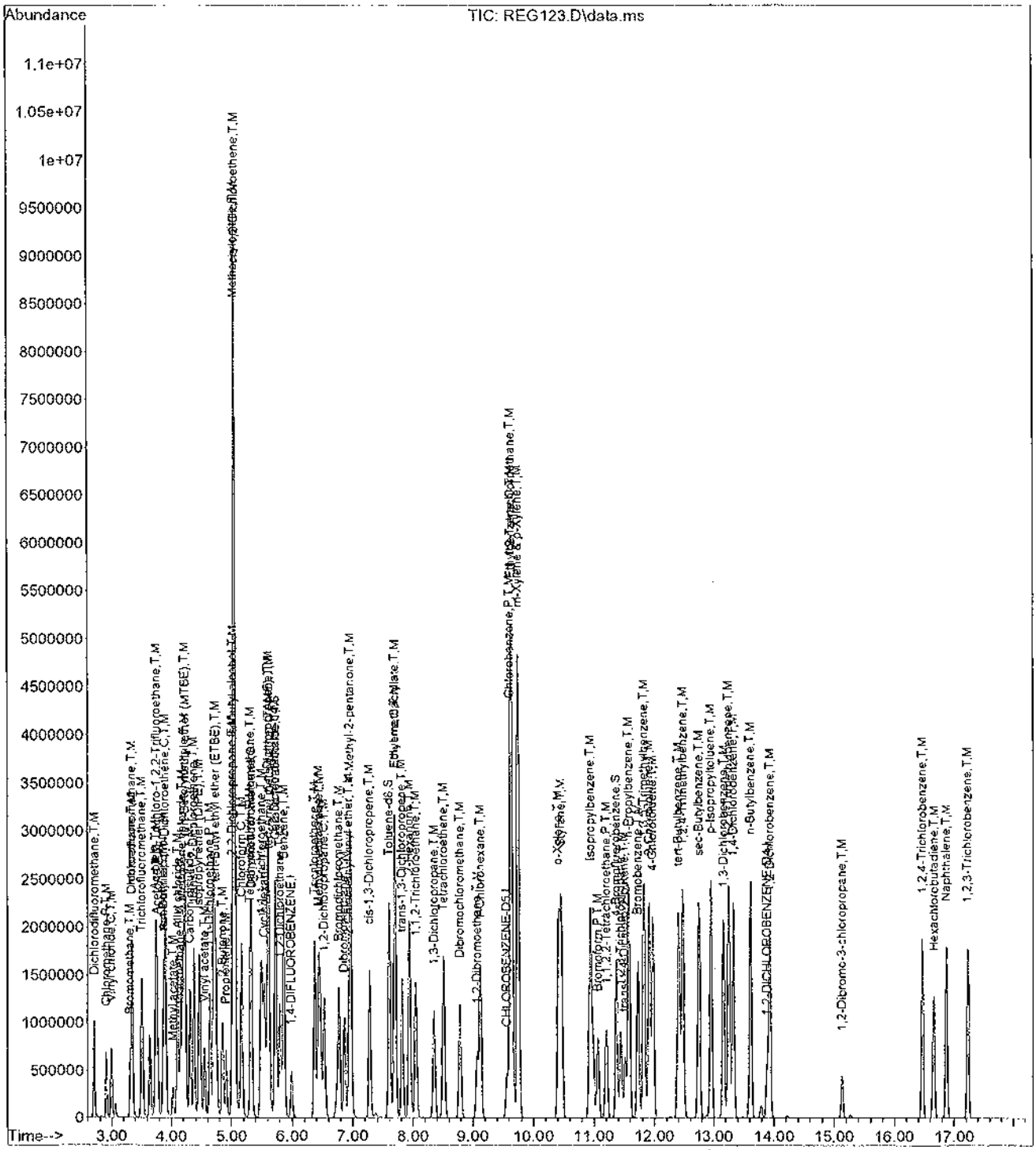
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SW
5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG123.D Vial: 8
Acq On : 17 May 2024 14:33 Operator: DNguye
Sample : VOE2E177 1.2uL Inst : E2
Misc : 30ppb 8260/150ppb KET-AA/750ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:59 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 14:09:59 2024 Page: 3

5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG124.D
Acq On : 17 May 2024 14:57
Sample : VOE2E178 2uL
Misc : 50ppb 8260/250pb KET-AA/1250ppb TBA
Integrator: RTE
Quant Time: May 21 20:53:02 2024
Quant Results File: VOE2E17.RES

Vial: 9
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 519193 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 435004 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 207868 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 1488511 | 46.81 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 468.10% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 1870338 | 44.51 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 445.10% | | |
| 56) Toluene-d8 | 7.594 | 98 | 4062552 | 47.00 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 470.00% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 1575222 | 47.74 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 477.40% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 1479243 | 49.64 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 955064 | 44.67 | ug/l | 100 |
| 4) Vinyl chloride | 2.983 | 62 | 1164938 | 51.59 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 722857 | 47.33 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.346 | 67 | 2413767 | 46.78 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 533177 | 48.20 | ug/l | 97 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 2564523 | 50.55 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 769072 | 227.77 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 1060995 | 47.97 | ug/l | 99 |
| 11) Acetone | 3.775 | 43 | 1539021 | 248.23 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 3674847 | 1163.95 | ug/L | 97 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 2124315 | 45.78 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 693695 | 442.74 | ug/L | 94 |
| 15) Allyl chloride | 4.105 | 76 | 579274 | 47.27 | ug/L | 99 |
| 16) Iodomethane | 4.138 | 142 | 1375743 | 54.51 | ug/l | 100 |
| 17) Methyl acetate | 4.028 | 43 | 788773 | 44.93 | ug/L | 98 |
| 18) Methylene chloride | 4.182 | 49 | 1589617 | 50.92 | ug/l | 100 |
| 19) Acrylonitrile | 4.215 | 53 | 1740099 | 222.92 | ug/l | 100 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 3575082 | 46.08 | ug/L | 99 |
| 21) Carbon disulfide | 4.303 | 76 | 3342224 | 47.00 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 1147795 | 46.36 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 3617921 | 45.83 | ug/l | 100 |
| 24) Vinyl acetate | 4.546 | 43 | 2102404 | 46.76 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 2339494 | 46.71 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 4566707 | 47.64 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 553401 | 227.15 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 1317994 | 459.16 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 988293 | 974.46 | ug/L | 99 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 2391738 | 47.71 | ug/l | 98 |
| 31) Methacrylonitrile | 5.052 | 52 | 2175906 | 461.71 | ug/L | 97 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 1319898 | 46.82 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 2702356 | 43.52 | ug/l | 100 |
| 34) Bromochloromethane | 5.327 | 130 | 769499 | 46.47 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 306572 | 46.86 | ug/L | 98 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 2648310 | 47.29 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 1410911 | 49.43 | ug/L | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 853815 | 49.91 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 592546 | 48.33 | ug/L | 100 |
| 42) Carbon tetrachloride | 5.734 | 119 | 2310426 | 48.76 | ug/L | 100 |



5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG124.D
Acq On : 17 May 2024 14:57
Sample : VOE2E178 2uL
Misc : 50ppb 8260/250pb KET-AA/1250ppb TBA
Integrator: RTE
Quant Time: May 21 20:53:02 2024
Quant Results File: VOE2E17.RES

Vial: 9
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 2230254 | 46.73 | ug/L | 100 |
| 44) Benzene | 5.866 | 78 | 4549753 | 47.89 | ug/L | 100 |
| 45) Trichloroethene | 6.372 | 130 | 1248919 | 47.63 | ug/L | 98 |
| 46) Methyl methacrylate | 6.438 | 69 | 1116578 | 48.06 | ug/L | 99 |
| 47) Methylcyclohexane | 6.460 | 83 | 1574183 | 50.44 | ug/L | 99 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 1135307 | 46.83 | ug/L | 99 |
| 50) Bromodichloromethane | 6.769 | 83 | 2131356 | 46.45 | ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 905758 | 45.91 | ug/L | 98 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 580351 | 48.33 | ug/L | 100 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 6139474 | 231.14 | ug/L | 99 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 2011227 | 47.44 | ug/L | 100 |
| 57) Ethyl methacrylate | 7.693 | 69 | 1490762 | 50.22 | ug/L | 98 |
| 58) Toluene | 7.693 | 91 | 4751397 | 48.16 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 2080692 | 49.29 | ug/l | 95 |
| 60) 2-Hexanone | 7.935 | 43 | 4186045 | 234.68 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 1074823 | 45.90 | ug/l | 99 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 1663404 | 47.84 | ug/l | 100 |
| 63) Tetrachloroethene | 8.507 | 164 | 1006550 | 46.67 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 1614400 | 45.97 | ug/l | 99 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 1193470 | 47.30 | ug/l | 97 |
| 66) 1-Chlorohexane | 9.124 | 91 | 1569873 | 48.08 | ug/l | 90 |
| 67) Chlorobenzene | 9.619 | 112 | 3021039 | 46.36 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 1317171 | 47.50 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 5652766 | 47.39 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 9107135 | 93.64 | ug/l | 99 |
| 71) o-Xylene | 10.411 | 91 | 4475134 | 48.61 | ug/l | 100 |
| 72) Styrene | 10.455 | 104 | 3133556 | 48.67 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 4893403 | 46.64 | ug/L | 100 |
| 75) Bromoform | 11.061 | 173 | 1096997 | 48.36 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 1347228 | 46.50 | ug/l | 100 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 380448 | 47.56 | ug/l | 100 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 430046 | 53.13 | ug/l | 97 |
| 80) n-Propylbenzene | 11.578 | 91 | 6203059 | 47.06 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 1344022 | 46.46 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 4223916 | 46.62 | ug/l | 100 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 4010267 | 49.30 | ug/l | 94 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 3491289 | 52.40 | ug/l | 94 |
| 85) tert-Butylbenzene | 12.403 | 134 | 615516 | 43.89 | ug/l | 97 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 4129361 | 46.60 | ug/l | 97 |
| 87) sec-Butylbenzene | 12.755 | 105 | 4820712 | 46.95 | ug/l | 99 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 3971026 | 46.09 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 2170399 | 54.26 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 4082930 | 46.50 | ug/L | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 2222053 | 53.26 | ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 3858008 | 47.08 | ug/l | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 2002007 | 44.09 | ug/l | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 279717 | 47.48 | ug/l | 99 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 1324327 | 49.40 | ug/l | 98 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 723810 | 46.11 | ug/l | 100 |
| 97) Naphthalene | 16.871 | 128 | 3364432 | 47.93 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 1238496 | 48.60 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed



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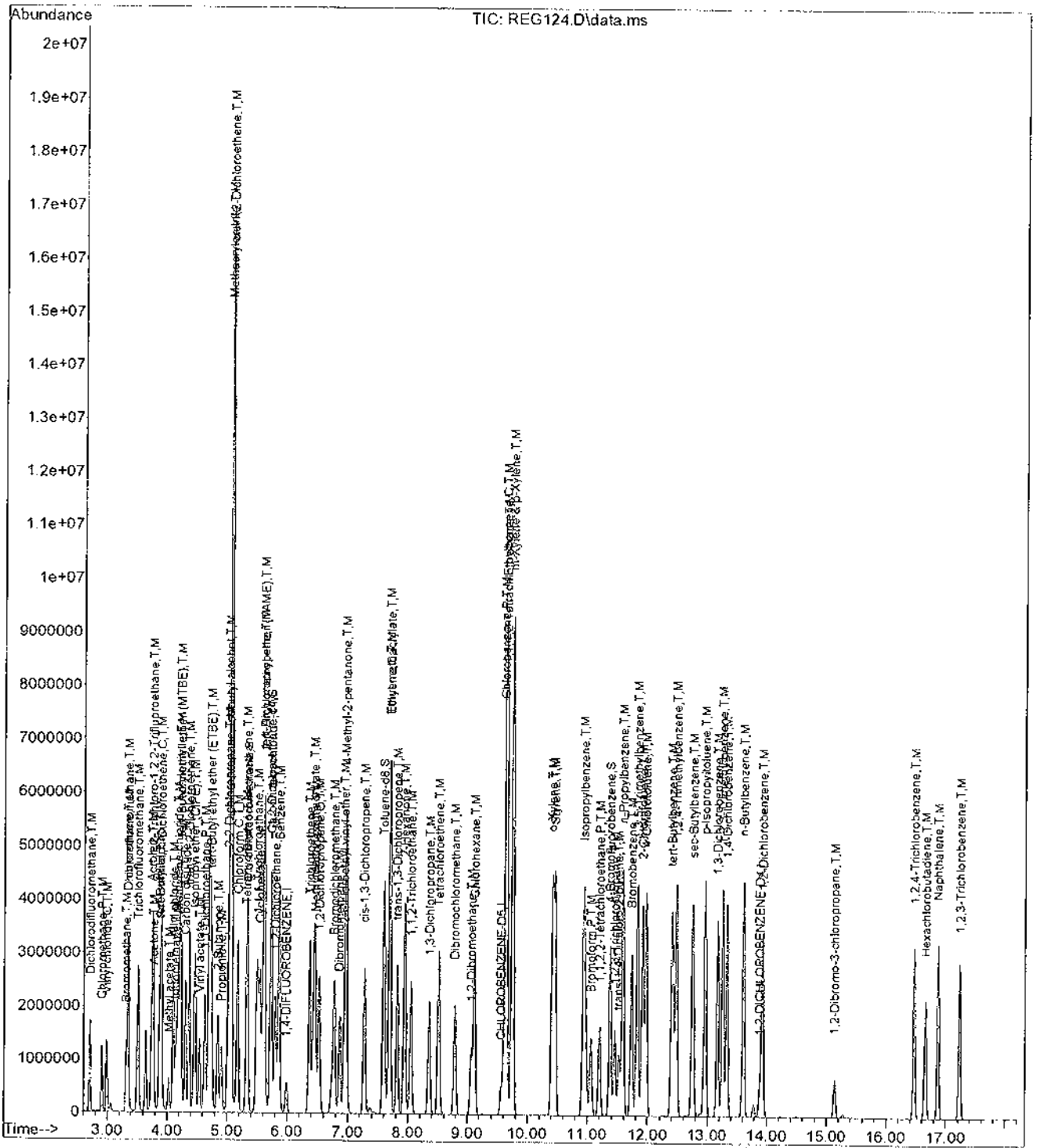
Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG124.D
Acq On : 17 May 2024 14:57
Sample : VOE2E178 2uL
Misc : 50ppb 8260/250pb KET-AA/1250ppb TBA
Integrator: RTE
Quant Time: May 21 20:53:02 2024
Quant Results File: VOE2E17.RES

Vial: 9
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:46:39 2024 Page: 3

5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG125.D
Acq On : 17 May 2024 15:21
Sample : VOE2E179 4uL
Misc : 100ppb 8260/500ppb KET-AA/2500ppb TBA
Integrator: RTE
Quant Time: May 21 21:04:40 2024
Quant Results File: VOE2E17.RES

Vial: 10
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 530663 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 467581 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 221369 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 0.000 | 111 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 41) 1,2-Dichloroethane-d4 | 0.000 | 65 | 0d | 0.00 | ug/L | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 56) Toluene-d8 | 0.000 | 98 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 77) 4-Bromofluorobenzene | 0.000 | 95 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 3067931 | 100.74 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 2028894 | 92.84 | ug/l | 100 |
| 4) Vinyl chloride | 2.983 | 62 | 2380759 | 103.16 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 1571626 | 100.69 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.346 | 67 | 4798406 | 90.99 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 1099847 | 97.27 | ug/l | 95 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 5289775 | 102.02 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 1588198 | 460.20 | ug/l | 100 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 2101530 | 92.96 | ug/l | 100 |
| 11) Acetone | 3.775 | 43 | 3043527 | 484.95 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 7338860 | 2274.23 | ug/L | 96 |
| 13) 1,1-Dichloroethene | 3.897 | 61 | 4369062 | 92.11 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 1342024 | 838.01 | ug/L | 93 |
| 15) Allyl chloride | 4.106 | 76 | 1084703 | 86.60 | ug/L | 100 |
| 16) Iodomethane | 4.139 | 142 | 2702905 | 104.51 | ug/l | 99 |
| 17) Methyl acetate | 4.029 | 43 | 1545614 | 86.14 | ug/L | 97 |
| 18) Methylene chloride | 4.183 | 49 | 3160599 | 99.82 | ug/l | 99 |
| 19) Acrylonitrile | 4.216 | 53 | 3580875 | 448.82 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 7241359 | 91.32 | ug/L | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 2262018 | 89.39 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 7317542 | 90.69 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 4349944 | 94.65 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 4518247 | 88.27 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 8843448 | 90.25 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 1115192 | 447.84 | ug/l | 98 |
| 28) Propionitrile | 4.909 | 54 | 2553924 | 870.50 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 1797348 | 1733.89 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 4661696 | 90.97 | ug/l | 98 |
| 31) Methacrylonitrile | 5.063 | 52 | 4255107 | 883.38 | ug/L | 91 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 2606989 | 90.49 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 5369253 | 84.60 | ug/l | 99 |
| 34) Bromochloromethane | 5.327 | 130 | 1457459 | 86.12 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.316 | 42 | 618202 | 92.45 | ug/L | 98 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 5302638 | 92.64 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 2651727 | 90.88 | ug/L | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 1661857 | 95.04 | ug/l | 97 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 1162092 | 92.74 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 4455455 | 91.99 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 4297408 | 88.09 | ug/L | 100 |



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Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG125.D
Acq On : 17 May 2024 15:21
Sample : VOE2E179 4uL
Misc : 100ppb 8260/500ppb KET-AA/2500ppb TBA
Integrator: RTE
Quant Time: May 21 21:04:40 2024
Quant Results File: VOE2E17.RES

Vial: 10
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 44) Benzene | 5.866 | 78 | 8937713 | 92.05 | ug/L | 100 |
| 45) Trichloroethene | 6.373 | 130 | 2438563 | 90.98 | ug/L | 99 |
| 46) Methyl methacrylate | 6.439 | 69 | 2241240 | 94.37 | ug/L | 99 |
| 47) Methylcyclohexane | 6.461 | 83 | 3107286 | 97.41 | ug/L | 99 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 2264058 | 91.36 | ug/L | 99 |
| 50) Bromodichloromethane | 6.769 | 83 | 4222210 | 90.02 | ug/L | 99 |
| 51) Dibromomethane | 6.857 | 93 | 1826509 | 90.58 | ug/L | 99 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 1147941 | 93.52 | ug/L | 100 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 12403774 | 456.89 | ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 4029626 | 92.99 | ug/L | 99 |
| 57) Ethyl methacrylate | 7.693 | 69 | 2968033 | 93.01 | ug/L | 95 |
| 58) Toluene | 7.693 | 91 | 9406948 | 88.71 | ug/l | 99 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 4103485 | 90.43 | ug/l | 95 |
| 60) 2-Hexanone | 7.935 | 43 | 8232244 | 429.36 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 2157642 | 85.73 | ug/l | 98 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 3303675 | 88.39 | ug/l | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 2015675 | 86.95 | ug/l | 99 |
| 64) Dibromochloromethane | 8.783 | 129 | 3239932 | 85.83 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 2441979 | 90.04 | ug/l | 98 |
| 66) 1-Chlorohexane | 9.124 | 91 | 3137545 | 89.40 | ug/l | 99 |
| 67) Chlorobenzene | 9.619 | 112 | 6186547 | 88.32 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 2643624 | 88.70 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 11573797 | 90.27 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 17534518 | 167.73 | ug/l | 99 |
| 71) o-Xylene | 10.412 | 91 | 8856439 | 89.49 | ug/l | 100 |
| 72) Styrene | 10.456 | 104 | 6210039 | 89.73 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 10049530 | 89.12 | ug/L | 100 |
| 75) Bromoform | 11.061 | 173 | 2156497 | 89.26 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 2695878 | 87.38 | ug/l | 100 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 761761 | 89.43 | ug/l | 98 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 840320 | 97.49 | ug/l | 98 |
| 80) n-Propylbenzene | 11.578 | 91 | 12355923 | 88.03 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 2673805 | 86.79 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 8378024 | 86.82 | ug/l | 100 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 7964931 | 91.94 | ug/l | 93 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 6997858 | 99.03 | ug/l | 94 |
| 85) tert-Butylbenzene | 12.415 | 134 | 1260545 | 84.40 | ug/l | 92 |
| 86) 1,2,4-Trimethylbenzene | 12.481 | 105 | 8236098 | 87.27 | ug/l | 97 |
| 87) sec-Butylbenzene | 12.756 | 105 | 9656129 | 88.30 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 8166087 | 89.00 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 4224212 | 99.56 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 8254841 | 88.27 | ug/L | 100 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 4323656 | 97.65 | ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 7538294 | 86.38 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 4025253 | 83.24 | ug/l | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 603619 | 96.21 | ug/l | 100 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 2718505 | 95.58 | ug/l | 98 |
| 96) Hexachlorobutadiene | 16.663 | 225 | 1478191 | 88.43 | ug/l | 99 |
| 97) Naphthalene | 16.872 | 128 | 6891495 | 92.19 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 2612770 | 96.66 | ug/l | 100 |

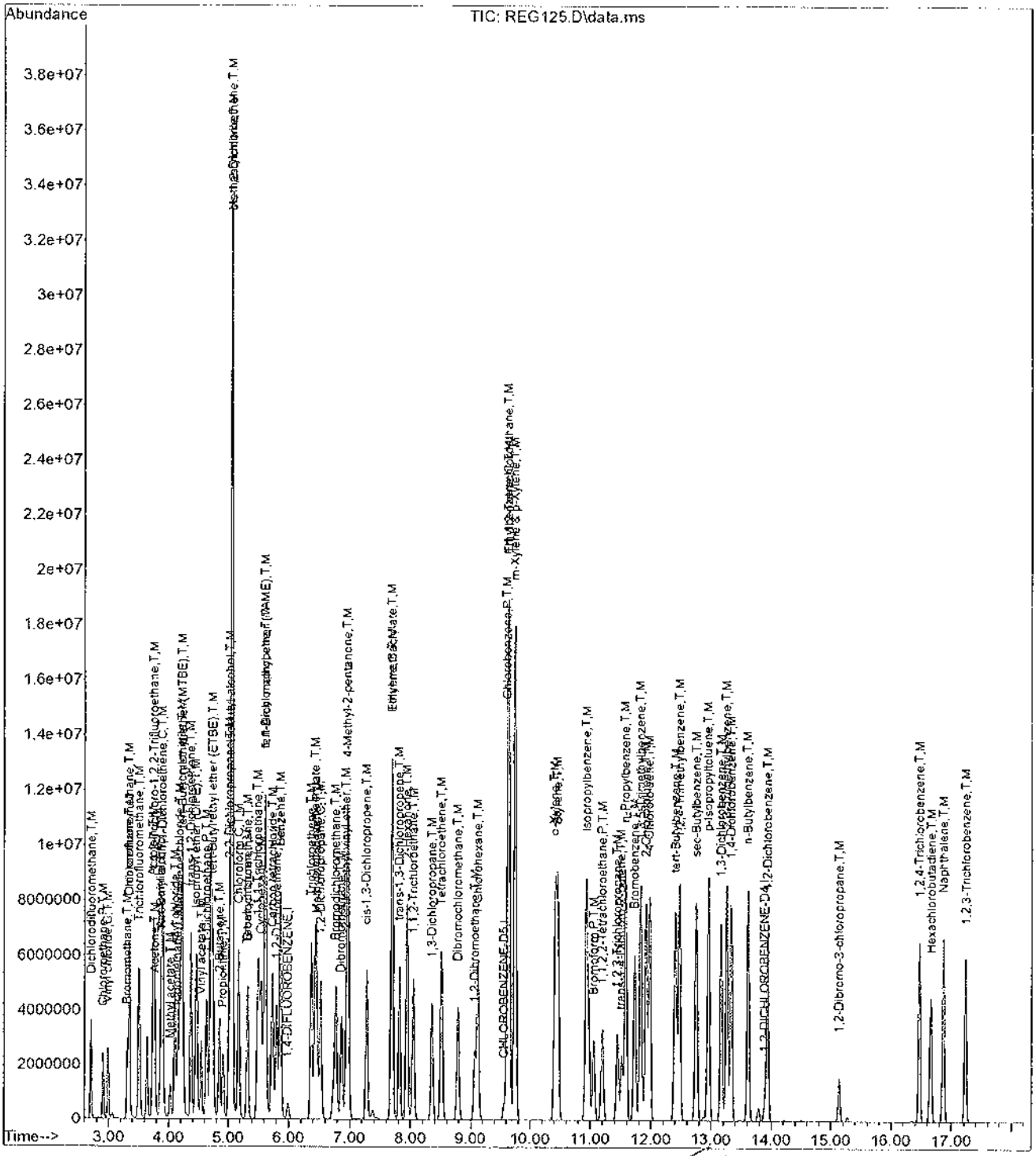
(#) = qualifier out of range (m) = manual integration (+) = signals summed

5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG125.D Vial: 10
Acq On : 17 May 2024 15:21 Operator: DNguye
Sample : VOE2E179 4uL Inst : E2
Misc : 100ppb 8260/500ppb KET-AA/2500ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:04:40 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:47:14 2024 SU 5/24/24 Page: 3

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG126.D Vial: 11
Acq On : 17 May 2024 15:44 Operator: DNguyc
Sample : VOE2E1710 8uL Inst : E2
Misc : 200ppb 8260/1000ppb KET-AA/5000ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:00:50 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 568040 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 471885 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 217867 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 3002 | 0.09 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 0.90% | | |
| 41) 1,2-Dichloroethane-d4 | 0.000 | 65 | 0d | 0.00 | ug/L | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 56) Toluene-d8 | 0.000 | 98 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 77) 4-Bromofluorobenzene | 0.000 | 95 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 6316101 | 193.74 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 4516405 | 193.06 | ug/l | 99 |
| 4) Vinyl chloride | 2.983 | 62 | 4720259 | 191.07 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 3750895 | 224.49 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.346 | 67 | 9822700 | 174.00 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 2195455 | 181.39 | ug/l | 94 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 10783113 | 194.28 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 3351589 | 907.26 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.742 | 151 | 4350512 | 179.79 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 6603563 | 988.07 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 15471302 | 4478.91 | ug/L | 95 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 9033271 | 177.91 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 2754507 | 1606.85 | ug/L | 93 |
| 15) Allyl chloride | 4.106 | 76 | 2199904 | 164.07 | ug/L | 99 |
| 16) Iodomethane | 4.139 | 142 | 5209397 | 187.95 | ug/l | 97 |
| 17) Methyl acetate | 4.029 | 43 | 3232214 | 168.28 | ug/L | 97 |
| 18) Methylene chloride | 4.183 | 49 | 6476225 | 191.83 | ug/l | 97 |
| 19) Acrylonitrile | 4.216 | 53 | 7708060 | 902.54 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 15360383 | 180.97 | ug/L | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 4873441 | 179.91 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 14962789 | 173.25 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 9004493 | 183.04 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 9351400 | 170.66 | ug/l | 100 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 19320797 | 184.21 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 2394701 | 898.39 | ug/l | 98 |
| 28) Propionitrile | 4.920 | 54 | 5691397 | 1812.25 | ug/L | 97 |
| 29) Isobutyl alcohol | 5.030 | 43 | 3586105 | 3231.85 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 9444935 | 172.19 | ug/l | 99 |
| 31) Methacrylonitrile | 5.063 | 52 | 8684556 | 1684.31 | ug/L | 89 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 5762701 | 186.86 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 11032078 | 162.40 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 2946762 | 162.66 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.316 | 42 | 1229234 | 171.73 | ug/L | 96 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 10907828 | 178.03 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 5994629 | 191.94 | ug/L | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 3477493 | 185.79 | ug/l | 98 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 2466827 | 183.91 | ug/L | 100 |
| 42) Carbon tetrachloride | 5.734 | 119 | 9523903 | 183.70 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 9046789 | 173.24 | ug/L | 99 |

VOE2E17.M Thu May 23 12:47:29 2024 5/24/24 Page: 1

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG126.D
Acq On : 17 May 2024 15:44
Sample : VOE2E1710 8uL
Misc : 200ppb 8260/1000ppb KET-AA/5000ppb TBA
Integrator: RTE
Quant Time: May 21 21:00:50 2024
Quant Results File: VOE2E17.RES

Vial: 11
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 44) Benzene | 5.866 | 78 | 18878615 | 181.64 | ug/L | 99 |
| 45) Trichloroethene | 6.373 | 130 | 5312995 | 185.18 | ug/L | 98 |
| 46) Methyl methacrylate | 6.439 | 69 | 4709153 | 185.24 | ug/L | 97 |
| 47) Methylcyclohexane | 6.450 | 83 | 6821475 | 199.77 | ug/L | 99 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 4750541 | 179.08 | ug/L | 98 |
| 50) Bromodichloromethane | 6.769 | 83 | 8780457 | 174.89 | ug/L | 99 |
| 51) Dibromomethane | 6.857 | 93 | 3575305 | 165.64 | ug/L | 98 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 2345513 | 178.52 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 25417872 | 874.65 | ug/L | 96 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 8445639 | 182.07 | ug/L | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 6144909 | 190.81 | ug/L | 93 |
| 58) Toluene | 7.693 | 91 | 19948069 | 186.39 | ug/l | 99 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 8489181 | 185.38 | ug/l | 94 |
| 60) 2-Hexanone | 7.946 | 43 | 17094335 | 883.44 | ug/l | 98 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 4397367 | 173.13 | ug/l | 98 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 6618515 | 175.47 | ug/l | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 4231743 | 180.87 | ug/l | 99 |
| 64) Dibromochloromethane | 8.783 | 129 | 6516219 | 171.04 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 4870080 | 177.93 | ug/l | 98 |
| 66) 1-Chlorohexane | 9.124 | 91 | 6393588 | 180.51 | ug/l | 100 |
| 67) Chlorobenzene | 9.619 | 112 | 12624825 | 178.60 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 5312112 | 176.61 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 23292033 | 180.01 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 28701191 | 272.04 | ug/l | 84 |
| 71) o-Xylene | 10.412 | 91 | 17586293 | 176.08 | ug/l | 99 |
| 72) Styrene | 10.456 | 104 | 12296252 | 176.06 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 19602688 | 172.25 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 4187827 | 176.13 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 5159996 | 169.93 | ug/l | 100 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 1403346 | 167.39 | ug/l | 96 |
| 79) trans-1,4-Dichloro-2-b... | 11.523 | 53 | 1650960 | 194.61 | ug/l | 98 |
| 80) n-Propylbenzene | 11.578 | 91 | 23810922 | 172.37 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 5195205 | 171.35 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 16287234 | 171.50 | ug/l | 99 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 15174863 | 177.98 | ug/l | 93 |
| 84) 4-Chlorotoluene | 11.985 | 91 | 13838106 | 199.43 | ug/l | 95 |
| 85) tert-Butylbenzene | 12.414 | 134 | 2339593 | 159.17 | ug/l | 91 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 16036674 | 172.66 | ug/l | 97 |
| 87) sec-Butylbenzene | 12.756 | 105 | 18845003 | 175.10 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 15471204 | 171.32 | ug/l | 98 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 8054938 | 193.34 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 15911955 | 172.89 | ug/L | 100 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 8560916 | 196.89 | ug/l | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 15176896 | 176.71 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 7971920 | 167.50 | ug/l | 97 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 1180945 | 191.26 | ug/l | 99 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 5739206 | 205.48 | ug/l | 97 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 3124401 | 189.92 | ug/l | 99 |
| 97) Naphthalene | 16.872 | 128 | 14719954 | 200.07 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 5440683 | 204.95 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

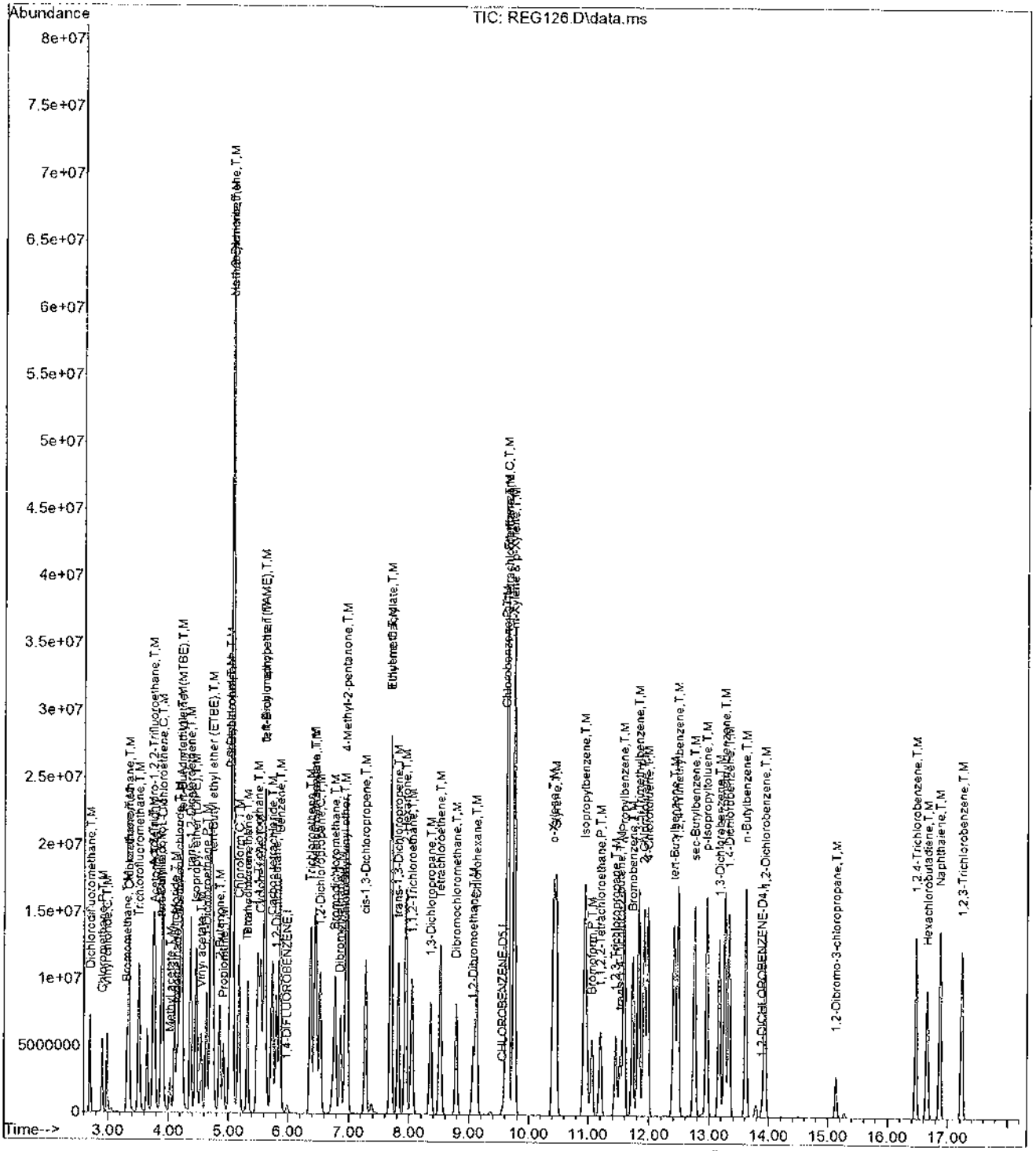
VOE2E17.M Thu May 23 12:47:29 2024 5/29/24 Page: 2

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG126.D
Acq On : 17 May 2024 15:44
Sample : VOE2E1710 8uL
Misc : 200ppb 8260/1000ppb KET-AA/5000ppb TBA
Integrator: RTE
Quant Time: May 21 21:00:50 2024
Quant Results File: VOE2E17.RES

Vial: 11
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:47:29 2024

5/24/24

Page: 3

# SECOND SOURCE VERIFICATION

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: REG130 BFB Injection Date: 05/18/24

Instrument ID: E2 BFB Injection Time: 09:16

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 19.254 |
| 75 | 30 - 60% of mass 95 | 50.320 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.311 |
| 173 | Less than 2% of mass 174 | 0.512(.61)1 |
| 174 | Greater than 50% of mass 95 | 84.221 |
| 175 | 5 - 9% of mass 174 | 6.661(7.91)1 |
| 176 | 95 - 101% % of mass 174 | 81.783(97.11)1 |
| 177 | 5 - 9% % of mass 176 | 6.306(7.71)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | IVOE2E1702 | REG131 | 05/18/24 | 09:57 |

5/24/24

CONTINUE CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :E2
IC Beginning DateTime :05/17/24 12:13
Spike Amount :10 PPM
CC/CV File :REG131
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
IC Ending DateTime :05/17/24 15:44
HPChem Method :VOE2R17
Date_Time :05/18/24 09:57

| M | IDX | Parameters | CC_Con | CC%_Di | CC_Resp | CCRRF | AvRRF | CC_REm | AvREm | %_RSD | Co_X0 | Co_X1 | Co_X2 | Co_Cor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 10.000 | 0 | 647637 | 1 | 1 | 5.988 | 5.987 | 0 | | | | |
| | 2 | Dichlorodifluoromethane | 10.420 | 4.2 | 387316 | 0.598 | 0.574 | 2.708 | 2.708 | 8.06 | | | | |
| | 3 | Chloromethane | 10.034 | 0.3 | 267638 | 0.413 | 0.412 | 2.906 | 2.906 | 13.00 | | | | |
| | 4 | Vinyl chloride | 10.450 | 4.5 | 294360 | 0.455 | 0.435 | 2.994 | 2.990 | 7.58 | | | | |
| | 5 | Bromomethane | 10.726 | 7.3 | 204345 | 0.316 | 0.294 | 3.313 | 3.313 | 11.62 | | | | |
| | 6 | Dichlorofluoromethane | 9.831 | -1.7 | 632775 | 0.977 | 0.994 | 3.357 | 3.362 | 8.41 | | | | |
| | 7 | Chloroethane | 11.738 | 17.4 | 161985 | 0.250 | 0.213 | 3.346 | 3.346 | 8.74 | | | | |
| | 8 | Trichlorofluoromethane | 10.360 | 3.6 | 655613 | 1.012 | 0.977 | 3.511 | 3.511 | 7.24 | | | | |
| 5 | 9 | Acrolein | 53.498 | 7.0 | 225327 | 0.070 | 0.065 | 3.743 | 3.742 | 10.21 | | | | |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 9.863 | -1.4 | 272122 | 0.420 | 0.426 | 3.753 | 3.752 | 10.04 | | | | |
| 5 | 11 | Acetone | 55.179 | 10.4 | 456111 | 0.141 | 0.181 | 3.764 | 3.769 | 42.17 | 0.0583 | 0.1171 | | 0.9992 |
| 25 | 12 | tert-Butyl alcohol | 274.988 | 10.0 | 1082983 | 0.067 | 0.061 | 3.875 | 3.874 | 11.83 | | | | |
| | 13 | 1,1-Dichloroethene | 9.753 | -2.5 | 564613 | 0.872 | 0.894 | 3.908 | 3.902 | 8.46 | | | | |
| 10 | 14 | Acetonitrile | 109.003 | 9.0 | 213040 | 0.033 | 0.030 | 3.875 | 3.874 | 12.37 | | | | |
| | 15 | Allyl chloride | 10.843 | 8.4 | 165769 | 0.256 | 0.236 | 4.106 | 4.106 | 11.27 | | | | |
| | 16 | Iodomethane | 8.785 | -12.2 | 268999 | 0.415 | 0.429 | 4.150 | 4.143 | 22.23 | -0.0140 | 0.4887 | | 0.9969 |
| | 17 | Methyl acetate | 10.001 | 0.0 | 219009 | 0.338 | 0.338 | 4.029 | 4.029 | 12.15 | | | | |
| | 18 | Methylene chloride | 11.388 | 13.9 | 467946 | 0.723 | 0.801 | 4.183 | 4.182 | 26.33 | 0.0486 | 0.5918 | | 0.9974 |
| 5 | 19 | Acrylonitrile | 52.272 | 4.5 | 508984 | 0.157 | 0.150 | 4.216 | 4.216 | 11.69 | | | | |
| | 20 | tert-Butyl methyl ether (MTBE) | 10.647 | 6.5 | 1030417 | 1.591 | 1.494 | 4.227 | 4.227 | 7.94 | | | | |
| | 21 | Carbon disulfide | 9.831 | -1.7 | 872085 | 1.347 | 1.370 | 4.315 | 4.305 | 9.42 | | | | |
| | 22 | trans-1,2-Dichloroethene | 10.193 | 1.9 | 314802 | 0.486 | 0.477 | 4.370 | 4.370 | 10.07 | | | | |
| | 23 | Isopropyl ether (DIPE) | 10.521 | 5.2 | 1036035 | 1.600 | 1.520 | 4.469 | 4.460 | 9.47 | | | | |
| | 24 | Vinyl acetate | 11.461 | 14.6 | 642883 | 0.993 | 0.866 | 4.546 | 4.546 | 6.41 | | | | |
| | 25 | 1,1-Dichloroethane | 9.919 | -0.8 | 619716 | 0.957 | 0.965 | 4.634 | 4.634 | 10.57 | | | | |
| | 26 | tert-Butyl ethyl ether (ETBE) | 10.432 | 4.3 | 1247585 | 1.926 | 1.846 | 4.733 | 4.733 | 8.21 | | | | |
| 5 | 27 | 2-Butanone | 54.888 | 9.8 | 166808 | 0.052 | 0.047 | 4.854 | 4.854 | 12.56 | | | | |
| 10 | 28 | Propionitrile | 114.244 | 14.2 | 409063 | 0.063 | 0.055 | 4.909 | 4.910 | 11.17 | | | | |
| 20 | 29 | Isobutyl alcohol | 228.221 | 14.1 | 288723 | 0.022 | 0.020 | 5.030 | 5.030 | 12.47 | | | | |
| | 30 | 2,2-Dichloropropane | 9.835 | -1.6 | 615087 | 0.950 | 0.966 | 5.019 | 5.020 | 9.30 | | | | |
| 10 | 31 | Methacrylonitrile | 106.760 | 6.8 | 627605 | 0.097 | 0.091 | 5.052 | 5.057 | 11.02 | | | | |
| | 32 | cis-1,2-Dichloroethene | 10.190 | 1.9 | 358317 | 0.553 | 0.543 | 5.063 | 5.063 | 8.40 | | | | |
| | 33 | Chloroform | 9.159 | -8.4 | 709429 | 1.096 | 1.196 | 5.173 | 5.173 | 14.61 | | | | |
| | 34 | Bromochloromethane | 10.418 | 4.2 | 215189 | 0.332 | 0.319 | 5.327 | 5.327 | 11.29 | | | | |
| | 35 | Tetrahydrofuran | 11.049 | 10.5 | 90175 | 0.139 | 0.126 | 5.316 | 5.319 | 6.67 | | | | |
| | 36 | Dibromofluoromethane | 9.254 | -7.5 | 367086 | 0.567 | 0.612 | 5.338 | 5.338 | 6.30 | | | | |
| | 37 | 1,1,1-Trichloroethane | 9.563 | -4.4 | 668020 | 1.031 | 1.079 | 5.503 | 5.497 | 8.19 | | | | |
| | 38 | Cyclohexane | 10.101 | 1.0 | 359700 | 0.555 | 0.550 | 5.547 | 5.548 | 14.22 | | | | |
| | 39 | tert-Amyl methyl ether (TAME) | 10.845 | 8.5 | 231432 | 0.357 | 0.329 | 5.613 | 5.614 | 7.33 | | | | |
| | 40 | 1,1-Dichloropropene | 9.880 | -1.2 | 151104 | 0.233 | 0.236 | 5.613 | 5.613 | 8.29 | | | | |
| | 41 | 1,2-Dichloroethane-d4 | 8.914 | -10.9 | 467273 | 0.722 | 0.809 | 5.723 | 5.723 | 11.80 | | | | |
| | 42 | Carbon tetrachloride | 9.430 | -5.7 | 557403 | 0.861 | 0.913 | 5.734 | 5.734 | 8.01 | | | | |
| | 43 | 1,2-Dichloroethane | 9.596 | -4.0 | 571321 | 0.882 | 0.919 | 5.800 | 5.800 | 10.41 | | | | |
| | 44 | Benzene | 10.262 | 2.6 | 1216026 | 1.878 | 1.830 | 5.866 | 5.866 | 8.64 | | | | |
| | 45 | Trichloroethene | 9.910 | -0.9 | 324173 | 0.501 | 0.505 | 6.373 | 6.371 | 9.09 | | | | |
| | 46 | Methyl methacrylate | 10.822 | 8.2 | 313684 | 0.484 | 0.448 | 6.439 | 6.439 | 9.77 | | | | |
| | 47 | Methylcyclohexane | 10.456 | 4.6 | 407082 | 0.629 | 0.601 | 6.450 | 6.454 | 11.92 | | | | |
| | 48 | 1,2-Dichloropropane | 10.391 | 3.9 | 314276 | 0.485 | 0.467 | 6.527 | 6.527 | 10.74 | | | | |
| 20 | 49 | 1,4-Dioxane | | | | | | | | | | | | |
| | 50 | Bromodichloromethane | 9.851 | -1.5 | 563896 | 0.871 | 0.884 | 6.780 | 6.769 | 11.38 | | | | |
| | 51 | Dibromomethane | 9.836 | -1.6 | 242061 | 0.374 | 0.380 | 6.857 | 6.857 | 11.79 | | | | |
| | 52 | 2-Chloroethyl vinyl ether | 8.988 | -10.1 | 134655 | 0.208 | 0.231 | 6.934 | 6.934 | 6.45 | | | | |
| 5 | 53 | 4-Methyl-2-pentanone | 51.435 | 2.9 | 1704193 | 0.526 | 0.512 | 6.956 | 6.957 | 10.35 | | | | |
| | 54 | cis-1,3-Dichloropropene | 10.439 | 4.4 | 552132 | 0.853 | 0.817 | 7.275 | 7.275 | 7.57 | | | | |
| | 55 | CHLOROBENZENE-D5 | 10.000 | 0 | 555845 | 1 | 1 | 9.564 | 9.564 | 0 | | | | |
| | 56 | Toluene-d8 | 9.506 | -4.9 | 1050036 | 1.889 | 1.987 | 7.594 | 7.594 | 8.88 | | | | |
| | 57 | Ethyl methacrylate | 11.236 | 12.4 | 426233 | 0.767 | 0.682 | 7.693 | 7.693 | 5.59 | | | | |
| | 58 | Toluene | 10.086 | 0.9 | 1271585 | 2.288 | 2.268 | 7.693 | 7.693 | 9.46 | | | | |
| | 59 | trans-1,3-Dichloropropene | 10.278 | 2.8 | 554416 | 0.997 | 0.970 | 7.814 | 7.814 | 6.61 | | | | |
| 5 | 60 | 2-Hexanone | 50.761 | 1.5 | 1156980 | 0.416 | 0.410 | 7.946 | 7.938 | 11.13 | | | | |
| | 61 | 1,1,2-Trichloroethane | 10.111 | 1.1 | 302512 | 0.544 | 0.538 | 8.045 | 8.045 | 10.51 | | | | |
| | 62 | 1,3-Dichloropropane | 10.361 | 3.6 | 460356 | 0.828 | 0.799 | 8.354 | 8.354 | 9.83 | | | | |
| | 63 | Tetrachloroethene | 9.524 | -4.8 | 262477 | 0.472 | 0.496 | 8.519 | 8.509 | 12.71 | | | | |
| | 64 | Dibromochloromethane | 9.409 | -5.9 | 422250 | 0.760 | 0.807 | 8.783 | 8.783 | 13.87 | | | | |
| | 65 | 1,2-Dibromoethane | 10.137 | 1.4 | 326860 | 0.588 | 0.580 | 9.069 | 9.069 | 8.08 | | | | |
| | 66 | 1-Chlorohexane | 10.040 | 0.4 | 418878 | 0.754 | 0.751 | 9.124 | 9.124 | 10.45 | | | | |
| | 67 | Chlorobenzene | 9.723 | -2.8 | 809661 | 1.457 | 1.498 | 9.619 | 9.619 | 11.00 | | | | |
| | 68 | 1,1,1,2-Tetrachloroethane | 9.599 | -4.0 | 340100 | 0.612 | 0.637 | 9.652 | 9.646 | 9.12 | | | | |
| | 69 | Ethylbenzene | 9.758 | -2.4 | 1487392 | 2.676 | 2.742 | 9.641 | 9.641 | 10.66 | | | | |
| 2 | 70 | m-Xylene & p-Xylene | 18.880 | -5.6 | 2346333 | 2.111 | 2.236 | 9.751 | 9.750 | 9.97 | | | | |
| | 71 | o-Xylene | 10.096 | 1.0 | 1187781 | 2.137 | 2.117 | 10.412 | 10.413 | 11.21 | | | | |
| | 72 | Styrene | 10.151 | 1.5 | 835184 | 1.503 | 1.480 | 10.467 | 10.458 | 10.19 | | | | |
| | 73 | Isopropylbenzene | 9.879 | -1.2 | 1324380 | 2.383 | 2.412 | 10.940 | 10.940 | 13.33 | | | | |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 10.000 | 0 | 262396 | 1 | 1 | 13.889 | 13.889 | 0 | | | | |
| | 75 | Bromoform | 9.959 | -0.4 | 285204 | 1.087 | 1.091 | 11.061 | 11.061 | 9.03 | | | | |
| | 76 | 1,1,2,2-Tetrachloroethane | 10.875 | 8.8 | 397736 | 1.516 | 1.394 | 11.204 | 11.203 | 13.93 | | | | |
| | 77 | 4-Bromofluorobenzene | 10.006 | 0.1 | 416821 | 1.589 | 1.587 | 11.369 | 11.369 | 11.73 | | | | |
| | 78 | 1,2,3-Trichloropropane | 10.854 | 8.5 | 109593 | 0.418 | 0.385 | 11.446 | 11.446 | 12.26 | | | | |
| | 79 | trans-1,4-Dichloro-2-butene | 11.666 | 16.7 | 119204 | 0.454 | 0.389 | 11.523 | 11.513 | 8.47 | | | | |
| | 80 | n-Propylbenzene | 9.908 | -0.9 | 1648572 | 6.283 | 6.341 | 11.578 | 11.578 | 14.55 | | | | |
| | 81 | Bromobenzene | 10.166 | 1.7 | 371222 | 1.415 | 1.392 | 11.732 | 11.732 | 13.87 | | | | |
| | 82 | 1,3,5-Trimethylbenzene | 9.826 | -1.7 | 1123998 | 4.284 | 4.359 | 11.831 | 11.829 | 14.43 | | | | |
| | 83 | 2-Chlorotoluene | 10.515 | 5.2 | 1079812 | 4.115 | 3.914 | 11.919 | 11.919 | 13.23 | | | | |
| | 84 | 4-Chlorotoluene | 11.112 | 11.1 | 964334 | 3.675 | 3.796 | 11.974 | 11.975 | 20.12 | 0.1440 | 3.1777 | | 0.9987 |
| | 85 | tert-Butylbenzene | 9.977 | -0.2 | 176618 | 0.673 | 0.675 | 12.415 | 12.408 | 14.63 | | | | |
| | 86 | 1,2,4-Trimethylbenzene | 10.070 | 0.7 | 1126508 | 4.293 | 4.263 | 12.481 | 12.478 | 14.07 | | | | |
| | 87 | sec-Butylbenzene | 9.921 | -0.8 | 1286003 | 4.901 | 4.940 | 12.756 | 12.749 | 14.11 | | | | |
| | 88 | p-Isopropyltoluene | 9.947 | -0.5 | 1081873 | 4.123 | 4.145 | 12.954 | 12.955 | 14.69 | | | | |
| | 89 | 1,3-Dichlorobenzene | 11.402 | 14.0 | 594859 | 2.267 | 2.303 | 13.174 | 13.165 | 19.08 | 0.0920 | 1.9075 | | 0.9986 |
| | 90 | 1,2,3-Trimethylbenzene | 10.087 | 0.9 | 1118089 | 4.261 | 4.224 | 13.262 | 13.255 | 13.33 | | | | |
| | 91 | 1,4-Dichlorobenzene | 11.077 | 10.8 | 600654 | 2.289 | 2.349 | 13.328 | 13.328 | 18.81 | 0.0831 | 1.9916 | | 0.9991 |
| | 92 | n-Butylbenzene | 9.895 | -1.0 | 1023631 | 3.901 | 3.942 | 13.614 | 13.614 | 14.93 | | | | |
| | 93 | 1,2-Dichlorobenzene | 9.725 | -2.7 | 557437 | 2.124 | 2.184 | 13.933 | 13.933 | 14.28 | | | | |
| | 94 | 1,2-Dibromo-3-chloropropane | 10.796 | 8.0 | 80292 | 0.306 | 0.283 | 15.144 | 15.134 | 8.87 | | | | |
| | 95 | 1,2,4-Trichlorobenzene | 10.262 | 2.6 | 357605 | 1.363 | 1.493 | 16.475 | 16.464 | 24.05 | 0.0497 | 1.2796 | | 0.9993 |
| | 96 | Hexachlorobutadiene | 10.669 | 6.7 | 211409 | 0.806 | 0.755 | 16.663 | 16.662 | 13.33 | | | | |
| | 97 | Naphthalene | 10.446 | 4.5 | 925673 | 1.528 | 3.377 | 16.872 | 16.872 | 12.35 | | | | |
| | 98 | 1,2,3-Trichlorobenzene | 10.036 | 0.4 | 332666 | 1.268 | 1.419 | 17.235 | 17.231 | 24.06 | 0.0472 | 1.2161 | | 0.9995 |

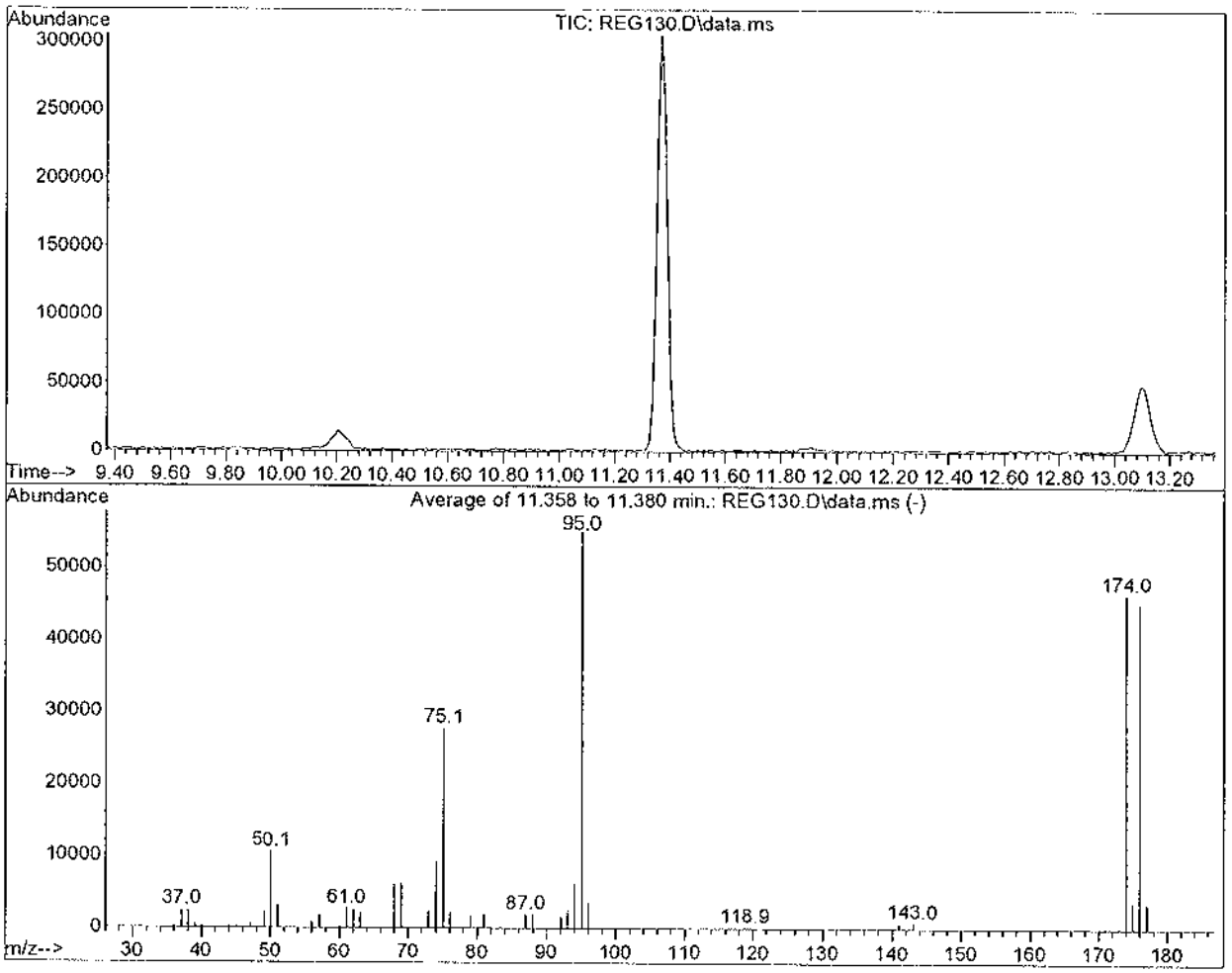
Spike Amount = Nominal Amount * M

SM 5/24/24

Data Path : D:\Data\24E18\
Data File : REG130.D
Acq On : 18 May 2024 9:16
Operator : DNguyc
Sample : BFBE2E09
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




AutoFind: Scans 797, 798, 799; Background Corrected with Scan 791

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 19.3 | 10614 | PASS |
| 75 | 95 | 30 | 60 | 50.3 | 27739 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 55125 | PASS |
| 96 | 95 | 5 | 9 | 6.3 | 3479 | PASS |
| 173 | 174 | 0.00 | 2 | 0.6 | 282 | PASS |
| 174 | 95 | 50 | 100 | 84.2 | 46427 | PASS |
| 175 | 174 | 5 | 9 | 7.9 | 3672 | PASS |
| 176 | 174 | 95 | 101 | 97.1 | 45083 | PASS |
| 177 | 176 | 5 | 9 | 7.7 | 3476 | PASS |

SV 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 134 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.421 | -4.2 | 157 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 10.035 | -0.4 | 148 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.451 | -4.5 | 146 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 10.727 | -7.3 | 173 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 9.831 | 1.7 | 132 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 11.738 | -17.4 | 164 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 10.360 | -3.6 | 151 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 53.499 | -7.0 | 146 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 9.863 | 1.4 | 137 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 55.179 | -10.4 | 137 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 274.989 | -10.0 | 147 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 9.754 | 2.5 | 131 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 109.003 | -9.0 | 144 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.844 | -8.4 | 143 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 8.785 | 12.1 | 129 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 10.001 | -0.0 | 133 | 0.00 |
| 18 | T,M | Methylene chloride | 10.000 | 11.389 | -13.9 | 132 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 52.273 | -4.5 | 133 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.648 | -6.5 | 142 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.831 | 1.7 | 131 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.193 | -1.9 | 139 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 10.521 | -5.2 | 142 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 11.462 | -14.6 | 143 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.920 | 0.8 | 137 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 10.433 | -4.3 | 139 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 54.888 | -9.8 | 140 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 114.245 | -14.2 | 158 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 228.222 | -14.1 | 152 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 9.836 | 1.6 | 128 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 106.760 | -6.8 | 146 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.190 | -1.9 | 143 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.160 | 8.4 | 131 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 10.419 | -4.2 | 136 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 11.050 | -10.5 | 150 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.254 | 7.5 | 122 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 9.563 | 4.4 | 129 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 10.102 | -1.0 | 161 | 0.00 |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.845 | -8.5 | 139 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 9.881 | 1.2 | 129 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 8.915 | 10.9 | 124 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 9.430 | 5.7 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 9.596 | 4.0 | 126 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.262 | -2.6 | 138 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.910 | 0.9 | 136 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 10.823 | -8.2 | 152 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 10.457 | -4.6 | 159 | 0.00 |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.391 | -3.9 | 140 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.851 | 1.5 | 132 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 9.836 | 1.6 | 135 | 0.00 |



5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 8.989 | 10.1 | 117 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 51.435 | -2.9 | 132 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.440 | -4.4 | 139 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 136 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.507 | 4.9 | 128 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.236 | -12.4 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 10.087 | -0.9 | 138 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.278 | -2.8 | 137 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 50.761 | -1.5 | 131 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.111 | -1.1 | 138 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.361 | -3.6 | 143 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.524 | 4.8 | 134 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.409 | 5.9 | 131 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 10.138 | -1.4 | 135 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.040 | -0.4 | 137 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.724 | 2.8 | 135 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.599 | 4.0 | 128 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.759 | 2.4 | 136 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.880 | 5.6 | 138 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 10.096 | -1.0 | 137 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.152 | -1.5 | 137 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.880 | 1.2 | 133 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 133 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.959 | 0.4 | 134 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.876 | -8.8 | 149 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.007 | -0.1 | 135 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.854 | -8.5 | 148 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 11.667 | -16.7 | 152 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.909 | 0.9 | 139 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 10.166 | -1.7 | 135 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.827 | 1.7 | 135 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 10.515 | -5.2 | 149 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.112 | -11.1 | 126 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.977 | 0.2 | 138 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 10.070 | -0.7 | 136 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.921 | 0.8 | 134 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.947 | 0.5 | 138 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.403 | -14.0 | 138 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.087 | -0.9 | 135 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.077 | -10.8 | 137 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.896 | 1.0 | 136 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.725 | 2.8 | 140 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 10.797 | -8.0 | 153 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 10.262 | -2.6 | 140 | 0.01 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 10.670 | -6.7 | 142 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.446 | -4.5 | 141 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.037 | -0.4 | 136 | 0.01 |



5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

SY
5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguyc
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 134 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.598 | -4.2 | 157 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.413 | -0.2 | 148 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.455 | -4.6 | 146 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.316 | -7.5 | 173 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 0.977 | 1.7 | 132 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.250 | -17.4 | 164 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 1.012 | -3.6 | 151 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.070 | -7.7 | 146 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.420 | 1.4 | 137 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.141 | 22.1# | 137 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.067 | -9.8 | 147 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.872 | 2.5 | 131 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.033 | -10.0 | 144 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.256 | -8.5 | 143 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.415 | 3.3 | 129 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.338 | 0.0 | 133 | 0.00 |
| 18 | T,M | Methylene chloride | 0.801 | 0.723 | 9.7 | 132 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.157 | -4.7 | 133 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.591 | -6.5 | 142 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.347 | 1.7 | 131 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.486 | -1.9 | 139 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.600 | -5.3 | 142 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.993 | -14.7 | 143 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 0.957 | 0.8 | 137 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.926 | -4.3 | 139 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.052 | -10.6 | 140 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.063 | -14.5 | 158 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.022 | -10.0 | 152 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.950 | 1.7 | 128 | 0.00 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.097 | -6.6 | 146 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.553 | -1.8 | 143 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.095 | 8.4 | 131 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.332 | -4.1 | 136 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.139 | -10.3 | 150 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.567 | 7.4 | 122 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.031 | 4.4 | 129 | 0.01 |
| 38 | T,M | Cyclohexane | 0.550 | 0.555 | -0.9 | 161 | 0.00 |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.357 | -8.5 | 139 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.233 | 1.3 | 129 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.722 | 10.8 | 124 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 0.861 | 5.7 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 0.882 | 4.0 | 126 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.878 | -2.6 | 138 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.501 | 0.8 | 136 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.484 | -8.0 | 152 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.629 | -4.7 | 159 | 0.00 |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.485 | -3.9 | 140 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.871 | 1.5 | 132 | 0.01 |
| 51 | T,M | Dibromomethane | 0.380 | 0.374 | 1.6 | 135 | 0.00 |



SC 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.208 | 10.0 | 117 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.526 | -2.7 | 132 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.853 | -4.4 | 139 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 136 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 1.889 | 4.9 | 128 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.767 | -12.5 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.288 | -0.9 | 138 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.997 | -2.8 | 137 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.416 | -1.5 | 131 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.544 | -1.1 | 138 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.828 | -3.6 | 143 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.472 | 4.8 | 134 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.760 | 5.8 | 131 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.588 | -1.4 | 135 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.754 | -0.4 | 137 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.457 | 2.7 | 135 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.612 | 3.9 | 128 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.676 | 2.4 | 136 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.111 | 5.6 | 138 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.137 | -0.9 | 137 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.503 | -1.6 | 137 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.383 | 1.2 | 133 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 133 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.087 | 0.4 | 134 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.516 | -8.8 | 149 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.589 | -0.1 | 135 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.418 | -8.6 | 148 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.454 | -16.7 | 152 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.283 | 0.9 | 139 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.415 | -1.7 | 135 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.284 | 1.7 | 135 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.115 | -5.1 | 149 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.675 | 3.2 | 126 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.673 | 0.3 | 138 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.293 | -0.7 | 136 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.901 | 0.8 | 134 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.123 | 0.5 | 138 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.267 | 1.6 | 138 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.261 | -0.9 | 135 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.289 | 2.6 | 137 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.901 | 1.0 | 136 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.124 | 2.7 | 140 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.306 | -8.1 | 153 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.363 | 8.7 | 140 | 0.01 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.806 | -6.8 | 142 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 3.528 | -4.5 | 141 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.268 | 10.6 | 136 | 0.01 |

SU 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

SW 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 647637 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 555845 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 262396 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 367086 | 9.25 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 92.50% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 467273 | 8.91 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 89.10% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1050036 | 9.51 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 95.10% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 416821 | 10.01 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.10% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 387316 | 10.42 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 267638 | 10.03 | ug/l | 100 |
| 4) Vinyl chloride | 2.994 | 62 | 294360 | 10.45 | ug/l | 100 |
| 5) Bromomethane | 3.313 | 94 | 204345 | 10.73 | ug/l | 96 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 632775 | 9.83 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 161985 | 11.74 | ug/l | 88 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 655613 | 10.36 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 225327 | 53.50 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 272122 | 9.86 | ug/l | 99 |
| 11) Acetone | 3.764 | 43 | 456111 | 55.18 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.875 | 59 | 1082983 | 274.99 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 564613 | 9.75 | ug/l | 98 |
| 14) Acetonitrile | 3.875 | 41 | 213040 | 109.00 | ug/L | 96 |
| 15) Allyl chloride | 4.106 | 76 | 165769 | 10.84 | ug/L | 100 |
| 16) Iodomethane | 4.150 | 142 | 268999 | 8.79 | ug/l | 94 |
| 17) Methyl acetate | 4.029 | 43 | 219009 | 10.00 | ug/L | 98 |
| 18) Methylene chloride | 4.183 | 49 | 467946 | 11.39 | ug/l | 97 |
| 19) Acrylonitrile | 4.216 | 53 | 508984 | 52.27 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1030417 | 10.65 | ug/L | 99 |
| 21) Carbon disulfide | 4.315 | 76 | 872085 | 9.83 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 314802 | 10.19 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1036035 | 10.52 | ug/l | 98 |
| 24) Vinyl acetate | 4.546 | 43 | 642883 | 11.46 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 619716 | 9.92 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1247585 | 10.43 | ug/l | 96 |
| 27) 2-Butanone | 4.854 | 72 | 166808 | 54.89 | ug/l | 95 |
| 28) Propionitrile | 4.909 | 54 | 409063 | 114.24 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 288723 | 228.22 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 615087 | 9.84 | ug/l | 98 |
| 31) Methacrylonitrile | 5.052 | 52 | 627605 | 106.76 | ug/L | 94 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 358317 | 10.19 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 709429 | 9.16 | ug/l | 99 |
| 34) Bromochloromethane | 5.327 | 130 | 215189 | 10.42 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 90175 | 11.05 | ug/L | 99 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 668020 | 9.56 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 359700 | 10.10 | ug/L | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 231432 | 10.85 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 151104 | 9.88 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 557403 | 9.43 | ug/L | 100 |



SU 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 571321 | 9.60 | ug/L | 99 |
| 44) Benzene | 5.866 | 78 | 1216026 | 10.26 | ug/L | 99 |
| 45) Trichloroethene | 6.373 | 130 | 324173 | 9.91 | ug/L | 98 |
| 46) Methyl methacrylate | 6.439 | 69 | 313684 | 10.82 | ug/L | 94 |
| 47) Methylcyclohexane | 6.450 | 83 | 407082 | 10.46 | ug/L | 98 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 314276 | 10.39 | ug/L | 94 |
| 50) Bromodichloromethane | 6.780 | 83 | 563896 | 9.85 | ug/L | 99 |
| 51) Dibromomethane | 6.857 | 93 | 242061 | 9.84 | ug/L | 100 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 134655 | 8.99 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1704193 | 51.44 | ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 552132 | 10.44 | ug/L | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 426233 | 11.24 | ug/L | 93 |
| 58) Toluene | 7.693 | 91 | 1271585 | 10.09 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 554416 | 10.28 | ug/l | 93 |
| 60) 2-Hexanone | 7.946 | 43 | 1156980 | 50.76 | ug/l | 98 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 302512 | 10.11 | ug/l | 100 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 460356 | 10.36 | ug/l | 100 |
| 63) Tetrachloroethene | 8.519 | 164 | 262477 | 9.52 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 422250 | 9.41 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 326860 | 10.14 | ug/l | 98 |
| 66) 1-Chlorohexane | 9.124 | 91 | 418878 | 10.04 | ug/l | 92 |
| 67) Chlorobenzene | 9.619 | 112 | 809661 | 9.72 | ug/l | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 340100 | 9.60 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 1487392 | 9.76 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 2346333 | 18.88 | ug/l | 99 |
| 71) o-Xylene | 10.412 | 91 | 1187781 | 10.10 | ug/l | 99 |
| 72) Styrene | 10.467 | 104 | 835184 | 10.15 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 1324380 | 9.88 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 285204 | 9.96 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 397736 | 10.88 | ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 109593 | 10.85 | ug/l | 99 |
| 79) trans-1,4-Dichloro-2-b... | 11.523 | 53 | 119204 | 11.67 | ug/l | 89 |
| 80) n-Propylbenzene | 11.578 | 91 | 1648572 | 9.91 | ug/l | 98 |
| 81) Bromobenzene | 11.732 | 156 | 371222 | 10.17 | ug/l | 100 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 1123998 | 9.83 | ug/l | 99 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1079812 | 10.52 | ug/l | 93 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 964334 | 11.11 | ug/l | 94 |
| 85) tert-Butylbenzene | 12.415 | 134 | 176618 | 9.98 | ug/l | 95 |
| 86) 1,2,4-Trimethylbenzene | 12.481 | 105 | 1126508 | 10.07 | ug/l | 99 |
| 87) sec-Butylbenzene | 12.756 | 105 | 1286003 | 9.92 | ug/l | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1081873 | 9.95 | ug/l | 98 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 594859 | 11.40 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 1118089 | 10.09 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 600654 | 11.08 | ug/l | 100 |
| 92) n-Butylbenzene | 13.614 | 91 | 1023631 | 9.90 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 557437 | 9.73 | ug/l | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 80292 | 10.80 | ug/l | 97 |
| 95) 1,2,4-Trichlorobenzene | 16.475 | 180 | 357605 | 10.26 | ug/l | 98 |
| 96) Hexachlorobutadiene | 16.663 | 225 | 211409 | 10.67 | ug/l | 98 |
| 97) Naphthalene | 16.872 | 128 | 925673 | 10.45 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 332666 | 10.04 | ug/l | 99 |

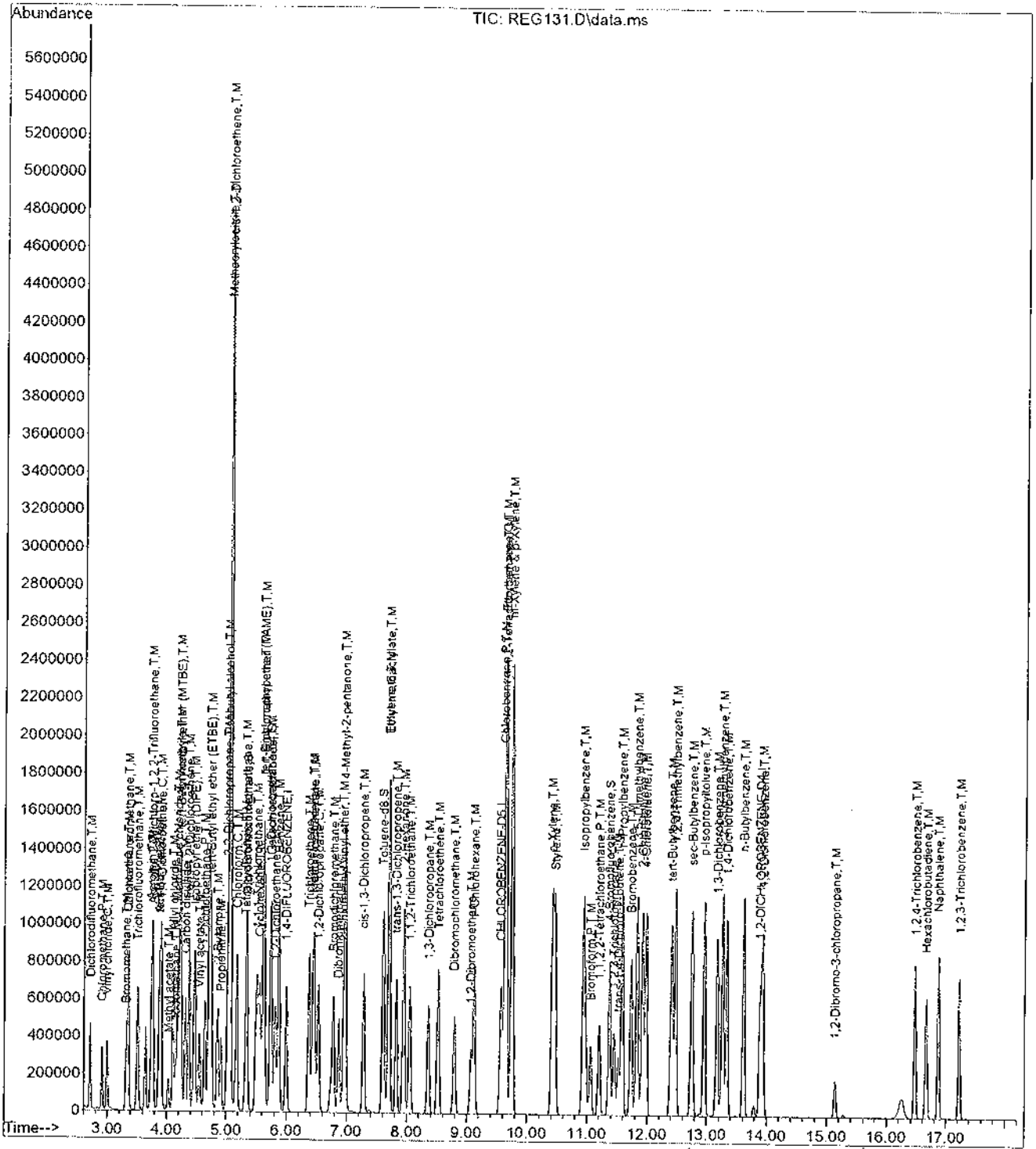
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Tue May 21 21:07:50 2024

5u 5/24/24

Page: 3

# DAILY CALIBRATIONS

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F004
Lab File ID: RFG031 BFB Injection Date: 06/08/24
Instrument ID: E2 BFB Injection Time: 12:09

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 22.071 |
| 75 | 30 - 60% of mass 95 | 51.971 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.542 |
| 173 | Less than 2% of mass 174 | 1.709(1.73)1 |
| 174 | Greater than 50% of mass 95 | 98.721 |
| 175 | 5 - 9% of mass 174 | 8.812(8.93)1 |
| 176 | 95 - 101% % of mass 174 | 98.535(99.81)1 |
| 177 | 5 - 9% % of mass 176 | 7.072(7.18)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1705 | RFG033 | 06/08/24 | 14:28 |
| 2 | LCS1W | VOE2F02L | RFG034 | 06/08/24 | 15:04 |
| 3 | LCD1W | VOE2F02C | RFG035 | 06/08/24 | 15:28 |
| 4 | MBLK1W | VOE2F02B | RFG037 | 06/08/24 | 16:16 |
| 5 | T1AMF-MW054-MAY24 | 24F004-02 | RFG039 | 06/08/24 | 17:04 |
| 6 | T1AMF-MW042-MAY24 | 24F004-03 | RFG040 | 06/08/24 | 17:27 |
| 7 | T1AMF-MW055-MAY24 | 24F004-04 | RFG041 | 06/08/24 | 17:51 |
| 8 | T1AMF-MW045-MAY24 | 24F004-07 | RFG044 | 06/08/24 | 19:03 |
| 9 | T1AMF-EW001-MAY24 | 24F004-08 | RFG045 | 06/08/24 | 19:27 |
| 10 | VSTD10 | EVOE2E1705 | RFG058 | 06/09/24 | 00:35 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F004
Date Analyzed: 05/17/24
Time Analyzed: 14:09

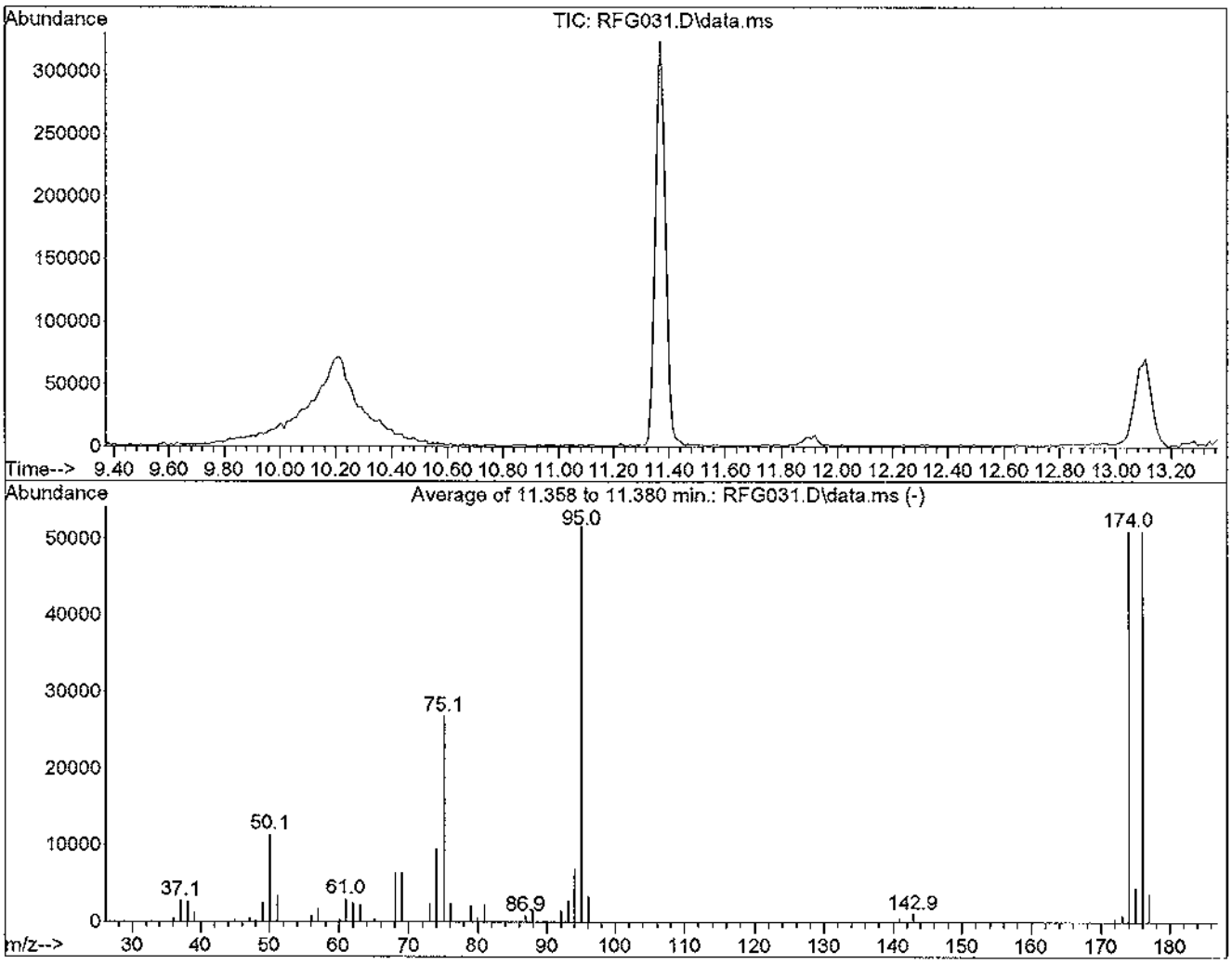
| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| | UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| | LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 759396 | 5.99 | 659881 | 9.56 | 351346 | 13.89 |
| 2 | LCS1W | 804216 | 5.99 | 688163 | 9.56 | 361553 | 13.89 |
| 3 | LCD1W | 788614 | 5.99 | 686122 | 9.56 | 360055 | 13.89 |
| 4 | MBLK1W | 702533 | 5.99 | 598134 | 9.56 | 288194 | 13.89 |
| 5 | T1AMF-MW054-MAY24 | 604704 | 5.99 | 515586 | 9.56 | 241202 | 13.89 |
| 6 | T1AMF-MW042-MAY24 | 585872 | 5.99 | 507180 | 9.56 | 244053 | 13.89 |
| 7 | T1AMF-MW055-MAY24 | 544754 | 5.99 | 461819 | 9.56 | 224403 | 13.89 |
| 8 | T1AMF-MW045-MAY24 | 505850 | 5.99 | 420589 | 9.56 | 206594 | 13.89 |
| 9 | T1AMF-EW001-MAY24 | 493129 | 5.99 | 412092 | 9.56 | 195843 | 13.89 |
| 10 | VSTD10 | 446913 | 5.99 | 398856 | 9.56 | 235443 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Data Path : D:\Data\24F08\
Data File : RFG031.D
Acq On : 8 Jun 2024 12:09
Operator : DNguye
Sample : BFBF02
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




AutoFind: Scans 797, 798, 799; Background Corrected with Scan 791

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 22.1 | 11404 | PASS |
| 75 | 95 | 30 | 60 | 52.0 | 26853 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 51669 | PASS |
| 96 | 95 | 5 | 9 | 6.5 | 3380 | PASS |
| 173 | 174 | 0.00 | 2 | 1.7 | 883 | PASS |
| 174 | 95 | 50 | 100 | 98.7 | 51008 | PASS |
| 175 | 174 | 5 | 9 | 8.9 | 4553 | PASS |
| 176 | 174 | 95 | 101 | 99.8 | 50912 | PASS |
| 177 | 176 | 5 | 9 | 7.2 | 3654 | PASS |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG033.D  Vial: 3
Acq On : 8 Jun 2024 14:28  Operator: DNguye
Sample : CVOE2E1705  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 157 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.917 | -9.2 | 193 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 8.757 | 12.4 | 152 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.879 | -8.8 | 179 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 7.609 | 23.9# | 144 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.391 | -3.9 | 164 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 9.950 | 0.5 | 163 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.165 | 18.4 | 140 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 41.766 | 16.5 | 134 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 10.353 | -3.5 | 169 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 53.271 | -6.5 | 156 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 205.813 | 17.7 | 129 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 9.978 | 0.2 | 158 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 89.402 | 10.6 | 138 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.640 | -6.4 | 165 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 10.989 | -9.9 | 190 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.895 | -8.9 | 149 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 44.205 | 11.6 | 132 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 9.644 | 3.6 | 150 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 10.412 | -4.1 | 163 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.482 | 5.2 | 152 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 10.714 | -7.1 | 169 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 7.360 | 26.4# | 108 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.237 | -2.4 | 166 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 8.744 | 12.6 | 137 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 46.101 | 7.8 | 138 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 90.522 | 9.5 | 147 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 199.417 | 0.3 | 156 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.236 | -2.4 | 156 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 95.404 | 4.6 | 153 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.659 | 3.4 | 159 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.166 | 8.3 | 154 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.816 | 1.8 | 151 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 9.864 | 1.4 | 157 | 0.00 |
| 36 | S | Dibromofluoromethane | 10.000 | 10.724 | -7.2 | 165 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 9.824 | 1.8 | 155 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 9.703 | 3.0 | 145 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 9.938 | 0.6 | 152 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.726 | -7.3 | 175 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.297 | -3.0 | 159 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 10.208 | -2.1 | 157 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 9.819 | 1.8 | 155 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.800 | 2.0 | 157 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 6.686 | 33.1# | 110 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.347 | -3.5 | 163 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.981 | 0.2 | 156 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 9.236 | 7.6 | 148 | 0.01 |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG033.D
Acq On : 8 Jun 2024 14:28
Sample : CVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 7.156 | 28.4# | 109 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 49.584 | 0.8 | 149 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.044 | -0.4 | 157 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 161 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.296 | -3.0 | 164 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.483 | 5.2 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 9.620 | 3.8 | 156 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.738 | 2.6 | 154 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 48.880 | 2.2 | 149 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.159 | 8.4 | 149 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 9.833 | 1.7 | 161 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 11.002 | -10.0 | 184 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.090 | 9.1 | 150 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 8.916 | 10.8 | 141 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.660 | 3.4 | 156 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.453 | 5.5 | 156 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.719 | 2.8 | 154 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.519 | 4.8 | 158 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.082 | 9.6 | 157 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 9.493 | 5.1 | 153 | 0.01 |
| 72 | T,M | Styrene | 10.000 | 9.763 | 2.4 | 156 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.860 | 1.4 | 158 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 177 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.290 | 7.1 | 168 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.272 | 17.3 | 152 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 9.824 | 1.8 | 178 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 8.442 | 15.6 | 154 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 9.458 | 5.4 | 165 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 8.676 | 13.2 | 163 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.733 | 2.7 | 173 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 8.626 | 13.7 | 159 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.037 | 9.6 | 171 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 9.424 | 5.8 | 144 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 8.746 | 12.5 | 162 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 8.764 | 12.4 | 159 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 8.943 | 10.6 | 162 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 8.862 | 11.4 | 164 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.045 | -10.4 | 179 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 8.719 | 12.8 | 157 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.796 | -8.0 | 178 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.008 | 9.9 | 166 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.792 | 2.1 | 189 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.942 | 10.6 | 170 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 11.017 | -10.2 | 201 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 11.173 | -11.7 | 200 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 8.682 | 13.2 | 157 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.865 | -8.7 | 197 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG033.D  Vial: 3
Acq On : 8 Jun 2024 14:28  Operator: DNguye
Sample : CVOE2E1705  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev Area% | Dev(min) |
|---|---|---|---|---|

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG033.D  Vial: 3
Acq On : 8 Jun 2024 14:28  Operator: DNguye
Sample : CVOE2E1705  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 157 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.627 | -9.2 | 193 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.361 | 12.4 | 152 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.473 | -8.7 | 179 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.224 | 23.8# | 144 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.033 | -3.9 | 164 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.212 | 0.5 | 163 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.798 | 18.3 | 140 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.054 | 16.9 | 134 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.441 | -3.5 | 169 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.136 | 24.9# | 156 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.050 | 18.0 | 129 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.892 | 0.2 | 158 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.027 | 10.0 | 138 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.251 | -6.4 | 165 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.523 | -21.9# | 190 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.693 | 13.5 | 149 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.133 | 11.3 | 132 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.441 | 3.5 | 150 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.426 | -4.1 | 163 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.452 | 5.2 | 152 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.629 | -7.2 | 169 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.637 | 26.4# | 108 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 0.987 | -2.3 | 166 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.614 | 12.6 | 137 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.043 | 8.5 | 138 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.050 | 9.1 | 147 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.019 | 5.0 | 156 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.988 | -2.3 | 156 | 0.01 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.087 | 4.4 | 153 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.524 | 3.5 | 159 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.096 | 8.4 | 154 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.313 | 1.9 | 151 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.124 | 1.6 | 157 | 0.00 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.657 | -7.4 | 165 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.060 | 1.8 | 155 | 0.01 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.320 | 2.7 | 145 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.235 | 0.4 | 152 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.868 | -7.3 | 175 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 0.940 | -3.0 | 159 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 0.938 | -2.1 | 157 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.797 | 1.8 | 155 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.495 | 2.0 | 157 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.299 | 33.3# | 110 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.483 | -3.4 | 163 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.882 | 0.2 | 156 | 0.01 |
| 51 | T,M | Dibromomethane | 0.380 | 0.351 | 7.6 | 148 | 0.01 |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG033.D  Vial: 3
Acq On : 8 Jun 2024 14:28  Operator: DNguye
Sample : CVOE2E1705  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.166 | 28.1# | 109 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.507 | 1.0 | 149 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.820 | -0.4 | 157 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 161 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.046 | -3.0 | 164 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.647 | 5.1 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.182 | 3.8 | 156 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.945 | 2.6 | 154 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.401 | 2.2 | 149 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.493 | 8.4 | 149 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.786 | 1.6 | 161 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.545 | -9.9 | 184 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.734 | 9.0 | 150 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.517 | 10.9 | 141 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.725 | 3.5 | 156 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.416 | 5.5 | 156 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.620 | 2.7 | 154 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.610 | 4.8 | 158 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.021 | 9.6 | 157 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.009 | 5.1 | 153 | 0.01 |
| 72 | T,M | Styrene | 1.480 | 1.445 | 2.4 | 156 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.378 | 1.4 | 158 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 177 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.014 | 7.1 | 168 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.153 | 17.3 | 152 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.559 | 1.8 | 178 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.325 | 15.6 | 154 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.368 | 5.4 | 165 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.501 | 13.2 | 163 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.354 | 2.7 | 173 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.760 | 13.7 | 159 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.537 | 9.6 | 171 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.139 | 17.3 | 144 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.590 | 12.6 | 162 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.736 | 12.4 | 159 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.418 | 10.6 | 162 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.673 | 11.4 | 164 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.199 | 4.5 | 179 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 3.683 | 12.8 | 157 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.233 | 4.9 | 178 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.551 | 9.9 | 166 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.139 | 2.1 | 189 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.253 | 10.6 | 170 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.459 | 2.3 | 201# | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.844 | -11.8 | 200 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.932 | 13.2 | 157 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.369 | 3.5 | 197 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG033.D  Vial: 3
Acq On : 8 Jun 2024 14:28  Operator: DNguye
Sample : CVOE2E1705  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG033.D
Acq On : 8 Jun 2024 14:28
Sample : CVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 759396 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 659881 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 351346 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 498763 | 10.72 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.20% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 659238 | 10.73 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.30% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1350003 | 10.30 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 103.00% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 547909 | 9.82 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.20% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 475780 | 10.92 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 273870 | 8.76 | ug/l | 97 |
| 4) Vinyl chloride | 2.994 | 62 | 359289 | 10.88 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 169963 | 7.61 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 784208 | 10.39 | ug/L | 98 |
| 7) Chloroethane | 3.346 | 64 | 161005 | 9.95 | ug/l | 97 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 605860 | 8.17 | ug/l | 97 |
| 9) Acrolein | 3.742 | 56 | 206268 | 41.77 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 334912 | 10.35 | ug/l | 99 |
| 11) Acetone | 3.775 | 43 | 517859 | 53.27 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 950422 | 205.81 | ug/L | 96 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 677305 | 9.98 | ug/l | 98 |
| 14) Acetonitrile | 3.874 | 41 | 204884 | 89.40 | ug/L | 97 |
| 15) Allyl chloride | 4.106 | 76 | 190717 | 10.64 | ug/L | 99 |
| 16) Iodomethane | 4.150 | 142 | 397208 | 10.99 | ug/l | 96 |
| 18) Methylene chloride | 4.183 | 49 | 526508 | 10.89 | ug/l | 96 |
| 19) Acrylonitrile | 4.216 | 53 | 504706 | 44.21 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1094371 | 9.64 | ug/L | 100 |
| 21) Carbon disulfide | 4.315 | 76 | 1082942 | 10.41 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 343392 | 9.48 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1237081 | 10.71 | ug/l | 97 |
| 24) Vinyl acetate | 4.546 | 43 | 484057 | 7.36 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 749869 | 10.24 | ug/l | 98 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1226027 | 8.74 | ug/l | 90 |
| 27) 2-Butanone | 4.854 | 72 | 164281 | 46.10 | ug/l | 96 |
| 28) Propionitrile | 4.909 | 54 | 380055 | 90.52 | ug/L | 96 |
| 29) Isobutyl alcohol | 5.030 | 43 | 295817 | 199.42 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 750591 | 10.24 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 657630 | 95.40 | ug/L | 94 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 398224 | 9.66 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 832400 | 9.17 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 237727 | 9.82 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.327 | 42 | 94386 | 9.86 | ug/L | 93 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 804697 | 9.82 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 242777 | 9.70 | ug/l | 97 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 178214 | 9.94 | ug/L | 97 |
| 42) Carbon tetrachloride | 5.734 | 119 | 713661 | 10.30 | ug/L | 97 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 712657 | 10.21 | ug/L | 100 |
| 44) Benzene | 5.866 | 78 | 1364358 | 9.82 | ug/L | 99 |

Data File : D:\Data\24F08\RFG033.D
Acq On : 8 Jun 2024 14:28
Sample : CVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.373 | 130 | 375886 | 9.80 | ug/L | 95 |
| 46) Methyl methacrylate | 6.439 | 69 | 227213 | 6.69 | ug/L | 83 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 366926 | 10.35 | ug/L | 98 |
| 50) Bromodichloromethane | 6.780 | 83 | 669890 | 9.98 | ug/L | 99 |
| 51) Dibromomethane | 6.868 | 93 | 266530 | 9.24 | ug/L | 92 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 125690 | 7.16 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.967 | 43 | 1926353 | 49.58 | ug/L | 96 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 622873 | 10.04 | ug/L | 94 |
| 57) Ethyl methacrylate | 7.693 | 69 | 427071 | 9.48 | ug/L | 92 |
| 58) Toluene | 7.693 | 91 | 1439696 | 9.62 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 623585 | 9.74 | ug/l | 94 |
| 60) 2-Hexanone | 7.946 | 43 | 1322630 | 48.88 | ug/l | 94 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 325295 | 9.16 | ug/l | 97 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 518636 | 9.83 | ug/l | 99 |
| 63) Tetrachloroethene | 8.519 | 164 | 359946 | 11.00 | ug/l | 91 |
| 64) Dibromochloromethane | 8.783 | 129 | 484269 | 9.09 | ug/l | 99 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 341267 | 8.92 | ug/l | 99 |
| 66) 1-Chlorohexane | 9.124 | 91 | 478431 | 9.66 | ug/l | 97 |
| 67) Chlorobenzene | 9.619 | 112 | 934428 | 9.45 | ug/l | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 408808 | 9.72 | ug/l | 100 |
| 69) Ethylbenzene | 9.641 | 91 | 1722332 | 9.52 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 2667820 | 18.08 | ug/l | 99 |
| 71) o-Xylene | 10.423 | 91 | 1325884 | 9.49 | ug/l | 99 |
| 72) Styrene | 10.467 | 104 | 953560 | 9.76 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 1569085 | 9.86 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 356218 | 9.29 | ug/l | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 405070 | 8.27 | ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 114139 | 8.44 | ug/l | 95 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 129388 | 9.46 | ug/l | 92 |
| 80) n-Propylbenzene | 11.578 | 91 | 1932790 | 8.68 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 475869 | 9.73 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 1321099 | 8.63 | ug/l | 99 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1242538 | 9.04 | ug/l | 95 |
| 84) 4-Chlorotoluene | 11.985 | 91 | 1102793 | 9.42 | ug/l | 92 |
| 85) tert-Butylbenzene | 12.414 | 134 | 207319 | 8.75 | ug/l | 98 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 1312742 | 8.76 | ug/l | 100 |
| 87) sec-Butylbenzene | 12.756 | 105 | 1552139 | 8.94 | ug/l | 99 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1290654 | 8.86 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 772532 | 11.04 | ug/l | 97 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 1294012 | 8.72 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 784584 | 10.80 | ug/l | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 1247673 | 9.01 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 751569 | 9.79 | ug/l | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 89040 | 8.94 | ug/l | 99 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 512770 | 11.02 | ug/l | 96 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 296436 | 11.17 | ug/l | 98 |
| 97) Naphthalene | 16.872 | 128 | 1030100 | 8.68 | ug/l | 97 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 480836 | 10.87 | ug/l | 97 |

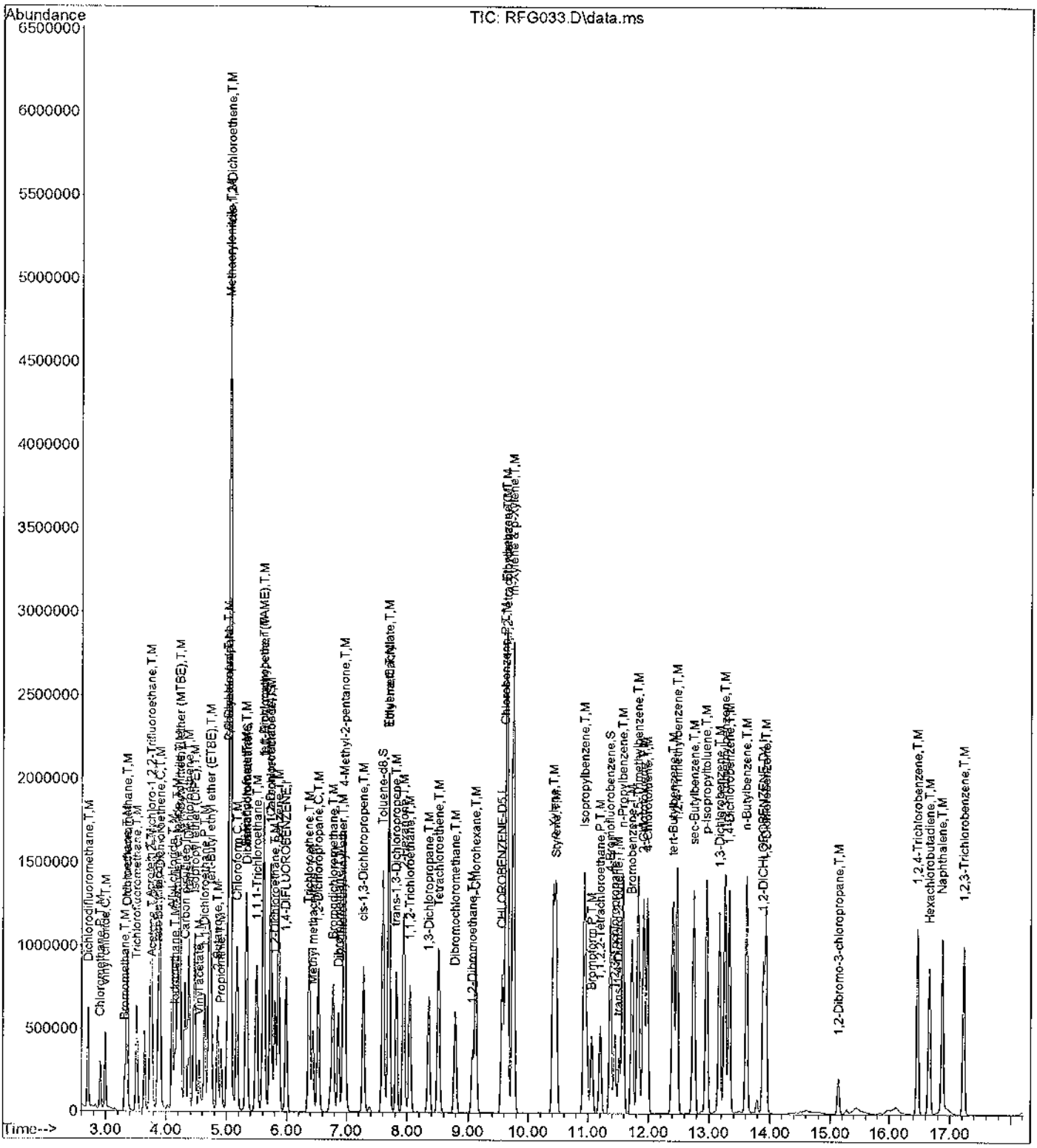
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG033.D
Acq On : 8 Jun 2024 14:28
Sample : CVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 12 12:58:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



# Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG058.D  Vial: 28
Acq On : 9 Jun 2024 00:35  Operator: DNguye
Sample : EVOE2E1705  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 92 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 11.154 | -11.5 | 116 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 8.702 | 13.0 | 89 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 12.358 | -23.6# | 119 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 7.515 | 24.9# | 84 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 11.797 | -18.0 | 109 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.766 | 12.3 | 85 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 9.065 | 9.4 | 91 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 30.600 | 38.8# | 58 | 0.01 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 11.370 | -13.7 | 109 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 52.038 | -4.1 | 90 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 222.847 | 10.9 | 82 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 11.059 | -10.6 | 103 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 103.032 | -3.0 | 94 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.308 | -3.1 | 94 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 11.012 | -10.1 | 112 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 11.677 | -16.8 | 94 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 39.039 | 21.9# | 69 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.201 | -2.0 | 94 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.704 | 3.0 | 89 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.173 | -1.7 | 96 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 10.316 | -3.2 | 96 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 5.668 | 43.3# | 49 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.774 | -7.7 | 103 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.356 | 6.4 | 86 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 38.217 | 23.6# | 67 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 89.489 | 10.5 | 86 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 189.208 | 5.4 | 87 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.218 | -2.2 | 92 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 103.527 | -3.5 | 97 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.569 | -5.7 | 102 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.633 | -6.3 | 105 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 10.650 | -6.5 | 96 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 9.735 | 2.7 | 91 | 0.00 |
| 36 | S | Dibromofluoromethane | 10.000 | 11.143 | -11.4 | 101 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 12.025 | -20.3# | 112 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.317 | -3.2 | 91 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.702 | -7.0 | 97 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 12.094 | -20.9# | 116 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 12.788 | -27.9# | 116 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 12.527 | -25.3# | 114 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.171 | -1.7 | 95 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 10.424 | -4.2 | 98 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 6.725 | 32.8# | 65 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.373 | -3.7 | 96 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.245 | -12.4 | 104 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 10.371 | -3.7 | 98 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG058.D Vial: 28
Acq On : 9 Jun 2024 00:35 Operator: DNguye
Sample : EVOE2E1705 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 6.712 | 32.9# | 60 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 47.387 | 5.2 | 84 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.149 | -1.5 | 93 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.091 | -0.9 | 97 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.399 | 6.0 | 88 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 10.206 | -2.1 | 100 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.292 | -2.9 | 99 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 44.976 | 10.0 | 83 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.622 | 3.8 | 94 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.073 | -0.7 | 100 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 12.019 | -20.2# | 122 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 10.114 | -1.1 | 101 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.297 | 7.0 | 89 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.504 | 5.0 | 93 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 10.372 | -3.7 | 103 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.774 | -7.7 | 103 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.971 | 0.3 | 100 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 19.782 | 1.1 | 104 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 10.433 | -4.3 | 102 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.614 | -6.1 | 103 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 10.731 | -7.3 | 104 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 119 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.427 | 5.7 | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 7.763 | 22.4# | 95 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 9.158 | 8.4 | 111 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 8.800 | 12.0 | 108 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 9.012 | 9.9 | 106 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 8.621 | 13.8 | 108 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.710 | 2.9 | 116 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 8.503 | 15.0 | 105 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 8.241 | 17.6 | 104 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 10.138 | -1.4 | 103 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.313 | 6.9 | 115 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 8.885 | 11.2 | 108 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 8.724 | 12.8 | 106 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 8.671 | 13.3 | 108 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.498 | -15.0 | 125 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 8.851 | 11.5 | 107 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.109 | -11.1 | 123 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 8.375 | 16.3 | 104 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.965 | 0.4 | 129 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.978 | 20.2# | 102 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 10.612 | -6.1 | 130 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 11.000 | -10.0 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 7.733 | 22.7# | 94 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.543 | -5.4 | 128 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG058.D Vial: 28
Acq On : 9 Jun 2024 00:35 Operator: DNguye
Sample : EVOE2E1705 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 1

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG058.D  Vial: 28
Acq On : 9 Jun 2024 00:35  Operator: DNguye
Sample : EVOE2E1705  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 92 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.640 | -11.5 | 116 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.358 | 13.1 | 89 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.537 | -23.4# | 119 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.221 | 24.8# | 84 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.172 | -17.9 | 109 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.187 | 12.2 | 85 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.886 | 9.3 | 91 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.040 | 38.5# | 58 | 0.01 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.484 | -13.6 | 109 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.133 | 26.5# | 90 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.054 | 11.5 | 82 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.989 | -10.6 | 103 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.031 | -3.3 | 94 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.243 | -3.0 | 94 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.524 | -22.1# | 112 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.740 | 7.6 | 94 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.117 | 22.0# | 69 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.524 | -2.0 | 94 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.329 | 3.0 | 89 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.485 | -1.7 | 96 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.568 | -3.2 | 96 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.491 | 43.3# | 49# | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 1.039 | -7.7 | 103 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.728 | 6.4 | 86 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.036 | 23.4# | 67 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.049 | 10.9 | 86 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.018 | 10.0 | 87 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.987 | -2.2 | 92 | 0.01 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.094 | -3.3 | 97 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.574 | -5.7 | 102 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.272 | -6.4 | 105 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.340 | -6.6 | 96 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.123 | 2.4 | 91 | 0.00 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.682 | -11.4 | 101 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.297 | -20.2# | 112 | 0.00 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.340 | -3.3 | 91 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.253 | -7.2 | 97 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.979 | -21.0# | 116 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 1.167 | -27.8# | 116 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.152 | -25.4# | 114 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.861 | -1.7 | 95 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.527 | -4.4 | 98 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.301 | 32.8# | 65 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.484 | -3.6 | 96 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.994 | -12.4 | 104 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.394 | -3.7 | 98 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG058.D
Acq On : 9 Jun 2024 00:35
Sample : EVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.155 | 32.9# | 60 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.485 | 5.3 | 84 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.829 | -1.5 | 93 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.005 | -0.9 | 97 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.641 | 6.0 | 88 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.315 | -2.1 | 100 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.999 | -3.0 | 99 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.369 | 10.0 | 83 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.518 | 3.7 | 94 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.805 | -0.8 | 100 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.596 | -20.2# | 122 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.817 | -1.2 | 101 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.539 | 7.1 | 89 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.713 | 5.1 | 93 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.554 | -3.7 | 103 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.687 | -7.8 | 103 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.734 | 0.3 | 100 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.211 | 1.1 | 104 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.208 | -4.3 | 102 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.571 | -6.1 | 103 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.588 | -7.3 | 104 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 119 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.029 | 5.7 | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.082 | 22.4# | 95 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.454 | 8.4 | 111 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.339 | 11.9 | 108 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.351 | 9.8 | 106 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.466 | 13.8 | 108 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.351 | 2.9 | 116 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.707 | 15.0 | 105 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.225 | 17.6 | 104 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.366 | 11.3 | 103 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.628 | 7.0 | 115 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.788 | 11.1 | 108 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.309 | 12.8 | 106 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.594 | 13.3 | 108 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.285 | 0.8 | 125 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 3.739 | 11.5 | 107 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.295 | 2.3 | 123 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.302 | 16.2 | 104 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.177 | 0.3 | 129 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.226 | 20.1# | 102 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.408 | 5.7 | 130 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.831 | -10.1 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.611 | 22.7# | 94 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.329 | 6.3 | 128 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F08\RFG058.D
Acq On : 9 Jun 2024 00:35
Sample : EVOE2E1705
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG058.D Vial: 28
Acq On : 9 Jun 2024 00:35 Operator: DNguye
Sample : EVOE2E1705 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 446913 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 398856 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 235443 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 304995 | 11.14 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 111.40% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 437453 | 12.09 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 120.90% | | |
| 56) Toluene-d8 | 7.594 | 98 | 799733 | 10.09 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.90% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 342274 | 9.16 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 91.60% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 286087 | 11.15 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 160153 | 8.70 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 240197 | 12.36 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 98793 | 7.52 | ug/l | 96 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 523981 | 11.80 | ug/L | 97 |
| 7) Chloroethane | 3.346 | 64 | 83473 | 8.77 | ug/l | 86 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 395868 | 9.07 | ug/l | 99 |
| 9) Acrolein | 3.753 | 56 | 88938 | 30.60 | ug/l | 97 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 216467 | 11.37 | ug/l | 98 |
| 11) Acetone | 3.764 | 43 | 298313 | 52.04 | ug/l | 90 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 605626 | 222.85 | ug/L | 94 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 441785 | 11.06 | ug/l | 95 |
| 14) Acetonitrile | 3.874 | 41 | 138959 | 103.03 | ug/L | 96 |
| 15) Allyl chloride | 4.106 | 76 | 108736 | 10.31 | ug/L | 100 |
| 16) Iodomethane | 4.150 | 142 | 234258 | 11.01 | ug/l | 90 |
| 18) Methylene chloride | 4.183 | 49 | 330529 | 11.68 | ug/l | 95 |
| 19) Acrylonitrile | 4.216 | 53 | 262315 | 39.04 | ug/l | 95 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 681211 | 10.20 | ug/L | 99 |
| 21) Carbon disulfide | 4.304 | 76 | 593978 | 9.70 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 216797 | 10.17 | ug/l | 97 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 700951 | 10.32 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 219383 | 5.67 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 464467 | 10.77 | ug/l | 97 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 772081 | 9.36 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 80146 | 38.22 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 221114 | 89.49 | ug/L | 97 |
| 29) Isobutyl alcohol | 5.030 | 43 | 165179 | 189.21 | ug/L | 92 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 440959 | 10.22 | ug/l | 98 |
| 31) Methacrylonitrile | 5.052 | 52 | 419974 | 103.53 | ug/L | 100 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 256451 | 10.57 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 568287 | 10.63 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 151796 | 10.65 | ug/l | 96 |
| 35) Tetrahydrofuran | 5.327 | 42 | 54825 | 9.74 | ug/L | 92 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 579657 | 12.03 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 151926 | 10.32 | ug/l | 98 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 112945 | 10.70 | ug/L | 98 |
| 42) Carbon tetrachloride | 5.734 | 119 | 521609 | 12.79 | ug/L | 97 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 514672 | 12.53 | ug/L | 96 |
| 44) Benzene | 5.866 | 78 | 831720 | 10.17 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG058.D Vial: 28
Acq On : 9 Jun 2024 00:35 Operator: DNguye
Sample : EVOE2E1705 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

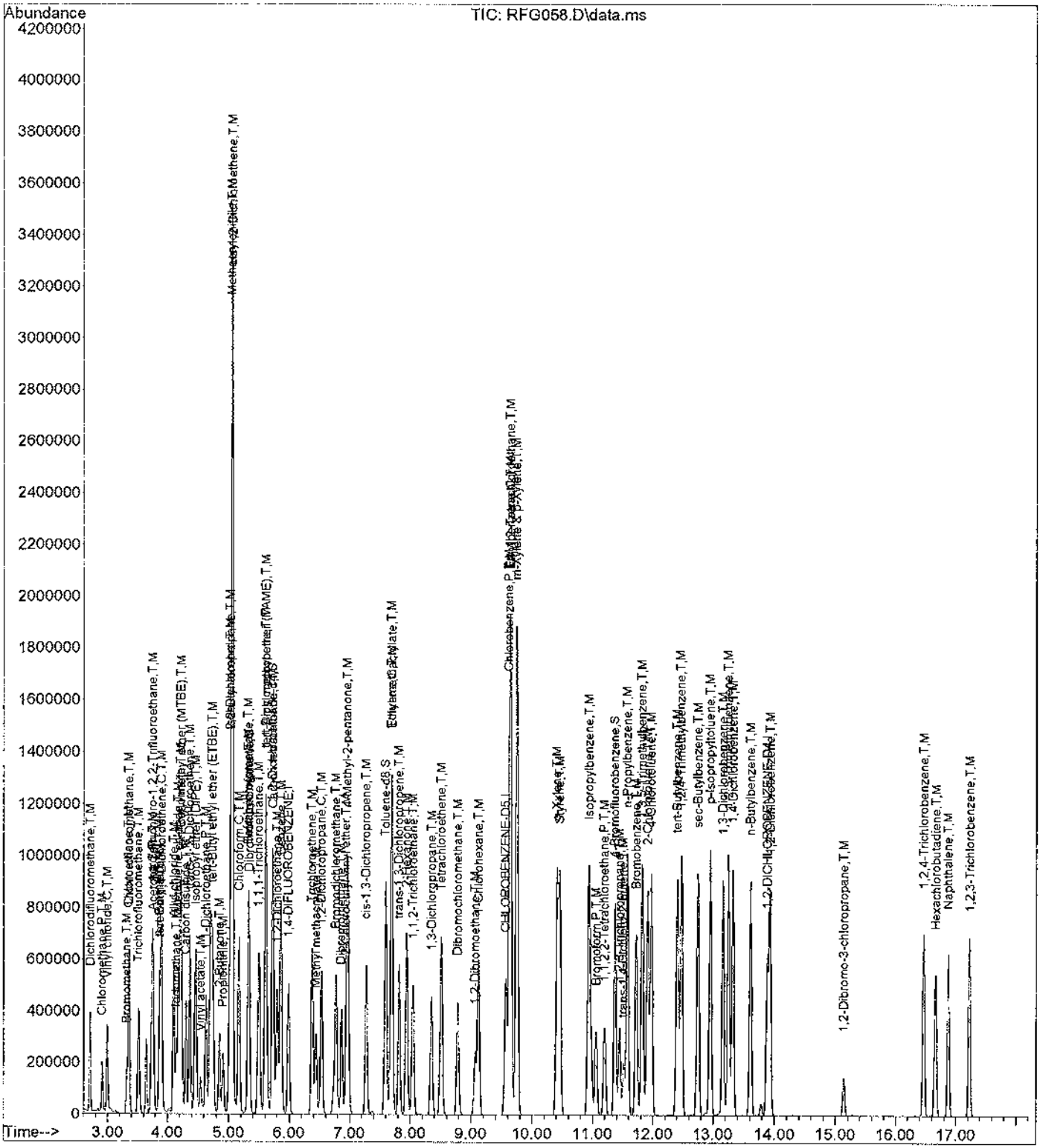
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.373 | 130 | 235307 | 10.42 | ug/L | 96 |
| 46) | Methyl methacrylate | 6.439 | 69 | 134507 | 6.73 | ug/L | 93 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 216494 | 10.37 | ug/L | 87 |
| 50) | Bromodichloromethane | 6.769 | 83 | 444169 | 11.24 | ug/L | 99 |
| 51) | Dibromomethane | 6.857 | 93 | 176132 | 10.37 | ug/L | 90 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 69388 | 6.71 | ug/L | 98 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 1083440 | 47.39 | ug/L | 96 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 370384 | 10.15 | ug/L | 88 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 255834 | 9.40 | ug/L | 85 |
| 58) | Toluene | 7.693 | 91 | 923188 | 10.21 | ug/l | 98 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 398356 | 10.29 | ug/l | 87 |
| 60) | 2-Hexanone | 7.935 | 43 | 735590 | 44.98 | ug/l | 91 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 206579 | 9.62 | ug/l | 99 |
| 62) | 1,3-Dichloropropane | 8.354 | 76 | 321141 | 10.07 | ug/l | 99 |
| 63) | Tetrachloroethene | 8.508 | 164 | 237682 | 12.02 | ug/l | 89 |
| 64) | Dibromochloromethane | 8.783 | 129 | 325683 | 10.11 | ug/l | 98 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 215084 | 9.30 | ug/l | 100 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 284537 | 9.50 | ug/l | 99 |
| 67) | Chlorobenzene | 9.619 | 112 | 619728 | 10.37 | ug/l | 100 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 273918 | 10.77 | ug/l | 98 |
| 69) | Ethylbenzene | 9.641 | 91 | 1090551 | 9.97 | ug/l | 99 |
| 70) | m-Xylene & p-Xylene | 9.740 | 91 | 1764102 | 19.78 | ug/l | 99 |
| 71) | o-Xylene | 10.412 | 91 | 880782 | 10.43 | ug/l | 100 |
| 72) | Styrene | 10.456 | 104 | 626600 | 10.61 | ug/l | 97 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1032185 | 10.73 | ug/L | 99 |
| 75) | Bromoform | 11.061 | 173 | 242236 | 9.43 | ug/l | 98 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 254740 | 7.76 | ug/l | 97 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 79723 | 8.80 | ug/l | 93 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 82618 | 9.01 | ug/l | 93 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1286969 | 8.62 | ug/l | 98 |
| 81) | Bromobenzene | 11.732 | 156 | 318150 | 9.71 | ug/l | 97 |
| 82) | 1,3,5-Trimethylbenzene | 11.820 | 105 | 872737 | 8.50 | ug/l | 98 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 759355 | 8.24 | ug/l | 97 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 792398 | 10.14 | ug/l | 99 |
| 85) | tert-Butylbenzene | 12.403 | 134 | 147930 | 9.31 | ug/l | 92 |
| 86) | 1,2,4-Trimethylbenzene | 12.469 | 105 | 891810 | 8.88 | ug/l | 99 |
| 87) | sec-Butylbenzene | 12.745 | 105 | 1014635 | 8.72 | ug/l | 99 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 846213 | 8.67 | ug/l | 98 |
| 89) | 1,3-Dichlorobenzene | 13.163 | 146 | 538037 | 11.50 | ug/l | 95 |
| 90) | 1,2,3-Trimethylbenzene | 13.251 | 105 | 880280 | 8.85 | ug/L | 98 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 540452 | 11.11 | ug/l | 98 |
| 92) | n-Butylbenzene | 13.614 | 91 | 777368 | 8.38 | ug/l | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 512541 | 9.97 | ug/l | 97 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 53233 | 7.98 | ug/l | 99 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 331405 | 10.61 | ug/l | 92 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 195562 | 11.00 | ug/l | 94 |
| 97) | Naphthalene | 16.872 | 128 | 614850 | 7.73 | ug/l | 98 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 312986 | 10.54 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F08\RFG058.D Vial: 28
Acq On : 9 Jun 2024 00:35 Operator: DNguye
Sample : EVOE2E1705 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 18 18:27:03 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F004
Lab File ID: RFG061 BFB Injection Date: 06/10/24
Instrument ID: E2 BFB Injection Time: 15:55

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.420 |
| 75 | 30 - 60% of mass 95 | 52.039 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 7.244 |
| 173 | Less than 2% of mass 174 | 1.243(1.64)1 |
| 174 | Greater than 50% of mass 95 | 75.606 |
| 175 | 5 - 9% of mass 174 | 5.475(7.24)1 |
| 176 | 95 - 101% % of mass 174 | 73.387(97.07)1 |
| 177 | 5 - 9% % of mass 176 | 4.772(6.5)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1706 | RFG062 | 06/10/24 | 16:35 |
| 2 | LCS2W | VOE2F03L | RFG063 | 06/10/24 | 17:13 |
| 3 | LCD2W | VOE2F03C | RFG064 | 06/10/24 | 17:37 |
| 4 | MBLK2W | VOE2F03B | RFG067 | 06/10/24 | 18:25 |
| 5 | T1AMF-MW043-MAY24 | 24F004-05N | RFG068 | 06/10/24 | 18:48 |
| 6 | T1AMF-MW045-MAY24 | 24F004-07I | RFG070 | 06/10/24 | 19:36 |
| 7 | T1AMF-MW048-MAY24 | 24F004-09N | RFG071 | 06/10/24 | 20:00 |
| 8 | T1AMF-MW056-MAY24 | 24F004-10N | RFG072 | 06/10/24 | 20:24 |
| 9 | VSTD10 | EVOE2E1706 | RFG088 | 06/11/24 | 02:43 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F004
Date Analyzed: 05/17/24
Time Analyzed: 14:09

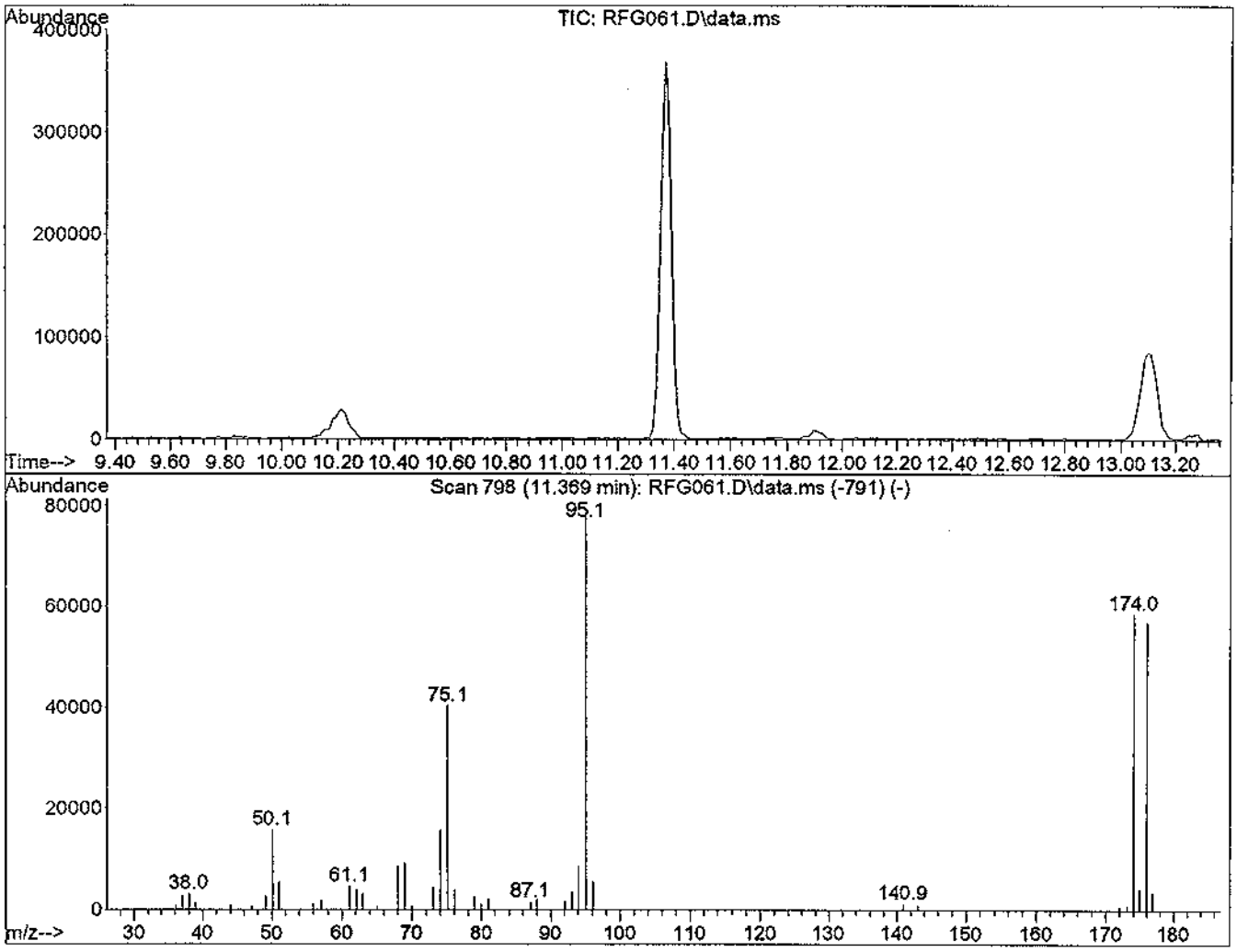
| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| | UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| | LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 754319 | 5.99 | 601845 | 9.56 | 305181 | 13.89 |
| 2 | LCS2W | 792750 | 5.99 | 646227 | 9.56 | 321378 | 13.89 |
| 3 | LCD2W | 821664 | 5.99 | 645570 | 9.56 | 324769 | 13.89 |
| 4 | MBLK2W | 727124 | 5.99 | 552730 | 9.56 | 266282 | 13.89 |
| 5 | T1AMF-MW043-MAY24 | 660379 | 5.99 | 508072 | 9.56 | 238614 | 13.89 |
| 6 | T1AMF-MW045-MAY24 | 598016 | 5.99 | 459152 | 9.56 | 215050 | 13.89 |
| 7 | T1AMF-MW048-MAY24 | 570196 | 5.99 | 441677 | 9.56 | 207331 | 13.89 |
| 8 | T1AMF-MW056-MAY24 | 552850 | 5.99 | 420958 | 9.56 | 212301 | 13.89 |
| 9 | VSTD10 | 493624 | 5.99 | 398955 | 9.56 | 221976 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Data Path : D:\Data\24F10\
Data File : RFG061.D
Acq On : 10 Jun 2024 15:55
Operator : DNguye
Sample : BFBF03
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




Spectrum Information: Scan 798

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 20.4 | 15825 | PASS |
| 75 | 95 | 30 | 60 | 52.0 | 40328 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 77496 | PASS |
| 96 | 95 | 5 | 9 | 7.2 | 5614 | PASS |
| 173 | 174 | 0.00 | 2 | 1.6 | 963 | PASS |
| 174 | 95 | 50 | 100 | 75.6 | 58592 | PASS |
| 175 | 174 | 5 | 9 | 7.2 | 4243 | PASS |
| 176 | 174 | 95 | 101 | 97.1 | 56872 | PASS |
| 177 | 176 | 5 | 9 | 6.5 | 3698 | PASS |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D  Vial: 2
Acq On : 10 Jun 2024 16:35  Operator: DNguye
Sample : CVOE2E1706  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | | 0.0 | 156 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.839 | | -8.4 | 190 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 7.384 | | 26.2# | 127 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.461 | ✓ | -4.6 | 171 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 8.230 | | 17.7 | 155 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 11.096 | | -11.0 | 174 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 9.062 | | 9.4 | 148 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.401 | | 16.0 | 143 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 42.007 | | 16.0 | 134 | 0.01 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 10.274 | | -2.7 | 167 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 50.666 | | -1.3 | 148 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 250.165 | ✓ | -0.1 | 156 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.483 | ✓ | -4.8 | 164 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 105.761 | | -5.8 | 163 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 11.506 | | -15.1 | 177 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 10.464 | | -4.6 | 180 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.912 | | -9.1 | 148 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 43.827 | | 12.3 | 130 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 11.065 | | -10.6 | 171 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 10.264 | | -2.6 | 159 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.442 | | -4.4 | 166 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 10.383 | | -3.8 | 163 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 5.910 | | 40.9# | 86 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.570 | | -5.7 | 170 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.692 | | 3.1 | 150 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 48.961 | | 2.1 | 145 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 102.751 | | -2.8 | 166 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 206.376 | | -3.2 | 160 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 11.544 | | -15.4 | 175 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 101.779 | | -1.8 | 162 | 0.01 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.795 | | -7.9 | 176 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.372 | ✓ | -3.7 | 173 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.972 | | 0.3 | 152 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 9.418 | | 5.8 | 149 | 0.00 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.786 | | 2.1 | 150 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 11.146 | | -11.5 | 175 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.879 | | -8.8 | 162 | 0.01 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.561 | | -5.6 | 161 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.246 | | -2.5 | 166 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.875 | | -8.8 | 166 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.160 | | -11.6 | 171 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.938 | | -9.4 | 172 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.816 | | 1.8 | 157 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 7.438 | | 25.6# | 121 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.384 | | -3.8 | 163 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | ✓ | 100.0# | 0 | 0.01 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.013 | ✓ | -10.1 | 171 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 9.735 | | 2.7 | 155 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 7.494 | 25.1# | 114 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 45.062 | 9.9 | 135 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.952 | -9.5 | 170 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 147 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.822 | -8.2 | 158 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.395 | -13.9 | 162 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.605 | -16.1 | 172 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.830 | -18.3 | 171 | 0.01 |
| 60 | T,M | 2-Hexanone | 50.000 | 48.545 | 2.9 | 135 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.893 | -8.9 | 161 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 11.701 | -17.0 | 175 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 10.713 | -7.1 | 164 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.946 | 0.5 | 150 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 10.079 | -0.8 | 145 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 11.139 | -11.4 | 164 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 11.006 | -10.1 | 165 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.857 | -8.6 | 157 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 11.321 | -13.2 | 171 | 0.01 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 22.224 | -11.1 | 176 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 11.637 | -16.4 | 171 | 0.01 |
| 72 | T,M | Styrene | 10.000 | 11.262 | -12.6 | 164 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 11.542 | -15.4 | 169 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 154 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.719 | 2.8 | 153 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.388 | -3.9 | 166 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.724 | -7.2 | 168 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.516 | -5.2 | 167 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 11.659 | -16.6 | 177 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 10.935 | -9.4 | 178 | 0.01 |
| 81 | T,M | Bromobenzene | 10.000 | 10.357 | -3.6 | 160 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 10.732 | -7.3 | 172 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 11.463 | -14.6 | 188 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.523 | -25.2# | 164 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 10.821 | -8.2 | 174 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.023 | -10.2 | 173 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 10.973 | -9.7 | 173 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 10.624 | -6.2 | 171 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 12.000 | -20.0 | 168 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.904 | -9.0 | 170 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.553 | -15.5 | 165 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 11.020 | -10.2 | 177 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.313 | -3.1 | 173 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 9.616 | 3.8 | 159 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 11.452 | -14.5 | 181 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 11.051 | -10.5 | 172 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.389 | -3.9 | 163 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.820 | -8.2 | 171 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D Vial: 2
Acq On : 10 Jun 2024 16:35 Operator: DNguye
Sample : CVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 156 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.622 | -8.4 | 190 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.304 | 26.2# | 127 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.455 | -4.6 | 171 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.242 | 17.7 | 155 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.103 | -11.0 | 174 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.193 | 9.4 | 148 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.821 | 16.0 | 143 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.055 | 15.4 | 134 | 0.01 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.438 | -2.8 | 167 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.130 | 28.2# | 148 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.061 | 0.0 | 156 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.937 | -4.8 | 164 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.032 | -6.7 | 163 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.272 | -15.3 | 177 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.497 | -15.9 | 180 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.694 | 13.4 | 148 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.132 | 12.0 | 130 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.653 | -10.6 | 171 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.406 | -2.6 | 159 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.498 | -4.4 | 166 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.579 | -3.9 | 163 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.512 | 40.9# | 86 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 1.020 | -5.7 | 170 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.790 | 3.0 | 150 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.046 | 2.1 | 145 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.057 | -3.6 | 166 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.020 | 0.0 | 160 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 1.115 | -15.4 | 175 | 0.01 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.092 | -1.1 | 162 | 0.01 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.586 | -7.9 | 176 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.240 | -3.7 | 173 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.318 | 0.3 | 152 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.119 | 5.6 | 149 | 0.00 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.599 | 2.1 | 150 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.202 | -11.4 | 175 | 0.01 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.358 | -8.8 | 162 | 0.01 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.249 | -5.5 | 161 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.829 | -2.5 | 166 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 0.993 | -8.8 | 166 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.026 | -11.6 | 171 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 2.001 | -9.3 | 172 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.496 | 1.8 | 157 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.333 | 25.7# | 121 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.485 | -3.9 | 163 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.01 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.973 | -10.1 | 171 | 0.01 |
| 51 | T,M | Dibromomethane | 0.380 | 0.370 | 2.6 | 155 | 0.01 |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D  Vial: 2
Acq On : 10 Jun 2024 16:35  Operator: DNguye
Sample : CVOE2E1706  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.173 | 25.1# | 114 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.461 | 10.0 | 135 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.894 | -9.4 | 170 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 147 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.150 | -8.2 | 158 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.778 | -14.1 | 162 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.632 | -16.0 | 172 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.148 | -18.4 | 171 | 0.01 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.398 | 2.9 | 135 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.586 | -8.9 | 161 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.935 | -17.0 | 175 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.531 | -7.1 | 164 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.803 | 0.5 | 150 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.585 | -0.9 | 145 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.836 | -11.3 | 164 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.649 | -10.1 | 165 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.692 | -8.6 | 157 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 3.104 | -13.2 | 171 | 0.01 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.484 | -11.1 | 176 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.463 | -16.3 | 171 | 0.01 |
| 72 | T,M | Styrene | 1.480 | 1.667 | -12.6 | 164 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.784 | -15.4 | 169 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 154 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.061 | 2.7 | 153 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.448 | -3.9 | 166 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.702 | -7.2 | 168 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.405 | -5.2 | 167 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.454 | -16.7 | 177 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.934 | -9.4 | 178 | 0.01 |
| 81 | T,M | Bromobenzene | 1.392 | 1.441 | -3.5 | 160 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.678 | -7.3 | 172 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.486 | -14.6 | 188 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.123 | -8.6 | 164 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.730 | -8.1 | 174 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.699 | -10.2 | 173 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 5.421 | -9.7 | 173 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.404 | -6.2 | 171 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.381 | -3.4 | 168 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.606 | -9.0 | 170 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.384 | -1.5 | 165 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 4.344 | -10.2 | 177 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.253 | -3.2 | 173 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.273 | 3.5 | 159 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.515 | -1.5 | 181 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.834 | -10.5 | 172 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 3.508 | -3.9 | 163 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.363 | 3.9 | 171 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG062.D Vial: 2
Acq On : 10 Jun 2024 16:35 Operator: DNguye
Sample : CVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 754319 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 601845 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 305181 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 452117 | 9.79 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 97.90% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 625523 | 10.25 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1294158 | 10.82 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 108.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 519549 | 10.72 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.20% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 469229 | 10.84 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 229389 | 7.38 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 343187 | 10.46 | ug/l | 97 |
| 5) Bromomethane | 3.313 | 94 | 182597 | 8.23 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 831783 | 11.10 | ug/L | 98 |
| 7) Chloroethane | 3.346 | 64 | 145650 | 9.06 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 619212 | 8.40 | ug/l | 99 |
| 9) Acrolein | 3.753 | 56 | 206070 | 42.01 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 330151 | 10.27 | ug/l | 100 |
| 11) Acetone | 3.775 | 43 | 491394 | 50.67 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 1147510 | 250.16 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 706835 | 10.48 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 240752 | 105.76 | ug/L | 100 |
| 15) Allyl chloride | 4.105 | 76 | 204867 | 11.51 | ug/L | 99 |
| 16) Iodomethane | 4.149 | 142 | 375194 | 10.46 | ug/l | 95 |
| 18) Methylene chloride | 4.182 | 49 | 523735 | 10.91 | ug/l | 95 |
| 19) Acrylonitrile | 4.215 | 53 | 497046 | 43.83 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 1247173 | 11.06 | ug/L | 98 |
| 21) Carbon disulfide | 4.314 | 76 | 1060379 | 10.26 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 375609 | 10.44 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1190865 | 10.38 | ug/l | 96 |
| 24) Vinyl acetate | 4.546 | 43 | 386080 | 5.91 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 769127 | 10.57 | ug/l | 100 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1349971 | 9.69 | ug/l | 90 |
| 27) 2-Butanone | 4.854 | 72 | 173305 | 48.96 | ug/l | 90 |
| 28) Propionitrile | 4.909 | 54 | 428512 | 102.75 | ug/L | 96 |
| 29) Isobutyl alcohol | 5.030 | 43 | 304093 | 206.38 | ug/L | 100 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 840828 | 11.54 | ug/l | 99 |
| 31) Methacrylonitrile | 5.063 | 52 | 696880 | 101.78 | ug/L | 89 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 442114 | 10.80 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 935634 | 10.37 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 239902 | 9.97 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.327 | 42 | 89524 | 9.42 | ug/L | 97 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 906842 | 11.15 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.624 | 87 | 270385 | 10.88 | ug/l | 96 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 188107 | 10.56 | ug/L | 98 |
| 42) Carbon tetrachloride | 5.734 | 119 | 748686 | 10.87 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 773876 | 11.16 | ug/L | 96 |
| 44) Benzene | 5.866 | 78 | 1509668 | 10.94 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG062.D Vial: 2
Acq On : 10 Jun 2024 16:35 Operator: DNguye
Sample : CVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.372 | 130 | 373994 | 9.82 | ug/L | | 97 |
| 46) | Methyl methacrylate | 6.439 | 69 | 251107 | 7.44 | ug/L | # | 73 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 365789 | 10.38 | ug/L | | 92 |
| 50) | Bromodichloromethane | 6.780 | 83 | 734197 | 11.01 | ug/L | | 97 |
| 51) | Dibromomethane | 6.868 | 93 | 279048 | 9.74 | ug/L | | 99 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 130748 | 7.49 | ug/L | | 98 |
| 53) | 4-Methyl-2-pentanone | 6.967 | 43 | 1738962 | 45.06 | ug/L | | 97 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 674652 | 10.95 | ug/L | | 99 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 468006 | 11.39 | ug/L | | 93 |
| 58) | Toluene | 7.693 | 91 | 1584004 | 11.60 | ug/l | | 100 |
| 59) | trans-1,3-Dichloropropene | 7.825 | 75 | 690962 | 11.83 | ug/l | | 96 |
| 60) | 2-Hexanone | 7.946 | 43 | 1198030 | 48.54 | ug/l | | 99 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 352879 | 10.89 | ug/l | | 98 |
| 62) | 1,3-Dichloropropane | 8.353 | 76 | 562912 | 11.70 | ug/l | | 100 |
| 63) | Tetrachloroethene | 8.507 | 164 | 319675 | 10.71 | ug/l | | 97 |
| 64) | Dibromochloromethane | 8.783 | 129 | 483253 | 9.95 | ug/l | | 98 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 351856 | 10.08 | ug/l | | 98 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 503176 | 11.14 | ug/l | | 90 |
| 67) | Chlorobenzene | 9.619 | 112 | 992318 | 11.01 | ug/l | | 99 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 416515 | 10.86 | ug/l | | 99 |
| 69) | Ethylbenzene | 9.652 | 91 | 1868301 | 11.32 | ug/l | | 99 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 2990434 | 22.22 | ug/l | | 98 |
| 71) | o-Xylene | 10.422 | 91 | 1482291 | 11.64 | ug/l | | 99 |
| 72) | Styrene | 10.466 | 104 | 1003167 | 11.26 | ug/l | | 96 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1675316 | 11.54 | ug/L | | 99 |
| 75) | Bromoform | 11.061 | 173 | 323699 | 9.72 | ug/l | | 99 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 441834 | 10.39 | ug/l | | 98 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 123489 | 10.52 | ug/l | | 100 |
| 79) | trans-1,4-Dichloro-2-b... | 11.523 | 53 | 138552 | 11.66 | ug/l | | 95 |
| 80) | n-Propylbenzene | 11.589 | 91 | 2116018 | 10.94 | ug/l | | 99 |
| 81) | Bromobenzene | 11.732 | 156 | 439857 | 10.36 | ug/l | | 98 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 1427725 | 10.73 | ug/l | | 98 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 1369023 | 11.46 | ug/l | | 90 |
| 84) | 4-Chlorotoluene | 11.985 | 91 | 1258359 | 12.52 | ug/l | | 98 |
| 85) | tert-Butylbenzene | 12.414 | 134 | 222783 | 10.82 | ug/l | | 95 |
| 86) | 1,2,4-Trimethylbenzene | 12.480 | 105 | 1434177 | 11.02 | ug/l | | 97 |
| 87) | sec-Butylbenzene | 12.755 | 105 | 1654238 | 10.97 | ug/l | | 100 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 1343889 | 10.62 | ug/l | | 98 |
| 89) | 1,3-Dichlorobenzene | 13.174 | 146 | 726658 | 12.00 | ug/l | | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.262 | 105 | 1405688 | 10.90 | ug/L | | 99 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 727512 | 11.55 | ug/l | | 97 |
| 92) | n-Butylbenzene | 13.614 | 91 | 1325754 | 11.02 | ug/l | | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 687518 | 10.31 | ug/l | | 98 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 83174 | 9.62 | ug/l | | 100 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 462389 | 11.45 | ug/l | | 98 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 254657 | 11.05 | ug/l | | 98 |
| 97) | Naphthalene | 16.871 | 128 | 1070687 | 10.39 | ug/l | | 99 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 416001 | 10.82 | ug/l | | 98 |

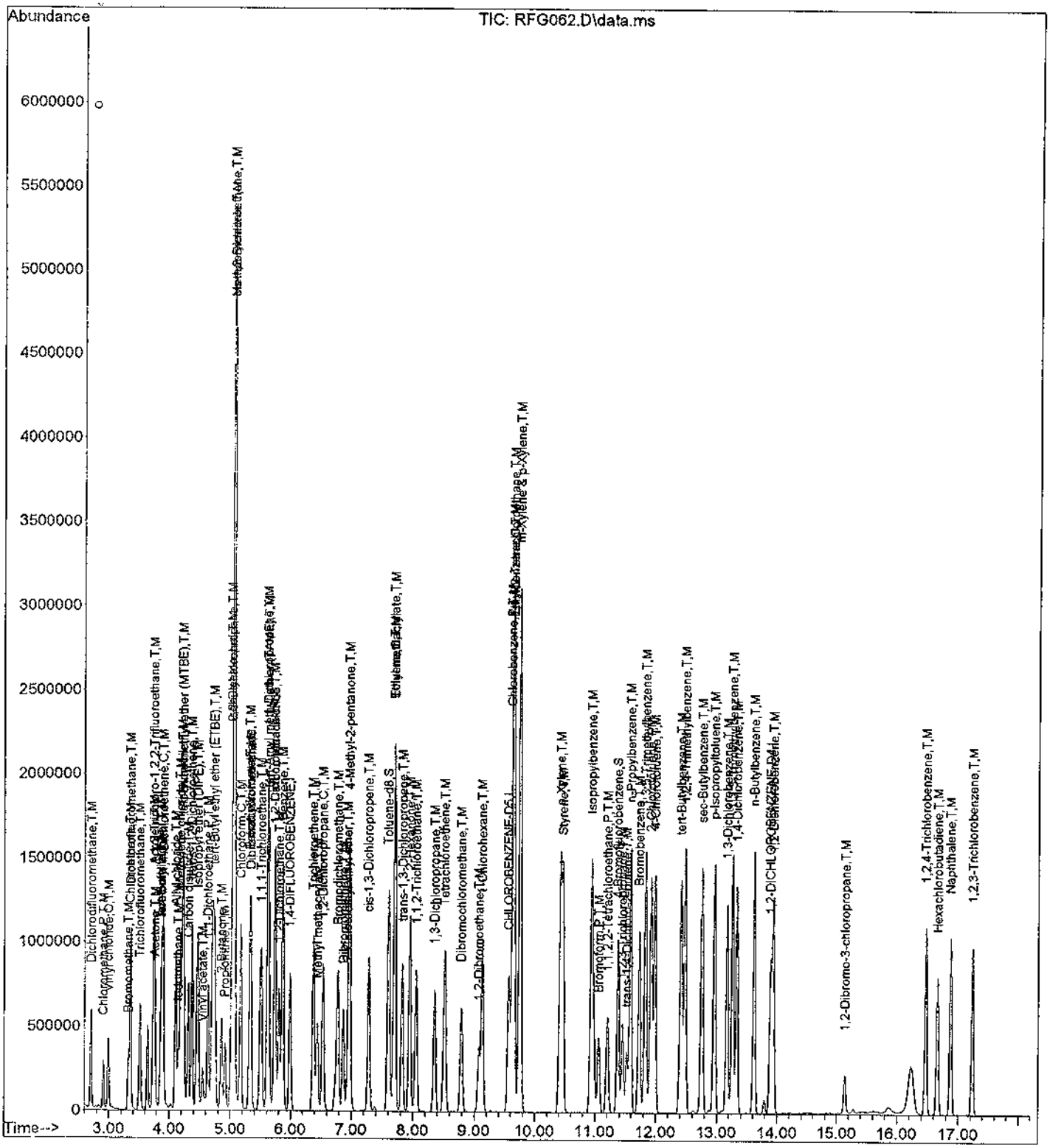
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG062.D
Acq On : 10 Jun 2024 16:35
Sample : CVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 11:58:09 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 102 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 10.000 | 11.887 | -18.9 | 137 | 0.00 |
| 3 | P,T,M Chloromethane | 10.000 | 7.594 | 24.1# | 85 | 0.00 |
| 4 | C,T,M Vinyl chloride | 10.000 | 11.793 | -17.9 | 126 | 0.00 |
| 5 | T,M Bromomethane | 10.000 | 7.870 | 21.3# | 97 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 10.000 | 11.101 | -11.0 | 114 | 0.00 |
| 7 | T,M Chloroethane | 10.000 | 8.971 | 10.3 | 96 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 10.000 | 9.688 | 3.1 | 108 | 0.00 |
| 9 | T,M Acrolein | 50.000 | 30.859 | 38.3# | 64 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 10.267 | -2.7 | 109 | 0.00 |
| 11 | T,M Acetone | 50.000 | 45.965 | 8.1 | 89 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 250.000 | 221.073 | 11.6 | 90 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 10.000 | 10.645 | -6.4 | 109 | -0.01 |
| 14 | T,M Acetonitrile | 100.000 | 93.870 | 6.1 | 94 | 0.00 |
| 15 | T,M Allyl chloride | 10.000 | 10.251 | -2.5 | 103 | 0.00 |
| 16 | T,M Iodomethane | 10.000 | 9.908 | 0.9 | 111 | 0.00 |
| 17 | T,M Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M Methylene chloride | 10.000 | 10.752 | -7.5 | 96 | 0.00 |
| 19 | T,M Acrylonitrile | 50.000 | 39.058 | 21.9# | 76 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 10.000 | 11.091 | -10.9 | 112 | 0.00 |
| 21 | T,M Carbon disulfide | 10.000 | 10.324 | -3.2 | 105 | 0.00 |
| 22 | T,M trans-1,2-Dichloroethene | 10.000 | 10.113 | -1.1 | 105 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 10.000 | 9.568 | 4.3 | 98 | 0.00 |
| 24 | T,M Vinyl acetate | 10.000 | 5.404 | 46.0# | 51 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 10.000 | 10.284 | -2.8 | 108 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 10.000 | 9.409 | 5.9 | 96 | 0.00 |
| 27 | T,M 2-Butanone | 50.000 | 41.369 | 17.3 | 80 | 0.00 |
| 28 | T,M Propionitrile | 100.000 | 89.785 | 10.2 | 95 | 0.00 |
| 29 | T,M Isobutyl alcohol | 200.000 | 159.210 | 20.4# | 81 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 10.000 | 10.746 | -7.5 | 107 | 0.01 |
| 31 | T,M Methacrylonitrile | 100.000 | 106.105 | -6.1 | 110 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 10.000 | 10.413 | -4.1 | 111 | 0.00 |
| 33 | C,T,M Chloroform | 10.000 | 11.008 | -10.1 | 120 | 0.00 |
| 34 | T,M Bromochloromethane | 10.000 | 9.934 | 0.7 | 99 | 0.00 |
| 35 | T,M Tetrahydrofuran | 10.000 | 8.603 | 14.0 | 89 | -0.01 |
| 36 | S Dibromofluoromethane | 10.000 | 10.156 | -1.6 | 102 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 10.000 | 11.974 | -19.7 | 123 | 0.00 |
| 38 | T,M Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 10.000 | 11.177 | -11.8 | 109 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 10.000 | 10.196 | -2.0 | 102 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 10.000 | 11.563 | -15.6 | 122 | 0.00 |
| 42 | T,M Carbon tetrachloride | 10.000 | 12.288 | -22.9# | 123 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 10.000 | 12.625 | -26.3# | 126 | 0.00 |
| 44 | T,M Benzene | 10.000 | 10.550 | -5.5 | 108 | 0.00 |
| 45 | T,M Trichloroethene | 10.000 | 9.701 | 3.0 | 101 | 0.00 |
| 46 | T,M Methyl methacrylate | 10.000 | 6.971 | 30.3# | 74 | 0.00 |
| 47 | T,M Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 10.000 | 9.931 | 0.7 | 102 | 0.00 |
| 49 | T,M 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M Bromodichloromethane | 10.000 | 11.780 | -17.8 | 120 | 0.00 |
| 51 | T,M Dibromomethane | 10.000 | 10.241 | -2.4 | 107 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D Vial: 37
Acq On : 11 Jun 2024 2:43 Operator: DNguye
Sample : EVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 6.774 | 32.3# | 67 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 42.974 | 14.1 | 84 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.201 | -2.0 | 103 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.488 | -4.9 | 101 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 10.597 | -6.0 | 100 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.165 | -11.6 | 110 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.571 | -15.7 | 111 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 45.973 | 8.1 | 85 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.495 | -4.9 | 103 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 11.309 | -13.1 | 112 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 10.756 | -7.6 | 109 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 10.244 | -2.4 | 102 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.749 | 2.5 | 93 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.660 | -6.6 | 104 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 10.925 | -9.3 | 109 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 11.367 | -13.7 | 109 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 11.446 | -14.5 | 115 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 22.476 | -12.4 | 118 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 11.602 | -16.0 | 113 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 11.297 | -13.0 | 109 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 11.578 | -15.8 | 112 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 112 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.170 | 8.3 | 105 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 9.421 | 5.8 | 109 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.050 | -0.5 | 115 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.191 | -1.9 | 117 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 10.164 | -1.6 | 112 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.998 | 0.0 | 118 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.712 | 2.9 | 109 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.988 | 0.1 | 116 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.957 | 0.4 | 119 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.324 | -23.2# | 118 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.778 | 2.2 | 114 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 10.501 | -5.0 | 120 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 10.061 | -0.6 | 115 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.858 | 1.4 | 115 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.232 | -12.3 | 115 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.228 | -2.3 | 116 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.060 | -10.6 | 115 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.908 | 0.9 | 116 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.015 | -0.2 | 122 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.737 | 12.6 | 105 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.598 | 4.0 | 111 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 10.173 | -1.7 | 115 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 8.798 | 12.0 | 100 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 9.964 | 0.4 | 115 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 102 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.682 | -18.8 | 137 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.313 | 24.0# | 85 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.513 | -17.9 | 126 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.231 | 21.4# | 97 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.103 | -11.0 | 114 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.191 | 10.3 | 96 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.947 | 3.1 | 108 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.040 | 38.5# | 64 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.437 | -2.6 | 109 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.119 | 34.3# | 89 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.054 | 11.5 | 90 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.951 | -6.4 | 109 | -0.01 |
| 14 | T,M | Acetonitrile | 0.030 | 0.028 | 6.7 | 94 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.242 | -2.5 | 103 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.470 | -9.6 | 111 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.685 | 14.5 | 96 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.117 | 22.0# | 76 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.657 | -10.9 | 112 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.414 | -3.2 | 105 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.482 | -1.0 | 105 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.455 | 4.3 | 98 | 0.00 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.468 | 46.0# | 51 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 0.992 | -2.8 | 108 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.737 | 5.9 | 96 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.039 | 17.0 | 80 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.050 | 9.1 | 95 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.016 | 20.0 | 81 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 1.038 | -7.5 | 107 | 0.01 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.096 | -5.5 | 110 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.565 | -4.1 | 111 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.317 | -10.1 | 120 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.317 | 0.6 | 99 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.108 | 14.3 | 89 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.622 | -1.6 | 102 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.292 | -19.7 | 123 | 0.00 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.368 | -11.9 | 109 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.241 | -2.1 | 102 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.936 | -15.7 | 122 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 1.122 | -22.9# | 123 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.161 | -26.3# | 126 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.930 | -5.5 | 108 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.490 | 3.0 | 101 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.312 | 30.4# | 74 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.464 | 0.6 | 102 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.001 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 1.041 | -17.8 | 120 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.389 | -2.4 | 107 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D Vial: 37
Acq On : 11 Jun 2024 2:43 Operator: DNguye
Sample : EVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.157 | 32.0# | 67 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.440 | 14.1 | 84 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.833 | -2.0 | 103 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.084 | -4.9 | 101 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.723 | -6.0 | 100 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.532 | -11.6 | 110 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.123 | -15.8 | 111 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.377 | 8.0 | 85 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.565 | -5.0 | 103 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.904 | -13.1 | 112 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.533 | -7.5 | 109 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.827 | -2.5 | 102 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.565 | 2.6 | 93 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.800 | -6.5 | 104 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.637 | -9.3 | 109 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.725 | -13.8 | 109 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 3.138 | -14.4 | 115 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.513 | -12.4 | 118 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.456 | -16.0 | 113 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.672 | -13.0 | 109 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.792 | -15.8 | 112 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 112 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.001 | 8.2 | 105 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.313 | 5.8 | 109 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.595 | -0.5 | 115 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.392 | -1.8 | 117 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.396 | -1.8 | 112 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.339 | 0.0 | 118 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.352 | 2.9 | 109 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.354 | 0.1 | 116 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.897 | 0.4 | 119 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.060 | -7.0 | 118 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.660 | 2.2 | 114 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.477 | -5.0 | 120 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.970 | -0.6 | 115 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.086 | 1.4 | 115 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.234 | 3.0 | 115 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.321 | -2.3 | 116 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.286 | 2.7 | 115 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.906 | 0.9 | 116 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.188 | -0.2 | 122 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.248 | 12.4 | 105 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.278 | 14.4 | 111 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.768 | -1.7 | 115 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.971 | 12.0 | 100 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.259 | 11.3 | 115 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F10\RFG088.D Vial: 37
Acq On : 11 Jun 2024 2:43 Operator: DNguye
Sample : EVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG088.D
Acq On : 11 Jun 2024 2:43
Sample : EVOE2E1706
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Vial: 37
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 493624 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 398955 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 221976 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 307056 | 10.16 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 101.60% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 461960 | 11.56 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 115.60% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 831462 | 10.49 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 104.90% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 354126 | 10.05 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 100.50% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 336748 | 11.89 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 154384 | 7.59 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 253169 | 11.79 | ug/l | 95 |
| 5) Bromomethane | 3.313 | 94 | 114270 | 7.87 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 544565 | 11.10 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 94354 | 8.97 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 467257 | 9.69 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 99065 | 30.86 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 215886 | 10.27 | ug/l | 98 |
| 11) Acetone | 3.764 | 43 | 294402 | 45.97 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 663600 | 221.07 | ug/L | 98 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 469668 | 10.64 | ug/l | 97 |
| 14) Acetonitrile | 3.874 | 41 | 139835 | 93.87 | ug/L | 94 |
| 15) Allyl chloride | 4.105 | 76 | 119441 | 10.25 | ug/L | 100 |
| 16) Iodomethane | 4.149 | 142 | 232127 | 9.91 | ug/l | 82 |
| 18) Methylene chloride | 4.182 | 49 | 338081 | 10.75 | ug/l | 98 |
| 19) Acrylonitrile | 4.215 | 53 | 289871 | 39.06 | ug/l | 97 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 818095 | 11.09 | ug/L | 94 |
| 21) Carbon disulfide | 4.304 | 76 | 697990 | 10.32 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 238047 | 10.11 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 718115 | 9.57 | ug/l | 95 |
| 24) Vinyl acetate | 4.546 | 43 | 231013 | 5.40 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 489675 | 10.28 | ug/l | 98 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 857587 | 9.41 | ug/l | 87 |
| 27) 2-Butanone | 4.854 | 72 | 95825 | 41.37 | ug/l | 97 |
| 28) Propionitrile | 4.909 | 54 | 245032 | 89.79 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 153518 | 159.21 | ug/L | 87 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 512217 | 10.75 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 475421 | 106.11 | ug/L | 99 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 279078 | 10.41 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 649869 | 11.01 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 156386 | 9.93 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 53512 | 8.60 | ug/L | 95 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 637547 | 11.97 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 181798 | 11.18 | ug/l | 96 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 118844 | 10.20 | ug/L | 98 |
| 42) Carbon tetrachloride | 5.734 | 119 | 553612 | 12.29 | ug/L | 100 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 572901 | 12.62 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 952887 | 10.55 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG088.D Vial: 37
Acq On : 11 Jun 2024 2:43 Operator: DNguye
Sample : EVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

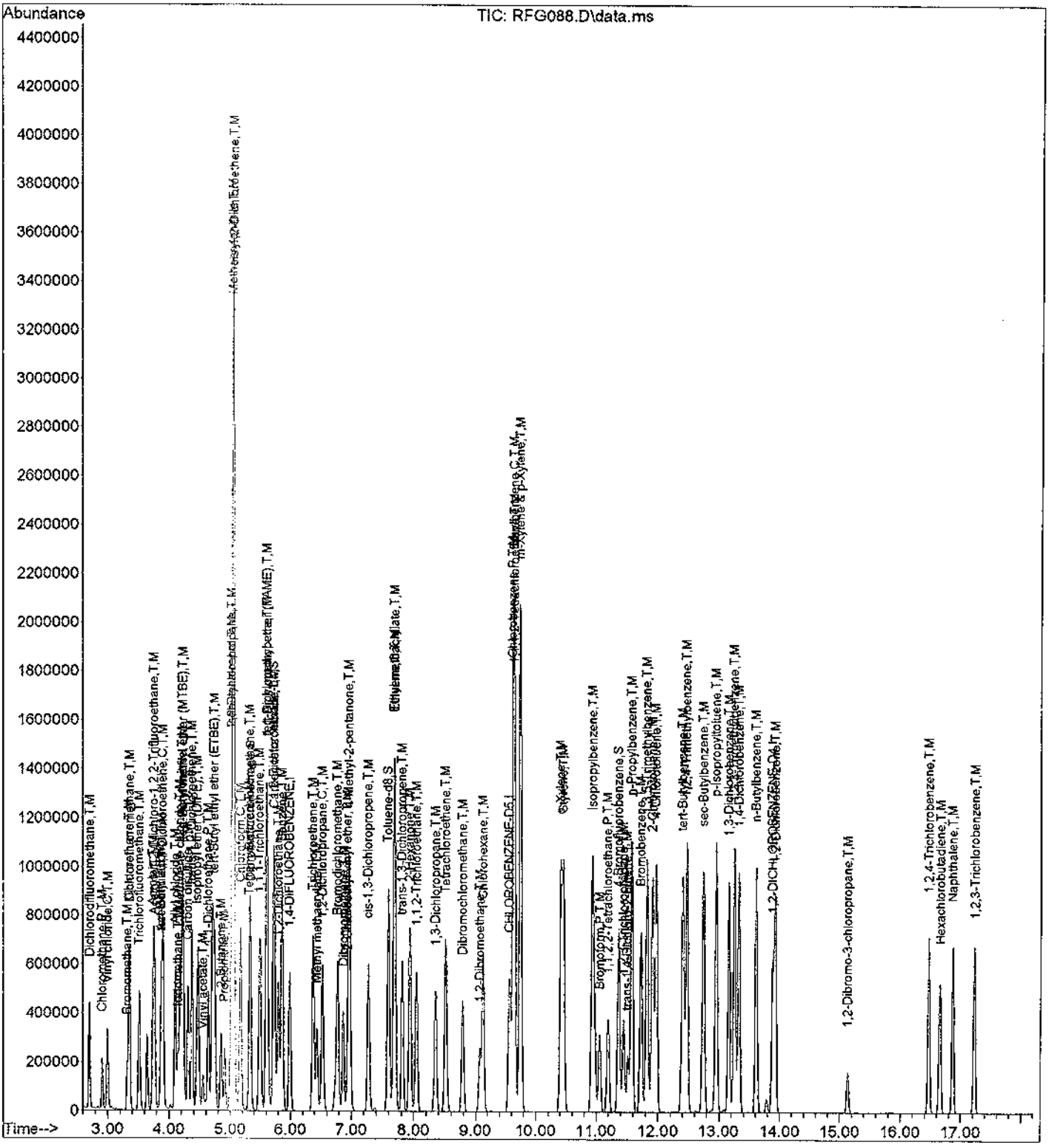
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.372 | 130 | 241877 | 9.70 | ug/L | 98 |
| 46) Methyl methacrylate | 6.439 | 69 | 153988 | 6.97 | ug/L | 79 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 228917 | 9.93 | ug/L | 82 |
| 50) Bromodichloromethane | 6.769 | 83 | 513918 | 11.78 | ug/L | 96 |
| 51) Dibromomethane | 6.868 | 93 | 192093 | 10.24 | ug/L | 96 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 77348 | 6.77 | ug/L | 98 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1085247 | 42.97 | ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 411208 | 10.20 | ug/L | 94 |
| 57) Ethyl methacrylate | 7.693 | 69 | 288509 | 10.60 | ug/L | 100 |
| 58) Toluene | 7.693 | 91 | 1010214 | 11.16 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 447982 | 11.57 | ug/l | 96 |
| 60) 2-Hexanone | 7.935 | 43 | 752080 | 45.97 | ug/l | 96 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 225374 | 10.50 | ug/l | 96 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 360623 | 11.31 | ug/l | 99 |
| 63) Tetrachloroethene | 8.508 | 164 | 212760 | 10.76 | ug/l | 97 |
| 64) Dibromochloromethane | 8.783 | 129 | 329948 | 10.24 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 225594 | 9.75 | ug/l | 97 |
| 66) 1-Chlorohexane | 9.124 | 91 | 319202 | 10.66 | ug/l | 100 |
| 67) Chlorobenzene | 9.619 | 112 | 652933 | 10.93 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 289052 | 11.37 | ug/l | 98 |
| 69) Ethylbenzene | 9.641 | 91 | 1252113 | 11.45 | ug/l | 99 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 2004788 | 22.48 | ug/l | 97 |
| 71) o-Xylene | 10.411 | 91 | 979707 | 11.60 | ug/l | 98 |
| 72) Styrene | 10.455 | 104 | 667081 | 11.30 | ug/l | 93 |
| 73) Isopropylbenzene | 10.940 | 105 | 1113978 | 11.58 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 222145 | 9.17 | ug/l | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 291455 | 9.42 | ug/l | 96 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 87045 | 10.19 | ug/l | 96 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 87849 | 10.16 | ug/l | 100 |
| 80) n-Propylbenzene | 11.578 | 91 | 1407148 | 10.00 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 300002 | 9.71 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 966431 | 9.99 | ug/l | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 865017 | 9.96 | ug/l | 96 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 901250 | 12.32 | ug/l | 97 |
| 85) tert-Butylbenzene | 12.403 | 134 | 146427 | 9.78 | ug/l | 100 |
| 86) 1,2,4-Trimethylbenzene | 12.469 | 105 | 993689 | 10.50 | ug/l | 96 |
| 87) sec-Butylbenzene | 12.745 | 105 | 1103222 | 10.06 | ug/l | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 907042 | 9.86 | ug/l | 96 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 495985 | 11.23 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 959108 | 10.23 | ug/L | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 507369 | 11.06 | ug/l | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 867017 | 9.91 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 485604 | 10.01 | ug/l | 96 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 54964 | 8.74 | ug/l | 100 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 283643 | 9.60 | ug/l | 99 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 170511 | 10.17 | ug/l | 97 |
| 97) Naphthalene | 16.871 | 128 | 659535 | 8.80 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 279461 | 9.96 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F10\RFG088.D Vial: 37
Acq On : 11 Jun 2024 2:43 Operator: DNguye
Sample : EVOE2E1706 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 13:43:34 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F004
Lab File ID: RFG091 BFB Injection Date: 06/11/24
Instrument ID: E2 BFB Injection Time: 12:47

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.430 |
| 75 | 30 - 60% of mass 95 | 58.855 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 7.042 |
| 173 | Less than 2% of mass 174 | 0.000(0)1 |
| 174 | Greater than 50% of mass 95 | 86.589 |
| 175 | 5 - 9% of mass 174 | 6.114(7.06)1 |
| 176 | 95 - 101% % of mass 174 | 82.804(95.63)1 |
| 177 | 5 - 9% % of mass 176 | 6.481(7.83)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1707 | RFG092 | 06/11/24 | 13:35 |
| 2 | LCS3W | VOE2F04L | RFG093 | 06/11/24 | 14:15 |
| 3 | LCD3W | VOE2F04C | RFG094 | 06/11/24 | 14:39 |
| 4 | MBLK3W | VOE2F04B | RFG096 | 06/11/24 | 15:26 |
| 5 | T1AMF-MW022-MAY24 | 24F004-06N | RFG097 | 06/11/24 | 15:50 |
| 6 | T1AMF-MW019-MAY24 | 24F004-01N | RFG098 | 06/11/24 | 16:14 |
| 7 | T1AMF-EW001-MAY24 | 24F004-08I | RFG100 | 06/11/24 | 17:01 |
| 8 | VSTD10 | EVOE2E1707 | RFG119 | 06/12/24 | 00:30 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: ENAX Laboratories, Inc.
Lab Code: ENAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F004
Date Analyzed: 05/17/24
Time Analyzed: 14:09

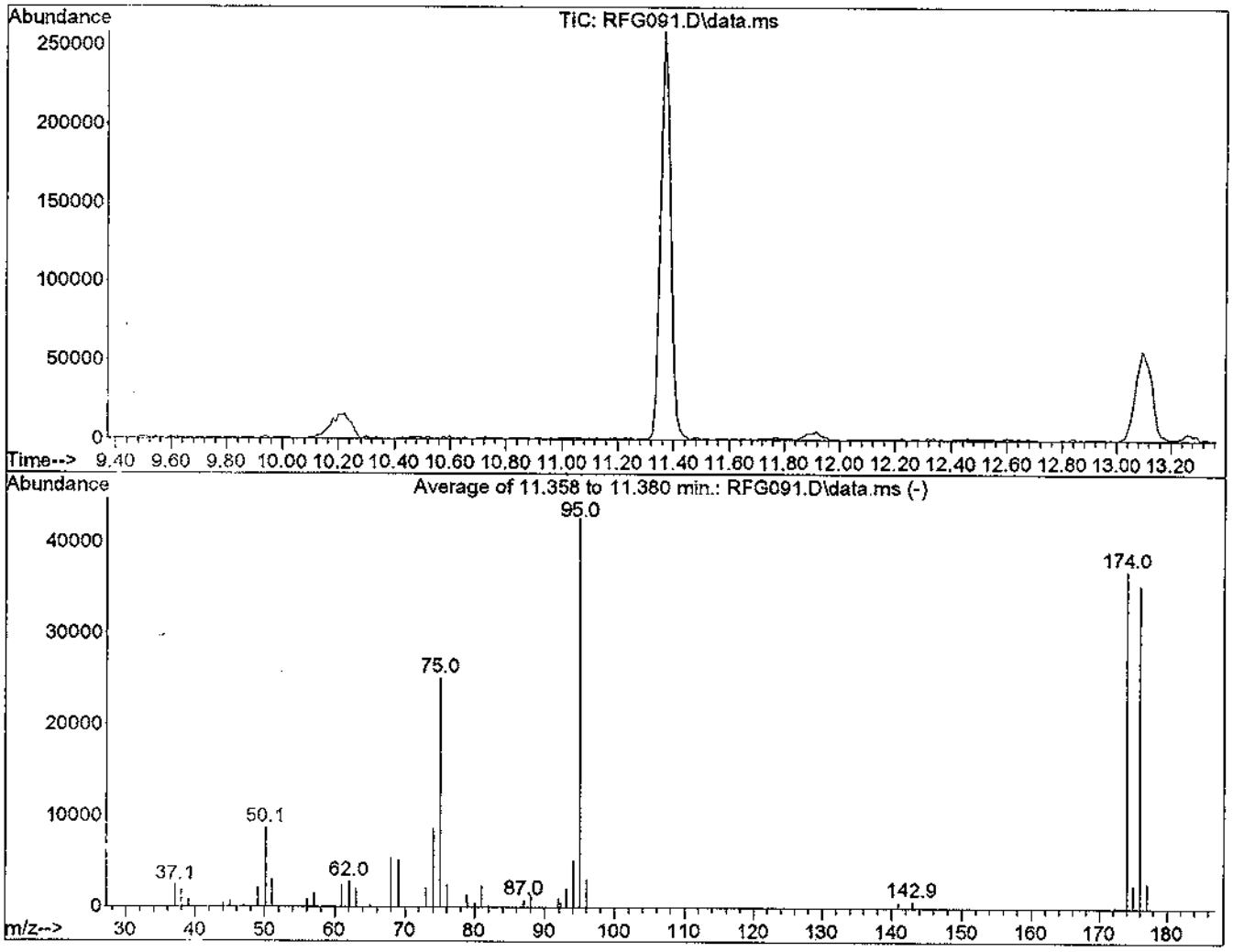
| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| | UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| | LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 670311 | 5.99 | 536256 | 9.56 | 276585 | 13.89 |
| 2 | LCS3W | 700127 | 5.99 | 552821 | 9.56 | 279028 | 13.89 |
| 3 | LCD3W | 703905 | 5.99 | 550837 | 9.56 | 285241 | 13.89 |
| 4 | MBLK3W | 600187 | 5.99 | 469288 | 9.56 | 222326 | 13.89 |
| 5 | T1AMF-MW022-MAY24 | 566942 | 5.99 | 442190 | 9.56 | 207301 | 13.89 |
| 6 | T1AMF-MW019-MAY24 | 544038 | 5.99 | 426447 | 9.56 | 204205 | 13.88 |
| 7 | T1AMF-EW001-MAY24 | 506438 | 5.99 | 398590 | 9.56 | 193637 | 13.89 |
| 8 | VSTD10 | 558649 | 5.99 | 454298 | 9.56 | 253559 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Data Path : D:\Data\24F11\
Data File : RFG091.D
Acq On : 11 Jun 2024 12:47
Operator : DNguye
Sample : BFBF04
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




AutoFind: Scans 797, 798, 799; Background Corrected with Scan 791

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 20.4 | 8738 | PASS |
| 75 | 95 | 30 | 60 | 58.9 | 25173 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 42771 | PASS |
| 96 | 95 | 5 | 9 | 7.0 | 3012 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 100 | 86.6 | 37035 | PASS |
| 175 | 174 | 5 | 9 | 7.1 | 2615 | PASS |
| 176 | 174 | 95 | 101 | 95.6 | 35416 | PASS |
| 177 | 176 | 5 | 9 | 7.8 | 2772 | PASS |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D  Vial: 2
Acq On : 11 Jun 2024 13:35  Operator: DNguye
Sample : CVOE2E1707  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 139 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.649 | -6.5 | 166 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 8.586 | 14.1 | 131 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.811 | -8.1 | 157 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 9.771 | 2.3 | 163 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 9.548 | 4.5 | 133 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.924 | 10.8 | 129 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.783 | 12.2 | 132 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 34.629 | 30.7# | 98 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.679 | 13.2 | 125 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 43.317 | 13.4 | 114 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 188.868 | 24.5# | 105 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 8.941 | 10.6 | 125 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 81.614 | 18.4 | 112 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 9.379 | 6.2 | 128 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 11.646 | -16.5 | 178 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.524 | -5.2 | 127 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 36.443 | 27.1# | 96 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 9.529 | 4.7 | 131 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 8.924 | 10.8 | 123 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 8.687 | 13.1 | 123 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 8.519 | 14.8 | 119 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 6.518 | 34.8# | 84 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.014 | 9.9 | 129 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 8.169 | 18.3 | 113 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 37.923 | 24.2# | 100 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 81.332 | 18.7 | 117 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 151.186 | 24.4# | 104 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.189 | -1.9 | 137 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 87.958 | 12.0 | 124 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.028 | 9.7 | 131 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.138 | 8.6 | 136 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 8.446 | 15.5 | 114 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 7.721 | 22.8# | 109 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.705 | 2.9 | 132 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 9.866 | 1.3 | 137 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 9.277 | 7.2 | 123 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 8.871 | 11.3 | 120 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.597 | -6.0 | 152 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 9.739 | 2.6 | 132 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 10.080 | -0.8 | 137 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 9.061 | 9.4 | 126 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 8.246 | 17.5 | 117 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 5.935 | 40.7# | 86 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 8.839 | 11.6 | 123 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.01 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.636 | 3.6 | 133 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 8.470 | 15.3 | 120 | 0.01 |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D  Vial: 2
Acq On : 11 Jun 2024 13:35  Operator: DNguye
Sample : CVOE2E1707  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 5.920 | 40.8# | 80 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 37.966 | 24.1# | 101 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 8.995 | 10.1 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 131 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.547 | -5.5 | 137 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.244 | 7.6 | 117 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 9.752 | 2.5 | 129 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.861 | 1.4 | 127 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 40.672 | 18.7 | 101 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.121 | 8.8 | 120 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 9.625 | 3.8 | 128 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.050 | 9.5 | 123 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 8.470 | 15.3 | 114 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 8.250 | 17.5 | 106 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.359 | 6.4 | 123 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.312 | 6.9 | 125 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.481 | 5.2 | 122 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.633 | 3.7 | 130 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.700 | 6.5 | 132 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 9.826 | 1.7 | 129 | 0.01 |
| 72 | T,M | Styrene | 10.000 | 9.591 | 4.1 | 125 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.667 | 3.3 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 140 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.979 | 20.2# | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.290 | 17.1 | 120 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.427 | -4.3 | 148 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 8.633 | 13.7 | 124 | 0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 8.773 | 12.3 | 121 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.032 | 9.7 | 133 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.711 | 12.9 | 122 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 8.948 | 10.5 | 130 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.622 | 3.8 | 143 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 10.110 | -1.1 | 121 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.022 | 9.8 | 131 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 8.989 | 10.1 | 128 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.033 | 9.7 | 129 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 8.762 | 12.4 | 128 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 9.940 | 0.6 | 127 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 8.965 | 10.4 | 127 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 9.670 | 3.3 | 126 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 8.962 | 10.4 | 130 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 8.707 | 12.9 | 132 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.548 | 24.5# | 113 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.068 | 9.3 | 131 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.359 | 6.4 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 8.020 | 19.8 | 114 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.765 | 12.3 | 126 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D Vial: 2
Acq On : 11 Jun 2024 13:35 Operator: DNguye
Sample : CVOE2E1707 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev Area% | Dev(min) |
|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 139 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.611 | -6.4 | 166 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.354 | 14.1 | 131 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.470 | -8.0 | 157 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.287 | 2.4 | 163 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 0.949 | 4.5 | 133 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.190 | 10.8 | 129 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.858 | 12.2 | 132 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.045 | 30.8# | 98 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.370 | 13.1 | 125 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.113 | 37.6# | 114 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.046 | 24.6# | 105 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.799 | 10.6 | 125 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.025 | 16.7 | 112 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.221 | 6.4 | 128 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.555 | -29.4# | 178 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.671 | 16.2 | 127 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.110 | 26.7# | 96 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.424 | 4.7 | 131 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.222 | 10.8 | 123 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.414 | 13.2 | 123 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.295 | 14.8 | 119 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.564 | 34.9# | 84 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 0.870 | 9.8 | 129 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.508 | 18.3 | 113 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.036 | 23.4# | 100 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.045 | 18.2 | 117 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.015 | 25.0# | 104 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.984 | -1.9 | 137 | 0.00 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.080 | 12.1 | 124 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.490 | 9.8 | 131 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.093 | 8.6 | 136 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.269 | 15.7 | 114 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.097 | 23.0# | 109 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.594 | 2.9 | 132 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.064 | 1.4 | 137 | 0.00 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.306 | 7.0 | 123 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.209 | 11.4 | 120 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.858 | -6.1 | 152 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 0.889 | 2.6 | 132 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 0.927 | -0.9 | 137 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.658 | 9.4 | 126 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.416 | 17.6 | 117 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.266 | 40.6# | 86 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.413 | 11.6 | 123 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.01 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.852 | 3.6 | 133 | 0.01 |
| 51 | T,M | Dibromomethane | 0.380 | 0.322 | 15.3 | 120 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.137 | 40.7# | 80 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.388 | 24.2# | 101 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.735 | 10.0 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 131 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.096 | -5.5 | 137 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.631 | 7.5 | 117 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.212 | 2.5 | 129 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.957 | 1.3 | 127 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.334 | 18.5 | 101 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.491 | 8.7 | 120 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.769 | 3.8 | 128 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.449 | 9.5 | 123 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.684 | 15.2 | 114 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.479 | 17.4 | 106 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.702 | 6.5 | 123 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.395 | 6.9 | 125 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.604 | 5.2 | 122 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.641 | 3.7 | 130 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.090 | 6.5 | 132 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.080 | 1.7 | 129 | 0.01 |
| 72 | T,M | Styrene | 1.480 | 1.420 | 4.1 | 125 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.331 | 3.4 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 140 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.871 | 20.2# | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.155 | 17.1 | 120 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.655 | -4.3 | 148 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.332 | 13.8 | 124 | 0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.342 | 12.1 | 121 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.727 | 9.7 | 133 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.212 | 12.9 | 122 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.901 | 10.5 | 130 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.765 | 3.8 | 143 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.357 | 11.6 | 121 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.609 | 9.8 | 131 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.832 | 10.1 | 128 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.462 | 9.7 | 129 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.632 | 12.4 | 128 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 1.988 | 13.7 | 127 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 3.787 | 10.3 | 127 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.009 | 14.5 | 126 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.533 | 10.4 | 130 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.902 | 12.9 | 132 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.214 | 24.4# | 113 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.210 | 19.0 | 131 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.707 | 6.4 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.709 | 19.8 | 114 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.113 | 21.6# | 126 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG092.D Vial: 2
Acq On : 11 Jun 2024 13:35 Operator: DNguye
Sample : CVOE2E1707 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 670311 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 536256 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 276585 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 398438 | 9.71 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 97.10% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 574875 | 10.60 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 106.00% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 1123862 | 10.55 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.50% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 457799 | 10.43 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 104.30% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 409663 | 10.65 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 237016 | 8.59 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 315166 | 10.81 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 192654 | 9.77 | ug/l | 94 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 636053 | 9.55 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 127455 | 8.92 | ug/l | 99 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 575223 | 8.78 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 150956 | 34.63 | ug/l | 97 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 247835 | 8.68 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 379001 | 43.32 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 769858 | 188.87 | ug/L | 98 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 535676 | 8.94 | ug/l | 97 |
| 14) Acetonitrile | 3.874 | 41 | 165094 | 81.61 | ug/L | 99 |
| 15) Allyl chloride | 4.105 | 76 | 148396 | 9.38 | ug/L | 97 |
| 16) Iodomethane | 4.149 | 142 | 372132 | 11.65 | ug/l | 91 |
| 18) Methylene chloride | 4.182 | 49 | 450035 | 10.52 | ug/l | 98 |
| 19) Acrylonitrile | 4.215 | 53 | 367270 | 36.44 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 954476 | 9.53 | ug/L | 96 |
| 21) Carbon disulfide | 4.315 | 76 | 819282 | 8.92 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 277671 | 8.69 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 868254 | 8.52 | ug/l | 96 |
| 24) Vinyl acetate | 4.546 | 43 | 378357 | 6.52 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 582840 | 9.01 | ug/l | 98 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1011074 | 8.17 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 119284 | 37.92 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 301411 | 81.33 | ug/L | 97 |
| 29) Isobutyl alcohol | 5.030 | 43 | 197961 | 151.19 | ug/L | 93 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 659505 | 10.19 | ug/l | 97 |
| 31) Methacrylonitrile | 5.052 | 52 | 535175 | 87.96 | ug/L | 98 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 328565 | 9.03 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 732545 | 9.14 | ug/l | 96 |
| 34) Bromochloromethane | 5.327 | 130 | 180551 | 8.45 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.316 | 42 | 65214 | 7.72 | ug/L | 96 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 713285 | 9.87 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 204906 | 9.28 | ug/l | 98 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 140416 | 8.87 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 595828 | 9.74 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 621168 | 10.08 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 1111269 | 9.06 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

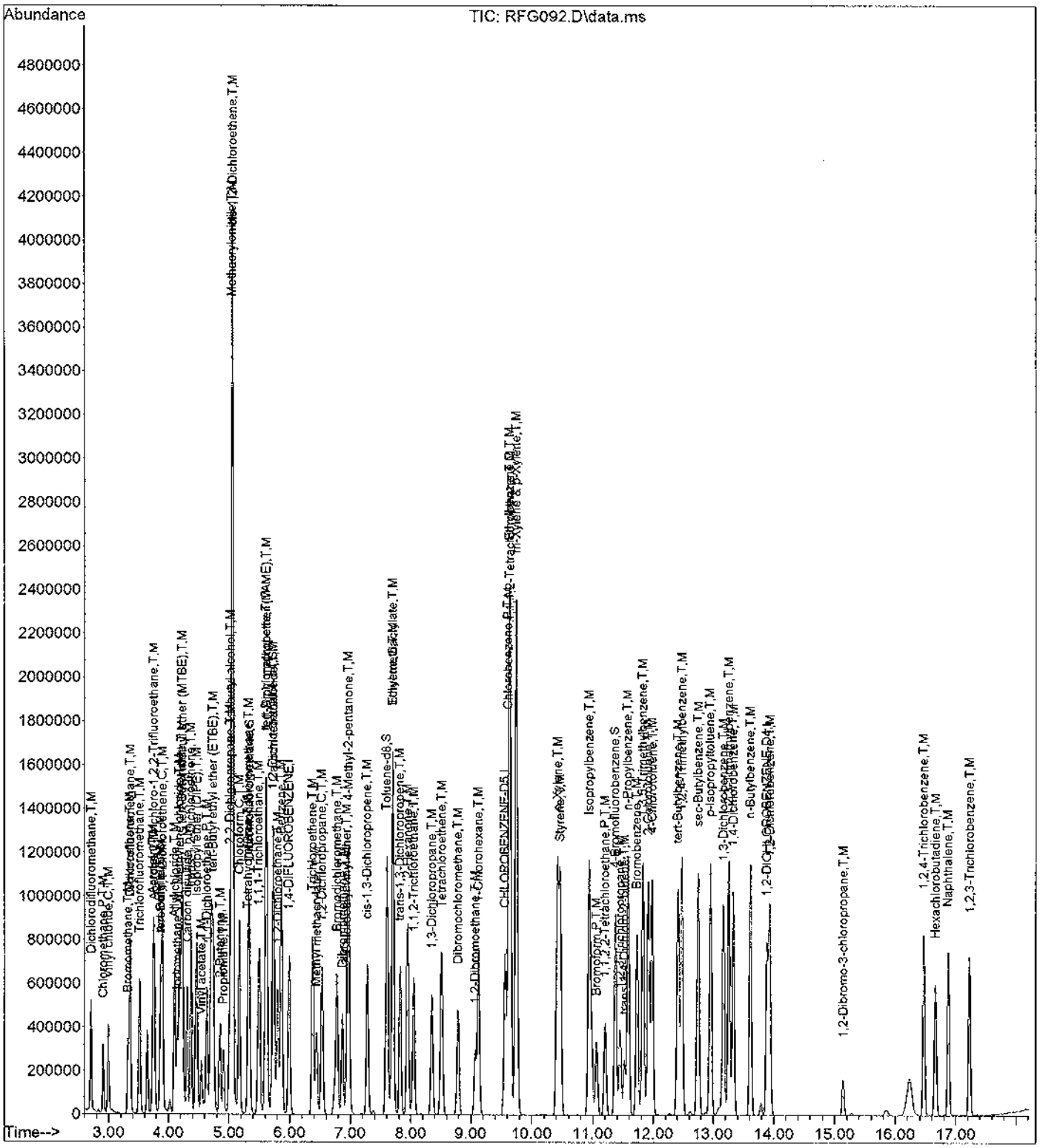
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.372 | 130 | 279167 | 8.25 | ug/L | | 97 |
| 46) Methyl methacrylate | 6.439 | 69 | 178027 | 5.93 | ug/L | # | 76 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 276700 | 8.84 | ug/L | | 87 |
| 50) Bromodichloromethane | 6.780 | 83 | 570890 | 9.64 | ug/L | | 97 |
| 51) Dibromomethane | 6.868 | 93 | 215734 | 8.47 | ug/L | | 97 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 91785 | 5.92 | ug/L | | 97 |
| 53) 4-Methyl-2-pentanone | 6.967 | 43 | 1301951 | 37.97 | ug/L | | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 492380 | 8.99 | ug/L | | 96 |
| 57) Ethyl methacrylate | 7.693 | 69 | 338297 | 9.24 | ug/L | | 97 |
| 58) Toluene | 7.693 | 91 | 1185996 | 9.75 | ug/l | | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 513164 | 9.86 | ug/l | | 99 |
| 60) 2-Hexanone | 7.946 | 43 | 894344 | 40.67 | ug/l | | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 263259 | 9.12 | ug/l | | 97 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 412550 | 9.62 | ug/l | | 99 |
| 63) Tetrachloroethene | 8.518 | 164 | 240605 | 9.05 | ug/l | | 96 |
| 64) Dibromochloromethane | 8.783 | 129 | 366701 | 8.47 | ug/l | | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 256623 | 8.25 | ug/l | | 95 |
| 66) 1-Chlorohexane | 9.124 | 91 | 376692 | 9.36 | ug/l | | 100 |
| 67) Chlorobenzene | 9.619 | 112 | 748031 | 9.31 | ug/l | | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 324067 | 9.48 | ug/l | | 100 |
| 69) Ethylbenzene | 9.641 | 91 | 1416491 | 9.63 | ug/l | | 99 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 2242038 | 18.70 | ug/l | | 99 |
| 71) o-Xylene | 10.422 | 91 | 1115243 | 9.83 | ug/l | | 98 |
| 72) Styrene | 10.466 | 104 | 761260 | 9.59 | ug/l | | 95 |
| 73) Isopropylbenzene | 10.940 | 105 | 1250251 | 9.67 | ug/L | | 98 |
| 75) Bromoform | 11.061 | 173 | 240858 | 7.98 | ug/l | | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 319581 | 8.29 | ug/l | | 97 |
| 78) 1,2,3-Trichloropropane | 11.457 | 110 | 91884 | 8.63 | ug/l | | 98 |
| 79) trans-1,4-Dichloro-2-b... | 11.523 | 53 | 94487 | 8.77 | ug/l | | 97 |
| 80) n-Propylbenzene | 11.578 | 91 | 1583919 | 9.03 | ug/l | | 99 |
| 81) Bromobenzene | 11.732 | 156 | 335303 | 8.71 | ug/l | | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 1078870 | 8.95 | ug/l | | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1041463 | 9.62 | ug/l | | 90 |
| 84) 4-Chlorotoluene | 11.985 | 91 | 928419 | 10.11 | ug/l | | 99 |
| 85) tert-Butylbenzene | 12.414 | 134 | 168345 | 9.02 | ug/l | | 96 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 1059907 | 8.99 | ug/l | | 98 |
| 87) sec-Butylbenzene | 12.756 | 105 | 1234139 | 9.03 | ug/l | | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1004481 | 8.76 | ug/l | | 97 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 549879 | 9.94 | ug/l | | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 1047396 | 8.96 | ug/L | | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 555648 | 9.67 | ug/l | | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 977189 | 8.96 | ug/l | | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 526048 | 8.71 | ug/l | | 97 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 59164 | 7.55 | ug/l | | 93 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 334686 | 9.07 | ug/l | | 98 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 195472 | 9.36 | ug/l | | 98 |
| 97) Naphthalene | 16.871 | 128 | 749136 | 8.02 | ug/l | | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 307886 | 8.77 | ug/l | | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG092.D Vial: 2
Acq On : 11 Jun 2024 13:35 Operator: DNguye
Sample : CVOE2E1707 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D  Vial: 29
Acq On : 12 Jun 2024 00:30  Operator: DNguye
Sample : EVOE2E1707  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.899 | -9.0 | 142 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 10.507 | -5.1 | 134 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 14.645 | -46.4# | 177 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 5.366 | 46.3# | 75 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.635 | -6.3 | 123 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.983 | 10.2 | 108 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.845 | 11.5 | 111 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 27.725 | 44.5# | 65 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 9.660 | 3.4 | 116 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 43.732 | 12.5 | 96 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 220.530 | 11.8 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.041 | -0.4 | 117 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 96.026 | 4.0 | 109 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.309 | -3.1 | 117 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 6.669 | 33.3# | 83 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 11.646 | -16.5 | 117 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 37.860 | 24.3# | 83 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.448 | -4.5 | 120 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.631 | 3.7 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.302 | 7.0 | 110 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.475 | 5.3 | 110 | 0.00 |
| 24 | T,M | Vinyl acetate | 10.000 | 4.668 | 53.3# | 50 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.917 | 0.8 | 118 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.146 | 8.5 | 105 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 38.964 | 22.1# | 86 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 87.169 | 12.8 | 104 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 162.595 | 18.7 | 93 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 9.936 | 0.6 | 112 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 98.112 | 1.9 | 115 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.823 | 1.8 | 119 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.263 | -2.6 | 127 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.343 | 6.6 | 105 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 8.042 | 19.6 | 94 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.797 | 2.0 | 111 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 11.196 | -12.0 | 130 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.723 | -7.2 | 118 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 9.737 | 2.6 | 110 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.807 | -8.1 | 129 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.964 | -9.6 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.513 | -15.1 | 130 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.133 | -1.3 | 118 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.332 | 6.7 | 110 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 7.356 | 26.4# | 89 | -0.01 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.808 | -8.1 | 126 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.853 | -18.5 | 137 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 10.325 | -3.2 | 122 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 6.922 | 30.8# | 78 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 50.000 | 0.0 | 111 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.839 | -8.4 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 111 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.731 | -7.3 | 118 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.287 | -12.9 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.162 | -11.6 | 125 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.206 | -12.1 | 122 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 46.086 | 7.8 | 97 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.767 | 2.3 | 109 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.557 | -5.6 | 119 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.984 | 0.2 | 115 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.345 | 6.5 | 106 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.352 | 6.5 | 102 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.235 | -2.3 | 114 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 10.045 | -0.4 | 114 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.661 | -6.6 | 117 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 10.555 | -5.5 | 121 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 20.592 | -3.0 | 123 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 10.863 | -8.6 | 121 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.638 | -6.4 | 117 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 10.626 | -6.3 | 117 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 128 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.882 | 21.2# | 103 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.414 | 15.9 | 111 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 9.596 | 4.0 | 125 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.239 | 7.6 | 122 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 7.310 | 26.9# | 92 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.067 | 9.3 | 123 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.800 | 12.0 | 113 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.018 | 9.8 | 120 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.124 | 8.8 | 125 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.052 | -10.5 | 121 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.334 | 6.7 | 125 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 9.256 | 7.4 | 121 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 8.968 | 10.3 | 117 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.112 | 8.9 | 122 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 10.374 | -3.7 | 122 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 9.762 | 2.4 | 127 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.438 | -4.4 | 125 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.705 | 2.9 | 129 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.067 | 9.3 | 126 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.358 | 26.4# | 101 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 8.528 | 14.7 | 113 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 8.779 | 12.2 | 113 | -0.01 |
| 97 | T,M | Naphthalene | 10.000 | 8.048 | 19.5 | 105 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.570 | 14.3 | 113 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.625 | -8.9 | 142 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.433 | -5.1 | 134 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.637 | -46.4# | 177 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.158 | 46.3# | 75 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.057 | -6.3 | 123 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.191 | 10.3 | 108 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.864 | 11.6 | 111 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.036 | 44.6# | 65 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.411 | 3.5 | 116 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.114 | 37.0# | 96 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.054 | 11.5 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.897 | -0.3 | 117 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.029 | 3.3 | 109 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.243 | -3.0 | 117 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.312 | 27.3# | 83 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.738 | 7.9 | 117 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.114 | 24.0# | 83 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.561 | -4.5 | 120 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.319 | 3.7 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.444 | 6.9 | 110 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.441 | 5.2 | 110 | 0.00 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.404 | 53.3# | 50 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 0.957 | 0.8 | 118 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.689 | 8.5 | 105 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.037 | 21.3# | 86 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.048 | 12.7 | 104 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.016 | 20.0 | 93 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.959 | 0.7 | 112 | 0.00 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.089 | 2.2 | 115 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.533 | 1.8 | 119 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.227 | -2.6 | 127 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.298 | 6.6 | 105 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.101 | 19.8 | 94 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.600 | 2.0 | 111 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.208 | -12.0 | 130 | 0.00 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.353 | -7.3 | 118 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.230 | 2.5 | 110 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.875 | -8.2 | 129 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 1.001 | -9.6 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.058 | -15.1 | 130 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.854 | -1.3 | 118 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.471 | 6.7 | 110 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.329 | 26.6# | 89 | -0.01 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.505 | -8.1 | 126 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.003 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 1.048 | -18.6 | 137 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.392 | -3.2 | 122 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.160 | 30.7# | 78 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.512 | 0.0 | 111 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.885 | -8.3 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 111 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.132 | -7.3 | 118 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.770 | -12.9 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.531 | -11.6 | 125 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.087 | -12.1 | 122 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.378 | 7.8 | 97 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.526 | 2.2 | 109 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.844 | -5.6 | 119 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.495 | 0.2 | 115 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.754 | 6.6 | 106 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.542 | 6.6 | 102 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.768 | -2.3 | 114 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.505 | -0.5 | 114 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.680 | -6.8 | 117 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.894 | -5.5 | 121 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.302 | -3.0 | 123 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.299 | -8.6 | 121 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.575 | -6.4 | 117 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.563 | -6.3 | 117 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 128 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.860 | 21.2# | 103 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.173 | 15.9 | 111 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.523 | 4.0 | 125 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.356 | 7.5 | 122 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.285 | 26.7# | 92 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.749 | 9.3 | 123 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.225 | 12.0 | 113 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.931 | 9.8 | 120 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.571 | 8.8 | 125 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.656 | 3.7 | 121 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.630 | 6.7 | 125 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.946 | 7.4 | 121 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.430 | 10.3 | 117 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.777 | 8.9 | 122 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.071 | 10.1 | 122 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.124 | 2.4 | 127 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.162 | 8.0 | 125 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.826 | 2.9 | 129 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.981 | 9.3 | 126 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.209 | 26.1# | 101 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.141 | 23.6# | 113 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.663 | 12.2 | 113 | -0.01 |
| 97 | T,M | Naphthalene | 3.377 | 2.718 | 19.5 | 105 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.089 | 23.3# | 113 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D  Vial: 29
Acq On : 12 Jun 2024 00:30  Operator: DNguye
Sample : EVOE2E1707  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range  SPCC's out = 0  CCC's out = 1

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| **Internal Standards** | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 558649 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 454298 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 253559 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 335211 | 9.80 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 98.00% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 488608 | 10.81 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 108.10% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 968731 | 10.73 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 107.30% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 386253 | 9.60 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 96.00% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 349427 | 10.90 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 241726 | 10.51 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 355831 | 14.65 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 88173 | 5.37 | ug/l | 95 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 590451 | 10.63 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 106926 | 8.98 | ug/l | 100 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 482838 | 8.85 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 100727 | 27.72 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 229878 | 9.66 | ug/l | 99 |
| 11) Acetone | 3.764 | 43 | 318575 | 43.73 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 749171 | 220.53 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 501386 | 10.04 | ug/l | 97 |
| 14) Acetonitrile | 3.874 | 41 | 161890 | 96.03 | ug/L | 92 |
| 15) Allyl chloride | 4.105 | 76 | 135942 | 10.31 | ug/L | 97 |
| 16) Iodomethane | 4.149 | 142 | 174271 | 6.67 | ug/l | 89 |
| 18) Methylene chloride | 4.182 | 49 | 412143 | 11.65 | ug/l | 97 |
| 19) Acrylonitrile | 4.215 | 53 | 317994 | 37.86 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 872149 | 10.45 | ug/L | 96 |
| 21) Carbon disulfide | 4.304 | 76 | 736880 | 9.63 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 247820 | 9.30 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 804763 | 9.47 | ug/l | 97 |
| 24) Vinyl acetate | 4.546 | 43 | 225842 | 4.67 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 534398 | 9.92 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 943389 | 9.15 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 102142 | 38.96 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 269229 | 87.17 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 177435 | 162.60 | ug/L | 90 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 535968 | 9.94 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 497516 | 98.11 | ug/L | 100 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 297945 | 9.82 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 685656 | 10.26 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 166465 | 9.34 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.316 | 42 | 56611 | 8.04 | ug/L | 96 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 674612 | 11.20 | ug/l | 100 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 197374 | 10.72 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 128447 | 9.74 | ug/L | 96 |
| 42) Carbon tetrachloride | 5.734 | 119 | 559012 | 10.96 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 591281 | 11.51 | ug/L | 97 |
| 44) Benzene | 5.866 | 78 | 1035783 | 10.13 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

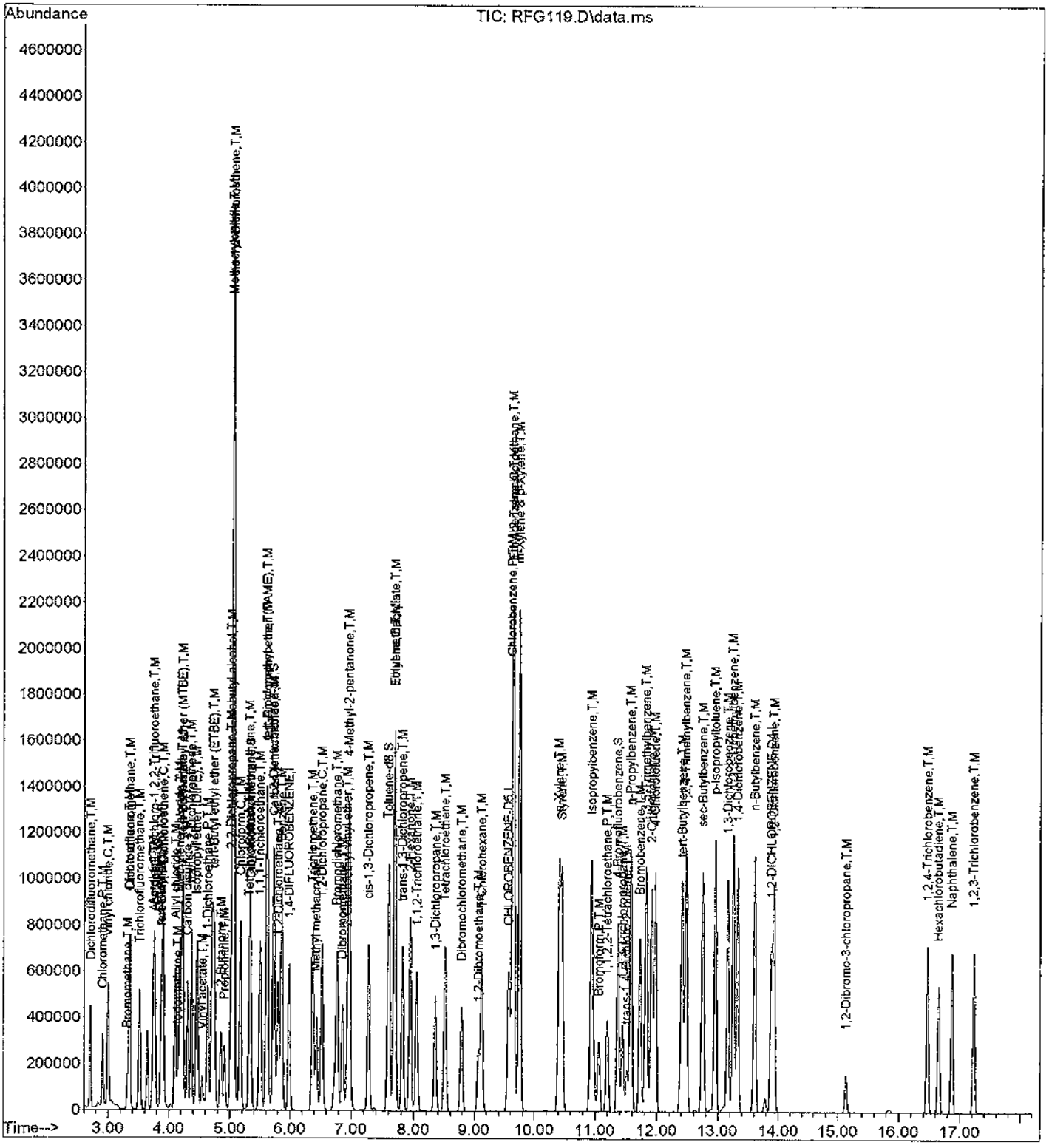
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.372 | 130 | 263323 | 9.33 | ug/L | 94 |
| 46) | Methyl methacrylate | 6.428 | 69 | 183918 | 7.36 | ug/L | 87 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 281960 | 10.81 | ug/L | 87 |
| 50) | Bromodichloromethane | 6.769 | 83 | 585219 | 11.85 | ug/L | 95 |
| 51) | Dibromomethane | 6.857 | 93 | 219174 | 10.32 | ug/L | 93 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 89448 | 6.92 | ug/L | 99 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 1429003 | 50.00 | ug/L | 98 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 494478 | 10.84 | ug/L | 94 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 349925 | 11.29 | ug/L | 97 |
| 58) | Toluene | 7.693 | 91 | 1150015 | 11.16 | ug/l | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 494019 | 11.21 | ug/l | 94 |
| 60) | 2-Hexanone | 7.935 | 43 | 858508 | 46.09 | ug/l | 99 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 238823 | 9.77 | ug/l | 97 |
| 62) | 1,3-Dichloropropane | 8.353 | 76 | 383359 | 10.56 | ug/l | 100 |
| 63) | Tetrachloroethene | 8.508 | 164 | 224880 | 9.98 | ug/l | 96 |
| 64) | Dibromochloromethane | 8.783 | 129 | 342734 | 9.34 | ug/l | 99 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 246445 | 9.35 | ug/l | 100 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 348988 | 10.23 | ug/l | 99 |
| 67) | Chlorobenzene | 9.619 | 112 | 683636 | 10.05 | ug/l | 99 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 308705 | 10.66 | ug/l | 99 |
| 69) | Ethylbenzene | 9.641 | 91 | 1314796 | 10.55 | ug/l | 99 |
| 70) | m-Xylene & p-Xylene | 9.740 | 91 | 2091623 | 20.59 | ug/l | 98 |
| 71) | o-Xylene | 10.411 | 91 | 1044565 | 10.86 | ug/l | 97 |
| 72) | Styrene | 10.455 | 104 | 715326 | 10.64 | ug/l | 95 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1164206 | 10.63 | ug/L | 99 |
| 75) | Bromoform | 11.061 | 173 | 218105 | 7.88 | ug/l | 98 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 297360 | 8.41 | ug/l | 96 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 90145 | 9.24 | ug/l | 94 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 72176 | 7.31 | ug/l | 92 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1457639 | 9.07 | ug/l | 98 |
| 81) | Bromobenzene | 11.732 | 156 | 310504 | 8.80 | ug/l | 95 |
| 82) | 1,3,5-Trimethylbenzene | 11.820 | 105 | 996755 | 9.02 | ug/l | 97 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 905394 | 9.12 | ug/l | 90 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 927005 | 11.05 | ug/l | 98 |
| 85) | tert-Butylbenzene | 12.414 | 134 | 159661 | 9.33 | ug/l | 99 |
| 86) | 1,2,4-Trimethylbenzene | 12.469 | 105 | 1000574 | 9.26 | ug/l | 97 |
| 87) | sec-Butylbenzene | 12.745 | 105 | 1123312 | 8.97 | ug/l | 100 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 957681 | 9.11 | ug/l | 95 |
| 89) | 1,3-Dichlorobenzene | 13.163 | 146 | 525095 | 10.37 | ug/l | 98 |
| 90) | 1,2,3-Trimethylbenzene | 13.251 | 105 | 1045617 | 9.76 | ug/L | 98 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 548137 | 10.44 | ug/l | 98 |
| 92) | n-Butylbenzene | 13.614 | 91 | 970067 | 9.70 | ug/l | 99 |
| 93) | 1,2-Dichlorobenzene | 13.922 | 146 | 502195 | 9.07 | ug/l | 99 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 52878 | 7.36 | ug/l | 98 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 289302 | 8.53 | ug/l | 98 |
| 96) | Hexachlorobutadiene | 16.651 | 225 | 168078 | 8.78 | ug/l | 98 |
| 97) | Naphthalene | 16.871 | 128 | 689109 | 8.05 | ug/l | 98 |
| 98) | 1,2,3-Trichlorobenzene | 17.224 | 180 | 276227 | 8.57 | ug/l | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG119.D Vial: 29
Acq On : 12 Jun 2024 00:30 Operator: DNguye
Sample : EVOE2E1707 Inst : F2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu Jun 13 16:56:05 2024 Page: 8

# ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 05/17/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge Book #: AE2-031

BATCH VOE2E17

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH < 2 | Matrix W $O_i$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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EL

5/23/24

| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | VOE2E17 |

STANDARDS

| NAME | ID | Amount [µL] | Conc [mg/L] |
|---|---|---|---|
| DCC $CS_2$ | SVL-43-98-01 | * | 250 |
| DCC GAS | -98-03 | | 250 |
| DCC METHANOL | -97-02 | | 250/6250 |
| DCC 8260 | -99-01 | | 250 |
| BFB | -76-02 | 1 | 50 |
| IS/SURR. | -96-02<br>-96-03 | 5<br>* | 20<br>250 |
| ICV/LCS | -79-02 | 0.4 | 250 |
| ICV/LCS | -94-01 | 4 | 250 |
| ICV/LCS | -80-01<br>-94-02 | 2<br>2 | 250<br>50 |
| ICV/LCS | -85-02 | 2 | 50 |
| Data File Folder | 24E17 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | | 14SV 03-04-14-6 |
| Chlorine strip | | -04-13-3 |
| Methanol | | -03-25 |
| $NaHSO_4$ | | -02-25 |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments: * Varied amount

Analyzed By: DN

Date Disposed: 5/18/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24E17

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Reg116.d | 1. | BFBE2E09 | T/CHK | 17 May 2024 11:2 |
| 2 | 2 | Reg117.d | 1. | VOE2E161 0.012 WRONG SPIKE | 0.3ppb 8260/1.5pp... | 17 May 2024 12:1 |
| 3 | 3 | Reg118.d | 1. | VOE2E172 0.02 | 0.5ppb 8260/2.5pp... | 17 May 2024 12:3 |
| 4 | 4 | Reg119.d | 1. | VOE2E173 0.04 | 1.0ppb 8260/5.0pp... | 17 May 2024 12:5 |
| 5 | 5 | Reg120.d | 1. | VOE2E174 0.08 | 2.0ppb 8260/10ppb... | 17 May 2024 13:2 |
| 6 | 6 | Reg121.d | 1. | VOE2E175 0.2 | 5.0ppb 8260/25ppb... | 17 May 2024 13:4 |
| 7 | 7 | Reg122.d | 1. | VOE2E176 0.4 | 10ppb 8260/50ppb ... | 17 May 2024 14:0 |
| 8 | 8 | Reg123.d | 1. | VOE2E177 1.2uL | 30ppb 8260/150ppb... | 17 May 2024 14:3 |
| 9 | 9 | Reg124.d | 1. | VOE2E178 2uL | 50ppb 8260/250pb ... | 17 May 2024 14:5 |
| 10 | 10 | Reg125.d | 1. | VOE2E179 4uL | 100ppb 8260/500pp... | 17 May 2024 15:2 |
| 11 | 11 | Reg126.d | 1. | VOE2E1710 8uL | 200ppb 8260/1000p... | 17 May 2024 15:4 |
| 12 | 12 | Reg127.d | 1. | RINSE | | 17 May 2024 16:0 |
| 13 | 13 | Reg128.d | 1. | RINSE | | 17 May 2024 16:3 |
| 14 | 14 | Reg129.d | 1. | IVOE2E1701 %REC>20 | 10ppb 8260/50ppb ... | 17 May 2024 21:0 |

ZL 5/23/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 05/18/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH IVOE2E1702

| | Sample Prep IC | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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5/23/24

| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | IVOE2E17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc (ng/L) |
|---|---|---|---|
| DCC | | | |
| DCC | | | |
| DCC | | | |
| DCC | | | |
| BFB | SVI-43-76-02 | 1 | 50 |
| IS/SURR. | -96-02 | 5 | 20 |
| | -96-03 | 4 | 250 |
| ICV/LCS | -94-02 | 4 | 250 |
| ICV/LCS | -94-01 | 4 | 250 |
| ICV/LCS | -90-01 | 2 | 250 |
| | -94-02 | 2 | 50 |
| ICV/LCS | ↓ -85-02 | 2 | 50 |
| Data File Folder | 24E18 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | | MSV-03-04-14-6 |
| Chlorine strip | | ↓ -04-13-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TCE2 | |

Comments:

Analyzed By: DN

Date Disposed: 5/20/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24E18

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Reg130.d | 1. | BFBE2E09 | T/CHK | 18 May 2024 09:1 |
| 2 | 2 | Reg131.d | 1. | IVOE2E1702 | 10ppb 8260/50ppb ... | 18 May 2024 09:5 |

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/11/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH < 2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | VOE2F17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc. (mg/L) |
|---|---|---|---|
| DCC | SV1-43-94-02 | .4 | |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | |
| DCC | -86-01 | 2 | 50/150 |
| BFB | -78-02 | 1 | |
| IS/SURR. | SV1-45-04-02 | 5 | 20 |
| ICV/LCS | SV1-43-79-02 | .4 | |
| ICV/LCS | -82-01 | .4 | 50/150 |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | 24F11 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC210330 | MBV-03-04-14-6 |
| Chlorine strip | 319117B | ↓ -B-2 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | RWH-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

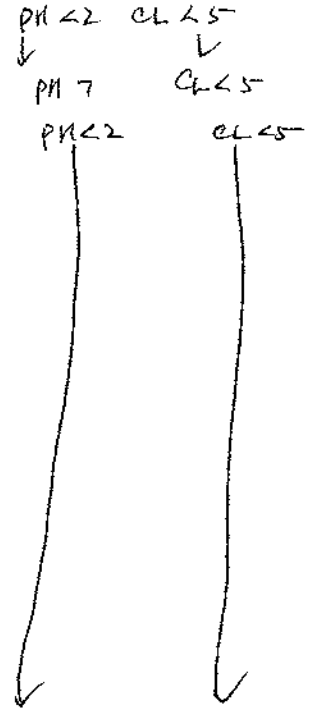
Analyzed By: DH

Date Disposed: 6/12/24 Disposed By: DH

# Injection Log

Directory: d:\Data\24F11

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg091.d | 1. | BFBF04 | T/CHK | 11 Jun 2024 12:47 |
| 2 | 2 | Rfg092.d | 1. | CVOE2E1707 | 10ppb 8260/50ppb ... | 11 Jun 2024 13:35 |
| 3 | 3 | Rfg093.d | 1. | VOE2F04L | 10ppb 8260/50ppb ... | 11 Jun 2024 14:15 |
| 4 | 4 | Rfg094.d | 1. | VOE2F04C | 10ppb 8260/50ppb ... | 11 Jun 2024 14:39 |
| 5 | 5 | Rfg095.d | 1. | RINSE | 10ppb 8260/50ppb ... | 11 Jun 2024 15:03 |
| 6 | 6 | Rfg096.d | 1. | VOE2F04B | 10.0mL | 11 Jun 2024 15:26 |
| 7 | 7 | Rfg097.d | 1. | 24F004-06N | 10.0mL | 11 Jun 2024 15:50 |
| 8 | 8 | Rfg098.d | 1. | 24F004-01N | 10.0mL | 11 Jun 2024 16:14 |
| 9 | 9 | Rfg099.d | 1. | PV-004-08-03 | 10.0mL | 11 Jun 2024 16:37 |
| 10 | 10 | Rfg100.d | 1. | 24F004-08I 10X | 1.0mL | 11 Jun 2024 17:01 |
| 11 | 11 | Rfg101.d | 1. | 24F003-14 | 10mL | 11 Jun 2024 17:25 |
| 12 | 12 | Rfg102.d | 1. | 24F003-15 | 10mL | 11 Jun 2024 17:49 |
| 13 | 13 | Rfg103.d | 1. | 24F003-16 | 10mL | 11 Jun 2024 18:13 |
| 14 | 14 | Rfg104.d | 1. | 24F003-17 | 10mL | 11 Jun 2024 18:37 |
| 15 | 15 | Rfg105.d | 1. | 24F038-01 | 10mL | 11 Jun 2024 19:00 |
| 16 | 16 | Rfg106.d | 1. | RIMSE | 1.0mL | 11 Jun 2024 19:24 |
| 17 | 17 | Rfg107.d | 1. | 24F019-01 | 10mL | 11 Jun 2024 19:47 |
| 18 | 18 | Rfg108.d | 1. | 24F019-02 | 10mL | 11 Jun 2024 20:11 |
| 19 | 19 | Rfg109.d | 1. | 24F019-04 | 10mL | 11 Jun 2024 20:34 |
| 20 | 20 | Rfg110.d | 1. | 24F019-05 | 10mL | 11 Jun 2024 20:58 |
| 21 | 21 | Rfg111.d | 1. | 24F019-06 | 10mL | 11 Jun 2024 21:21 |
| 22 | 22 | Rfg112.d | 1. | 24F019-07 | 10mL | 11 Jun 2024 21:45 |
| 23 | 23 | Rfg113.d | 1. | 24F019-08 | 10mL | 11 Jun 2024 22:09 |
| 24 | 24 | Rfg114.d | 1. | 24F019-09 | 10mL | 11 Jun 2024 22:32 |
| 25 | 25 | Rfg115.d | 1. | 24F019-10 | 10mL | 11 Jun 2024 22:56 |
| 26 | 26 | Rfg116.d | 1. | 24F019-11 | 10mL | 11 Jun 2024 23:19 |
| 27 | 27 | Rfg117.d | 1. | 24F019-02M | 10mL | 11 Jun 2024 23:42 |
| 28 | 28 | Rfg118.d | 1. | 24F019-02S | 10mL | 12 Jun 2024 00:06 |
| 29 | 29 | Rfg119.d | 1. | EVOE2E1707 | 10ppb 8260/50ppb ... | 12 Jun 2024 00:30 |
| 30 | 30 | Rfg120.d | 1. | EVOE2E17071 | 10ppb 8260/50ppb ... | 12 Jun 2024 00:53 |
| 31 | 31 | Rfg121.d | 1. | EVOE2E17072 | 10ppb 8260/50ppb ... | 12 Jun 2024 01:17 |




DH 6/18/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/10/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH ≤2 | Matrix W $Cl_2$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 6/17/24 |
| ICAL ID | VOE2E17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc. (mg/L) |
|---|---|---|---|
| DCC | SVI-43-04-02 | .4 | |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | 50/50 |
| DCC | -86-01 | 2 | |
| BFB | -38-02 | 1 | |
| IS/SURR. | SVI-45-04-02 | 5 | 20 |
| ICV/LCS | SVI-43-79-02 | .4 | |
| ICV/LCS | -82-01 | .4 | 50/50 |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | 24F10 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC210330 | SVI-03-04-14-6 |
| Chlorine strip | 3191718 | -13-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | RWI-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

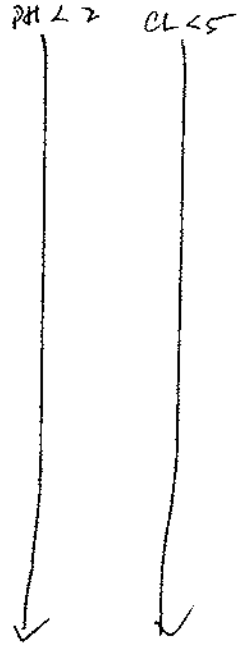
Analyzed By: DM

Date Disposed: 6/11/24 Disposed By: DM

# Injection Log

Directory: d:\Data\24F10

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg061.d | 1. | BFBF03 | T/CHK | 10 Jun 2024 15:55 |
| 2 | 2 | Rfg062.d | 1. | CVOE2E1706 | 10ppb 8260/50ppb ... | 10 Jun 2024 16:35 |
| 3 | 3 | Rfg063.d | 1. | VOE2F03L | 10ppb 8260/50ppb ... | 10 Jun 2024 17:13 |
| 4 | 4 | Rfg064.d | 1. | VOE2F03C | 10ppb 8260/50ppb ... | 10 Jun 2024 17:37 |
| 5 | 5 | Rfg065.d | 1. | RINSE | 10mL | 10 Jun 2024 18:01 |
| 6 | 7 | Rfg067.d | 1. | VOE2F03B | 10.0mL | 10 Jun 2024 18:25 |
| 7 | 8 | Rfg068.d | 1. | 24F004-05N | 10.0mL | 10 Jun 2024 18:48 |
| 8 | 9 | Rfg069.d | 1. | 24F004-06I 10X | 1.0mL | 10 Jun 2024 19:12 |
| 9 | 10 | Rfg070.d | 1. | 24F004-07I 10X | 1.0mL | 10 Jun 2024 19:36 |
| 10 | 11 | Rfg071.d | 1. | 24F004-09N | 10mL | 10 Jun 2024 20:00 |
| 11 | 12 | Rfg072.d | 1. | 24F004-10N | 10mL | 10 Jun 2024 20:24 |
| 12 | 13 | Rfg073.d | 1. | 24F003-18 | 10mL | 10 Jun 2024 20:48 |
| 13 | 14 | Rfg074.d | 1. | 24F003-19 | 10mL | 10 Jun 2024 21:11 |
| 14 | 15 | Rfg075.d | 1. | 24F003-01N | 10mL | 10 Jun 2024 21:35 |
| 15 | 16 | Rfg076.d | 1. | 24F003-02N | 10mL | 10 Jun 2024 21:59 |
| 16 | 17 | Rfg077.d | 1. | 24F003-03N | 10mL | 10 Jun 2024 22:23 |
| 17 | 18 | Rfg078.d | 1. | 24F003-04N | 10mL | 10 Jun 2024 22:46 |
| 18 | 19 | Rfg079.d | 1. | 24F003-05N | 10mL | 10 Jun 2024 23:10 |
| 19 | 20 | Rfg080.d | 1. | 24F003-06N | 10mL | 10 Jun 2024 23:33 |
| 20 | 21 | Rfg081.d | 1. | 24F003-07N | 10mL | 10 Jun 2024 23:57 |
| 21 | 22 | Rfg082.d | 1. | 24F003-08N | 10mL | 11 Jun 2024 00:20 |
| 22 | 23 | Rfg083.d | 1. | 24F003-09N | 10mL | 11 Jun 2024 00:44 |
| 23 | 24 | Rfg084.d | 1. | 24F003-10N | 1.0mL | 11 Jun 2024 01:08 |
| 24 | 25 | Rfg085.d | 1. | 24F003-11 | 10mL | 11 Jun 2024 01:32 |
| 25 | 26 | Rfg086.d | 1. | 24F003-12 | 10mL | 11 Jun 2024 01:56 |
| 26 | 27 | Rfg087.d | 1. | 24F003-13 | 10mL | 11 Jun 2024 02:19 |
| 27 | 37 | Rfg088.d | 1. | EVOE2E1706 ✓ | 10ppb 8260/50ppb ... | 11 Jun 2024 02:43 |
| 28 | 38 | Rfg089.d | 1. | EVOE2E17061 | 10ppb 8260/50ppb ... | 11 Jun 2024 03:06 |
| 29 | 39 | Rfg090.d | 1. | EVOE2E17062 | 10ppb 8260/50ppb ... | 11 Jun 2024 03:30 |




DK 6/18/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/8/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ .25-mL Purge Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample .D | Sample Amount | DF | Matrix W pH < 2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | VOE2E17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc (mg/L) |
|---|---|---|---|
| DCC | SVI-43-94-02 | .4 | 50/250 |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | |
| DCC | -86-01 | 2 | |
| BFB | -38-02 | 1 | |
| IS/SURR | SVI-45-04-02 | 5 | 20 |
| ICV/LCS | SVI-43-79-02 | .4 | 50/250 |
| ICV/LCS | -82-01 | .4 | |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | 24F08 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC210330 | MSV-03-04-14-6 |
| Chlorine strip | 319117B | ↓ -13-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | RWH-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

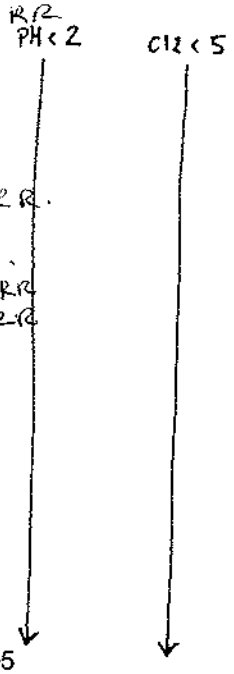
Analyzed By: DN

Date Disposed: 6/10/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24F08

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg031.d | 1. | BFBF02 | T/CHK | 8 Jun 2024 12:09 |
| 2 | 2 | Rfg032.d | 1. | TEST | 10ppb 8260/50ppb ... | 8 Jun 2024 13:50 |
| 3 | 3 | Rfg033.d | 1. | CVOE2E1705 | 10ppb 8260/50ppb ... | 8 Jun 2024 14:28 |
| 4 | 4 | Rfg034.d | 1. | VOE2F02L | 10ppb 8260/50ppb ... | 8 Jun 2024 15:04 |
| 5 | 5 | Rfg035.d | 1. | VOE2F02C | 10ppb 8260/50ppb ... | 8 Jun 2024 15:28 |
| 6 | 6 | Rfg036.d | 1. | RINSE | 10.0mL | 8 Jun 2024 15:52 |
| 7 | 7 | Rfg037.d | 1. | V0E2F02B | 10.0mL | 8 Jun 2024 16:16 |
| 8 | 8 | Rfg038.d | 1. | 24F004-01 | 10.0mL | 8 Jun 2024 16:39 |
| 9 | 9 | Rfg039.d | 1. | 24F004-02 | 10.0mL | 8 Jun 2024 17:04 |
| 10 | 10 | Rfg040.d | 1. | 24F004-03 | 10.0mL | 8 Jun 2024 17:27 |
| 11 | 11 | Rfg041.d | 1. | 24F004-04 | 10.0mL | 8 Jun 2024 17:51 |
| 12 | 12 | Rfg042.d | 1. | 24F004-05 | 10.0mL | 8 Jun 2024 18:15 |
| 13 | 13 | Rfg043.d | 1. | 24F004-06 | 10.0mL | 8 Jun 2024 18:39 |
| 14 | 14 | Rfg044.d | 1. | 24F004-07 | 10.0mL | 8 Jun 2024 19:03 |
| 15 | 15 | Rfg045.d | 1. | 24F004-08 | 10.0mL | 8 Jun 2024 19:27 |
| 16 | 16 | Rfg046.d | 1. | 24F004-09 | 10.0mL | 8 Jun 2024 19:50 |
| 17 | 17 | Rfg047.d | 1. | 24F004-10 | 10.0mL | 8 Jun 2024 20:14 |
| 18 | 18 | Rfg048.d | 1. | 24F003-01 | 10.0mL | 8 Jun 2024 20:38 |
| 19 | 19 | Rfg049.d | 1. | 24F003-02 | 10.0mL | 8 Jun 2024 21:01 |
| 20 | 20 | Rfg050.d | 1. | 24F003-03 | 10.0mL | 8 Jun 2024 21:25 |
| 21 | 21 | Rfg051.d | 1. | 24F003-04 | 10.0mL | 8 Jun 2024 21:49 |
| 22 | 22 | Rfg052.d | 1. | 24F003-05 | 10.0mL | 8 Jun 2024 22:13 |
| 23 | 23 | Rfg053.d | 1. | 24F003-06 | 10.0mL | 8 Jun 2024 22:37 |
| 24 | 24 | Rfg054.d | 1. | 24F003-07 | 10.0mL | 8 Jun 2024 23:01 |
| 25 | 25 | Rfg055.d | 1. | 24F003-08 | 10.0mL | 8 Jun 2024 23:24 |
| 26 | 26 | Rfg056.d | 1. | 24F003-09 | 10.0mL | 8 Jun 2024 23:48 |
| 27 | 27 | Rfg057.d | 1. | 24F003-10 | 10.0mL | 9 Jun 2024 00:12 |
| 28 | 28 | Rfg058.d | 1. | EVOE2E1705 | 10ppb 8260/50ppb ... | 9 Jun 2024 00:35 |
| 29 | 29 | Rfg059.d | 1. | EVOE2E17051 | 10ppb 8260/50ppb ... | 9 Jun 2024 00:59 |
| 30 | 30 | Rfg060.d | 1. | EVOE2E17052 | 10ppb 8260/50ppb ... | 9 Jun 2024 01:22 |



# STANDARD LOGS

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-10 | CARBON DISULFIDE | 5000 ppm | 500 µL | 250ppm |
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| | | | IR | 5/16/24 |

| Standard ID | SV1-43-98-01 |
|---|---|
| Name | $CS_2$ (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-10 | CARBON DISULFIDE | 5000ppm | 500µL | 250ppm |
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| | | | IR | 5/16/24 |

| Standard ID | SV1-43-98-02 |
|---|---|
| Name | $CS_2$ (1°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-19 | VOC Gas Std. | 2000ppm | 1250 µL | 250ppm |
| ↓ -15-18 | Vinyl Acetate | 2500ppm | 1000 µL | ↓ |
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| | | | IR | 5/16/24 |

| Standard ID | SV1-43-98-03 |
|---|---|
| Name | GAS (1°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | IR |

Syringe ID: MSV-03-01-16
-03-03-05

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. ppm | Aliquot µL | Final Conc. ppm |
|---|---|---|---|---|
| SV1-08-12-11 | TBA | 5000 | 200 | 500 |
| 09-07 | 1,2,3-TMB | 2500 | ↓ | 250 |
| 13-20 | 0 Gas Add Std | 2000 | 250 | 250 |
| 13-08 | 2- CLEVE | ↓ | ↓ | ↓ |
| 13-18 | 1 Chlorohexane | | | |
| ↓ 11-11 | Cust. VOA Mix | | | |
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| | | | DH 5/17/24 | |

| Standard ID | SV1-43-97-01 |
|---|---|
| Name | 8260 (1) |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | DN |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. ppm | Aliquot µL | Final Conc. |
|---|---|---|---|---|
| SV1-08-14-05 | VOA Mix 1 | 5000 | 500 | 250 ppm |
| 15-12 | Acrolein & Acrylonitrile | ↓ | ↓ | ↓ |
| 11-07 | 2-butanol | 50000 | 250 | 6250 ppm |
| 12-12 | Cyclohexane | 2000 | ↓ | 250 ppm |
| 14-01 | Methyl Acetate | 2500 | 2500 | ↓ |
| ↓ 14-03 | Methyl Cyclohexane | ↓ | ↓ | |
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| | | | DH 5/17/24 | |

| Standard ID | SV1-43-97-02 |
|---|---|
| Name | Ref. AA - Used |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | DN |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-43-85-02 | 8260 (2°) | 50 ppm | 200 µL | 5.0 ppm |
| ↓ -88-02 | 624 (2°) | 250 ppm | 40 µL | ↓ |
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| | | | IR 5/16/24 | |

| Standard ID | SV1-43-97-03 |
|---|---|
| Name | SIM (2°) |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 9/22/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05
-03-03-03

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-14-05 | VOA Calibration Mix #1 | 5000ppm | 0.5mL | 250ppm |
| ↓ 38-15-04 | Acrolein + Acrylonitrile | ↓ | ↓ | ↓ |
| | | | | |
| | | | DH 2/26/24 | |

| Standard ID | SV1-43-76-01 |
|---|---|
| Name | Ket-AA (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-11-24-02 |
| Prep. Date | 2/26/24 |
| Exp. Date | 5/26/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-30-02-02 | VOA TUNING CMPD MIX | 5000ppm | 100mL | 50ppm |
| | | | | |
| | | | BL 2/26/24 | |

| Standard ID | SV1-43-76-02 |
|---|---|
| Name | BFB |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 2/26/24 |
| Exp. Date | 8/26/24 |
| Prepared By | BL |

Syringe ID: MSV-03-02-25

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-13-17 | vinyl acetate | 2000ppm | 1.25mL | 250 ppm |
| ↓ -12-05 | 8260 gases | ↓ | ↓ | ↓ |
| | | | | |
| | | | | LAP 2/27/24 |

| Standard ID | SV1-43-76-03 |
|---|---|
| Name | GAS (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-11-24-02 |
| Prep. Date | 2/26/24 |
| Exp. Date | 8/26/24 |
| Prepared By | ↑ DH |

Syringe ID: MSV-03-03-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-10 | Carbon Disulfide | 5000ppm | 250µL | 250ppm |
| | | | | LAP 3/11/24 |

| Standard ID | SV1-43-79-01 |
|---|---|
| Name | CS2 (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SVIA-011-24-01 |
| Prep. Date | 3/11/24 |
| Exp. Date | 9/11/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-02-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-08-06 | Carbon Disulfide | 5000ppm | 0.5mL | 250 ppm |
| | | | | LAP 3/11/24 |

| Standard ID | SV1-43-79-02 |
|---|---|
| Name | CS2 (2°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SVIA-011-24-01 |
| Prep. Date | 3/11/24 |
| Exp. Date | 9/11/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-19 | VOC GAS Std | 2000ppm | 1.26mL | 250ppm |
| ↓ -14-09 | Vinyl acetate | 2500ppm | 1.0mL | ↓ |
| | | | | ZL 03/12/24 |

| Standard ID | SV1-43-79-03 |
|---|---|
| Name | GAS (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 03/12/24 |
| Exp. Date | 09/12/24 |
| Prepared By | DM |

Syringe ID: MSV-01-02-20-2

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-10-08 | methyl acetate | 1000ppm | 0.5mL | 50ppm |
| ↓ -14-20 | cyclohexane | ↓ | ↓ | ↓ |
| ↓ -14-11 | methylcyclohexane | | | |
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| | | | N 2/7/24 | |

| Standard ID | SV1-43-70-01 |
|---|---|
| Name | 3add (2°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-02 |
| Prep. Date | 2/7/24 |
| Exp. Date | 8/7/24 |
| Prepared By | N |

Syringe ID: MSV-03-03-04

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-15 | methyl acetate | 2500ppm | 1.0mL | 250ppm |
| ↓ -14-03 | methylcyclohexane | ↓ | ↓ | ↓ |
| ↓ -12-12 | cyclohexane | 2000ppm | 1.25mL | ↓ |
| ↓ -08-11 | 2-butanol | 50,000ppm | ↓ | 6250ppm |
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| | | | N 2/7/24 | |

| Standard ID | SV1-43-70-02 |
|---|---|
| Name | 4add (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-02 |
| Prep. Date | 2/7/24 |
| Exp. Date | 8/7/24 |
| Prepared By | N |

Syringe ID: MSV-03-03-04

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-15 | methyl acetate | 2500ppm | 1.0mL | 250ppm |
| ↓ -14-03 | methylcyclohexane | ↓ | ↓ | ↓ |
| ↓ -12-12 | cyclohexane | 2000ppm | 1.25mL | ↓ |
| ↓ -08-11 | 2-butanol | 50,000ppm | ↓ | 6250ppm |
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| | | | N 2/7/24 | |

| Standard ID | SV1-43-70-03 |
|---|---|
| Name | 4add (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-02 |
| Prep. Date | 2/7/24 |
| Exp. Date | 8/7/24 |
| Prepared By | N |

Syringe ID: MSV-03-03-04

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-15-10 | 8260 gases | 2000 ppm | 1.25 mL | 250 ppm |
| ↓ -38-15-13 | vinyl acetate | ↓ | ↓ | ↓ |
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| | | | DH 5/8/24 | |

| Standard ID | SV1-43-94-01 |
|---|---|
| Name | GAS (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWAA-011-24-01 |
| Prep. Date | 5/8/24 |
| Exp. Date | 11/8/24 |
| Prepared By | LAP |

Syringe ID: MSV-02-02-11
↓ -03-02-23

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-15-09 | Ketones soln. | 2500 ppm | 1.0 mL | 250 ppm |
| SV1-38-15-14 | Acrolein & Acrylonitrile | ↓ | 1.25 mL | ↓ |
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| | | | DH 5/8/24 | |

| Standard ID | SV1-43-94-02 |
|---|---|
| Name | KET-AA (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/8/24 |
| Exp. Date | 7/31/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11
↓ ~~03-03~~ DH 5/8/24
MSV-0302-03

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-13-12 | 8260 IS Mix, 3-30 | 2500 ppm | 1.0 mL | 250 ppm |
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| | | | LAP 5/10/24 | |

| Standard ID | SV1-43-94-03 |
|---|---|
| Name | IS |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/10/24 |
| Exp. Date | 11/10/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

DH 5/15/24

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVL-38-13-12 ↓ 38-15-15 | 8260 IS Mix 8260A Surr Mix | 2500ppm ↓ | 200µL ↓ | 50ppm ↓ |
| | | | DH 5/13/24 | |

| Standard ID | SV1-43-96-01 |
|---|---|
| Name | IS/SS |
| Final Volume | 10mL |
| MeOH Solvent ID | SWA-011-24-01 |
| Prep. Date | 5/13/24 |
| Exp. Date | 11/12/24 |
| Prepared By | DH |

Syringe ID: MSV-03-03-11 ↓ 02-23

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVL-38-19-02 | 8260 IS | 2500ppm | 4µL | 20ppm |
| | | | DH 5/16/24 | |

| Standard ID | SV1-43-96-02 |
|---|---|
| Name | IS (CF2) |
| Final Volume | 5mL |
| MeOH Solvent ID | SVA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/5/24 |
| Prepared By | DH |

Syringe ID: MSV-03-02-21

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVL-38-10-13 | 8260A SU | 2500ppm | 1.0mL | 250ppm |
| | | | DH 5/16/24 | |

| Standard ID | SV1-43-96-03 |
|---|---|
| Name | SS |
| Final Volume | 10mL |
| MeOH Solvent ID | SURR-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | DH |

Syringe ID: MSV-03-01-14

Comments:

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

# CERTIFIED REFERENCE MATERIAL

SM-38-10-B

# Certificate of Analysis

***chromatographic plus***

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30240 **Lot No.:** A0192204

**Description :** 8260A Surrogate Mix

8260A Surrogate Mix 2,500µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** December 31, 2027 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Dibromofluoromethane | 1868-53-7 | 022013 | 99% | 2,517.6 µg/mL | +/- 141.4279 |
| 2 | 1,2-Dichloroethane-d4 | 17060-07-0 | PR-32845 | 99% | 2,507.6 µg/mL | +/- 140.8661 |
| 3 | Toluene-d8 | 2037-26-5 | I-27008 | 99% | 2,511.4 µg/mL | +/- 141.0796 |
| 4 | 1-Bromo-4-fluorobenzene (BFB) | 460-00-4 | 184975 | 99% | 2,517.8 µg/mL | +/- 141.4391 |

* Expanded Uncertainty displayed in same units as Grav. Cor

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

# Quality Confirmation Test

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

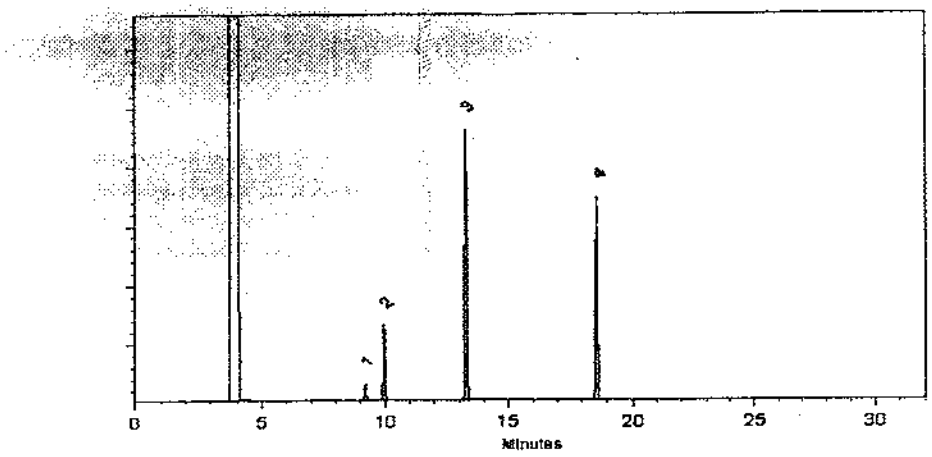
**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID

**Split Vent:**
40 ml/min

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Daniel Wasson - Operations Tech I

**Date Mixed:** 02-Dec-2022 **Balance Serial #** 1128342314

Christie Mills - Operations Tech II - ARM QC

**Date Passed:** 06-Dec-2022

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

SV1-38-13-12

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 7/13/2022
Original issue date: 7/13/2022

# Certificate of Analysis

Date Received: 10/6/23



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -122455-05 | 484785 | -18°C +/- 4°C | P/T Methanol | 12-Jul-2027 | Method 8260 Internal Standard Mix, 3-30, 2,500 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| chlorobenzene-d5 | 3114-55-4 | 99.5 | 128.120.1P | 2504 ± 130 |
| 1,2-dichlorobenzene-$d_4$ | 2199-69-1 | 99.7 | 247.29.3P | 2514 ± 130 |
| 1,4-difluorobenzene | 540-36-3 | 99.3 | 129.158.1.2P | 2523 ± 140 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

SVI-38-13-12

# Certificate of Analysis



**Catalog No.:** Z-G34-122455-05 **Lot No.:** 484785 **Expiration Date:** 7/12/2027

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 12-Jul-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Bradley Richter | Jared Ball | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist II** | **Quality Control Team Lead** |

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-01-20 | Cust. Rev. 8260 Megamix | 2000 ppm | 250 µL | 50 ppm |
| -02-03 | Oxygenated Gas Mix #1 | ↓ | ↓ | ↓ |
| -11-19 | 2-CLEVE | ↓ | ↓ | ↓ |
| -12-20 | 1-Chlorohexane | 1000 | 0.5 mL | ↓ |
| -12-06 | 1,2,3 TMB | 2500 | 200 µL | ↓ |
| -11-18 | TBA | 50000 | 50 µL | 500 ppm |
| -12-17 | Acetone brite | 20000 | 250 µL | ↓ |

IR 4/12/24

| Standard ID | SV1-43-85-01 |
|---|---|
| Name | 8260 (2°) Soil |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 4/12/24 |
| Exp. Date | 10/12/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-~~18~~ 05 IR 4/12/24
-03-03-03

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-01-20 | Cust. Rev. 8260 Megamix | 2000 ppm | 250 µL | 50 ppm |
| -02-03 | Cal. Oxy. Gas Mix #1 | ↓ | ↓ | ↓ |
| -11-19 | 2-CLEVE | ↓ | ↓ | ↓ |
| -12-20 | 1-chlorohexane | 1000 ppm | 0.5 mL | ↓ |
| -12-06 | 1,2,3 TMB | 2500 ppm | 200 µL | ↓ |
| -11-18 | TBA | 50000 ppm | ↓ | 1000 ppm |

IR 4/12/24

| Standard ID | SV1-43-85-02 |
|---|---|
| Name | 8260 (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 4/12/24 |
| Exp. Date | 10/12/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-11 | Cust. VOA Mix 73-6047 | 2000 ppm | 250 µL | 50 ppm |
| -13-20 | Oxy. Gas Add. | ↓ | ↓ | ↓ |
| -13-08 | 2-CLEVE | ↓ | ↓ | ↓ |
| -13-18 | 1-chlorohexane | ↓ | ↓ | ↓ |
| -13-13 | 1,2,3 TMB | 2500 ppm | 200 µL | ↓ |
| -12-11 | TBA | 50000 ppm | ↓ | 1000 ppm |

| Standard ID | SV1-43-85-03 |
|---|---|
| Name | 8260 (1°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 4/12/24 |
| Exp. Date | 10/12/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

*chromatographic*

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 575702 **Lot No.:** A0191824

**Description :** Custom Revised 8260 Megamix

Custom Revised 8260 Megamix 2,000 - 40,000µg/mL, P&T Methanol, 1mL/ampul

SVI-38-09-20

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** November 30, 2025 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Dichlorofluoromethane (CFC-21) | 75-43-4 | 12841600 | 99% | 2,000.0 µg/mL | +/- 69.1292 |
| 2 | Diethyl ether (ethyl ether) | 60-29-7 | SHBP5008 | 99% | 2,011.0 µg/mL | +/- 69.5094 |
| 3 | 1,1,2-Trichlorotrifluoroethane (CFC-113) | 76-13-1 | 00016133 | 99% | 2,008.0 µg/mL | +/- 69.4057 |
| 4 | 1,1-dichloroethene | 75-35-4 | SHBG8609V | 99% | 2,001.6 µg/mL | +/- 69.9029 |
| 5 | Iodomethane (methyl iodide) | 74-88-4 | RD220125 | 99% | 2,007.5 µg/mL | +/- 69.3884 |
| 6 | Allyl chloride ( 3-chloropropene ) | 107-05-1 | RP220405A | 99% | 2,011.0 µg/mL | +/- 69.5094 |
| 7 | Methylene chloride (dichloromethane) | 75-09-2 | SHBP1417 | 99% | 2,001.6 µg/mL | +/- 69.9056 |
| 8 | trans-1,2-Dichloroethene | 156-60-5 | MKBH9850V | 99% | 2,001.7 µg/mL | +/- 69.9064 |
| 9 | 1,1-Dichloroethane | 75-34-3 | 760200 | 99% | 2,001.1 µg/mL | +/- 69.8864 |
| 10 | Chloroprene (2-chloro-1,3-butadiene) | 126-99-8 | 220712JLM | 99% | 2,014.0 µg/mL | +/- 69.6131 |
| 11 | Propionitrile | 107-12-0 | BCCF4167 | 99% | 20,009.5 µg/mL | +/- 691.5748 |
| 12 | 2,2-Dichloropropane | 594-20-7 | RD220812 | 99% | 2,004.3 µg/mL | +/- 70.0110 |
| 13 | cis-1,2-Dichloroethene | 156-59-2 | MKCP7830 | 99% | 2,014.0 µg/mL | +/- 70.3516 |
| 14 | Methacrylonitrile | 126-98-7 | 1012014 | 99% | 20,031.5 µg/mL | +/- 692.3351 |
| 15 | Methyl acrylate | 96-33-3 | SHBG6616V | 99% | 2,007.0 µg/mL | +/- 69.3711 |
| 16 | Isobutanol (2-Methyl-1-propanol) | 78-83-1 | SHBP7066 | 99% | 40,013.5 µg/mL | +/- 1,382.9594 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | chloroform | 67-66-3 | SHBN8469 | 99% | 2,002.3 | µg/mL | +/- 69.9291 |
| 18 | Bromochloromethane | 74-97-5 | 00008541 | 99% | 2,011.9 | µg/mL | +/- 70.2782 |
| 19 | Tetrahydrofuran | 109-99-9 | SHBP0039 | 99% | 2,005.0 | µg/mL | +/- 69.3020 |
| 20 | 1,1,1-trichloroethane | 71-55-6 | RD220613 | 98% | 2,001.2 | µg/mL | +/- 69.8893 |
| 21 | 1,1-Dichloropropene | 563-58-6 | 220617JLM | 99% | 2,014.0 | µg/mL | +/- 70.3498 |
| 22 | carbon tetrachloride | 56-23-5 | SHBL8097 | 99% | 2,000.1 | µg/mL | +/- 69.8514 |
| 23 | 1,2-Dichloroethane | 107-06-2 | MKCN9758 | 99% | 2,001.6 | µg/mL | +/- 69.9056 |
| 24 | Benzene | 71-43-2 | MKCQ2104 | 99% | 2,010.5 | µg/mL | +/- 70.2293 |
| 25 | 2-Chloroethanol | 107-07-3 | RD220606A | 99% | 2,002.5 | µg/mL | +/- 69.2156 |
| 26 | Trichloroethene | 79-01-6 | SHBN3720 | 99% | 2,001.6 | µg/mL | +/- 69.9047 |
| 27 | 1,2-Dichloropropane | 78-87-5 | BCBR0882V | 99% | 2,001.8 | µg/mL | +/- 69.9125 |
| 28 | Methyl methacrylate | 80-62-6 | MKCQ2755 | 99% | 2,007.5 | µg/mL | +/- 69.3884 |
| 29 | bromodichloromethane | 75-27-4 | MKCF8470 | 99% | 2,001.7 | µg/mL | +/- 69.9082 |
| 30 | 1,4-Dioxane | 123-91-1 | SHBP8653 | 99% | 40,041.0 | µg/mL | +/- 1,383.9099 |
| 31 | 2-Nitropropane | 79-46-9 | BCCB9352 | 97% | 2,003.5 | µg/mL | +/- 69.2514 |
| 32 | Dibromomethane | 74-95-3 | 10233302 | 99% | 2,013.0 | µg/mL | +/- 70.3149 |
| 33 | cis-1,3-Dichloropropene | 10061-01-5 | RD220311 | 99% | 2,001.9 | µg/mL | +/- 69.9152 |
| 34 | Toluene | 108-88-3 | ED097-US | 99% | 2,011.4 | µg/mL | +/- 70.2608 |
| 35 | Ethyl methacrylate | 97-63-2 | MKCN6206 | 97% | 2,004.0 | µg/mL | +/- 69.2681 |
| 36 | trans-1,3-Dichloropropene | 10061-02-6 | RD220816 | 99% | 2,000.5 | µg/mL | +/- 69.8671 |
| 37 | 1,1,2-Trichloroethane | 79-00-5 | FGB01 | 99% | 2,001.9 | µg/mL | +/- 69.9134 |
| 38 | 1,3-Dichloropropane | 142-28-9 | BCCB9817 | 99% | 2,011.1 | µg/mL | +/- 70.2485 |
| 39 | Tetrachloroethene | 127-18-4 | SHBJ7422 | 99% | 2,001.2 | µg/mL | +/- 69.8890 |
| 40 | dibromochloromethane | 124-48-1 | MKCM8659 | 99% | 2,002.2 | µg/mL | +/- 69.9256 |
| 41 | 1,2-Dibromoethane (EDB) | 106-93-4 | BCCF5058 | 99% | 2,006.0 | µg/mL | +/- 70.0704 |
| 42 | Chlorobenzene | 108-90-7 | SHBN6640 | 99% | 2,000.1 | µg/mL | +/- 69.8506 |
| 43 | 1,1,1,2-Tetrachloroethane | 630-20-6 | GC01 | 99% | 2,009.8 | µg/mL | +/- 70.2031 |
| 44 | Ethylbenzene | 100-41-4 | 094632L21G | 99% | 2,016.4 | µg/mL | +/- 70.4337 |
| 45 | m-Xylene | 108-38-3 | SHBN6673 | 98% | 2,012.6 | µg/mL | +/- 70.3019 |
| 46 | p-Xylene | 106-42-3 | 10234437 | 99% | 2,009.1 | µg/mL | +/- 70.1787 |
| 47 | o-Xylene | 95-47-6 | SHBN5105 | 98% | 2,010.1 | µg/mL | +/- 70.2163 |
| 48 | Styrene | 100-42-5 | MKCQ3390 | 99% | 2,012.6 | µg/mL | +/- 70.3027 |
| 49 | Isopropylbenzene (cumene) | 98-82-8 | Z20D022 | 99% | 2,009.3 | µg/mL | +/- 70.1874 |
| 50 | bromoform | 75-25-2 | MKCR0680 | 99% | 2,000.8 | µg/mL | +/- 69.8750 |
| 51 | cis-1,4-Dichloro-2-butene | 1476-11-5 | RD220907 | 97% | 2,000.0 | µg/mL | +/- 69.1290 |
| 52 | 1,1,2,2-Tetrachloroethane | 79-34-5 | OXACF | 99% | 2,002.8 | µg/mL | +/- 69.9466 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 1,2,3-Trichloropropane | 96-18-4 | 332900 | 99% | 2,010.3 | µg/mL | +/- 70.2206 |
| 54 | trans-1,4-dichloro-2-butene | 110-57-6 | RD220921RSR | 94% | 1,999.9 | µg/mL | +/- 69.1240 |
| 55 | n-Propylbenzene | 103-65-1 | MKCN1126 | 99% | 2,009.1 | µg/mL | +/- 70.1804 |
| 56 | Bromobenzene | 108-86-1 | WXBC5147V | 99% | 2,012.5 | µg/mL | +/- 70.2992 |
| 57 | 1,3,5-Trimethylbenzene | 108-67-8 | BCCF4166 | 99% | 2,010.8 | µg/mL | +/- 70.2381 |
| 58 | 2-Chlorotoluene | 95-49-8 | MKCF5243 | 99% | 2,007.5 | µg/mL | +/- 70.1228 |
| 59 | 4-Chlorotoluene | 106-43-4 | MKCC8496 | 99% | 2,012.4 | µg/mL | +/- 70.2957 |
| 60 | tert-Butylbenzene | 98-06-6 | STBJ1937 | 99% | 2,009.0 | µg/mL | +/- 70.1769 |
| 61 | 1,2,4-Trimethylbenzene | 95-63-6 | WXBC9428V | 98% | 2,004.8 | µg/mL | +/- 70.0297 |
| 62 | sec-Butylbenzene | 135-98-8 | MKCP2266 | 99% | 2,009.2 | µg/mL | +/- 70.1839 |
| 63 | p-Isopropyltoluene (p-Cymene) | 99-87-6 | MKCR6143 | 99% | 2,007.6 | µg/mL | +/- 70.1280 |
| 64 | 1,3-Dichlorobenzene | 541-73-1 | BCCD5315 | 99% | 2,000.7 | µg/mL | +/- 69.8715 |
| 65 | 1,4-Dichlorobenzene | 106-46-7 | MKBS4401V | 99% | 2,002.0 | µg/mL | +/- 69.9195 |
| 66 | n-Butylbenzene | 104-51-8 | 09804AE | 99% | 2,006.9 | µg/mL | +/- 70.1036 |
| 67 | 1,2-Dichlorobenzene | 95-50-1 | SHBN3835 | 99% | 2,001.2 | µg/mL | +/- 69.8898 |
| 68 | 1,2-Dibromo-3-chloropropane | 96-12-8 | HBMVB | 97% | 2,006.3 | µg/mL | +/- 70.0843 |
| 69 | Nitrobenzene | 98-95-3 | 10224044 | 99% | 2,004.0 | µg/mL | +/- 69.2674 |
| 70 | 1,2,4-Trichlorobenzene | 120-82-1 | SHBM0526 | 99% | 2,009.7 | µg/mL | +/- 70.1996 |
| 71 | Hexachlorobutadiene | 87-68-3 | X05J | 99% | 2,007.4 | µg/mL | +/- 70.1210 |
| 72 | Naphthalene | 91-20-3 | MKCH0219 | 99% | 2,001.5 | µg/mL | +/- 69.9132 |
| 73 | 1,2,3-Trichlorobenzene | 87-61-6 | MKBX7627V | 99% | 2,015.7 | µg/mL | +/- 70.4092 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

# Quality Confirmation Test

**Column:**
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

**Carrier Gas:**
helium-constant pressure 30 psi

**Temp. Program:**
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

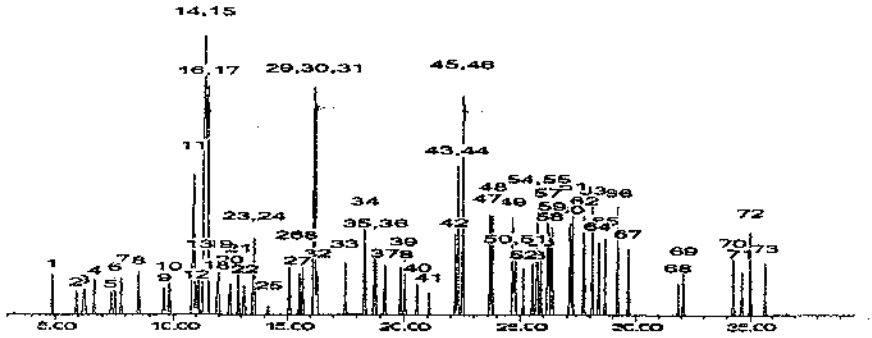
**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
MSD

**Split Vent:**
20.0 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis – Mix Technician

**Date Mixed:** 18-Nov-2022 **Balance Serial #** B251644995

Jennifer Polkino - Operations Tech III - ARM QC

**Date Passed:** 05-Dec-2022

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

SVI-38-02-03

# RESTEK® CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

## Certificate of Analysis

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30465 **Lot No.:** A0168072

**Description :** California Oxygenates Mixture #1

California Oxygenates Mixture #1 2000-10000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2026 **Storage:** 0°C or colder

**Ship:** Ambient

## CERTIFIED VALUES

| Elution Order | Compound | | Grav. Conc. (weight/volume) | | Expanded Uncertainty (95% C.L.; K=2) | | |
|---|---|---|---|---|---|---|---|
| 1 | tert-Butanol (TBA)<br>CAS # 75-65-0<br>Purity 99% | (Lot SHBL5806) | 10,038.8 | µg/mL | +/- 58.7794<br>+/- 215.0444<br>+/- 221.2897 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2 | Methyl-tert-butyl ether ( MTBE )<br>CAS # 1634-04-4<br>Purity 99% | (Lot SHBL0822) | 2,005.6 | µg/mL | +/- 11.7700<br>+/- 42.9699<br>+/- 44.2174 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 3 | Diisopropyl ether ( DIPE )<br>CAS # 108-20-3<br>Purity 99% | (Lot SHBH1927V) | 2,009.6 | µg/mL | +/- 11.7935<br>+/- 43.0556<br>+/- 44.3056 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 4 | Ethyl-tert-butyl ether (ETBE)<br>CAS # 637-92-3<br>Purity 99% | (Lot MKCM3774) | 2,006.0 | µg/mL | +/- 11.7723<br>+/- 42.9785<br>+/- 44.2263 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 5 | tert-Amyl methyl ether (TAME)<br>CAS # 994-05-8<br>Purity 99% | (Lot HMBG7745V) | 2,007.2 | µg/mL | +/- 11.7794<br>+/- 43.0042<br>+/- 44.2527 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

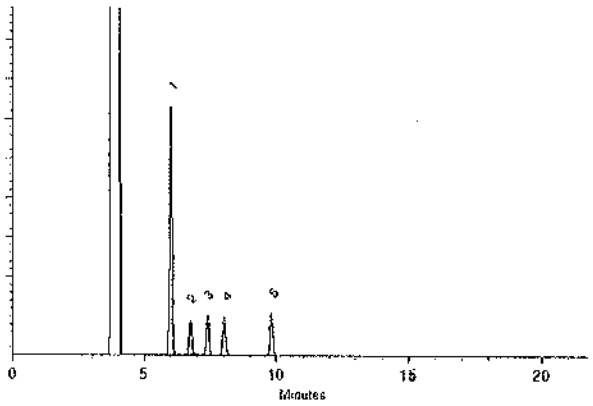
**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Miranda Kline - Operations Technician I

**Date Mixed:** 12-Jan-2021 **Balance:** B442140311

Justine Albertson - Operations Tech, ASM QC

**Date Passed:** 14-Jan-2021

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

# CERTIFICATE OF ANALYSIS

**Catalog No:** M-601C-10X
**Description:** 2-Chloroethylvinyl ether
**Lot:** 223041132
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 11, 2023
**Expiration:** Apr 11, 2026
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Freeze (<-10 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| 2-Chloroethylvinyl ether | 110-75-8 | 100.0 | 2005 | 2005 |

SVI-38-11-19

Reference Standard

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

SVI-38-11-19

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(TV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k$=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
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# CERTIFIED REFERENCE MATERIAL

## Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

SV1-38-11-18

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30470 **Lot No.:** A0188432

**Description :** tert-Butanol Standard

tert-Butanol Std 50,000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** August 31, 2025 **Storage:** 0°C or colder

**Ship:** Ambient

## CERTIFIED VALUES

| Elution Order | Compound | Given Conc. (weight/volume) | Expanded Uncertainty (95% C.L., K=2) | | |
|---|---|---|---|---|---|
| 1 | tert-Butanol (TBA) | 50,300.0 µg/mL | +/- 294.5176 | µg/mL | Gravimetric |
| | CAS # 75-65-0 (Lot I01619K21F-1) | | +/- 1,077.4927 | µg/mL | Unstressed |
| | Purity 99% | | +/- 1,108.7850 | µg/mL | Stressed |

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

SVI-38-11-18

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

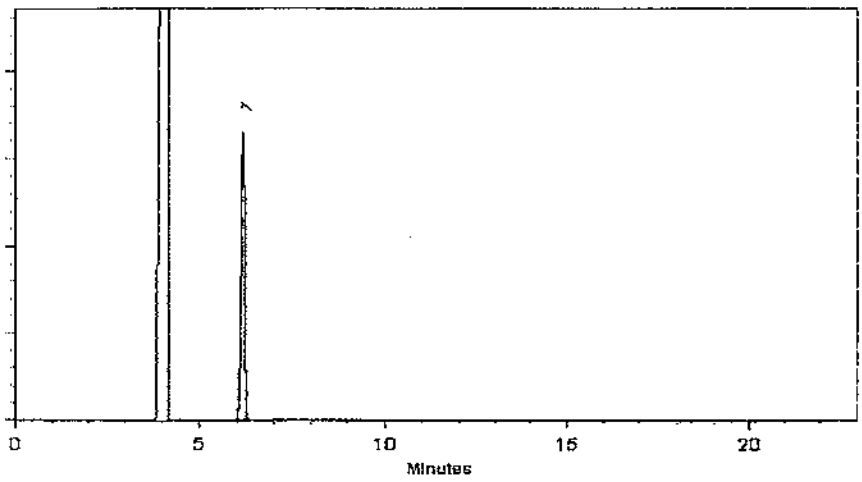
**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Malina Homan - Operations Technician I  **Date Mixed:** 11-Aug-2022  **Balance:** B251644995

Marlina Cowan – Operations Tech II ARM QC  **Date Passed:** 15-Aug-2022

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

SVL-3871-18

**General Certified Reference Material Notes**

**Expiration Notes:**

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

**Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

**Certified Uncertainty Value Notes:**

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions | Standard Conditions | Non-Standard Conditions |
|---|---|---|
| 25°C Nominal (Room Temperature) | < 60°C | ≥ 60°C up to 7 days |
| 10°C or colder (Refrigerate) | < 40°C | ≥ 40°C up to 7 days |
| 0°C or colder (Freezer)<br>-20°C or colder (Deep Freezer) | < 25°C | ≥ 25°C up to 7 days |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

**Manufacturing Notes:**

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

**Handling Notes:**

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

Ibis Scientific, 7330 Smoke Ranch Rd., Suite B, Las Vegas, NV 89128 (855)390-4202



Date manufactured: 6/24/2022
Original issue date: 6/24/2022

# Certificate of Analysis

Date Received: _____

Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| 3200-44 | 503601 | ≤ -10 °C | P/T Methanol | 23-Jun-2027 | 1,2,3-Trimethylbenzene Solution, 2500 mg/L, 1 mL |

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 1,2,3-trimethylbenzene | 526-73-8 | 92.7 | 869.8.4.1P | 2536 ± 32.33 |

SVI-38-12-06

SM-38-12-20

Agilent

Trusted Answers

**ISO 17034**

# Reference Material Certificate

## Product Information Sheet

**Product Name:** 1-Chlorohexane Standard

**Product Number:** EPA-1208-1

**Storage Conditions:** Store at Room Temperature (15° to 30°C).

**Lot Number:** 0006735507

**Lot Issue Date:** 20-Mar-2023

**Expiration Date:** 30-Apr-2026

| Chemical Name | Concentration | Uncertainty | CAS # | Analysis ID |
|---|---|---|---|---|
| 1-chlorohexane | 1000 | ± 5 µg/mL | 000544-10-5 | RM04313 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material (RM) standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above. Purity values are taken from approved vendor raw material certificates.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference (RM) standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference (RM) standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Expiration of Certification:**
The certification of this analytical reference standard (RM) is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

Agilent

Trusted Answers

SM-38-12-20

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB
ACCREDITED
REFERENCE MATERIAL PRODUCER

ISO 17034 Cert
No. AR-1936

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015 Quality Management System. Cert# 951215321



www.agilent.com/quality/
CSD-QA-015.1

ISO 17025

Agilent

Trusted Answers

ISO 17034

# Reference Material Certificate

## Product Information Sheet

| | | | |
|---|---|---|---|
| **Product Name:** | Acrolein and Acrylonitrile Standard | **Lot Number:** | 0006788822 |
| **Product Number:** | AMN-623-1 | **Lot Issue Date:** | 20-Mar-2024 |
| **Storage Conditions:** | Store Frozen (-25° to -10°C). SVI-38-15-14 | **Expiration Date:** | 31-Jul-2024 |

| Component Name | Concentration | | Uncertainty | CAS# | Analyte Lot |
|---|---|---|---|---|---|
| ~~acrolein~~ | 2009 | ± | 10 µg/mL | 000107-02-8 | RM20527 |
| acrylonitrile | 2009 | ± | 10 µg/mL | 000107-13-1 | RM20527 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Expiration of Certification:**
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.



CSD-QA-015.2

ISO 17025
Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 **www.agilent.com/quality**

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SV1-38-15-K4

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB
ACCREDITED
ISO 17034
REFERENCE MATERIAL PRODUCER

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015 Quality Management System. Cert# 951215321



www.agilent.com/quality/
CSD-QA-015.2

ISO 17034
Cert No. AR-1936

ISO 17025
Cert No. AT-1937

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SVI-38-15-09

14271 Jeffrey Road
#223
Irvine, CA 92620

ibis scientific

For Chemical Emergency, Spill, Leak, Fire Exposure or Accident Call Chromanex Day or Night 800.390.4202

**Quality System Audited & Registered by TUV USA to ISO 9001:2015**

Date Received: 2/8/24

# Certificate of Analysis

Rev 0 Page

| Catalog No.: | Lot No.: | Storage: | Solvent: | Exp. Date: | Description: |
|---|---|---|---|---|---|
| G34-3200-121020 -17 | 480682 | ≤ -10 °C | P/T MeOH:Water 9:1 | 4/28/2027 | Ketones Solution, 2500 mg/L, 1 ml ISO17034 |

| Compound | CAS No | Purity (%) | Compound Lot No | Concentration, mg/L |
|---|---|---|---|---|
| acetone | 67-64-1 | 99.6 | 196.271.4P | 2498 ± 53.47 mg/L |
| 2-butanone (MEK) | 78-93-3 | 99.9 | 197.1.2P | 2498 ± 53.51 mg/L |
| 4-methyl-2-pentanone (MIBK) | 108-10-1 | 99.88 | 198.421.1.2P | 2500 ± 54.02 mg/L |
| 2-hexanone | 591-78-6 | 100 | 199.7.3P | 2501 ± 53.58 mg/L |

Certified By: Melissa Workoff

Melissa Workoff

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

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www.AccuStandard.com

# CERTIFICATE OF ANALYSIS

**Catalog No:** APP-9-211-20X
**Description:** Vinyl acetate
**Lot:** 224031313
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*

**Date Certified:** Mar 22, 2024
**Expiration:** Sep 22, 2024
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Freeze (<-10 °C)



**Signal Word: Danger**

SVI-38.15-13

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Vinyl acetate | 108-05-4 | 100.0 | 2006 | 2006 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4% and was determined in accordance with ISO 17034. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/IND-001
Rev. 7/20

SVI-38-15-10

Ibis Scientific, 7330 Smoke Ranch Rd., Suite B, Las Vegas, NV 89128 (855) 390-4202 

Date manufactured: 12/14/2023
Original issue date: 12/14/2023

# Certificate of Analysis

Date Received: 2/8/24
Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| 3200-G34 -120016-03 | 513798 | ≤ -10 °C | P/T Methanol | 12-Dec-2028 | ISO 17034 - Method 8260 Gases, 2,000 mg/L, 2 x 0.6 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC), gas chromatography/mass spectrometry (GC/MS), or High Pressure Liquid Chromatography (HPLC) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| bromomethane | 74-83-9 | 99.9 | 139.158.2.1P | 1962 ± 23 |
| chloroethane | 75-00-3 | 99.94 | 141.2.3P | 1995 ± 23 |
| chloromethane | 74-87-3 | 99.7 | 140.158.3P | 2018 ± 24 |
| dichlorodifluoromethane | 75-71-8 | 99 | 142.158.5.1P | 2026 ± 47 |
| trichlorofluoromethane | 75-69-4 | 99 | 144.1.3P | 1995 ± 38 |
| vinyl chloride | 75-01-4 | 99 | 143.158.5.3P | 1962 ± 45 |

Second Source standards are prepared according to NELAC requirements.

## Intended Use:

This certified reference material (CRM) is intended for use as a calibration standard or a quality control standard for chromatography instrumentation such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various USEPA, NIOSH, and ASTM methods.

Recommended storage container for ampouled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix
y = boiling point of the solvent

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened

# Certificate of Analysis

**Catalog No.:** 3200-G34-120016 **Lot No.:** 513798 **Expiration Date:** 12/12/2028

ampoule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricllly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements: **≤ -10 °C**
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a sealed ampoule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

This standard was prepared gravimetrically using balances that are calibrated to the requirements of ISO/IEC 17025. All balances are calibrated externally by an accredited ISO/IEC 17025 calibration laboratory using weight sets traceable to the International System of Units (SI) through the national reference standards maintained by NIST.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025 and ISO 17034.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $U=ku_c$; U=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 12-Dec-2028

| **Manufactured By:** | **Certified By:** | **Released By:** |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| Production Chemist II | Quality Control Chemist I | Quality Control Team Lead |

# Certificate of Analysis

**Catalog No.:** 3200-G34-120016 **Lot No.:** 513798 **Expiration Date:** 12/12/2028

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| Production Chemist II | Quality Control Chemist I | Quality Control Team Lead |

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

SVL-38-11-11

Date manufactured: 3/13/2023
Original issue date: 3/13/2023

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -126047-01 | 498957 | ≤ -10 °C | P/T Methanol | 13-Sep-2024 | Custom Volatiles Mix, 73-6047, Various Concentrations, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-nitropropane | 79-46-9 | 97.7 | 219.1.2P | 2003 ± 110 |
| allyl chloride | 107-05-1 | 98.9 | 227.1.2P | 2024 ± 120 |
| benzene | 71-43-2 | 99.99 | 146.1.10P | 1997 ± 110 |
| bromobenzene | 108-86-1 | 100 | 147.7.1P | 1999 ± 140 |
| bromochloromethane | 74-97-5 | 99.7 | 148.1.3P | 1998 ± 110 |
| bromodichloromethane | 75-27-4 | 99.2 | 149.1.12P | 1988 ± 110 |
| bromoform | 75-25-2 | 99.3 | 150.7.2P | 1989 ± 110 |
| n-butylbenzene | 104-51-8 | 99.2 | 151.7.3.2P | 1997 ± 110 |
| sec-butylbenzene | 135-98-8 | 99.5 | 152.1.2.1P | 1999 ± 110 |
| tert-butylbenzene | 98-06-6 | 99.9 | 153.29.1P | 1999 ± 110 |
| carbon tetrachloride | 56-23-5 | 100 | 154.9.1P | 1997 ± 110 |
| chlorobenzene | 108-90-7 | 99.9 | 155.29.1P | 2001 ± 110 |
| 2-chloroethanol | 107-07-3 | 99.5 | 217.1.3P | 2000 ± 110 |
| chloroform | 67-66-3 | 99.8 | 156.7.1P | 1998 ± 110 |
| chloroprene | 126-99-8 | 98.9 | 315.5.22P | 1982 ± 140 |
| 2-chlorotoluene | 95-49-8 | 99.5 | 157.7.1P | 1998 ± 110 |
| 4-chlorotoluene | 106-43-4 | 99.9 | 158.9.3P | 2000 ± 110 |

# Certificate of Analysis



**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

| | | | | |
|---|---|---|---|---|
| cis-1,2-dichloroethylene | 156-59-2 | 98.5 | 166.1.7.1P | 1997 ± 110 |
| dibromochloromethane | 124-48-1 | 98.6 | 159.1.8.1P | 2013 ± 110 |
| 1,2-dibromo-3-chloropropane | 96-12-8 | 98.6 | 160.7.2.3P | 2000 ± 110 |
| 1,2-dibromoethane | 106-93-4 | 99.9 | 161.9.1P | 2008 ± 110 |
| dibromomethane | 74-95-3 | 99.8 | 162.1.2P | 1996 ± 120 |
| 1,2-dichlorobenzene | 95-50-1 | 99.5 | 43.1.2P | 1999 ± 110 |
| 1,3-dichlorobenzene | 541-73-1 | 99.5 | 44.1.3P | 2001 ± 110 |
| 1,4-dichlorobenzene | 106-46-7 | 99.9 | 45.29.1P | 2000 ± 110 |
| cis-1,4-dichloro-2-butene | 1476-11-5 | 98 | 209.1.5P | 2004 ± 110 |
| trans-1,4-dichloro-2-butene | 110-57-6 | 93.5 | 201.1.17.1P | 1991 ± 110 |
| 1,1-dichloroethane | 75-34-3 | 98.1 | 163.247.1.2P | 1992 ± 110 |
| 1,2-dichloroethane | 107-06-2 | 99.9 | 164.158.1P | 2001 ± 110 |
| 1,1-dichloroethylene | 75-35-4 | 99.98 | 165.1.4P | 1999 ± 110 |
| trans-1,2-dichloroethylene | 156-60-5 | 99.7 | 167.1.7P | 1999 ± 110 |
| dichlorofluoromethane (Freon 21) | 75-43-4 | 98 | 986.5.4.2P | 1960 ± 140 |
| 1,2-dichloropropane | 78-87-5 | 99.7 | 168.8.1.1P | 2001 ± 120 |
| 1,3-dichloropropane | 142-28-9 | 100 | 169.7.3P | 1971 ± 140 |
| 2,2-dichloropropane | 594-20-7 | 98.1 | 170.7.4P | 2002 ± 110 |
| 1,1-dichloropropylene | 563-58-6 | 99 | 171.158.2.4P | 2001 ± 120 |
| cis-1,3-dichloropropylene | 10061-01-5 | 99.5 | 172.7.6.1P | 2010 ± 110 |
| trans-1,3-dichloropropylene | 10061-02-6 | 98.8 | 173.7.4.12P | 1991 ± 110 |
| 1,4-dioxane | 123-91-1 | 99.93 | 223.1.4P | 40750 ± 2100 |
| ethyl ether | 60-29-7 | 99.8 | 226.9.1P | 2000 ± 110 |
| ethyl methacrylate | 97-63-2 | 99.5 | 216.7.1P | 2004 ± 110 |
| ethylbenzene | 100-41-4 | 100 | 174.7.1P | 1998 ± 110 |

**Manufactured By:**

Sanquetta Coakley
**Production Chemist I**

**Certified By:**

Dominique Lindner
**Quality Control Chemist I**

**Released By:**

Susan Mathews
**Quality Control Team Lead**

# Certificate of Analysis

**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

| | | | | |
|---|---|---|---|---|
| hexachlorobutadiene | 87-68-3 | 98 | 47.158.3P | 2000 ± 120 |
| iodomethane | 74-88-4 | 99.9 | 203.29.2P | 2000 ± 110 |
| isobutyl alcohol | 78-83-1 | 99.8 | 220.7.3P | 39990 ± 2100 |
| isopropylbenzene | 98-82-8 | 99.9 | 176.9.3P | 2004 ± 110 |
| 4-isopropyltoluene | 99-87-6 | 99.9 | 177.9.3P | 1988 ± 110 |
| methyl acrylonitrile | 126-98-7 | 98 | 212.286.1.2P | 19960 ± 1300 |
| methyl methacrylate | 80-62-6 | 100 | 231.7.4P | 2043 ± 110 |
| methyl acrylate | 96-33-3 | 98.5 | 349.7.1P | 1999 ± 110 |
| methylene chloride | 75-09-2 | 99.9 | 178.24.4P | 1999 ± 110 |
| naphthalene | 91-20-3 | 99.8 | 26.9.1P | 2020 ± 110 |
| nitrobenzene | 98-95-3 | 100 | 94.7.1P | 2002 ± 110 |
| propionitrile | 107-12-0 | 99.7 | 218.7.2.1P | 19950 ± 1000 |
| n-propylbenzene | 103-65-1 | 99.7 | 179.7.2.2P | 1998 ± 110 |
| styrene | 100-42-5 | 99.5 | 180.9.4P | 1999 ± 110 |
| 1,1,1,2-tetrachloroethane | 630-20-6 | 99.8 | 181.7.2.9P | 2003 ± 110 |
| 1,1,2,2-tetrachloroethane | 79-34-5 | 99.4 | 182.8.2P | 2000 ± 120 |
| tetrachloroethylene | 127-18-4 | 100 | 183.1.2VP | 2004 ± 110 |
| tetrahydrofuran (THF) | 109-99-9 | 100 | 299.7.1P | 1996 ± 110 |
| toluene | 108-88-3 | 100 | 184.48.1P | 2000 ± 110 |
| 1,2,3-trichlorobenzene | 87-61-6 | 99.8 | 185.1.2P | 1999 ± 110 |
| 1,2,4-trichlorobenzene | 120-82-1 | 99.6 | 54.29.1P | 1987 ± 110 |
| 1,1,1-trichloroethane | 71-55-6 | 99 | 187.1.1P | 1998 ± 120 |
| 1,1,2-trichloroethane | 79-00-5 | 99.6 | 195.7.1.6P | 1997 ± 110 |
| trichloroethylene | 79-01-6 | 100 | 188.29.2P | 1998 ± 110 |
| 1,2,3-trichloropropane | 96-18-4 | 99.5 | 189.1.3P | 1998 ± 110 |

**Manufactured By:**

Sanquetta Coakley
**Production Chemist I**

**Certified By:**

Dominique Lindner
**Quality Control Chemist I**

**Released By:**

Susan Mathews
**Quality Control Team Lead**

# Certificate of Analysis

**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

| | | | | |
|---|---|---|---|---|
| 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113) | 76-13-1 | 99 | 270.158.3.1P | 2002 ± 120 |
| 1,2,4-trimethylbenzene | 95-63-6 | 98.7 | 190.7.1P | 1999 ± 110 |
| 1,3,5-trimethylbenzene | 108-67-8 | 99.5 | 191.7.1P | 2001 ± 110 |
| m-xylene | 108-38-3 | 99.7 | 193.7.1.2P | 1999 ± 110 |
| o-xylene | 95-47-6 | 99 | 192.29.3P | 1998 ± 120 |
| p-xylene | 106-42-3 | 99.9 | 194.7.1P | 1999 ± 110 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)

y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

| **Manufactured By:** | **Certified By:** | **Released By:** |
|---|---|---|
| Sanquetta Coakley | Dominique Lindner | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

# Certificate of Analysis

**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 13-Sep-2024

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Sanquetta Coakley | Dominique Lindner | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

GM - 38-12-11

Date manufactured: 11/16/2022
Original issue date: 11/16/2022

# Certificate of Analysis

Date Received:
Page 1 of 2 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020511-06 | 492310 | ≤ -10 °C | P/T Methanol | 15-Nov-2027 | t-Butyl Alcohol Solution, 50,000 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| tert-butyl alcohol | 75-65-0 | 100 | 511.7.2P | 50110 ± 2600 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

# Certificate of Analysis

**Catalog No.:** Z-G34-020511-06 **Lot No.:** 492310 **Expiration Date:** 11/15/2027

(95% confidence) values listed are determined gravimetricllly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 15-Nov-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist I** | **Quality Control Team Lead** |

SVI-38-B-08

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 8/24/2022
Original issue date: 8/24/2022

# Certificate of Analysis

Date Received: 10/6/23
 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020145-02 | 492308 | ≤ -10 °C | P/T Methanol | 23-Aug-2027 | 2-Chloroethyl Vinyl Ether Solution, 2,000 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-chloroethylvinyl ether | 110-75-8 | 99.8 | 145.1.5P | 2010 ± 110 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

SN-39-13-08

# Certificate of Analysis



**Catalog No.:** Z-G34-020145-02 **Lot No.:** 492308 **Expiration Date:** 8/23/2027

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 23-Aug-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Sanquetta Coakley | Dominique Lindner | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

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SVI-38-09-07

Date manufactured: 6/24/2022
Original issue date: 6/24/2022

# Certificate of Analysis

Date Received:

 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020869-08 | 484154 | ≤ -10 °C | P/T Methanol | 23-Jun-2027 | 1,2,3-Trimethylbenzene Solution, 2,500 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 1,2,3-trimethylbenzene | 526-73-8 | 92.7 | 869.8.4.1P | 2536 ± 140 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVr38-09-05

# Certificate of Analysis



**Catalog No.:** Z-G34-020869-08 **Lot No.:** 484154 **Expiration Date:** 6/23/2027

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 23-Jun-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Brian Stokes | J Ball | Susan Mathews |
| Brian Stokes | Jared Ball | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

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# CERTIFIED REFERENCE MATERIAL

## Certificate of Analysis

SV1-30-02-02

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30003 **Lot No.:** A0150458

**Description :** VOA Tuning Compound Mix

VOA Tuning Compound Mix 5,000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2024 **Storage:** 0°C or colder

**CERTIFIED VALUES**

| Elution Order | Compound | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) | | |
|---|---|---|---|---|---|
| 1 | 1-Bromo-4-fluorobenzene (BFB) | 5,030.0 µg/mL | +/- 29.5189 | µg/mL | Gravimetric |
| | CAS # 460-00-4 (Lot 20401KO) | | +/- 282.0557 | µg/mL | Unstressed |
| | Purity 99% | | +/- 288.6541 | µg/mL | Stressed |

**Solvent:** P&T Methanol
CAS # 67-56-1
Purity 99%

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

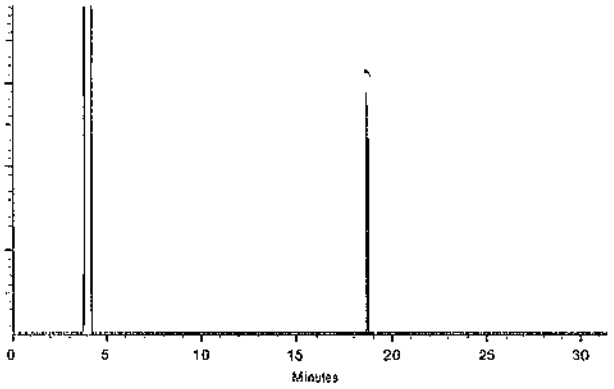
**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Walker Workman - Operations Technician I

**Date Mixed:** 27-Jun-2019 **Balance:** 1128342314

Justine Albertson - Operations Tech-RTM GC

**Date Passed:** 01-Jul-2019

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

**General Certified Reference Material Notes**

**Expiration Notes:**

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

**Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

**Certified Uncertainty Value Notes:**

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

*k* is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions | Standard Conditions | Non-Standard Conditions |
|---|---|---|
| 25°C Nominal (Room Temperature) | < 60°C | ≥ 60°C up to 7 days |
| 10°C or colder (Refrigerate) | < 40°C | ≥ 40°C up to 7 days |
| 0°C or colder (Freezer) | < 25°C | ≥ 25°C up to 7 days |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

**Manufacturing Notes:**

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

**Handling Notes:**

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

CPI INTERNATIONAL

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Date manufactured: 3/10/2023
Original issue date: 3/10/2023

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020200-04 | 498954 | ≤ -10 °C | P/T Methanol | 8-Mar-2028 | Carbon Disulfide Solution, 5,000 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| carbon disulfide | 75-15-0 | 99.9 | 200.24.1VP | 5075 ± 260 |

*Not a certified value

SVL-38-11-10

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVI-38110

# Certificate of Analysis



**Catalog No.:** Z-G34-020200-04 **Lot No.:** 498954 **Expiration Date:** 3/8/2028

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 8-Mar-2028

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist I** | **Quality Control Team Lead** |

SVI-38-12-19

Agilent

Trusted Answers

**ISO 17034**

# Reference Material Certificate

## Product Information Sheet

**Product Name:** VOC Gas Standard

**Product Number:** DWM-544-1

**Storage Conditions:** Store Frozen (-25° to -10°C).

**Lot Number:** 0006744131

**Lot Issue Date:** 23-May-2023

**Expiration Date:** 30-Jun-2025

| Component Name | Concentration | | Uncertainty | CAS# | Analyte Cat# |
|---|---|---|---|---|---|
| bromomethane | 2009 | ± | 10 µg/mL | 000074-83-9 | RM00064 |
| chloroethane | 2008 | ± | 10 µg/mL | 000075-00-3 | RM00065 |
| chloromethane | 2006 | ± | 10 µg/mL | 000074-87-3 | RM12571 |
| dichlorodifluoromethane | 2010 | ± | 10 µg/mL | 000075-71-8 | RM05289 |
| trichlorofluoromethane | 2009 | ± | 10 µg/mL | 000075-69-4 | RM00017 |
| vinyl chloride | 2009 | ± | 10 µg/mL | 000075-01-4 | RM05458 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.



CSD-QA-015.2

ISO 17025
Cert No. AT-1937

SVI-38-12-19

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**Expiration of Certification:**
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

ISO 17034
Cert No. AR-1936

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015 Quality Management System. Cert# 951215321



www.agilent.com/quality/
CSD-QA-015.2

ISO 17025
Cert No. AT-1937

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SVI-38-15-18

Date manufactured: 11/16/2022
Original issue date: 11/16/2022

# Certificate of Analysis

Date Received:

 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020232-10 | 492307 | ≤ -10 °C | P/T Methanol | 20-Nov-2025 | Vinyl Acetate Solution, 2,500 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| vinyl acetate | 108-05-4 | 99.9 | 232.7.1P | 2496 ± 160 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVI-38.15-18

# Certificate of Analysis



**Catalog No.:** Z-G34-020232-10 **Lot No.:** 492307 **Expiration Date:** 11/20/2025

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 20-Nov-2025

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (Certificate number 3031.02) accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist II** | **Quality Control Team Lead** |

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USA

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SVI-30-13-20

# CERTIFICATE OF ANALYSIS

**Catalog No:** OGAD-001
**Description:** Oxygenate Gasoline Additive Standard
**Lot:** 222081419
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 29, 2022
**Expiration:** Aug 29, 2025
**Sample Size:** 1 mL
**Components:** 5
**Storage Condition:** Refrig (0-5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity % (GC/MS) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| MtBE | 1634-04-4 | 99.8 | 2001 | 1997 |
| EtBE | 637-92-3 | 99.9 | 2004 | 2002 |
| Isopropyl ether | 108-20-3 | 100.0 | 2010 | 2010 |
| TAME | 994-05-8 | 99.0 | 2000 | 1980 |
| t-Butanol | 75-65-0 | 99.6 | 10005 | 9965 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/IND-001
Rev. 7/20

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

SVI - 38-13-18

# CERTIFICATE OF ANALYSIS

**Catalog No:** M-8010R-1-04-10X
**Description:** 1-Chlorohexane
**Lot:** 223031117
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Mar 8, 2023
**Expiration:** Mar 8, 2033
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| 1-Chlorohexane | 544-10-5 | 98.0 | 2024 | 1984 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/IND-001
Rev. 7/20

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ~~ISO 9001:2015 – Quality Management System -- Requirements~~ Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

SVI-38-08-06

Agilent

# Certificate of Analysis

**Product Name:** Carbon Disulfide Standard

**Product Number:** EPA-1012-1 **Lot Issue Date:** 21-Sep-2020

**Lot Number:** 0006557585 **Expiration Date:** 30-Sep-2024

**Description:**
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

| Analyte | CAS# | Analyte Lot | Concentration ± Uncertainty |
|---|---|---|---|
| carbon disulfide | 000075-15-0 | RM08158 | 5023 ± 25 µg/mL |

**Matrix:** methanol (methyl alcohol)

**Storage Conditions:** Store Frozen (-25° to -10°C).

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Intended Use:**
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Hazards:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

**Expiration of Certification:**
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034 Cert
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED TESTING LABORATORY
ISO 17025 Cert
No. AT-1937

spex certiprep
ACCREDITED
Reference Materials Producer
Cert #2495.01

# SPEXertificate®
## Certificate of Reference Material

ACCREDITED
Chemical Testing
Cert #2495.02

**Catalog Number:** S-3893 **Lot No.** ND210224010

**Description:** Methyl acetate

**Matrix:** Methanol (Purge & Trap Grade)

**Ship Date:** January 5, 2023
**Expiration Date:** January 4, 2026

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

### Certified Compounds:

| Compound | CAS # | Labeled | Purity | Certified† | Uncertainty |
|---|---|---|---|---|---|
| Methyl acetate | 79-20-9 | 1000 µg/mL | 99.5% | 1015 µg/mL | ± 36 µg/mL |

SVI-38-10-08

* - Isomer ratios (when applicable) are an uncertified parameter.

### Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: January 5, 2023

Certifying Officer: Shannon Nace
Shannon Macieira, Operations Manager


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# *Report of Certification*

SVI-38-10-08

**Catalog Number:** S-3893 **Lot No.** ND210224010

**Description:** Methyl acetate

**Matrix:** Methanol (Purge & Trap Grade)

**Ship Date:** January 5, 2023

**Expiration Date:** January 4, 2026

**This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by DQS), ISO/IEC 17025 (accredited by A2LA) and ISO 17034 (accredited by A2LA) quality system consistent with the following standards:**

- ISO 9001: Quality management systems - Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 31: Reference Materials - Contents of certificates, labels, and accompanying documentation
- ISO Guide 30: Reference Materials - Selected terms and definitions
- ISO Guide 35: Reference Materials - General and Statistical principles for certification
- Guide to the Expression of Uncertainty in Measurement
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement
- NIST Technical Note 1297

## Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product in ambient conditions (18°C to 27°C). Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the SHIPPED DATE using our stability data and is applicable only if the product is stored under the laboratory specified conditions.

## Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

## Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

## Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

## Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025, ISO 17034, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

## Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- $u_c$ = combined standard uncertainty obtained by combining the individual compound standard uncertainty components $u_i$ where $u_c=\sqrt{\sum u_i^2}$

## Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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Phone: 1-732-549-7144 • Fax 1-732-603-9647

SV1-38-14-11

# SPEXertificate®

## Certificate of Reference Material

**Catalog Number:** S-2470 **Lot No.** NSI231116202
**Description:** Methylcyclohexane
**Matrix:** P&T Methanol
**Manufactured Date:** 11/16/2023
**Expiration Date:** 11/30/2026

This **SPEXOrganics®** Certified Reference Material, CRM, was manufactured by NSI Lab Solutions (www.nsilabsolutions.com) and is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

**Certified Compounds:**

| Compound | CAS # | Labeled (ug/mL) | Purity | Certified† (ug/mL) | | Uncertainty (ug/mL) |
|---|---|---|---|---|---|---|
| Methylcyclohexane | 108-87-2 | 1000 | 98.0% | 1000 | ± | 7.05 |

SV1-38-14-11

* - Isomer ratios (when applicable) are an uncertified parameter.

**Final Solution Verification:**

Final solution integrity verified Volumetrically and Analytically. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration is based on gravimetric or volumetric measurements. All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO/IEC 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request. All glassware used in the manufacturing of this standard is Class A. Volumetric pipettors are calibrated every four months by an ISO/IEC 17025 accredited calibration laboratory.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 11/16/2023 Certifying Officer: Kenneth Grzybowski

# Report of Certification

**This Certified Reference Material (CRM) has been produced by NSI Lab Solutions (www.nsilabsolutions.com) and certified under an ISO 9001 (certified by DQS) and ISO 17025 (accredited by ANAB AT-1690), and ISO 17034 (accredited by ANAB AR-1571) quality system consistent with the following standards:**

- ISO 9001: Quality management systems - Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 30: Reference Materials - Selected terms and definitions
- ISO Guide 31: Reference Materials - Contents of certificates and tables
- ISO Guide 35: Refernece Materials - General and Statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement, 2008
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement - Third Edition
- NIST Technical Note 1297

### Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product at 15°C to 30°C. Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is stored under the laboratory specified

### Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

### Material Source:

All analytes and matrix materials are obtained and verified by NSI from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

### Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

### Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025 and ISO 17034. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedures. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

### Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = kuc$ where k=2 is the coverage factor at the 95% confidence level
- uc = combined standard uncertainty obtained by combining the individual compound standard uncertainty components ui, where $uc=\sqrt{\sum u^2}$

### Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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Phone: 1 732 549 7144 • Fax 1 732 603 9647

SVI-38-14-20

# SPEXertificate®

## Certificate of Reference Material

**Catalog Number:** S-1015 **Lot No.** NSI231122602
**Description:** Cyclohexane
**Matrix:** Methanol (Purge & Trap Grade) **Manufactured Date:** 11/22/2023
**Expiration Date:** 11/30/2026

This **SPEXOrganics®** Certified Reference Material, CRM, was manufactured by NSI Lab Solutions (www.nsilabsolutions.com) and is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

**Certified Compounds:**

| Compound | CAS # | Labeled (ug/mL) | Purity | Certified† (ug/mL) | | Uncertainty (ug/mL) |
|---|---|---|---|---|---|---|
| Cyclohexane | 110-82-7 | 1000 | 100.0% | 999 | ± | 7.05 |

* - Isomer ratios (when applicable) are an uncertified parameter.

**Final Solution Verification:**

Final solution integrity verified Volumetrically and Analytically. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration is based on gravimetric or volumetric measurements. All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO/IEC 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request. All glassware used in the manufacturing of this standard is Class A. Volumetric pipettors are calibrated every four months by an ISO/IEC 17025 accredited calibration laboratory.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 11/22/2023 Certifying Officer: Kenneth Grzybowski

# Report of Certification

**This Certified Reference Material (CRM) has been produced by NSI Lab Solutions (www.nsilabsolutions.com) and certified under an ISO 9001 (certified by DQS) and ISO 17025 (accredited by ANAB AT-1690), and ISO 17034 (accredited by ANAB AR-1571) quality system consistent with the following standards:**

- ISO 9001: Quality management systems - Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 30: Reference Materials - Selected terms and definitions
- ISO Guide 31: Reference Materials - Contents of certificates and labtes
- ISO Guide 35: Refernece Materials - General and Statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement, 2008
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement - Third Edition
- NIST Technical Note 1297

### Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product at 15°C to 30°C. Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is stored under the laboratory specified

### Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µl. with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

### Material Source:

All analytes and matrix materials are obtained and verified by NSI from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

### Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

### Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025 and ISO 17034. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedures. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

### Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = kuc$ where k=2 is the coverage factor at the 95% confidence level
- uc = combined standard uncertainty obtained by combining the individual compound standard uncertainty components ui, where $uc=\sqrt{\sum ui^2}$

### Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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SV1-38-14-05

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www.restek.com

CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

*chromatographic plus*

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30006 **Lot No.:** A0198760

**Description :** VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2026 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Acetone | 67-64-1 | 27D1062005 | 99% | 5,000.2 µg/mL | +/- 172.7826 |
| 2 | 2-Butanone (MEK) | 78-93-3 | SHBL5543 | 99% | 5,006.0 µg/mL | +/- 172.9842 |
| 3 | 4-Methyl-2-pentanone (MIBK) | 108-10-1 | SHBN3601 | 99% | 5,009.5 µg/mL | +/- 173.1052 |
| 4 | 2-Hexanone | 591-78-6 | MKCQ6663 | 99% | 5,009.3 µg/mL | +/- 173.0994 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** P&T Methanol/Water (90:10)
**CAS #** 67-56-1/7732-18-5
**Purity** 99%

# Quality Confirmation Test

**Column:**
105m x 0.53mm x 3.0µm
Rtx 502.2 (cat.#10910)

**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

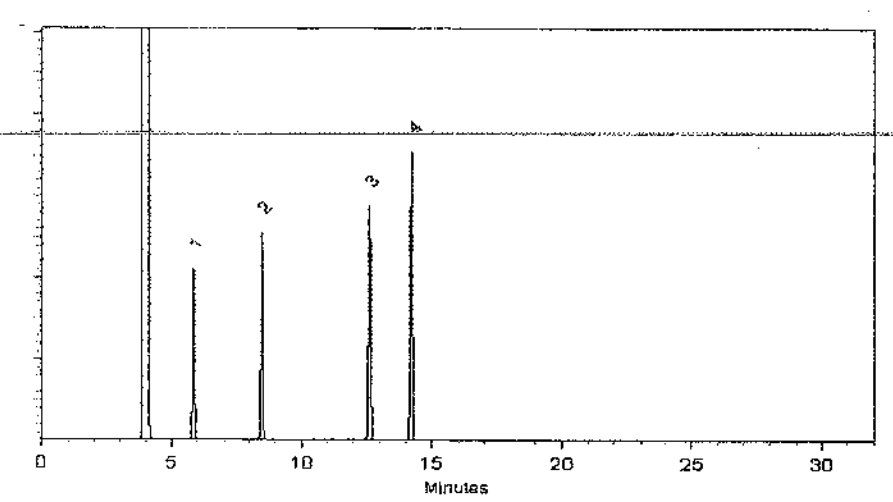
**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID

**Split Vent:**
40 ml/min

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Laith Clemente - Operations Technician I  **Date Mixed:** 07-Jun-2023  **Balance Serial #** B707717271

Martina Cowan – Operations Tech II ARM QC  **Date Passed:** 12-Jun-2023

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

125 Market Street
New Haven, CT 06513
USA

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# CERTIFICATE OF ANALYSIS

SVI-38-14-03

**Catalog No:** TK-102-09S-12.5X
**Description:** Methylcyclohexane
**Lot:** 222031009
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Mar 8, 2022
**Expiration:** Mar 8, 2032
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity % (GC/FID) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Methylcyclohexane | 108-87-2 | 100.0 | 2507 | 2507 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No: 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/INO-001
Rev. 7/20

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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# CERTIFICATE OF ANALYSIS

SM-38-14-01

**Catalog No:** S-6524-0.25X
**Description:** Methyl acetate
**Lot:** 223081092
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 7, 2023
**Expiration:** Aug 7, 2033
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Methyl acetate | 79-20-9 | 100.0 | 2506 | 2506 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/INO-001
Rev. 7/20

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_c = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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# CERTIFICATE OF ANALYSIS

**Catalog No:** M-603-M-5X
**Description:** Acrolein & Acrylonitrile
**Lot:** 224031415
**Solvent:** Methanol (90%)
Water (10%)
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Mar 26, 2024
**Expiration:** Jul 26, 2024
**Sample Size:** 1 mL
**Components:** 2
**Storage Condition:** Freeze (<-10 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

SV1-38-15-12

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Acrolein | 107-02-8 | 90.5 | 5530* | 5005 |
| Acrylonitrile | 107-13-1 | 99.8 | 5060 | 5050 |

Copy

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

* Weight compensated to 100% purity.

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4% and was determined in accordance with ISO 17034. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST; Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

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USA

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# CERTIFICATE OF ANALYSIS

SVI-38-12-12

**Catalog No:** TK-102-08S-10X
**Description:** Cyclohexane
**Lot:** 221101280
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Oct 19, 2021
**Expiration:** Oct 19, 2031
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity % (GC/MS) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Cyclohexane | 110-82-7 | 100.0 | 2008 | 2008 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_s = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 10/4/2022
Original issue date: 10/4/2022

# Certificate of Analysis

Date Received:

 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020354-09 | 489953 | ≤ -10 °C | P/T Methanol | 3-Oct-2027 | 2-Butanol Solution, 50000 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-butanol | 78-92-2 | 99.8 | 354.7.1P | 50000 ± 2600 |

SV1-38-11-07

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVF3811-07

# Certificate of Analysis



**Catalog No.:** Z-G34-020354-09 **Lot No.:** 489953 **Expiration Date:** 10/3/2027

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 3-Oct-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Jared Ball | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist I** | **Quality Control Team Lead** |

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 07-10-2024
EMAX Batch No.: 24F019_R1

Attn: Mark Rigby

Parsons
75 W Towne Ridge Pkway # 200
Sandy UT 84070

Subject: Revised Laboratory Report
Project: TITAN 1-A

---

Enclosed is the Revised Laboratory report for samples received on 06/05/24.
The data reported relate only to samples listed below :

| Sample ID | Control # | Col Date | Matrix | Analysis |
|---|---|---|---|---|
| T1AMF-MW058_MAY24 | F019-01 | 05/31/24 | WATER | VOCS BY 8260C |
| T1AMF-MW053_MAY24 | F019-02 | 05/31/24 | WATER | VOCS BY 8260C |
| T1AMF-MW051_MAY24 | F019-03 | 05/31/24 | WATER | VOCS BY 8260C |
| T1AMF-MW035_MAY24 | F019-04 | 05/31/24 | WATER | VOCS BY 8260C |
| T1AMF-MW035_MAY24_FD | F019-05 | 05/31/24 | WATER | VOCS BY 8260C |
| T1AMF-MW064_JUN24 | F019-06 | 06/03/24 | WATER | VOCS BY 8260C |
| T1AMF-MW063_JUN24 | F019-07 | 06/03/24 | WATER | VOCS BY 8260C |
| T1AMF-MW062_JUN24 | F019-08 | 06/03/24 | WATER | VOCS BY 8260C |
| T1AMF-MW061_JUN24 | F019-09 | 06/03/24 | WATER | VOCS BY 8260C |
| T1AMF-MW066_JUN24 | F019-10 | 06/03/24 | WATER | VOCS BY 8260C |
| EB-1_JUN24 | F019-11 | 06/03/24 | WATER | VOCS BY 8260C |
| RB-1_JUN24 | F019-12 | 06/03/24 | WATER | VOCS BY 8260C |
| TB-3_MAY24 | F019-13 | 05/31/24 | WATER | VOCS BY 8260C |
| TB-4_JUN24 | F019-14 | 06/03/24 | WATER | VOCS BY 8260C |
| T1AMF-MW053_MAY24_MS | F019-02M | 05/31/24 | WATER | VOCS BY 8260C |
| T1AMF-MW053_MAY24_MSD | F019-02S | 05/31/24 | WATER | VOCS BY 8260C |
| T1AMF-MW051_MAY24_MS | F019-03M | 05/31/24 | WATER | VOCS BY 8260C |
| T1AMF-MW051_MAY24_MSD | F019-03S | 05/31/24 | WATER | VOCS BY 8260C |

Note: The report was revised to update the purge and trap method from SW5030B to SW5030C.

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912023-25
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

1 of 2

# CHAIN OF CUSTODY

| | | | |
|---|---|---|---|
| [illegible] | 3051 Fujita St., Torrance, CA 90505<br>Tel #: 310-618-8889 FAX#: 310-618-0818<br>Email: info@emaxlabs.com | PO NUMBER: 0015461<br>SAMPLE STORAGE | EMAX CONTROL NO. 24F019<br>PROJECT CODE: |

CLIENT: Parsons

PROJECT: Titan 1-A Semi-Annual Groundwater and Soil Vapor Sampling

COORDINATOR: Carrie Ross@Parsons.us

TEL: 303-349-8292 FAX EMAIL: Carrie.Ross@parsons.us

SEND REPORT TO: Carrie.Ross@parsons.us, mark.rigby@parsons.com, sandra.delasfuentes@parsons.us

COMPANY

ADDRESS

EMAX PM

| MATRIX CODE | PRESERVATIVE CODE |
|---|---|
| DW=Drinking Water | IC=Ice |
| GW=Ground Water | HC=HCl |
| WW=Waste Water | HN=HNO3 |
| SD=Solid Waste SL=Sludge | SH=NaOS |
| SS=Soil/Sediment | ST=Na2SO3 |
| WP=Wipes PP=Pure Products | ZA=Zinc Acetate |
| AR=Air | HS=H2SO4 |
| O= | |

ANALYSIS REQUIRED: VOCs via SW8260; Title 22 metals via SW6010/7471; TCLP VOCs via SW1311/8260; TCLP metals via SW1311/6010/7471; STLC metals via SWWET/6010/7471

TAT:
- ☐ Rush __24__ hrs.
- ☐ Rush __48_hrs
- ☐ Rush_72_hrs
- ☐ 7 days
- ☐ 14 days
- ☐ 21 days

| | SAMPLE ID | | SAMPLING | | | CONTAINER | | | MATRIX CODE | QC | PRESERVATIVE CODE | | | | | | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LAB | CLIENT | LOCATION | DATE | TIME | NO. | SIZE | TYPE | | | HC | | | | | | | | | |
| 1 | • 1 | T1AMF-MW058_MAY24 | Titan 1-A | 5/31/2024 | 1110 | 3 | | VOA | GW | | X | | | | | | | | | |
| | • 2 | T1AMF-MW053_MAY24 | Titan 1-A | 5/31/2024 | 1206 | 3 | | VOA | GW | | X | | | | | | | | | |
| 2 | • 3 | T1AMF-MW053_MAY24_MS | Titan 1-A | 5/31/2024 | 1206 | 3 | | VOA | GW | MS | X | | | | | | | | | |
| | • 4 | T1AMF-MW053_MAY24_MSD | Titan 1-A | 5/31/2024 | 1206 | 3 | | VOA | GW | MSD | X | | | | | | | | | |
| | • 5 | T1AMF-MW051_MAY24 | Titan 1-A | 5/31/2024 | 1343 | 3 | | VOA | GW | | X | | | | | | | | | |
| 3 | • 6 | T1AMF-MW051_MAY24_MS | Titan 1-A | 5/31/2024 | 1343 | 3 | | VOA | GW | MS | X | | | | | | | | | |
| | • 7 | T1AMF-MW051_MAY24_MSD | Titan 1-A | 5/31/2024 | 1343 | 3 | | VOA | GW | MSD | X | | | | | | | | | |
| 4 | • 8 | T1AMF-MW035_MAY24 | Titan 1-A | 5/31/2024 | 1435 | 3 | | VOA | GW | | X | | | | | | | | | |
| 5 | • 9 | T1AMF-MW035_MAY24_FD | Titan 1-A | 5/31/2024 | 1440 | 3 | | VOA | GW | FD | X | | | | | | | | | |
| 6 | 10 | T1AMF-MW064_JUN24 | Titan 1-A | 6/3/2024 | 856 | 3 | | VOA | GW | | X | | | | | | | | | |

Instructions: Please have the analytical results sent to

Mark.rigby@parsons.com

Carrie.Ross@parsons.us

sandra.delasfuentes@parsons.us

| Cooler # | Temp. (°C) | Sample #s |
|---|---|---|
| 1 | 2.5 | |

SAMPLER

COURIER/AIRBILL

| RELINQUISHED BY | Date | Time | RECEIVED BY |
|---|---|---|---|
| Arnold Pinatto | 6/4/24 | | |
| | 6/5/24 | 10:30 | [signature] |

NOTICE: Turnaround-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs for next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

Project J09CA1108-01

# CHAIN OF CUSTODY 2 of 2

EMAX LABS

3051 Fujita St., Torrance, CA 90505
Tel #: 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

**PO NUMBER: 0015461**

SAMPLE STORAGE

**EMAX CONTROL NO.** 24F019

**PROJECT CODE:**

CLIENT: Parsons

PROJECT: Titan 1-A Semi-Annual Groundwater and Soil Vapor Sampling

COORDINATOR: Carrie Ross@Parsons.us

TEL: 303-349-8592 FAX: EMAIL: Carrie.Ross@parsons.us

SEND REPORT TO: carrie.ross@parsons.com; mark.rigby@parsons.com; sandra.delaofuentes@parsons.us

COMPANY Carrie.ross@parsons.us

ADDRESS

EMAX PM

MATRIX CODE: DW=Drinking Water; GW=Ground Water; WW=Waste Water; SD=Solid Waste SL=Sludge; SO=Soil/Sediment; WP=Wipes FP=Fuel Products; AR=Air; O= LAB DI WATER

PRESERVATIVE CODE: IC = Ice; HC = HCl; HN=HNO3; SH=NaOH; ST=Na2S2O3; ZA=Zinc Acetate; HS=H2SO4

ANALYSIS REQUIRED: VOCs via SW8260; Title 22 metals via SW6010/7471; TCLP VOCs via SW1311/8260; TCLP metals via SW1311/6010/7471; STLC metals via SWWET/6010/7471

TAT: ☐ Rush __24__hrs. ☐ Rush __48_hrs ☐ Rush_72_hrs ☐ 7 days ☐ 14 days ☐ 21 days

| | LAB | SAMPLE ID CLIENT | SAMPLING LOCATION | DATE | TIME | MATRIX CODE NO. | SIZE | TYPE | MATRIX CODE | QC | PRESERVATIVE CODE HC | VOCs via SW8260 | Title 22 metals via SW6010/7471 | TCLP VOCs via SW1311/8260 | TCLP metals via SW1311/6010/7471 | STLC metals via SWWET/6010/7471 | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 1 | T1AMF-MW063_JUN24 | Titan 1-A | 6/3/2024 | 1029 | 3 | | VOA | GW | | X | | | | | | |
| 8 | 2 | T1AMF-MW062_JUN24 | Titan 1-A | 6/3/2024 | 1141 | 3 | | " | GW | | X | | | | | | |
| 9 | 3 | T1AMF-MW061_JUN24 | Titan 1-A | 6/3/2024 | 1313 | 3 | | " | GW | | X | | | | | | |
| 10 | 4 | T1AMF-MW066_JUN24 | Titan 1-A | 6/3/2024 | 1459 | 3 | | " | GW | | X | | | | | | |
| 11 | 5 | EB-1_JUN24 | Titan 1-A | 6/3/2024 | 1530 | 3 | (530) | " | O | EB | X | | | | | | |
| 12 | 6 | RB-1_JUN24 | Titan 1-A | 6/3/2024 | 1540 | 3 | (540) | " | | RB | X | | | | | | |
| 13 | 7 | TB-3_MAY24 | Titan 1-A | 5/31/2024 | 0730 | 3 | | " | O | TB | X | | | | | | |
| 14 | 8 | TB-4_JUN24 | Titan 1-A | 6/3/2024 | 0730 | 3 | | " | O | TB | X | | | | | | |
| | 9 | | | | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | | | | | |

Instructions: Please have the analytical results sent to

Mark.rigby@parsons.com

carrie.ross@persons.com

sandra.delaofuentes@parsons.us

Cooler #: 1 Temp. (°C): 2.5 Sample #s:

SAMPLER

COURIER/AIRBILL

| RELINQUISHED BY | Date | Time | RECEIVED BY |
|---|---|---|---|
| Arnold Pimentel | 6/4/24 | | |
| | 6/5/24 | 10:30 | |

NOTICE: Turnaround time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs. TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

Project J09CA1108-01

EMAX LABORATORIES, INC.

REFERENCE: EMAX-SM02 Rev. 12

# SAMPLE RECEIPT FORM 1

| Type of Delivery | Airbill / Tracking Number | ECN 24F019 |
|---|---|---|
| ☒ Fedex ☐ UPS ☐ GSO ☐ Others | 2755 1342 0240 | Recipient Maria Rivera |
| ☐ EMAX Courier ☐ Client Delivery | | Date 06/05/24 Time 10:30 |

## COC INSPECTION

| | | | | | |
|---|---|---|---|---|---|
| ☒ Client Name | ☒ Client PM/FC | ☐ Sampler Name | ☒ Sampling Date/Time | ☒ Sample ID | ☒ Matrix |
| ☐ Address | ☒ Tel # / Fax # | ☐ Courier Signature | ☒ Analysis Required | ☒ Preservative (if any) | ☐ TAT |
| Safety Issues (if any) | ☐ High concentrations expected | ☐ From Superfund Site | ☐ Rad screening required | | |

Note: No initial / date on corrections

## PACKAGING INSPECTION

| | | | | | |
|---|---|---|---|---|---|
| Container | ☒ Cooler | ☐ Box | ☐ Other | | |
| Condition | ☒ Custody Seal | ☐ Intact | ☐ Damaged | | |
| Packaging | ☒ Bubble Pack | ☐ Styrofoam | ☐ Popcorn | ☐ Sufficient | ☒ bag |
| Temperatures (Cool, ≤6 °C but not frozen) | ☒ Cooler 1 2.5 °C | ☐ Cooler 2 ____ °C | ☐ Cooler 3 ____ °C | ☐ Cooler 4 ____ °C | ☐ Cooler 5 ____ °C |
| | ☐ Cooler 6 ____ °C | ☐ Cooler 7 ____ °C | ☐ Cooler 8 ____ °C | ☐ Cooler 9 ____ °C | ☐ Cooler 10 ____ °C |
| *Thermometer:* | *A - S/N* 210706272 | *(B) S/N* 230044860 | *C - S/N* 230044897 | *D - S/N* 230044857 | |

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note:

## DISCREPANCIES

| LabSampleID | LabSampleContainerID | Code | ClientSample Label ID / Information | Corrective Action |
|---|---|---|---|---|
| 6 | 28-30 | D3 | Label reads: T1AMF-MW064_MAY24 | R1 |
| 7-11, 14 | 31-45, 52-54 | D3 | " ID: "..._MAY24" | ↓ |
| 11, 12, 14 | 43-48, 52-54 | D6 | | R1 |
| 1-14 | 1-54 | D1 | | ↓ |
| 12 | 46-48 | D3 | Label reads: Rinse Blank-1_MAY24 | R1 |

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. NB 6/5/24

NOTES/OBSERVATIONS: Sample 1 has slight brown sediment at the bottom.

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☒ NO

LEGEND:

☐ Continue to next page.

| Code | Description- Sample Management |
|---|---|
| D1 | Analysis is not indicated in label |
| D2 | Analysis mismatch COC vs label |
| D3 | Sample ID mismatch COC vs label |
| D4 | Sample ID is not indicated in ____ |
| D5 | Container -[improper] [leaking] [broken] |
| D6 | Date/Time is not indicated in label |
| D7 | Date/Time mismatch COC vs label |
| D8 | Sample listed in COC is not received |
| D9 | Sample received is not listed in COC |
| D10 | No initial/date on corrections in COC/label |
| D11 | Container count mismatch COC vs received |
| D12 | Container size mismatch COC vs received |

| Code | Description-Sample Management |
|---|---|
| D13 | Out of Holding Time |
| D14 | Bubble is >6mm |
| D15 | No trip blank in cooler |
| D16 | Preservation not indicated in ____ |
| D17 | Preservation mismatch COC vs label |
| D18 | Insufficient chemical preservative |
| D19 | Insufficient Sample |
| D20 | No filtration info for dissolved analysis |
| D21 | No sample for moisture determination |
| D22 | ____ |
| D23 | ____ |
| D24 | ____ |

| Code | Description-Sample Management |
|---|---|
| R1 | Proceed as indicated in ☒ COC ☐ Label |
| R2 | Refer to attached instruction |
| R3 | Cancel the analysis |
| R4 | Use vial with smallest bubble first |
| R5 | Log-in with latest sampling date and time+1 min |
| R6 | Adjust pH as necessary |
| R7 | Filter and preserved as necessary |
| R8 | ____ |
| R9 | ____ |
| R10 | ____ |
| R11 | ____ |
| R12 | ____ |

REVIEWS:

Sample Labeling Maria Rivera Date 06/05/24 — SRF Date 06/5/24 — PM NB Date 6/5/24

ORIGIN ID:CCRA (626) 710-7746

PARSONS
100 PRINGLE AVE STE 525

WALNUT CREEK, CA 94596
UNITED STATES US

SHIP DATE: 04JUN24
ACTWGT: 46.95 LB
CAD: 6755023/SSF02521
DIMS: 25x14x1 IN

BILL THIRD PARTY

Part # 156297-435 RRDB EXP 09/24

TO **EMAX LABS**
**ATTN: SAMPLE RECIEVING**
**3051 FUJITA ST**

**TORRANCE CA 90505**

(310) 618-8888 REF:
INV:
PO: DEPT

B
Sealed

3 A
10:30 0240
06.05

RT 467
ST 19

FedEx Express

E

REL# 3785346

TRK# 0201 2755 1342 0240

**WED - 05 JUN 10:30A**
**PRIORITY OVERNIGHT**

**92 HHRA**

**AHS**
**90505**
CA-US **LAX**



## REPORTING CONVENTIONS

### DATA QUALIFIERS:

| Lab Qualifier | AFCEE Qualifier | Description |
|---|---|---|
| J | F | Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL. |
| N | | Indicates presumptive evidence of a compound. |
| B | B | Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level. |
| E | J | Indicates that the result is above the maximum calibration range or estimated value. |
| * | * | Out of QC limit. |

**Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.**

### ACRONYMS AND ABBREVIATIONS:

| | |
|---|---|
| CRDL | Contract Required Detection Limit |
| RL | Reporting Limit |
| MRL | Method Reporting Limit |
| MDL | Method Detection Limit |
| DL | Detection Limit |
| LOD | Limit of Detection |
| LOQ | Limit of Quantitation |
| DO | Diluted out |

### DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

# SUMMARY PACKAGE
# VOLATILE ORGANICS

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F019

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

A total of fourteen(14) water samples were received on 06/05/24 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030C/8260C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There were six(6) CCVs (Data File IDs: RFG092, RFG119, RFG123, RFG149, RFG153 and RFG179) associated with this SDG. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, three(3) method blanks were analyzed. V0E2F04B, V0E2F05B and V0E2F06B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, five(3) sets of LCS/LCD were analyzed. Lab control sample was prepared and analyzed at a frequency required by the project. All analytes were within LCS limits except for: V0E2F05L/V0E2F05C - Percent recovery for 1,4-Dichlorobenzene in LCD. The rest of the analytes were in control. V0E2F06L/V0E2F06C - Percent recovery for 1,4-Dichlorobenzene in LCD. The rest of the analytes were in control. Refer to LCS summary forms for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of MS/MSD were analyzed. 24F019-02M/24F019-02S - all analytes were within MS QC limits. 24F019-03M/24F019-03S - all analytes were within MS QC limits. Refer to Matrix QC summary forms for details.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F019
Instrument ID : E2

WATER

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Prep. Data FN | Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| LCS1W | VOE2F04L | 1 | NA | 06/11/2414:15 | 06/11/2414:15 | RFG093 | REG122 | VOE2F04 | Lab Control Sample (LCS) |
| LCD1W | VOE2F04C | 1 | NA | 06/11/2414:39 | 06/11/2414:39 | RFG094 | REG122 | VOE2F04 | LCS Duplicate |
| MBLK1W | VOE2F043 | 1 | NA | 06/11/2415:26 | 06/11/2415:26 | RFG096 | REG122 | VOE2F04 | Method Blank |
| T1AMF-MW058_MAY24 | 24F019-01 | 1 | NA | 06/11/2419:47 | 06/11/2419:47 | RFG107 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW035_MAY24 | 24F019-04 | 1 | NA | 06/11/2420:34 | 06/11/2420:34 | RFG109 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW035_MAY24_FD | 24F019-05 | 1 | NA | 06/11/2420:58 | 06/11/2420:58 | RFG110 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW064_JUN24 | 24F019-06 | 1 | NA | 06/11/2421:21 | 06/11/2421:21 | RFG111 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW063_JUN24 | 24F019-07 | 1 | NA | 06/11/2421:45 | 06/11/2421:45 | RFG112 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW062_JUN24 | 24F019-08 | 1 | NA | 06/11/2422:09 | 06/11/2422:09 | RFG113 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW061_JUN24 | 24F019-09 | 1 | NA | 06/11/2422:32 | 06/11/2422:32 | RFG114 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW066_JUN24 | 24F019-10 | 1 | NA | 06/11/2422:56 | 06/11/2422:56 | RFG115 | REG122 | VOE2F04 | Field Sample |
| EB-1_JUN24 | 24F019-11 | 1 | NA | 06/11/2423:19 | 06/11/2423:19 | RFG116 | REG122 | VOE2F04 | Field Sample |
| LCS2W | VOE2F05L | 1 | NA | 06/13/2410:20 | 06/13/2410:20 | RFG124 | REG122 | VOE2F05 | Lab Control Sample (LCS) |
| LCD2W | VOE2F05C | 1 | NA | 06/13/2410:44 | 06/13/2410:44 | RFG125 | REG122 | VOE2F05 | LCS Duplicate |
| MBLK2W | VOE2F053 | 1 | NA | 06/13/2411:31 | 06/13/2411:31 | RFG127 | REG122 | VOE2F05 | Method Blank |
| TB-3_MAY24 | 24F019-13 | 1 | NA | 06/13/2413:06 | 06/13/2413:06 | RFG129 | REG122 | VOE2F05 | Field Sample |
| RB-1_JUN24 | 24F019-12 | 1 | NA | 06/13/2413:30 | 06/13/2413:30 | RFG130 | REG122 | VOE2F05 | Field Sample |
| T1AMF-MW053_MAY24 | 24F019-02N | 1 | NA | 06/13/2413:54 | 06/13/2413:54 | RFG131 | REG122 | VOE2F05 | Field Sample |
| T1AMF-MW051_MAY24 | 24F019-03 | 1 | NA | 06/13/2414:17 | 06/13/2414:17 | RFG132 | REG122 | VOE2F05 | Field Sample |
| T1AMF-MW053_MAY24_MS | 24F019-02M | 1 | NA | 06/13/2414:41 | 06/13/2414:41 | RFG133 | REG122 | VOE2F05 | Matrix Spike Sample (MS) |
| T1AMF-MW053_MAY24_MSD | 24F019-02S | 1 | NA | 06/13/2415:05 | 06/13/2415:05 | RFG134 | REG122 | VOE2F05 | MS Duplicate (MSD) |
| T1AMF-MW051_MAY24_MS | 24F019-03M | 1 | NA | 06/13/2415:28 | 06/13/2415:28 | RFG135 | REG122 | VOE2F05 | Matrix Spike Sample (MS) |
| T1AMF-MW051_MAY24_MSD | 24F019-03S | 1 | NA | 06/13/2415:52 | 06/13/2415:52 | RFG136 | REG122 | VOE2F05 | MS Duplicate (MSD) |
| LCS3W | VOE2F06L | 1 | NA | 06/14/2412:35 | 06/14/2412:35 | RFG154 | REG122 | VOE2F06 | Lab Control Sample (LCS) |
| LCD3W | VOE2F06C | 1 | NA | 06/14/2412:58 | 06/14/2412:58 | RFG155 | REG122 | VOE2F06 | LCS Duplicate |
| MBLK3W | VOE2F063 | 1 | NA | 06/14/2413:46 | 06/14/2413:46 | RFG157 | REG122 | VOE2F06 | Method Blank |
| TB-4_JUN24 | 24F019-14N | 1 | NA | 06/14/2414:10 | 06/14/2414:10 | RFG158 | REG122 | VOE2F06 | Field Sample |

FN - Filename
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/31/24 11:10 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 19:47 |
| Sample ID | : T1AMF-MW058_MAY24 | Date Analyzed: | 06/11/24 19:47 |
| Lab Samp ID: | 24F019-01 | Dilution Factor: | 1 |
| Lab File ID: | RFG107 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 0.11J | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.2 | 10.0 | 102 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 10.0 | 10.0 | 100 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/31/24 12:06 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/13/24 13:54 |
| Sample ID | : T1AMF-MW053_MAY24 | Date Analyzed: | 06/13/24 13:54 |
| Lab Samp ID: | 24F019-02N | Dilution Factor: | 1 |
| Lab File ID: | RFG131 | Matrix: | WATER |
| Ext Btch ID: | VOE2F05 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.0 | 10.0 | 110 | 81-118 |
| 4-Bromofluorobenzene | 11.2 | 10.0 | 112 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 9.72 | 10.0 | 97 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/31/24 13:43 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/13/24 14:17 |
| Sample ID | : T1AMF-MW051_MAY24 | Date Analyzed: | 06/13/24 14:17 |
| Lab Samp ID: | 24F019-03 | Dilution Factor: | 1 |
| Lab File ID: | RFG132 | Matrix: | WATER |
| Ext Btch ID: | V0E2F05 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.11J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 9.3 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.9 | 10.0 | 109 | 81-118 |
| 4-Bromofluorobenzene | 11.2 | 10.0 | 112 | 85-114 |
| Toluene-d8 | 10.1 | 10.0 | 101 | 89-112 |
| Dibromofluoromethane | 9.57 | 10.0 | 96 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/31/24 14:35 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 20:34 |
| Sample ID | : T1AMF-MW035_MAY24 | Date Analyzed: | 06/11/24 20:34 |
| Lab Samp ID: | 24F019-04 | Dilution Factor: | 1 |
| Lab File ID: | RFG109 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.3 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 6.2 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.4 | 10.0 | 114 | 81-118 |
| 4-Bromofluorobenzene | 10.4 | 10.0 | 104 | 85-114 |
| Toluene-d8 | 10.4 | 10.0 | 104 | 89-112 |
| Dibromofluoromethane | 10.3 | 10.0 | 103 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/31/24 14:40 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 20:58 |
| Sample ID | : T1AMF-MW035_MAY24_FD | Date Analyzed: | 06/11/24 20:58 |
| Lab Samp ID: | 24F019-05 | Dilution Factor: | 1 |
| Lab File ID: | RFG110 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.3 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 6.0 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 9.98 | 10.0 | 100 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 08:56 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 21:21 |
| Sample ID | : T1AMF-MW064_JUN24 | Date Analyzed: | 06/11/24 21:21 |
| Lab Samp ID: | 24F019-06 | Dilution Factor: | 1 |
| Lab File ID: | RFG111 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.2 | 10.0 | 112 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.4 | 10.0 | 104 | 89-112 |
| Dibromofluoromethane | 9.97 | 10.0 | 100 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 10:29 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 21:45 |
| Sample ID | : T1AMF-MW063_JUN24 | Date Analyzed: | 06/11/24 21:45 |
| Lab Samp ID: | 24F019-07 | Dilution Factor: | 1 |
| Lab File ID: | RFG112 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.1 | 10.0 | 101 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 9.89 | 10.0 | 99 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 11:41 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 22:09 |
| Sample ID | : T1AMF-MW062_JUN24 | Date Analyzed: | 06/11/24 22:09 |
| Lab Samp ID: | 24F019-08 | Dilution Factor: | 1 |
| Lab File ID: | RFG113 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.3 | 10.0 | 113 | 81-118 |
| 4-Bromofluorobenzene | 9.86 | 10.0 | 99 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 10.2 | 10.0 | 102 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 13:13 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 22:32 |
| Sample ID | : T1AMF-MW061_JUN24 | Date Analyzed: | 06/11/24 22:32 |
| Lab Samp ID: | 24F019-09 | Dilution Factor: | 1 |
| Lab File ID: | RFG114 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.6 | 10.0 | 116 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 10.4 | 10.0 | 104 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 14:59 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 22:56 |
| Sample ID | : T1AMF-MW066_JUN24 | Date Analyzed: | 06/11/24 22:56 |
| Lab Samp ID: | 24F019-10 | Dilution Factor: | 1 |
| Lab File ID: | RFG115 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.5 | 10.0 | 115 | 81-118 |
| 4-Bromofluorobenzene | 10.4 | 10.0 | 104 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 10.2 | 10.0 | 102 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 15:30 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 23:19 |
| Sample ID | : EB-1_JUN24 | Date Analyzed: | 06/11/24 23:19 |
| Lab Samp ID: | 24F019-11 | Dilution Factor: | 1 |
| Lab File ID: | RFG116 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.2 | 10.0 | 112 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 9.77 | 10.0 | 98 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 15:40 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/13/24 13:30 |
| Sample ID | : RB-1_JUN24 | Date Analyzed: | 06/13/24 13:30 |
| Lab Samp ID: | 24F019-12 | Dilution Factor: | 1 |
| Lab File ID: | RFG130 | Matrix: | WATER |
| Ext Btch ID: | VOE2F05 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.3 | 10.0 | 113 | 81-118 |
| 4-Bromofluorobenzene | 11.0 | 10.0 | 110 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 9.78 | 10.0 | 98 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/31/24 07:30 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/13/24 13:06 |
| Sample ID | : TB-3_MAY24 | Date Analyzed: | 06/13/24 13:06 |
| Lab Samp ID: | 24F019-13 | Dilution Factor: | 1 |
| Lab File ID: | RFG129 | Matrix: | WATER |
| Ext Btch ID: | VOE2F05 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | 0.33J | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.8 | 10.0 | 108 | 81-118 |
| 4-Bromofluorobenzene | 11.0 | 10.0 | 110 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 9.72 | 10.0 | 97 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 07:30 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/14/24 14:10 |
| Sample ID | : T8-4_JUN24 | Date Analyzed: | 06/14/24 14:10 |
| Lab Samp ID: | 24F019-14N | Dilution Factor: | 1 |
| Lab File ID: | RFG158 | Matrix: | WATER |
| Ext Btch ID: | VOE2F06 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | 0.30J | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.5 | 10.0 | 105 | 81-118 |
| 4-Bromofluorobenzene | 10.7 | 10.0 | 107 | 85-114 |
| Toluene-d8 | 9.84 | 10.0 | 98 | 89-112 |
| Dibromofluoromethane | 9.21 | 10.0 | 92 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

# QC SUMMARIES

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/11/24 15:26 |
| Project | : TITAN 1-A | Date Received: | 06/11/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 15:26 |
| Sample ID | : MBLK1W | Date Analyzed: | 06/11/24 15:26 |
| Lab Samp ID: | VOE2F04B | Dilution Factor: | 1 |
| Lab File ID: | RFG096 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.8 | 10.0 | 108 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.95 | 10.0 | 100 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F019
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : MBLK1W | LCS1W | LCD1W |
| LAB SAMPLE ID | : VOE2F04B | VOE2F04L | VOE2F04C |
| LAB FILE ID | : RFG096 | RFG093 | RFG094 |
| DATE PREPARED | : 06/11/24 15:26 | 06/11/24 14:15 | 06/11/24 14:39 |
| DATE ANALYZED | : 06/11/24 15:26 | 06/11/24 14:15 | 06/11/24 14:39 |
| PREP BATCH | : VOE2F04 | VOE2F04 | VOE2F04 |
| CALIBRATION REF | : REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 9.69 | 97 | 10.0 | 9.34 | 93 | 4 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.7 | 107 | 10.0 | 10.3 | 103 | 4 | 79-118 | 20 |
| Benzene | ND | 10.0 | 9.98 | 100 | 10.0 | 9.74 | 97 | 2 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 9.91 | 99 | 10.0 | 9.49 | 95 | 4 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.5 | 105 | 10.0 | 10.4 | 104 | 1 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 20.4 | 102 | 20.0 | 20.2 | 101 | 1 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.7 | 107 | 10.0 | 10.6 | 106 | 1 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.4 | 104 | 10.0 | 10.3 | 103 | 1 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 9.39 | 94 | 10.0 | 9.07 | 91 | 3 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.00 | 90 | 10.0 | 8.65 | 87 | 4 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 11.0 | 110 | 10.0 | 10.4 | 104 | 6 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.6 | 106 | 10.0 | 10.1 | 101 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 11.1 | 111 | 10.0 | 10.6 | 106 | 85-114 |
| Toluene-d8 | 10.0 | 10.6 | 106 | 10.0 | 10.6 | 106 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.84 | 98 | 10.0 | 9.56 | 96 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/13/24 11:31 |
| Project | : TITAN 1-A | Date Received: | 06/13/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/13/24 11:31 |
| Sample ID | : MBLK2W | Date Analyzed: | 06/13/24 11:31 |
| Lab Samp ID: | VOE2F05B | Dilution Factor: | 1 |
| Lab File ID: | RFG127 | Matrix: | WATER |
| Ext Btch ID: | VOE2F05 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.5 | 10.0 | 105 | 81-118 |
| 4-Bromofluorobenzene | 11.3 | 10.0 | 113 | 85-114 |
| Toluene-d8 | 10.4 | 10.0 | 104 | 89-112 |
| Dibromofluoromethane | 9.37 | 10.0 | 94 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F019
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : MBLK2W | LCS2W | LCD2W |
| LAB SAMPLE ID | : VOE2F05B | VOE2F05L | VOE2F05C |
| LAB FILE ID | : RFG127 | RFG124 | RFG125 |
| DATE PREPARED | : 06/13/24 11:31 | 06/13/24 10:20 | 06/13/24 10:44 |
| DATE ANALYZED | : 06/13/24 11:31 | 06/13/24 10:20 | 06/13/24 10:44 |
| PREP BATCH | : VOE2F05 | VOE2F05 | VOE2F05 |
| CALIBRATION REF | : REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 11.6 | 116 | 10.0 | 11.7 | 117 | 1 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 11.5 | 115 | 10.0 | 12.0 | 120* | 4 | 79-118 | 20 |
| Benzene | ND | 10.0 | 11.1 | 111 | 10.0 | 11.2 | 112 | 1 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 10.8 | 108 | 10.0 | 10.7 | 107 | 1 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.8 | 108 | 10.0 | 11.1 | 111 | 3 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 21.1 | 106 | 20.0 | 21.4 | 107 | 1 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 11.0 | 110 | 10.0 | 11.2 | 112 | 2 | 78-122 | 20 |
| Toluene | ND | 10.0 | 11.0 | 110 | 10.0 | 10.9 | 109 | 1 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 10.3 | 103 | 10.0 | 10.2 | 102 | 1 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 10.2 | 102 | 10.0 | 10.4 | 104 | 2 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 12.5 | 125 | 10.0 | 12.7 | 127 | 2 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.5 | 105 | 10.0 | 10.3 | 103 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.5 | 105 | 10.0 | 11.3 | 113 | 85-114 |
| Toluene-d8 | 10.0 | 9.89 | 99 | 10.0 | 9.84 | 98 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.58 | 96 | 10.0 | 9.54 | 95 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate
* Out of QC Limit

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/14/24 13:46 |
| Project | : TITAN 1-A | Date Received: | 06/14/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/14/24 13:46 |
| Sample ID | : MBLK3W | Date Analyzed: | 06/14/24 13:46 |
| Lab Samp ID: | VOE2F06B | Dilution Factor: | 1 |
| Lab File ID: | RFG157 | Matrix: | WATER |
| Ext Btch ID: | VOE2F06 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.2 | 10.0 | 102 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 9.52 | 10.0 | 95 | 89-112 |
| Dibromofluoromethane | 8.88 | 10.0 | 89 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F019
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : MBLK3W | LCS3W | LCD3W |
| LAB SAMPLE ID | : VOE2F06B | VOE2F06L | VOE2F06C |
| LAB FILE ID | : RFG157 | RFG154 | RFG155 |
| DATE PREPARED | : 06/14/24 13:46 | 06/14/24 12:35 | 06/14/24 12:58 |
| DATE ANALYZED | : 06/14/24 13:46 | 06/14/24 12:35 | 06/14/24 12:58 |
| PREP BATCH | : VOE2F06 | VOE2F06 | VOE2F06 |
| CALIBRATION REF | : REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 10.8 | 108 | 10.0 | 11.7 | 117 | 8 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 11.3 | 113 | 10.0 | 12.0 | 120* | 6 | 79-118 | 20 |
| Benzene | ND | 10.0 | 10.2 | 102 | 10.0 | 11.0 | 110 | 8 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 9.87 | 99 | 10.0 | 10.2 | 102 | 3 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.1 | 101 | 10.0 | 10.8 | 108 | 7 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 20.1 | 101 | 20.0 | 21.0 | 105 | 4 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.4 | 104 | 10.0 | 11.2 | 112 | 7 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.2 | 102 | 10.0 | 10.8 | 108 | 6 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 9.36 | 94 | 10.0 | 10.1 | 101 | 8 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.43 | 94 | 10.0 | 10.1 | 101 | 7 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 12.0 | 120 | 10.0 | 11.3 | 113 | 6 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.2 | 102 | 10.0 | 10.3 | 103 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.7 | 107 | 10.0 | 10.5 | 105 | 85-114 |
| Toluene-d8 | 10.0 | 9.56 | 96 | 10.0 | 9.32 | 93 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.00 | 90 | 10.0 | 8.96 | 90 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate
* Out of QC Limit

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F019
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : T1AMF-MW053_MAY24 | T1AMF-MW053_MAY24_MS | T1AMF-MW053_MAY24_MSD |
| LAB SAMPLE ID | : 24F019-02N | 24F019-02M | 24F019-02S |
| LAB FILE ID | : RFG131 | RFG133 | RFG134 |
| DATE PREPARED | : 06/13/24 13:54 | 06/13/24 14:41 | 06/13/24 15:05 |
| DATE ANALYZED | : 06/13/24 13:54 | 06/13/24 14:41 | 06/13/24 15:05 |
| PREP BATCH | : VOE2F05 | VOE2F05 | VOE2F05 |
| CALIBRATION REF | : REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | PSResult (ug/L) | SpikeAmt (ug/L) | MSResult (ug/L) | MSRec (%) | SpikeAmt (ug/L) | MSDResult (ug/L) | MSDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 11.0 | 110 | 10.0 | 11.1 | 111 | 1 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.6 | 106 | 10.0 | 10.3 | 103 | 3 | 79-118 | 20 |
| Benzene | ND | 10.0 | 9.96 | 100 | 10.0 | 10.1 | 101 | 1 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 9.69 | 97 | 10.0 | 9.41 | 94 | 3 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.0 | 100 | 10.0 | 9.97 | 100 | 0 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 19.4 | 97 | 20.0 | 19.4 | 97 | 0 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 9.98 | 100 | 10.0 | 9.99 | 100 | 0 | 78-122 | 20 |
| Toluene | ND | 10.0 | 9.95 | 100 | 10.0 | 10.1 | 101 | 1 | 80-121 | 20 |
| trans-1,2-Dichloroethene | ND | 10.0 | 9.41 | 94 | 10.0 | 9.57 | 96 | 2 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.43 | 94 | 10.0 | 9.20 | 92 | 2 | 79-123 | 20 |
| Vinyl chloride | ND | 10.0 | 12.0 | 120 | 10.0 | 11.9 | 119 | 1 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | MSResult (ug/L) | MSRec (%) | SpikeAmt (ug/L) | MSDResult (ug/L) | MSDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.3 | 103 | 10.0 | 10.6 | 106 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.9 | 109 | 10.0 | 10.7 | 107 | 85-114 |
| Toluene-d8 | 10.0 | 9.69 | 97 | 10.0 | 9.94 | 99 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.29 | 93 | 10.0 | 9.53 | 95 | 80-119 |

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F019
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : T1AMF-MW051_MAY24 | T1AMF-MW051_MAY24_MS | T1AMF-MW051_MAY24_MSD |
| LAB SAMPLE ID | : 24F019-03 | 24F019-03M | 24F019-03S |
| LAB FILE ID | : RFG132 | RFG135 | RFG136 |
| DATE PREPARED | : 06/13/24 14:17 | 06/13/24 15:28 | 06/13/24 15:52 |
| DATE ANALYZED | : 06/13/24 14:17 | 06/13/24 15:28 | 06/13/24 15:52 |
| PREP BATCH | : VOE2F05 | VOE2F05 | VOE2F05 |
| CALIBRATION REF | : REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | PSResult (ug/L) | SpikeAmt (ug/L) | MSResult (ug/L) | MSRec (%) | SpikeAmt (ug/L) | MSDResult (ug/L) | MSDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 11.1 | 111 | 10.0 | 11.0 | 110 | 1 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.3 | 103 | 10.0 | 10.3 | 103 | 0 | 79-118 | 20 |
| Benzene | ND | 10.0 | 10.1 | 101 | 10.0 | 10.1 | 101 | 0 | 79-120 | 20 |
| cis-1,2-Dichloroethene | 0.115J | 10.0 | 9.73 | 96 | 10.0 | 9.66 | 95 | 1 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 9.90 | 99 | 10.0 | 9.93 | 99 | 0 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 19.3 | 97 | 20.0 | 19.1 | 96 | 1 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 9.93 | 99 | 10.0 | 9.85 | 99 | 1 | 78-122 | 20 |
| Toluene | ND | 10.0 | 9.89 | 99 | 10.0 | 9.86 | 99 | 0 | 80-121 | 20 |
| trans-1,2-Dichloroethene | ND | 10.0 | 9.21 | 92 | 10.0 | 9.40 | 94 | 2 | 75-124 | 20 |
| Trichloroethene | 9.25 | 10.0 | 19.2 | 100 | 10.0 | 18.2 | 90 | 5 | 79-123 | 20 |
| Vinyl chloride | ND | 10.0 | 13.5 | 135 | 10.0 | 13.1 | 131 | 3 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | MSResult (ug/L) | MSRec (%) | SpikeAmt (ug/L) | MSDResult (ug/L) | MSDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.8 | 108 | 10.0 | 10.7 | 107 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 11.0 | 110 | 10.0 | 11.0 | 110 | 85-114 |
| Toluene-d8 | 10.0 | 9.90 | 99 | 10.0 | 9.66 | 97 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.56 | 96 | 10.0 | 9.63 | 96 | 80-119 |

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

# INITIAL CALIBRATION(S)

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: REG116 BFB Injection Date: 05/17/24

Instrument ID: E2 BFB Injection Time: 11:23

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.276 |
| 75 | 30 - 60% of mass 95 | 50.050 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.720 |
| 173 | Less than 2% of mass 174 | 0.804(.96)1 |
| 174 | Greater than 50% of mass 95 | 83.334 |
| 175 | 5 - 9% of mass 174 | 6.239(7.49)1 |
| 176 | 95 - 101% % of mass 174 | 81.293(97.55)1 |
| 177 | 5 - 9% % of mass 176 | 5.264(6.48)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD0.5 | VOE2E172 | REG118 | 05/17/24 | 12:33 |
| 2 | VSTD1 | VOE2E173 | REG119 | 05/17/24 | 12:57 |
| 3 | VSTD2 | VOE2E174 | REG120 | 05/17/24 | 13:21 |
| 4 | VSTD5 | VOE2E175 | REG121 | 05/17/24 | 13:45 |
| 5 | VSTD10 | VOE2E176 | REG122 | 05/17/24 | 14:09 |
| 6 | VSTD30 | VOE2E177 | REG123 | 05/17/24 | 14:33 |
| 7 | VSTD50 | VOE2E178 | REG124 | 05/17/24 | 14:57 |
| 8 | VSTD100 | VOE2E179 | REG125 | 05/17/24 | 15:21 |
| 9 | VSTD200 | VOE2E1710 | REG126 | 05/17/24 | 15:44 |

Sv
5/24/24

Instrument ID :E2
Beginning DateTime :05/17/24 12:33
Spike Units :PPB
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :05/17/24 15:44
HPChem Method :VOE2E17

| M | IDX | Parameters | 5<br>12:33<br>REG118 | 1<br>12:57<br>REG119 | 2<br>13:21<br>REG120 | 5<br>13:45<br>REG121 | 10<br>14:09<br>REG122 | 30<br>14:33<br>REG123 | 50<br>14:57<br>REG124 | 100<br>15:21<br>REG125 | 200<br>15:44<br>REG126 | Av_RRF | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 5.9874 |
| | 2 | Dichlorodifluoromethane | 0.621 | 0.637 | 0.579 | 0.504 | 0.509 | 0.610 | 0.570 | 0.578 | 0.556 | 0.574 | 8.06 | 2.7078 |
| | 3 | Chloromethane | 0.526 | 0.465 | 0.434 | 0.383 | 0.373 | 0.377 | 0.368 | 0.382 | 0.398 | 0.412 | 13.00 | 2.9059 |
| | 4 | Vinyl chloride | 0.419 | 0.490 | 0.461 | 0.376 | 0.416 | 0.439 | 0.449 | 0.449 | 0.415 | 0.435 | 7.58 | 2.9903 |
| | 5 | Bromomethane | 0.348 | 0.325 | 0.291 | 0.268 | 0.244 | 0.267 | 0.278 | 0.296 | 0.330 | 0.294 | 11.62 | 3.3131 |
| | 6 | Dichlorofluoromethane | 1.071 | 1.087 | 0.974 | 1.099 | 0.990 | 1.025 | 0.930 | 0.904 | 0.865 | 0.994 | 8.41 | 3.3523 |
| | 7 | Chloroethane | 0.222 | 0.255 | 0.216 | 0.196 | 0.204 | 0.219 | 0.205 | 0.207 | 0.193 | 0.213 | 8.74 | 3.3461 |
| | 8 | Trichlorofluoromethane | 1.076 | 1.027 | 0.981 | 0.846 | 0.898 | 1.033 | 0.988 | 0.997 | 0.949 | 0.977 | 7.24 | 3.5112 |
| 5 | 9 | Acrolein | 0.074 | 0.076 | 0.063 | 0.070 | 0.064 | 0.060 | 0.059 | 0.060 | 0.059 | 0.065 | 10.21 | 3.7423 |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 0.510 | 0.445 | 0.389 | 0.475 | 0.409 | 0.418 | 0.409 | 0.396 | 0.383 | 0.426 | 10.04 | 3.7521 |
| 5 | 11 | Acetone | 0.325 | 0.240 | 0.181 | 0.149 | 0.137 | 0.118 | 0.119 | ------ | ------ | 0.181 | 42.17 | 3.7690 |
| 25 | 12 | tert-Butyl alcohol | 0.075 | 0.070 | 0.063 | 0.057 | 0.061 | 0.056 | 0.057 | 0.055 | 0.054 | 0.061 | 11.83 | 3.8744 |
| | 13 | 1,1-Dichloroethene | 0.972 | 0.970 | 0.870 | 1.007 | 0.889 | 0.901 | 0.818 | 0.823 | 0.795 | 0.894 | 8.46 | 3.9025 |
| 10 | 14 | Acetonitrile | ------ | 0.037 | 0.031 | 0.030 | 0.031 | 0.026 | 0.027 | ------ | ------ | 0.030 | 12.37 | 3.8744 |
| | 15 | Allyl chloride | 0.262 | 0.270 | 0.227 | 0.265 | 0.239 | 0.241 | 0.223 | 0.204 | 0.194 | 0.236 | 11.27 | 4.1055 |
| | 16 | Iodomethane | 0.335 | 0.312 | 0.310 | 0.409 | 0.432 | 0.563 | 0.530 | 0.509 | 0.459 | 0.429 | 22.23 | 4.1434 |
| | 17 | Methyl acetate | ------ | 0.410 | 0.337 | 0.344 | 0.341 | 0.293 | 0.304 | ------ | ------ | 0.338 | 12.15 | 4.0285 |
| | 18 | Methylene chloride | 1.122 | 1.095 | 0.930 | 0.852 | 0.731 | 0.698 | 0.612 | 0.596 | 0.570 | 0.801 | 26.33 | 4.1825 |
| 5 | 19 | Acrylonitrile | 0.187 | 0.165 | 0.144 | 0.155 | 0.158 | 0.140 | 0.134 | 0.135 | 0.126 | 0.150 | 11.69 | 4.2156 |
| | 20 | tert-Butyl methyl ether (MTBE) | 1.687 | 1.599 | 1.508 | 1.603 | 1.504 | 1.453 | 1.377 | 1.365 | 1.352 | 1.494 | 7.94 | 4.2266 |
| | 21 | Carbon disulfide | 1.587 | 1.491 | 1.289 | 1.218 | 1.375 | 1.338 | 1.287 | ------ | ------ | 1.370 | 9.42 | 4.3052 |
| | 22 | trans-1,2-Dichloroethene | 0.536 | 0.534 | 0.472 | 0.542 | 0.468 | 0.442 | 0.442 | 0.426 | 0.429 | 0.477 | 10.07 | 4.3696 |
| | 23 | Isopropyl ether (DIPE) | 1.738 | 1.638 | 1.535 | 1.682 | 1.513 | 1.489 | 1.394 | 1.379 | 1.317 | 1.520 | 9.47 | 4.4601 |
| | 24 | Vinyl acetate | 0.905 | 0.932 | 0.893 | 0.899 | 0.928 | 0.816 | 0.810 | 0.820 | 0.793 | 0.866 | 6.41 | 4.5457 |
| | 25 | 1,1-Dichloroethane | 1.123 | 1.084 | 0.958 | 1.041 | 0.935 | 0.964 | 0.901 | 0.851 | 0.823 | 0.965 | 10.57 | 4.6338 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 2.025 | 2.049 | 1.829 | 2.024 | 1.854 | 1.711 | 1.759 | 1.666 | 1.701 | 1.846 | 8.21 | 4.7328 |
| 5 | 27 | 2-Butanone | ------ | 0.059 | 0.048 | 0.048 | 0.049 | 0.043 | 0.043 | 0.042 | 0.042 | 0.047 | 12.56 | 4.8539 |
| 10 | 28 | Propionitrile | 0.067 | 0.061 | 0.059 | 0.057 | 0.053 | 0.051 | 0.051 | 0.048 | 0.050 | 0.055 | 11.17 | 4.9101 |
| 20 | 29 | Isobutyl alcohol | ------ | 0.024 | 0.020 | 0.019 | 0.020 | 0.018 | 0.019 | 0.017 | ------ | 0.020 | 12.47 | 5.0299 |
| | 30 | 2,2-Dichloropropane | 1.070 | 1.031 | 0.913 | 1.100 | 0.993 | 0.952 | 0.921 | 0.878 | 0.831 | 0.966 | 9.30 | 5.0202 |
| 10 | 31 | Methacrylonitrile | 0.105 | 0.103 | 0.092 | 0.099 | 0.089 | 0.088 | 0.084 | 0.080 | 0.076 | 0.091 | 11.02 | 5.0568 |
| | 32 | cis-1,2-Dichloroethene | 0.592 | 0.622 | 0.541 | 0.585 | 0.519 | 0.520 | 0.508 | 0.491 | 0.507 | 0.543 | 8.40 | 5.0630 |
| | 33 | Chloroform | 1.500 | 1.398 | 1.172 | 1.238 | 1.117 | 1.090 | 1.041 | 1.012 | ------ | 1.196 | 14.51 | 5.1730 |
| | 34 | Bromochloromethane | 0.354 | 0.366 | 0.325 | 0.348 | 0.326 | 0.321 | 0.296 | 0.275 | 0.259 | 0.319 | 11.29 | 5.3271 |
| | 35 | Tetrahydrofuran | ------ | 0.140 | 0.129 | 0.132 | 0.124 | 0.122 | 0.118 | 0.116 | ------ | 0.126 | 6.67 | 5.3192 |
| | 36 | Dibromofluoromethane | 0.677 | 0.642 | 0.571 | 0.613 | 0.624 | 0.588 | 0.573 | ------ | ------ | 0.612 | 6.30 | 5.3381 |
| | 37 | 1,1,1-Trichloroethane | 1.193 | 1.165 | 1.010 | 1.192 | 1.074 | 1.094 | 1.020 | 0.999 | 0.960 | 1.079 | 8.19 | 5.4971 |
| | 38 | Cyclohexane | 0.684 | 0.625 | 0.466 | 0.628 | 0.461 | 0.515 | 0.544 | 0.500 | 0.528 | 0.550 | 14.22 | 5.5484 |
| | 39 | tert-Amyl methyl ether (TAME) | 0.340 | 0.348 | 0.314 | 0.372 | 0.345 | 0.297 | 0.329 | 0.313 | 0.306 | 0.329 | 7.33 | 5.6144 |
| | 40 | 1,1-Dichloropropene | 0.262 | 0.251 | 0.222 | 0.266 | 0.242 | 0.218 | 0.228 | 0.219 | 0.217 | 0.236 | 8.29 | 5.6132 |
| | 41 | 1,2-Dichloroethane-d4 | 0.972 | 0.902 | 0.780 | 0.802 | 0.781 | 0.709 | 0.720 | ------ | ------ | 0.809 | 11.80 | 5.7233 |
| | 42 | Carbon tetrachloride | 0.945 | 0.992 | 0.834 | 1.044 | 0.930 | 0.901 | 0.890 | 0.840 | 0.838 | 0.913 | 8.01 | 5.7343 |
| | 43 | 1,2-Dichloroethane | 1.036 | 1.026 | 0.936 | 1.027 | 0.917 | 0.846 | 0.859 | 0.810 | 0.796 | 0.919 | 10.41 | 5.8003 |
| | 44 | Benzene | 2.100 | 2.054 | 1.772 | 1.904 | 1.819 | 1.719 | 1.753 | 1.684 | 1.662 | 1.830 | 8.64 | 5.8663 |
| | 45 | Trichloroethene | 0.573 | 0.564 | 0.458 | 0.553 | 0.494 | 0.496 | 0.481 | 0.460 | 0.468 | 0.505 | 9.09 | 6.3714 |
| | 46 | Methyl methacrylate | 0.521 | 0.497 | 0.421 | 0.494 | 0.427 | 0.401 | 0.430 | 0.422 | 0.415 | 0.448 | 9.77 | 6.4386 |
| | 47 | Methylcyclohexane | ------ | 0.701 | 0.528 | 0.712 | 0.530 | 0.546 | 0.606 | 0.586 | 0.600 | 0.601 | 11.92 | 6.4537 |
| | 48 | 1,2-Dichloropropane | 0.559 | 0.532 | 0.465 | 0.483 | 0.464 | 0.418 | 0.437 | 0.427 | 0.418 | 0.467 | 10.74 | 6.5266 |
| 20 | 49 | 1,4-Dioxane | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 50 | Bromodichloromethane | ------ | 1.077 | 0.909 | 0.968 | 0.886 | 0.841 | 0.821 | 0.796 | 0.773 | 0.884 | 11.38 | 6.7687 |
| | 51 | Dibromomethane | 0.454 | 0.430 | 0.373 | 0.417 | 0.371 | 0.368 | 0.349 | 0.344 | 0.315 | 0.380 | 11.79 | 6.8568 |
| | 52 | 2-Chloroethyl vinyl ether | 0.233 | 0.250 | 0.232 | 0.253 | 0.238 | 0.229 | 0.224 | 0.216 | 0.206 | 0.231 | 6.45 | 6.9338 |
| 5 | 53 | 4-Methyl-2-pentanone | 0.591 | 0.572 | 0.495 | 0.557 | 0.534 | 0.467 | 0.473 | 0.467 | 0.447 | 0.512 | 10.35 | 6.9571 |
| | 54 | cis-1,3-Dichloropropene | 0.921 | 0.873 | 0.791 | 0.882 | 0.822 | 0.782 | 0.775 | 0.759 | 0.743 | 0.817 | 7.57 | 7.2750 |
| | 55 | CHLOROBENZENE-DS | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9.5641 |
| | 56 | Toluene-d8 | ------ | 2.328 | 1.900 | 1.960 | 2.006 | 1.860 | 1.868 | ------ | ------ | 1.987 | 8.88 | 7.5941 |
| | 57 | Ethyl methacrylate | 0.687 | 0.714 | 0.662 | 0.753 | 0.707 | 0.647 | 0.685 | 0.635 | 0.651 | 0.682 | 5.59 | 7.6932 |
| | 58 | Toluene | 2.522 | 2.598 | 2.196 | 2.483 | 2.250 | 2.053 | 2.185 | 2.012 | 2.114 | 2.268 | 9.46 | 7.6932 |
| | 59 | trans-1,3-Dichloropropene | 1.019 | 1.031 | 0.921 | 1.072 | 0.988 | 0.969 | 0.957 | 0.878 | 0.899 | 0.970 | 6.61 | 7.8143 |
| 5 | 60 | 2-Hexanone | 0.494 | 0.448 | 0.391 | 0.437 | 0.433 | 0.389 | 0.385 | 0.352 | 0.362 | 0.410 | 11.13 | 7.9378 |
| | 61 | 1,1,2-Trichloroethane | 0.616 | 0.606 | 0.548 | 0.580 | 0.535 | 0.538 | 0.494 | 0.461 | 0.466 | 0.538 | 10.51 | 8.0454 |
| | 62 | 1,3-Dichloropropane | 0.881 | 0.932 | 0.787 | 0.866 | 0.785 | 0.770 | 0.765 | 0.707 | 0.701 | 0.799 | 9.83 | 8.3535 |
| | 63 | Tetrachloroethene | 0.591 | 0.595 | 0.434 | 0.529 | 0.477 | 0.495 | 0.463 | 0.431 | 0.448 | 0.496 | 12.71 | 8.5088 |
| | 64 | Dibromochloromethane | ------ | 1.038 | 0.826 | 0.858 | 0.788 | 0.824 | 0.742 | 0.693 | 0.690 | 0.807 | 13.87 | 8.7827 |
| | 65 | 1,2-Dibromoethane | 0.651 | 0.619 | 0.556 | 0.621 | 0.592 | 0.594 | 0.549 | 0.522 | 0.516 | 0.580 | 8.08 | 9.0688 |
| | 66 | 1-Chlorohexane | 0.844 | 0.848 | 0.651 | 0.843 | 0.747 | 0.751 | 0.722 | 0.671 | 0.677 | 0.751 | 10.45 | 9.1239 |
| | 67 | Chlorobenzene | 1.802 | 1.685 | 1.395 | 1.599 | 1.466 | 1.486 | 1.389 | 1.323 | 1.338 | 1.498 | 11.00 | 9.6191 |
| | 68 | 1,1,1,2-Tetrachloroethane | 0.713 | 0.709 | 0.595 | 0.685 | 0.647 | 0.654 | 0.606 | 0.565 | 0.563 | 0.637 | 9.12 | 9.6460 |
| | 69 | Ethylbenzene | 3.192 | 3.179 | 2.449 | 2.920 | 2.662 | 2.734 | 2.599 | 2.475 | 2.468 | 2.742 | 10.66 | 9.6411 |
| 2 | 70 | m-Xylene & p-Xylene | 2.549 | 2.503 | 1.987 | 2.323 | 2.078 | 2.117 | 2.094 | ------ | ------ | 2.236 | 9.97 | 9.7496 |
| | 71 | o-Xylene | 2.536 | 2.361 | 1.926 | 2.321 | 2.112 | 1.978 | 2.058 | 1.894 | 1.863 | 2.117 | 11.21 | 10.4127 |
| | 72 | Styrene | 1.648 | 1.724 | 1.354 | 1.615 | 1.493 | 1.415 | 1.441 | 1.328 | 1.303 | 1.480 | 10.19 | 10.4580 |
| | 73 | Isopropylbenzene | 2.835 | 2.945 | 2.240 | 2.644 | 2.424 | 2.142 | 2.250 | 2.149 | 2.077 | 2.412 | 13.33 | 10.9397 |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 13.8891 |
| | 75 | Bromoform | 1.246 | 1.192 | 1.112 | 1.177 | 1.072 | 1.033 | 1.055 | 0.974 | 0.961 | 1.091 | 9.03 | 11.0608 |
| | 76 | 1,1,2,2-Tetrachloroethane | 1.731 | 1.658 | 1.370 | 1.490 | 1.349 | 1.248 | 1.296 | 1.218 | 1.184 | 1.394 | 13.93 | 11.2026 |
| | 77 | 4-Bromofluorobenzene | ------ | 1.901 | 1.601 | 1.620 | 1.559 | 1.327 | 1.516 | ------ | ------ | 1.587 | 11.73 | 11.3689 |
| | 78 | 1,2,3-Trichloropropane | 0.441 | 0.449 | 0.384 | 0.439 | 0.374 | 0.344 | 0.366 | 0.344 | 0.322 | 0.385 | 12.26 | 11.4460 |
| | 79 | trans-1,4-Dichloro-2-butene | 0.345 | 0.390 | 0.351 | 0.456 | 0.395 | 0.395 | 0.414 | 0.380 | 0.379 | 0.389 | 8.47 | 11.5132 |
| | 80 | n-Propylbenzene | 7.684 | 7.739 | 5.851 | 7.164 | 6.006 | 5.607 | 5.968 | 5.582 | 5.465 | 6.341 | 14.55 | 11.5780 |
| | 81 | Bromobenzene | 1.646 | 1.681 | 1.348 | 1.563 | 1.386 | 1.206 | 1.293 | 1.208 | 1.192 | 1.392 | 13.87 | 11.7321 |
| | 82 | 1,3,5-Trimethylbenzene | 5.366 | 5.227 | 4.073 | 4.881 | 4.205 | 3.892 | 4.064 | 3.785 | 3.738 | 4.359 | 14.43 | 11.8287 |
| | 83 | 2-Chlorotoluene | ------ | 4.800 | 3.579 | 4.665 | 3.673 | 3.653 | 3.858 | 3.598 | 3.483 | 3.914 | 13.23 | 11.9192 |
| | 84 | 4-Chlorotoluene | 4.791 | 5.151 | 3.841 | 3.940 | 3.868 | 2.881 | 3.359 | 3.161 | 3.176 | 3.796 | 20.12 | 11.9754 |
| | 85 | tert-Butylbenzene | 0.747 | 0.829 | 0.605 | 0.740 | 0.648 | 0.561 | 0.592 | ------ | ------ | 0.675 | 14.63 | 12.4081 |
| | 86 | 1,2,4-Trimethylbenzene | 5.058 | 5.235 | 4.012 | 4.761 | 4.182 | 3.747 | 3.973 | 3.721 | 3.680 | 4.263 | 14.07 | 12.4780 |
| | 87 | sec-Butylbenzene | ------ | 6.256 | 4.523 | 5.517 | 4.832 | 4.450 | 4.638 | 4.362 | ------ | 4.940 | 14.11 | 12.7493 |
| | 88 | p-Isopropyltoluene | 5.045 | 5.046 | 3.819 | 4.703 | 3.968 | 3.664 | 3.821 | 3.689 | 3.551 | 4.145 | 14.69 | 12.9549 |
| | 89 | 1,3-Dichlorobenzene | 3.020 | 2.992 | 2.191 | 2.485 | 2.182 | 2.011 | 2.088 | 1.908 | 1.849 | 2.303 | 19.08 | 13.1652 |
| | 90 | 1,2,3-Trimethylbenzene | 4.849 | 5.175 | 3.973 | 4.777 | 4.170 | 3.766 | 3.928 | 3.729 | 3.652 | 4.224 | 13.33 | 13.2545 |
| | 91 | 1,4-Dichlorobenzene | 3.022 | 3.108 | 2.117 | 2.540 | 2.221 | 2.073 | 2.138 | 1.953 | 1.965 | 2.349 | 18.81 | 13.3278 |
| | 92 | n-Butylbenzene | 4.979 | 4.820 | 3.500 | 4.168 | 3.792 | 3.621 | 3.712 | 3.405 | 3.483 | 3.942 | 14.93 | 13.6140 |
| | 93 | 1,2-Dichlorobenzene | ------ | 2.697 | 2.183 | 2.392 | 2.013 | 1.895 | 1.926 | ------ | ------ | 2.184 | 14.28 | 13.9331 |
| | 94 | 1,2-Dibromo-3-chloropropane | 0.324 | 0.328 | 0.262 | 0.286 | 0.265 | 0.273 | 0.269 | 0.273 | 0.271 | 0.283 | 8.87 | 15.1339 |
| | 95 | 1,2,4-Trichlorobenzene | 2.154 | 2.073 | 1.349 | 1.477 | 1.289 | 1.277 | 1.274 | 1.228 | 1.317 | 1.493 | 24.05 | 16.4643 |
| | 96 | Hexachlorobutadiene | ------ | 0.968 | 0.705 | 0.840 | 0.750 | 0.697 | 0.696 | 0.668 | 0.717 | 0.755 | 13.33 | 16.6624 |
| | 97 | Naphthalene | ------ | 4.357 | 3.062 | 3.424 | 3.316 | 3.128 | 3.237 | 3.113 | 3.378 | 3.377 | 12.35 | 16.8715 |
| | 98 | 1,2,3-Trichlorobenzene | 2.077 | 1.941 | 1.298 | 1.377 | 1.232 | 1.225 | 1.192 | 1.180 | 1.249 | 1.419 | 24.06 | 17.2310 |

Spike Amount = Nominal Amount * M
Ave_%RSD : 11.8 Max_%RSD : 42.2

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = x0 + x1 * Amt_Ratio

| IDX | Parameter | x0 | x1 | CCF |
|---|---|---|---|---|
| 11 | Acetone | 0.05832 | 0.11706 | 0.9992 |
| 16 | Iodomethane | -0.01397 | 0.48870 | 0.9969 |
| 18 | Methylene chloride | 0.01858 | 0.59178 | 0.9974 |
| 84 | 4-Chlorotoluene | 0.14395 | 3.17771 | 0.9987 |
| 89 | 1,3-Dichlorobenzene | 0.09201 | 1.90749 | 0.9986 |
| 91 | 1,4-Dichlorobenzene | 0.08306 | 1.99157 | 0.9991 |
| 95 | 1,2,4-Trichlorobenzene | 0.04972 | 1.27956 | 0.9993 |
| 98 | 1,2,3-Trichlorobenzene | 0.04722 | 1.21614 | 0.9995 |

5/24/24

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :E2
Beginning DateTime :05/17/24 12:33
Spike Units :PPB
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :05/17/24 15:44
HPChem Method :VOE2E17

| M | IDX | Parameters | .5<br>12:33<br>REG118 | 1<br>12:57<br>REG119 | 2<br>13:21<br>REG120 | 5<br>13:45<br>REG121 | 10<br>14:09<br>REG122 | 30<br>14:33<br>REG123 | 50<br>14:57<br>REG124 | 100<br>15:21<br>REG125 | 200<br>15:44<br>REG126 | AvDRec | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 5.9874 |
| | 2 | Dichlorodifluoromethane | 108 | 111 | 101 | 88 | 89 | 106 | 99 | 101 | 97 | 6 | 8.06 | 2.7078 |
| | 3 | Chloromethane | 128 | 113 | 105 | 93 | 91 | 92 | 89 | 93 | 97 | 10.2 | 13.00 | 2.9059 |
| | 4 | Vinyl chloride | 96 | 113 | 106 | 86 | 96 | 101 | 103 | 103 | 95 | 5.8 | 7.58 | 2.9903 |
| | 5 | Bromomethane | 118 | 111 | 99 | 91 | 83 | 91 | 95 | 101 | 112 | 9.3 | 11.62 | 3.3131 |
| | 6 | Dichlorofluoromethane | 108 | 109 | 98 | 111 | 100 | 103 | 94 | 91 | 87 | 6.9 | 8.41 | 3.3523 |
| | 7 | Chloroethane | 104 | 120 | 101 | 92 | 96 | 103 | 96 | 97 | 91 | 6.3 | 8.74 | 3.3461 |
| | 8 | Trichlorofluoromethane | 110 | 105 | 100 | 87 | 92 | 106 | 101 | 102 | 97 | 5.4 | 7.24 | 3.5112 |
| 5 | 9 | Acrolein | 114 | 117 | 97 | 108 | 98 | 92 | 91 | 92 | 91 | 8.5 | 10.21 | 3.7423 |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 120 | 104 | 91 | 112 | 96 | 98 | 96 | 93 | 90 | 7.9 | 10.04 | 3.7521 |
| 5 | 11 | Acetone | 78 | 105 | 105 | 107 | 107 | 97 | 99 | ------ | ------ | 31.9 | 42.17 | 3.7690 |
| 25 | 12 | tert-Butyl alcohol | 123 | 115 | 103 | 93 | 100 | 92 | 93 | 90 | 89 | 9.3 | 11.83 | 3.8744 |
| | 13 | 1,1-Dichloroethene | 109 | 109 | 97 | 113 | 99 | 101 | 91 | 92 | 89 | 6.8 | 8.46 | 3.9025 |
| 10 | 14 | Acetonitrile | ------ | 123 | 103 | 100 | 103 | 87 | 90 | ------ | ------ | 8.9 | 12.37 | 3.8744 |
| | 15 | Allyl chloride | 111 | 114 | 96 | 112 | 101 | 102 | 94 | 86 | 82 | 9.1 | 11.27 | 4.1055 |
| | 16 | Iodomethane | 126 | 92 | 78 | 89 | 91 | 116 | 109 | 104 | 94 | 18.1 | 22.23 | 4.1434 |
| | 17 | Methyl acetate | ------ | 121 | 100 | 102 | 101 | 87 | 90 | ------ | ------ | 7.9 | 12.15 | 4.0285 |
| | 18 | Methylene chloride | 26 | 103 | 116 | 128 | 115 | 115 | 102 | 100 | 96 | 22.1 | 26.33 | 4.1825 |
| 5 | 19 | Acrylonitrile | 125 | 110 | 96 | 103 | 105 | 93 | 89 | 90 | 91 | 9.3 | 11.69 | 4.2156 |
| | 20 | tert-Butyl methyl ether (MTBE) | 113 | 107 | 101 | 107 | 101 | 97 | 92 | 91 | 90 | 6.4 | 7.94 | 4.2266 |
| | 21 | Carbon disulfide | 116 | 109 | 94 | 89 | 100 | 98 | 94 | ------ | ------ | 7.2 | 9.42 | 4.3052 |
| | 22 | trans-1,2-Dichloroethene | 112 | 112 | 99 | 114 | 98 | 93 | 93 | 89 | 90 | 8.5 | 10.07 | 4.3696 |
| | 23 | Isopropyl ether (DIPE) | 114 | 108 | 101 | 111 | 100 | 98 | 92 | 91 | 87 | 7.5 | 9.47 | 4.4601 |
| | 24 | Vinyl acetate | 105 | 108 | 103 | 104 | 107 | 94 | 94 | 95 | 92 | 5.8 | 6.41 | 4.5457 |
| | 25 | 1,1-Dichloroethane | 116 | 112 | 99 | 108 | 97 | 100 | 93 | 88 | 85 | 8.2 | 10.57 | 4.6338 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 110 | 111 | 99 | 110 | 100 | 93 | 95 | 90 | 92 | 6.8 | 8.21 | 4.7328 |
| 5 | 27 | 2-Butanone | ------ | 126 | 102 | 102 | 104 | 91 | 91 | 89 | 89 | 9 | 12.56 | 4.8539 |
| 10 | 28 | Propionitrile | 122 | 111 | 107 | 104 | 96 | 93 | 93 | 87 | 91 | 9.3 | 11.17 | 4.9101 |
| 20 | 29 | Isobutyl alcohol | ------ | 120 | 100 | 95 | 100 | 90 | 95 | 85 | ------ | 7.9 | 12.47 | 5.0299 |
| | 30 | 2,2-Dichloropropane | 111 | 107 | 95 | 114 | 103 | 99 | 95 | 91 | 86 | 7.6 | 9.30 | 5.0202 |
| 10 | 31 | Methacrylonitrile | 115 | 113 | 101 | 109 | 98 | 97 | 92 | 88 | 84 | 8.9 | 11.02 | 5.0568 |
| | 32 | cis-1,2-Dichloroethene | 109 | 115 | 100 | 108 | 96 | 96 | 94 | 90 | 93 | 7 | 8.40 | 5.0630 |
| | 33 | Chloroform | 125 | 117 | 98 | 104 | 93 | 91 | 87 | 85 | ------ | 11.5 | 14.51 | 5.1730 |
| | 34 | Bromochloromethane | 111 | 115 | 102 | 109 | 102 | 101 | 93 | 86 | 81 | 8.8 | 11.29 | 5.3271 |
| | 35 | Tetrahydrofuran | ------ | 111 | 102 | 105 | 98 | 97 | 94 | 92 | ------ | 5.3 | 6.67 | 5.3192 |
| | 36 | Dibromofluoromethane | 111 | 105 | 93 | 100 | 102 | 96 | 94 | ------ | ------ | 4.9 | 6.30 | 5.3381 |
| | 37 | 1,1,1-Trichloroethane | 111 | 108 | 94 | 110 | 100 | 101 | 95 | 93 | 89 | 6.8 | 8.19 | 5.4971 |
| | 38 | Cyclohexane | 124 | 114 | 85 | 114 | 84 | 94 | 99 | 91 | 96 | 11.6 | 14.22 | 5.5484 |
| | 39 | tert-Amyl methyl ether (TAME) | 103 | 106 | 95 | 113 | 105 | 90 | 100 | 95 | 93 | 5.9 | 7.33 | 5.6144 |
| | 40 | 1,1-Dichloropropene | 111 | 106 | 94 | 113 | 103 | 92 | 97 | 93 | 92 | 7.2 | 8.29 | 5.6132 |
| | 41 | 1,2-Dichloroethane-d4 | 120 | 111 | 96 | 99 | 97 | 88 | 89 | ------ | ------ | 9 | 11.80 | 5.7233 |
| | 42 | Carbon tetrachloride | 104 | 109 | 91 | 114 | 102 | 99 | 97 | 92 | 92 | 6.3 | 8.01 | 5.7343 |
| | 43 | 1,2-Dichloroethane | 113 | 112 | 102 | 112 | 102 | 92 | 93 | 88 | 87 | 8.9 | 10.41 | 5.8003 |
| | 44 | Benzene | 115 | 112 | 97 | 104 | 99 | 94 | 96 | 92 | 91 | 6.9 | 8.64 | 5.8663 |
| | 45 | Trichloroethene | 113 | 112 | 91 | 110 | 98 | 98 | 95 | 91 | 93 | 7.7 | 9.09 | 6.3714 |
| | 46 | Methyl methacrylate | 116 | 111 | 94 | 110 | 95 | 90 | 96 | 94 | 93 | 8.4 | 9.77 | 6.4386 |
| | 47 | Methylcyclohexane | ------ | 117 | 88 | 118 | 88 | 91 | 101 | 98 | 100 | 9 | 11.92 | 6.4537 |
| | 48 | 1,2-Dichloropropane | 120 | 114 | 100 | 103 | 99 | 90 | 94 | 91 | 90 | 8.2 | 10.74 | 6.5266 |
| 20 | 49 | 1,4-Dioxane | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 50 | Bromodichloromethane | ------ | 122 | 103 | 110 | 100 | 95 | 93 | 90 | 87 | 8.6 | 11.38 | 6.7687 |
| | 51 | Dibromomethane | 119 | 113 | 98 | 110 | 98 | 97 | 92 | 91 | 83 | 9.4 | 11.79 | 6.8568 |
| | 52 | 2-Chloroethyl vinyl ether | 101 | 108 | 100 | 110 | 103 | 99 | 97 | 94 | 89 | 4.8 | 6.45 | 6.9338 |
| 5 | 53 | 4-Methyl-2-pentanone | 115 | 112 | 97 | 109 | 104 | 91 | 92 | 91 | 87 | 9 | 10.35 | 6.9571 |
| | 54 | cis-1,3-Dichloropropene | 113 | 107 | 97 | 108 | 101 | 96 | 95 | 93 | 91 | 6.3 | 7.57 | 7.2750 |
| | 55 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9.5641 |
| | 56 | Toluene-d8 | ------ | 117 | 96 | 99 | 101 | 94 | 94 | ------ | ------ | 6 | 8.88 | 7.5941 |
| | 57 | Ethyl methacrylate | 101 | 105 | 97 | 110 | 104 | 95 | 100 | 93 | 95 | 4.4 | 5.59 | 7.6932 |
| | 58 | Toluene | 111 | 115 | 97 | 109 | 99 | 91 | 96 | 89 | 93 | 7.8 | 9.46 | 7.6932 |
| | 59 | trans-1,3-Dichloropropene | 105 | 106 | 95 | 111 | 102 | 100 | 99 | 91 | 93 | 5.2 | 6.61 | 7.8143 |
| 5 | 60 | 2-Hexanone | 120 | 109 | 95 | 107 | 106 | 95 | 94 | 86 | 88 | 9.3 | 11.13 | 7.9378 |
| | 61 | 1,1,2-Trichloroethane | 114 | 113 | 102 | 108 | 99 | 100 | 92 | 86 | 87 | 8.1 | 10.51 | 8.0454 |
| | 62 | 1,3-Dichloropropane | 110 | 117 | 98 | 108 | 98 | 96 | 96 | 88 | 88 | 7.8 | 9.83 | 8.3535 |
| | 63 | Tetrachloroethene | 119 | 120 | 88 | 107 | 96 | 100 | 93 | 87 | 90 | 10.2 | 12.71 | 8.5088 |
| | 64 | Dibromochloromethane | ------ | 129 | 102 | 106 | 98 | 102 | 92 | 86 | 86 | 9.8 | 13.87 | 8.7827 |
| | 65 | 1,2-Dibromoethane | 112 | 107 | 96 | 107 | 102 | 102 | 95 | 90 | 89 | 6.8 | 8.08 | 9.0688 |
| | 66 | 1-Chlorohexane | 112 | 113 | 87 | 112 | 99 | 100 | 96 | 89 | 90 | 8.4 | 10.45 | 9.1239 |
| | 67 | Chlorobenzene | 120 | 112 | 93 | 107 | 98 | 99 | 93 | 88 | 89 | 8.8 | 11.00 | 9.6191 |
| | 68 | 1,1,1,2-Tetrachloroethane | 112 | 111 | 93 | 108 | 102 | 103 | 95 | 89 | 88 | 7.7 | 9.12 | 9.6460 |
| | 69 | Ethylbenzene | 116 | 116 | 89 | 106 | 97 | 100 | 95 | 90 | 90 | 8.6 | 10.66 | 9.6411 |
| 2 | 70 | m-Xylene & p-Xylene | 114 | 112 | 89 | 104 | 93 | 95 | 94 | ------ | ------ | 8.5 | 9.97 | 9.7496 |
| | 71 | o-Xylene | 120 | 112 | 91 | 110 | 100 | 93 | 97 | 89 | 88 | 9.1 | 11.21 | 10.4127 |
| | 72 | Styrene | 111 | 116 | 91 | 109 | 101 | 96 | 97 | 90 | 88 | 8.4 | 10.19 | 10.4580 |
| | 73 | Isopropylbenzene | 118 | 122 | 93 | 110 | 100 | 89 | 93 | 89 | 86 | 11.1 | 13.33 | 10.9397 |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 13.8891 |
| | 75 | Bromoform | 114 | 109 | 102 | 108 | 98 | 95 | 97 | 89 | 88 | 7.4 | 9.03 | 11.0608 |
| | 76 | 1,1,2,2-Tetrachloroethane | 124 | 119 | 98 | 107 | 97 | 90 | 93 | 87 | 85 | 11.1 | 13.93 | 11.2026 |
| | 77 | 4-Bromofluorobenzene | ------ | 120 | 101 | 102 | 98 | 84 | 96 | ------ | ------ | 7.6 | 11.73 | 11.3689 |
| | 78 | 1,2,3-Trichloropropane | 115 | 117 | 100 | 114 | 97 | 89 | 95 | 89 | 84 | 10.1 | 12.26 | 11.4460 |
| | 79 | trans-1,4-Dichloro-2-butene | 89 | 100 | 90 | 117 | 102 | 102 | 106 | 98 | 97 | 5.9 | 8.47 | 11.5132 |
| | 80 | n-Propylbenzene | 121 | 122 | 92 | 113 | 95 | 88 | 94 | 88 | 86 | 12.5 | 14.55 | 11.5780 |
| | 81 | Bromobenzene | 118 | 121 | 97 | 112 | 100 | 87 | 93 | 87 | 86 | 11.4 | 13.87 | 11.7321 |
| | 82 | 1,3,5-Trimethylbenzene | 123 | 120 | 93 | 112 | 96 | 89 | 93 | 87 | 86 | 12.2 | 14.43 | 11.8287 |
| | 83 | 2-Chlorotoluene | ------ | 123 | 91 | 119 | 94 | 93 | 99 | 92 | 89 | 10.5 | 13.23 | 11.9192 |
| | 84 | 4-Chlorotoluene | 60 | 117 | 98 | 115 | 117 | 89 | 105 | 99 | 100 | 15.3 | 20.12 | 11.9754 |
| | 85 | tert-Butylbenzene | 111 | 123 | 90 | 110 | 96 | 83 | 88 | ------ | ------ | 12.4 | 14.63 | 12.4081 |
| | 86 | 1,2,4-Trimethylbenzene | 119 | 123 | 94 | 112 | 98 | 88 | 93 | 87 | 86 | 11.8 | 14.07 | 12.4780 |
| | 87 | sec-Butylbenzene | ------ | 127 | 92 | 112 | 98 | 90 | 94 | 88 | ------ | 11 | 14.11 | 12.7493 |
| | 88 | p-Isopropyltoluene | 122 | 122 | 92 | 113 | 96 | 88 | 92 | 89 | 86 | 12.6 | 14.69 | 12.9549 |
| | 89 | 1,3-Dichlorobenzene | 62 | 109 | 90 | 120 | 110 | 104 | 108 | 100 | 97 | 15.3 | 19.08 | 13.1652 |
| | 90 | 1,2,3-Trimethylbenzene | 115 | 123 | 94 | 113 | 99 | 89 | 93 | 88 | 86 | 11.2 | 13.33 | 13.2545 |
| | 91 | 1,4-Dichlorobenzene | 126 | 114 | 86 | 119 | 107 | 103 | 106 | 98 | 98 | 15.4 | 18.81 | 13.3278 |
| | 92 | n-Butylbenzene | 126 | 122 | 89 | 106 | 96 | 92 | 94 | 86 | 88 | 12.1 | 14.93 | 13.6140 |
| | 93 | 1,2-Dichlorobenzene | ------ | 123 | 100 | 110 | 92 | 87 | 88 | ------ | ------ | 11 | 14.28 | 13.9331 |
| | 94 | 1,2-Dibromo-3-chloropropane | 114 | 116 | 93 | 101 | 94 | 96 | 95 | 96 | 96 | 6.8 | 8.87 | 15.1339 |
| | 95 | 1,2,4-Trichlorobenzene | 90 | 123 | 86 | 108 | 97 | 98 | 99 | 90 | 103 | 18.5 | 24.05 | 16.4643 |
| | 96 | Hexachlorobutadiene | ------ | 128 | 93 | 111 | 99 | 92 | 92 | 88 | 95 | 9.9 | 13.33 | 16.6624 |
| | 97 | Naphthalene | ------ | 129 | 91 | 101 | 98 | 93 | 96 | 92 | 100 | 7.6 | 12.35 | 16.8715 |
| | 98 | 1,2,3-Trichlorobenzene | 94 | 121 | 88 | 105 | 97 | 97 | 97 | 97 | 102 | 18.5 | 24.06 | 17.2310 |

For 8260C
SW
5/29/24

# Compound List Report E2

Method Path : C:\MSDCHEM\1\METHODS\
Method File : VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024
Response Via : Initial Calibration

Total Cpnds : 98

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 114 | 5.987 | 1.000 | A | 1 | A | B |
| 2 | T | Dichlorodifluoromethane | 85 | 2.708 | 0.452 | A | 1 | A | B |
| 3 | T | Chloromethane | 50 | 2.906 | 0.485 | A | 1 | A | B |
| 4 | T | Vinyl chloride | 62 | 2.994 | 0.500 | A | 1 | A | B |
| 5 | T | Bromomethane | 94 | 3.313 | 0.553 | A | 1 | A | B |
| 6 | T | Dichlorofluoromethane | 67 | 3.357 | 0.561 | A | 1 | A | B |
| 7 | T | Chloroethane | 64 | 3.346 | 0.559 | A | 1 | A | B |
| 8 | T | Trichlorofluoromethane | 101 | 3.511 | 0.586 | A | 1 | A | B |
| 9 | T | Acrolein | 56 | 3.742 | 0.625 | A | 1 | A | B |
| 10 | T | 1,1,2-Trichloro-1,2,2-Trifl... | 151 | 3.753 | 0.627 | A | 1 | A | B |
| 11 | T | Acetone | 43 | 3.764 | 0.629 | L | 1 | A | B |
| 12 | T | tert-Butyl alcohol | 59 | 3.874 | 0.647 | A | 1 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 3.908 | 0.653 | A | 2 | A | B |
| 14 | T | Acetonitrile | 41 | 3.874 | 0.647 | A | 1 | A | B |
| 15 | T | Allyl chloride | 76 | 4.106 | 0.686 | A | 1 | A | B |
| 16 | T | Iodomethane | 142 | 4.150 | 0.693 | L | 1 | A | B |
| 17 | T | Methyl acetate | 43 | 4.029 | 0.673 | A | 1 | A | B |
| 18 | T | Methylene chloride | 49 | 4.183 | 0.699 | L | 2 | A | B |
| 19 | T | Acrylonitrile | 53 | 4.216 | 0.704 | A | 2 | A | B |
| 20 | T | tert-Butyl methyl ether (MTBE) | 73 | 4.227 | 0.706 | A | 1 | A | B |
| 21 | T | Carbon disulfide | 76 | 4.304 | 0.719 | A | 1 | A | B |
| 22 | T | trans-1,2-Dichloroethene | 96 | 4.370 | 0.730 | A | 1 | A | B |
| 23 | T | Isopropyl ether (DIPE) | 45 | 4.458 | 0.745 | A | 1 | A | B |
| 24 | T | Vinyl acetate | 43 | 4.546 | 0.759 | A | 1 | A | B |
| 25 | T | 1,1-Dichloroethane | 63 | 4.634 | 0.774 | A | 2 | A | B |
| 26 | T | tert-Butyl ethyl ether (ETBE) | 59 | 4.733 | 0.791 | A | 1 | A | B |
| 27 | T | 2-Butanone | 72 | 4.854 | 0.811 | A | 1 | A | B |
| 28 | T | Propionitrile | 54 | 4.909 | 0.820 | A | 1 | A | B |
| 29 | T | Isobutyl alcohol | 43 | 5.030 | 0.840 | A | 1 | A | B |
| 30 | T | 2,2-Dichloropropane | 77 | 5.019 | 0.838 | A | 2 | A | B |
| 31 | T | Methacrylonitrile | 52 | 5.052 | 0.844 | A | 1 | A | B |
| 32 | T | cis-1,2-Dichloroethene | 96 | 5.063 | 0.846 | A | 1 | A | B |
| 33 | T | Chloroform | 83 | 5.173 | 0.864 | A | 2 | A | B |
| 34 | T | Bromochloromethane | 130 | 5.327 | 0.890 | A | 1 | A | B |
| 35 | T | Tetrahydrofuran | 42 | 5.327 | 0.890 | A | 2 | A | B |
| 36 | S | Dibromofluoromethane | 111 | 5.338 | 0.892 | A | 1 | A | B |
| 37 | T | 1,1,1-Trichloroethane | 97 | 5.492 | 0.917 | A | 2 | A | B |
| 38 | T | Cyclohexane | 84 | 5.547 | 0.927 | A | 1 | A | B |
| 39 | T | tert-Amyl methyl ether (TAME) | 87 | 5.613 | 0.938 | A | 1 | A | B |
| 40 | T | 1,1-Dichloropropene | 110 | 5.613 | 0.938 | A | 1 | A | B |
| 41 | S | 1,2-Dichloroethane-d4 | 65 | 5.723 | 0.956 | A | 1 | A | B |
| 42 | T | Carbon tetrachloride | 119 | 5.734 | 0.958 | A | 1 | A | B |
| 43 | T | 1,2-Dichloroethane | 62 | 5.800 | 0.969 | A | 1 | A | B |
| 44 | T | Benzene | 78 | 5.866 | 0.980 | A | 2 | A | B |
| 45 | T | Trichloroethene | 130 | 6.373 | 1.064 | A | 3 | A | B |
| 46 | T | Methyl methacrylate | 69 | 6.439 | 1.075 | A | 1 | A | B |
| 47 | T | Methylcyclohexane | 83 | 6.450 | 1.077 | A | 2 | A | B |
| 48 | T | 1,2-Dichloropropane | 63 | 6.527 | 1.090 | A | 1 | A | B |
| 49 | T | 1,4-Dioxane | 88 | 6.725 | 1.123 | A | 1 | A | B |
| 50 | T | Bromodichloromethane | 83 | 6.769 | 1.131 | A | 1 | A | B |
| 51 | T | Dibromomethane | 93 | 6.857 | 1.145 | A | 2 | A | B |
| 52 | T | 2-Chloroethyl vinyl ether | 63 | 6.934 | 1.158 | A | 1 | A | B |
| 53 | T | 4-Methyl-2-pentanone | 43 | 6.956 | 1.162 | A | 3 | A | B |
| 54 | T | cis-1,3-Dichloropropene | 75 | 7.275 | 1.215 | A | 3 | A | B |
| 55 | I | CHLOROBENZENE-D5 | 117 | 9.564 | 1.000 | A | 2 | A | B |

5/24/24

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 56 | S | Toluene-d8 | 98 | 7.594 | 0.794 | A | 1 | A | B |
| 57 | T | Ethyl methacrylate | 69 | 7.693 | 0.804 | A | 1 | A | B |
| 58 | T | Toluene | 91 | 7.693 | 0.804 | A | 1 | A | B |
| 59 | T | trans-1,3-Dichloropropene | 75 | 7.814 | 0.817 | A | 1 | A | B |
| 60 | T | 2-Hexanone | 43 | 7.935 | 0.830 | A | 1 | A | B |
| 61 | T | 1,1,2-Trichloroethane | 97 | 8.045 | 0.841 | A | 2 | A | B |
| 62 | T | 1,3-Dichloropropane | 76 | 8.354 | 0.873 | A | 1 | A | B |
| 63 | T | Tetrachloroethene | 164 | 8.508 | 0.890 | A | 3 | A | B |
| 64 | T | Dibromochloromethane | 129 | 8.783 | 0.918 | A | 1 | A | B |
| 65 | T | 1,2-Dibromoethane | 107 | 9.069 | 0.948 | A | 1 | A | B |
| 66 | T | 1-Chlorohexane | 91 | 9.124 | 0.954 | A | 1 | A | B |
| 67 | T | Chlorobenzene | 112 | 9.619 | 1.006 | A | 1 | A | B |
| 68 | T | 1,1,1,2-Tetrachloroethane | 131 | 9.652 | 1.009 | A | 1 | A | B |
| 69 | T | Ethylbenzene | 91 | 9.641 | 1.008 | A | 1 | A | B |
| 70 | T | m-Xylene & p-Xylene | 91 | 9.740 | 1.018 | A | 1 | A | B |
| 71 | T | o-Xylene | 91 | 10.412 | 1.089 | A | 1 | A | B |
| 72 | T | Styrene | 104 | 10.456 | 1.093 | A | 2 | A | B |
| 73 | T | Isopropylbenzene | 105 | 10.940 | 1.144 | A | 3 | A | B |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 152 | 13.889 | 1.000 | A | 1 | A | B |
| 75 | T | Bromoform | 173 | 11.061 | 0.796 | A | 2 | A | B |
| 76 | T | 1,1,2,2-Tetrachloroethane | 83 | 11.204 | 0.807 | A | 1 | A | B |
| 77 | S | 4-Bromofluorobenzene | 95 | 11.369 | 0.819 | A | 2 | A | B |
| 78 | T | 1,2,3-Trichloropropane | 110 | 11.446 | 0.824 | A | 1 | A | B |
| 79 | T | trans-1,4-Dichloro-2-butene | 53 | 11.512 | 0.829 | A | 1 | A | B |
| 80 | T | n-Propylbenzene | 91 | 11.578 | 0.834 | A | 2 | A | B |
| 81 | T | Bromobenzene | 156 | 11.732 | 0.845 | A | 1 | A | B |
| 82 | T | 1,3,5-Trimethylbenzene | 105 | 11.831 | 0.852 | A | 2 | A | B |
| 83 | T | 2-Chlorotoluene | 91 | 11.919 | 0.858 | A | 1 | A | B |
| 84 | T | 4-Chlorotoluene | 91 | 11.974 | 0.862 | L | 1 | A | B |
| 85 | T | tert-Butylbenzene | 134 | 12.415 | 0.894 | A | 1 | A | B |
| 86 | T | 1,2,4-Trimethylbenzene | 105 | 12.470 | 0.898 | A | 1 | A | B |
| 87 | T | sec-Butylbenzene | 105 | 12.745 | 0.918 | A | 1 | A | B |
| 88 | T | p-Isopropyltoluene | 119 | 12.954 | 0.933 | A | 2 | A | B |
| 89 | T | 1,3-Dichlorobenzene | 146 | 13.163 | 0.948 | L | 2 | A | B |
| 90 | T | 1,2,3-Trimethylbenzene | 105 | 13.251 | 0.954 | A | 2 | A | B |
| 91 | T | 1,4-Dichlorobenzene | 146 | 13.328 | 0.960 | L | 2 | A | B |
| 92 | T | n-Butylbenzene | 91 | 13.614 | 0.980 | A | 2 | A | B |
| 93 | T | 1,2-Dichlorobenzene | 146 | 13.933 | 1.003 | A | 1 | A | B |
| 94 | T | 1,2-Dibromo-3-chloropropane | 157 | 15.133 | 1.090 | A | 1 | A | B |
| 95 | T | 1,2,4-Trichlorobenzene | 180 | 16.464 | 1.185 | L | 2 | A | B |
| 96 | T | Hexachlorobutadiene | 225 | 16.663 | 1.200 | A | 2 | A | B |
| 97 | T | Naphthalene | 128 | 16.872 | 1.215 | A | 1 | A | B |
| 98 | T | 1,2,3-Trichlorobenzene | 180 | 17.224 | 1.240 | L | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

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VOE2E17.M Tue May 21 20:46:28 2024

SC 5/24/24

# SECOND SOURCE VERIFICATION

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: REG130 BFB Injection Date: 05/18/24

Instrument ID: E2 BFB Injection Time: 09:16

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 19.254 |
| 75 | 30 - 60% of mass 95 | 50.320 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.311 |
| 173 | Less than 2% of mass 174 | 0.512(.61)1 |
| 174 | Greater than 50% of mass 95 | 84.221 |
| 175 | 5 - 9% of mass 174 | 6.661(7.91)1 |
| 176 | 95 - 101% % of mass 174 | 81.783(97.11)1 |
| 177 | 5 - 9% % of mass 176 | 6.306(7.71)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | IVOE2E1702 | REG131 | 05/18/24 | 09:57 |

5/24/24

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :E2
IC_Beginning DateTime :05/17/24 12:33
Spike Amount :10 PPB
CC/CV File :REG131
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
IC_Ending DateTime :05/17/24 15:44
HPChem Method :VOE2S17
Date_Time :05/18/24 09:57

| M | IDX | Parameters | CC_Con | CC%_D | CC_Resp | CCRRF | AvRRF | CC_Rtm | AvRtm | %_RSD | Co_X0 | Co_X1 | Co_X2 | Co_Cor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 10.000 | 0 | 647637 | 1 | 1 | 5.988 | 5.987 | 0 | | | | |
| | 2 | Dichlorodifluoromethane | 10.420 | 4.2 | 387316 | 0.598 | 0.574 | 2.708 | 2.708 | 8.06 | | | | |
| | 3 | Chloromethane | 10.034 | 0.3 | 267638 | 0.413 | 0.412 | 2.906 | 2.906 | 13.00 | | | | |
| | 4 | Vinyl chloride | 10.450 | 4.5 | 294360 | 0.455 | 0.435 | 2.994 | 2.990 | 7.58 | | | | |
| | 5 | Bromomethane | 10.726 | 7.3 | 204345 | 0.316 | 0.294 | 3.313 | 3.313 | 11.62 | | | | |
| | 6 | Dichlorofluoromethane | 9.831 | -1.7 | 632775 | 0.977 | 0.994 | 3.357 | 3.352 | 8.41 | | | | |
| | 7 | Chloroethane | 11.738 | 17.4 | 161985 | 0.250 | 0.213 | 3.346 | 3.346 | 8.74 | | | | |
| | 8 | Trichlorofluoromethane | 10.360 | 3.6 | 655613 | 1.012 | 0.977 | 3.511 | 3.511 | 7.24 | | | | |
| 5 | 9 | Acrolein | 53.498 | 7.0 | 225327 | 0.070 | 0.065 | 3.743 | 3.742 | 10.21 | | | | |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 9.863 | -1.4 | 272122 | 0.420 | 0.426 | 3.753 | 3.752 | 10.04 | | | | |
| 5 | 11 | Acetone | 55.179 | 10.4 | 456111 | 0.141 | 0.181 | 3.764 | 3.769 | 42.17 | 0.0583 | 0.1171 | | 0.9992 |
| 25 | 12 | tert-Butyl alcohol | 274.988 | 10.0 | 1082983 | 0.067 | 0.061 | 3.875 | 3.874 | 11.83 | | | | |
| | 13 | 1,1-Dichloroethene | 9.753 | -2.5 | 564613 | 0.872 | 0.894 | 3.908 | 3.902 | 8.46 | | | | |
| 10 | 14 | Acetonitrile | 109.003 | 9.0 | 213040 | 0.033 | 0.030 | 3.875 | 3.874 | 12.37 | | | | |
| | 15 | Allyl chloride | 10.843 | 8.4 | 165769 | 0.256 | 0.236 | 4.106 | 4.106 | 11.27 | | | | |
| | 16 | Iodomethane | 8.785 | -12.2 | 268999 | 0.415 | 0.429 | 4.150 | 4.143 | 22.23 | -0.0140 | 0.4887 | | 0.9969 |
| | 17 | Methyl acetate | 10.001 | 0.0 | 219009 | 0.338 | 0.338 | 4.029 | 4.029 | 12.15 | | | | |
| | 18 | Methylene chloride | 11.388 | 13.9 | 467946 | 0.723 | 0.801 | 4.183 | 4.182 | 26.33 | 0.0486 | 0.5918 | | 0.9974 |
| 5 | 19 | Acrylonitrile | 52.272 | 4.5 | 508984 | 0.157 | 0.150 | 4.216 | 4.216 | 11.69 | | | | |
| | 20 | tert-Butyl methyl ether (MTBE) | 10.647 | 6.5 | 1030417 | 1.591 | 1.494 | 4.227 | 4.227 | 7.94 | | | | |
| | 21 | Carbon disulfide | 9.831 | -1.7 | 872085 | 1.347 | 1.370 | 4.315 | 4.305 | 9.42 | | | | |
| | 22 | trans-1,2-Dichloroethene | 10.193 | 1.9 | 314802 | 0.486 | 0.477 | 4.370 | 4.370 | 10.07 | | | | |
| | 23 | Isopropyl ether (DIPE) | 10.521 | 5.2 | 1036035 | 1.600 | 1.520 | 4.469 | 4.460 | 9.47 | | | | |
| | 24 | Vinyl acetate | 11.461 | 14.6 | 642883 | 0.993 | 0.866 | 4.545 | 4.546 | 6.41 | | | | |
| | 25 | 1,1-Dichloroethane | 9.919 | -0.8 | 619716 | 0.957 | 0.965 | 4.634 | 4.634 | 10.57 | | | | |
| | 26 | tert-Butyl ethyl ether (ETBE) | 10.432 | 4.3 | 1247585 | 1.926 | 1.846 | 4.733 | 4.733 | 8.21 | | | | |
| 5 | 27 | 2-Butanone | 54.888 | 9.8 | 166808 | 0.052 | 0.047 | 4.854 | 4.854 | 12.56 | | | | |
| 10 | 28 | Propionitrile | 114.244 | 14.2 | 409063 | 0.063 | 0.055 | 4.909 | 4.910 | 11.17 | | | | |
| 20 | 29 | Isobutyl alcohol | 228.221 | 14.1 | 288723 | 0.022 | 0.020 | 5.030 | 5.030 | 12.47 | | | | |
| | 30 | 2,2-Dichloropropane | 9.835 | -1.6 | 615087 | 0.950 | 0.966 | 5.019 | 5.020 | 9.30 | | | | |
| 10 | 31 | Methacrylonitrile | 106.760 | 6.8 | 627605 | 0.097 | 0.091 | 5.052 | 5.057 | 11.02 | | | | |
| | 32 | cis-1,2-Dichloroethene | 10.190 | 1.9 | 358317 | 0.553 | 0.543 | 5.063 | 5.063 | 8.40 | | | | |
| | 33 | Chloroform | 9.159 | -8.4 | 709429 | 1.095 | 1.196 | 5.173 | 5.173 | 14.51 | | | | |
| | 34 | Bromochloromethane | 10.418 | 4.2 | 215189 | 0.332 | 0.319 | 5.327 | 5.327 | 11.29 | | | | |
| | 35 | Tetrahydrofuran | 11.049 | 10.5 | 90175 | 0.139 | 0.126 | 5.316 | 5.319 | 6.67 | | | | |
| | 36 | Dibromofluoromethane | 9.254 | -7.5 | 367086 | 0.567 | 0.612 | 5.338 | 5.338 | 6.30 | | | | |
| | 37 | 1,1,1-Trichloroethane | 9.563 | -4.4 | 668020 | 1.031 | 1.079 | 5.503 | 5.497 | 8.19 | | | | |
| | 38 | Cyclohexane | 10.101 | 1.0 | 359700 | 0.555 | 0.550 | 5.547 | 5.548 | 14.22 | | | | |
| | 39 | tert-Amyl methyl ether (TAME) | 10.845 | 8.5 | 231432 | 0.357 | 0.329 | 5.613 | 5.614 | 7.33 | | | | |
| | 40 | 1,1-Dichloropropene | 9.880 | -1.2 | 151104 | 0.233 | 0.236 | 5.613 | 5.613 | 8.29 | | | | |
| | 41 | 1,2-Dichloroethane-d4 | 8.914 | -10.9 | 467273 | 0.722 | 0.809 | 5.723 | 5.723 | 11.80 | | | | |
| | 42 | Carbon tetrachloride | 9.430 | -5.7 | 557403 | 0.861 | 0.913 | 5.734 | 5.734 | 8.01 | | | | |
| | 43 | 1,2-Dichloroethane | 9.596 | -4.0 | 571321 | 0.882 | 0.919 | 5.800 | 5.800 | 10.41 | | | | |
| | 44 | Benzene | 10.262 | 2.6 | 1216026 | 1.878 | 1.830 | 5.866 | 5.866 | 8.64 | | | | |
| | 45 | Trichloroethene | 9.910 | -0.9 | 324173 | 0.501 | 0.505 | 6.373 | 6.371 | 9.09 | | | | |
| | 46 | Methyl methacrylate | 10.822 | 8.2 | 313684 | 0.484 | 0.448 | 6.439 | 6.439 | 9.77 | | | | |
| | 47 | Methylcyclohexane | 10.456 | 4.6 | 407082 | 0.629 | 0.601 | 6.450 | 6.454 | 11.92 | | | | |
| | 48 | 1,2-Dichloropropane | 10.391 | 3.9 | 314276 | 0.485 | 0.467 | 6.527 | 6.527 | 10.74 | | | | |
| 20 | 49 | 1,4-Dioxane | | | | | | | | | | | | |
| | 50 | Bromodichloromethane | 9.851 | -1.5 | 563896 | 0.871 | 0.884 | 6.780 | 6.769 | 11.38 | | | | |
| | 51 | Dibromomethane | 9.836 | -1.6 | 242061 | 0.374 | 0.380 | 6.857 | 6.857 | 11.79 | | | | |
| | 52 | 2-Chloroethyl vinyl ether | 8.988 | -10.1 | 134655 | 0.208 | 0.231 | 6.934 | 6.934 | 6.45 | | | | |
| 5 | 53 | 4-Methyl-2-pentanone | 51.435 | 2.9 | 1704193 | 0.526 | 0.512 | 6.956 | 6.957 | 10.35 | | | | |
| | 54 | cis-1,3-Dichloropropene | 10.439 | 4.4 | 552132 | 0.853 | 0.817 | 7.275 | 7.275 | 7.57 | | | | |
| | 55 | CHLOROBENZENE-D5 | 10.000 | 0 | 555845 | 1 | 1 | 9.564 | 9.564 | 0 | | | | |
| | 56 | Toluene-d8 | 9.506 | -4.9 | 1050036 | 1.889 | 1.987 | 7.594 | 7.594 | 8.88 | | | | |
| | 57 | Ethyl methacrylate | 11.236 | 12.4 | 426233 | 0.767 | 0.682 | 7.693 | 7.693 | 5.59 | | | | |
| | 58 | Toluene | 10.086 | 0.9 | 1271585 | 2.288 | 2.268 | 7.693 | 7.693 | 9.46 | | | | |
| | 59 | trans-1,3-Dichloropropene | 10.278 | 2.8 | 554416 | 0.997 | 0.970 | 7.814 | 7.814 | 6.61 | | | | |
| 5 | 60 | 2-Hexanone | 50.761 | 1.5 | 1156980 | 0.416 | 0.410 | 7.946 | 7.938 | 11.13 | | | | |
| | 61 | 1,1,2-Trichloroethane | 10.111 | 1.1 | 302512 | 0.544 | 0.538 | 8.045 | 8.045 | 10.51 | | | | |
| | 62 | 1,3-Dichloropropane | 10.361 | 3.6 | 460356 | 0.828 | 0.799 | 8.354 | 8.354 | 9.83 | | | | |
| | 63 | Tetrachloroethene | 9.524 | -4.8 | 262477 | 0.472 | 0.496 | 8.519 | 8.509 | 12.71 | | | | |
| | 64 | Dibromochloromethane | 9.409 | -5.9 | 422250 | 0.760 | 0.807 | 8.783 | 8.783 | 13.87 | | | | |
| | 65 | 1,2-Dibromoethane | 10.137 | 1.4 | 326860 | 0.588 | 0.580 | 9.069 | 9.069 | 8.08 | | | | |
| | 66 | 1-Chlorohexane | 10.040 | 0.4 | 418878 | 0.754 | 0.751 | 9.124 | 9.124 | 10.45 | | | | |
| | 67 | Chlorobenzene | 9.723 | -2.8 | 809661 | 1.457 | 1.498 | 9.619 | 9.619 | 11.00 | | | | |
| | 68 | 1,1,1,2-Tetrachloroethane | 9.599 | -4.0 | 340100 | 0.612 | 0.637 | 9.652 | 9.646 | 9.12 | | | | |
| | 69 | Ethylbenzene | 9.758 | -2.4 | 1487392 | 2.676 | 2.742 | 9.641 | 9.641 | 10.66 | | | | |
| 2 | 70 | m-Xylene & p-Xylene | 18.880 | -5.6 | 2346333 | 2.111 | 2.236 | 9.751 | 9.750 | 9.97 | | | | |
| | 71 | o-Xylene | 10.096 | 1.0 | 1187781 | 2.137 | 2.117 | 10.412 | 10.413 | 11.21 | | | | |
| | 72 | Styrene | 10.151 | 1.5 | 835184 | 1.503 | 1.480 | 10.467 | 10.458 | 10.19 | | | | |
| | 73 | Isopropylbenzene | 9.879 | -1.2 | 1324380 | 2.383 | 2.412 | 10.940 | 10.940 | 13.33 | | | | |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 10.000 | 0 | 262396 | 1 | 1 | 13.889 | 13.889 | 0 | | | | |
| | 75 | Bromoform | 9.959 | -0.4 | 285204 | 1.087 | 1.091 | 11.061 | 11.061 | 9.03 | | | | |
| | 76 | 1,1,2,2-Tetrachloroethane | 10.875 | 8.8 | 397736 | 1.516 | 1.394 | 11.204 | 11.203 | 13.93 | | | | |
| | 77 | 4-Bromofluorobenzene | 10.006 | 0.1 | 416821 | 1.589 | 1.587 | 11.369 | 11.369 | 11.73 | | | | |
| | 78 | 1,2,3-Trichloropropane | 10.854 | 8.5 | 109593 | 0.418 | 0.385 | 11.446 | 11.446 | 12.26 | | | | |
| | 79 | trans-1,4-Dichloro-2-butene | 11.666 | 16.7 | 119204 | 0.454 | 0.389 | 11.523 | 11.513 | 8.47 | | | | |
| | 80 | n-Propylbenzene | 9.908 | -0.9 | 1648572 | 6.283 | 6.341 | 11.578 | 11.578 | 14.55 | | | | |
| | 81 | Bromobenzene | 10.166 | 1.7 | 371222 | 1.415 | 1.392 | 11.732 | 11.732 | 13.87 | | | | |
| | 82 | 1,3,5-Trimethylbenzene | 9.826 | -1.7 | 1123998 | 4.284 | 4.359 | 11.831 | 11.829 | 14.43 | | | | |
| | 83 | 2-Chlorotoluene | 10.515 | 5.2 | 1079812 | 4.115 | 3.914 | 11.919 | 11.919 | 13.23 | | | | |
| | 84 | 4-Chlorotoluene | 11.112 | 11.1 | 964334 | 3.675 | 3.796 | 11.974 | 11.975 | 20.12 | 0.1440 | 3.1777 | | 0.9987 |
| | 85 | tert-Butylbenzene | 9.977 | -0.2 | 176618 | 0.673 | 0.675 | 12.415 | 12.408 | 14.63 | | | | |
| | 86 | 1,2,4-Trimethylbenzene | 10.070 | 0.7 | 1126508 | 4.293 | 4.263 | 12.481 | 12.478 | 14.07 | | | | |
| | 87 | sec-Butylbenzene | 9.921 | -0.8 | 1286003 | 4.901 | 4.940 | 12.756 | 12.749 | 14.11 | | | | |
| | 88 | p-Isopropyltoluene | 9.947 | -0.5 | 1081873 | 4.123 | 4.145 | 12.954 | 12.955 | 14.69 | | | | |
| | 89 | 1,3-Dichlorobenzene | 11.402 | 14.0 | 594859 | 2.267 | 2.303 | 13.174 | 13.165 | 19.08 | 0.0920 | 1.9075 | | 0.9986 |
| | 90 | 1,2,3-Trimethylbenzene | 10.087 | 0.9 | 1118089 | 4.261 | 4.224 | 13.262 | 13.255 | 13.33 | | | | |
| | 91 | 1,4-Dichlorobenzene | 11.077 | 10.8 | 600654 | 2.289 | 2.349 | 13.328 | 13.328 | 18.81 | 0.0831 | 1.9916 | | 0.9991 |
| | 92 | n-Butylbenzene | 9.895 | -1.0 | 1023631 | 3.901 | 3.942 | 13.614 | 13.614 | 14.93 | | | | |
| | 93 | 1,2-Dichlorobenzene | 9.725 | -2.7 | 557437 | 2.124 | 2.184 | 13.933 | 13.933 | 14.28 | | | | |
| | 94 | 1,2-Dibromo-3-chloropropane | 10.796 | 8.0 | 80292 | 0.306 | 0.283 | 15.144 | 15.134 | 8.87 | | | | |
| | 95 | 1,2,4-Trichlorobenzene | 10.262 | 2.6 | 357605 | 1.363 | 1.493 | 16.475 | 16.464 | 24.05 | 0.0497 | 1.2796 | | 0.9993 |
| | 96 | Hexachlorobutadiene | 10.669 | 6.7 | 211409 | 0.806 | 0.795 | 16.663 | 16.662 | 13.33 | | | | |
| | 97 | Naphthalene | 10.446 | 4.5 | 925673 | 3.528 | 3.377 | 16.872 | 16.872 | 12.35 | | | | |
| | 98 | 1,2,3-Trichlorobenzene | 10.036 | 0.4 | 332666 | 1.268 | 1.419 | 17.235 | 17.231 | 24.06 | 0.0472 | 1.2161 | | 0.9995 |

Spike Amount = Nominal Amount * M

SY 5/24/24

# Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 134 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 10.000 | 10.421 | -4.2 | 157 | 0.00 |
| 3 | P,T,M Chloromethane | 10.000 | 10.035 | -0.4 | 148 | 0.00 |
| 4 | C,T,M Vinyl chloride | 10.000 | 10.451 | -4.5 | 146 | 0.00 |
| 5 | T,M Bromomethane | 10.000 | 10.727 | -7.3 | 173 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 10.000 | 9.831 | 1.7 | 132 | 0.00 |
| 7 | T,M Chloroethane | 10.000 | 11.738 | -17.4 | 164 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 10.000 | 10.360 | -3.6 | 151 | 0.00 |
| 9 | T,M Acrolein | 50.000 | 53.499 | -7.0 | 146 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 9.863 | 1.4 | 137 | 0.00 |
| 11 | T,M Acetone | 50.000 | 55.179 | -10.4 | 137 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 250.000 | 274.989 | -10.0 | 147 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 10.000 | 9.754 | 2.5 | 131 | 0.00 |
| 14 | T,M Acetonitrile | 100.000 | 109.003 | -9.0 | 144 | 0.00 |
| 15 | T,M Allyl chloride | 10.000 | 10.844 | -8.4 | 143 | 0.00 |
| 16 | T,M Iodomethane | 10.000 | 8.785 | 12.1 | 129 | 0.00 |
| 17 | T,M Methyl acetate | 10.000 | 10.001 | -0.0 | 133 | 0.00 |
| 18 | T,M Methylene chloride | 10.000 | 11.389 | -13.9 | 132 | 0.00 |
| 19 | T,M Acrylonitrile | 50.000 | 52.273 | -4.5 | 133 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 10.000 | 10.648 | -6.5 | 142 | 0.00 |
| 21 | T,M Carbon disulfide | 10.000 | 9.831 | 1.7 | 131 | 0.01 |
| 22 | T,M trans-1,2-Dichloroethene | 10.000 | 10.193 | -1.9 | 139 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 10.000 | 10.521 | -5.2 | 142 | 0.01 |
| 24 | T,M Vinyl acetate | 10.000 | 11.462 | -14.6 | 143 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 10.000 | 9.920 | 0.8 | 137 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 10.000 | 10.433 | -4.3 | 139 | 0.00 |
| 27 | T,M 2-Butanone | 50.000 | 54.888 | -9.8 | 140 | 0.00 |
| 28 | T,M Propionitrile | 100.000 | 114.245 | -14.2 | 158 | 0.00 |
| 29 | T,M Isobutyl alcohol | 200.000 | 228.222 | -14.1 | 152 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 10.000 | 9.836 | 1.6 | 128 | 0.00 |
| 31 | T,M Methacrylonitrile | 100.000 | 106.760 | -6.8 | 146 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 10.000 | 10.190 | -1.9 | 143 | 0.00 |
| 33 | C,T,M Chloroform | 10.000 | 9.160 | 8.4 | 131 | 0.00 |
| 34 | T,M Bromochloromethane | 10.000 | 10.419 | -4.2 | 136 | 0.00 |
| 35 | T,M Tetrahydrofuran | 10.000 | 11.050 | -10.5 | 150 | -0.01 |
| 36 | S Dibromofluoromethane | 10.000 | 9.254 | 7.5 | 122 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 10.000 | 9.563 | 4.4 | 129 | 0.01 |
| 38 | T,M Cyclohexane | 10.000 | 10.102 | -1.0 | 161 | 0.00 |
| 39 | T,M tert-Amyl methyl ether (TAM | 10.000 | 10.845 | -8.5 | 139 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 10.000 | 9.881 | 1.2 | 129 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 10.000 | 8.915 | 10.9 | 124 | 0.00 |
| 42 | T,M Carbon tetrachloride | 10.000 | 9.430 | 5.7 | 124 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 10.000 | 9.596 | 4.0 | 126 | 0.00 |
| 44 | T,M Benzene | 10.000 | 10.262 | -2.6 | 138 | 0.00 |
| 45 | T,M Trichloroethene | 10.000 | 9.910 | 0.9 | 136 | 0.00 |
| 46 | T,M Methyl methacrylate | 10.000 | 10.823 | -8.2 | 152 | 0.00 |
| 47 | T,M Methylcyclohexane | 10.000 | 10.457 | -4.6 | 159 | 0.00 |
| 48 | C,T,M 1,2-Dichloropropane | 10.000 | 10.391 | -3.9 | 140 | 0.00 |
| 49 | T,M 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M Bromodichloromethane | 10.000 | 9.851 | 1.5 | 132 | 0.01 |
| 51 | T,M Dibromomethane | 10.000 | 9.836 | 1.6 | 135 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 8.989 | 10.1 | 117 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 51.435 | -2.9 | 132 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.440 | -4.4 | 139 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 136 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.507 | 4.9 | 128 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.236 | -12.4 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 10.087 | -0.9 | 138 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.278 | -2.8 | 137 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 50.761 | -1.5 | 131 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.111 | -1.1 | 138 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.361 | -3.6 | 143 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.524 | 4.8 | 134 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.409 | 5.9 | 131 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 10.138 | -1.4 | 135 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.040 | -0.4 | 137 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.724 | 2.8 | 135 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.599 | 4.0 | 128 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.759 | 2.4 | 136 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.880 | 5.6 | 138 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 10.096 | -1.0 | 137 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.152 | -1.5 | 137 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.880 | 1.2 | 133 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 133 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.959 | 0.4 | 134 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.876 | -8.8 | 149 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.007 | -0.1 | 135 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.854 | -8.5 | 148 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 11.667 | -16.7 | 152 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.909 | 0.9 | 139 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 10.166 | -1.7 | 135 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.827 | 1.7 | 135 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 10.515 | -5.2 | 149 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.112 | -11.1 | 126 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.977 | 0.2 | 138 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 10.070 | -0.7 | 136 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.921 | 0.8 | 134 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.947 | 0.5 | 138 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.403 | -14.0 | 138 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.087 | -0.9 | 135 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.077 | -10.8 | 137 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.896 | 1.0 | 136 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.725 | 2.8 | 140 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 10.797 | -8.0 | 153 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 10.262 | -2.6 | 140 | 0.01 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 10.670 | -6.7 | 142 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.446 | -4.5 | 141 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.037 | -0.4 | 136 | 0.01 |

SM 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

SY 5/24/24

# DAILY CALIBRATIONS

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F019
Lab File ID: RFG091 BFB Injection Date: 06/11/24
Instrument ID: E2 BFB Injection Time: 12:47

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.430 |
| 75 | 30 - 60% of mass 95 | 58.855 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 7.042 |
| 173 | Less than 2% of mass 174 | 0.000(0)1 |
| 174 | Greater than 50% of mass 95 | 86.589 |
| 175 | 5 - 9% of mass 174 | 6.114(7.06)1 |
| 176 | 95 - 101% % of mass 174 | 82.804(95.63)1 |
| 177 | 5 - 9% % of mass 176 | 6.481(7.83)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CV0E2E1707 | RFG092 | 06/11/24 | 13:35 |
| 2 | LCS1W | V0E2F04L | RFG093 | 06/11/24 | 14:15 |
| 3 | LCD1W | V0E2F04C | RFG094 | 06/11/24 | 14:39 |
| 4 | MBLK1W | V0E2F048 | RFG096 | 06/11/24 | 15:26 |
| 5 | T1AMF-MW058_MAY24 | 24F019-01 | RFG107 | 06/11/24 | 19:47 |
| 6 | T1AMF-MW035_MAY24 | 24F019-04 | RFG109 | 06/11/24 | 20:34 |
| 7 | T1AMF-MW035_MAY24_FD | 24F019-05 | RFG110 | 06/11/24 | 20:58 |
| 8 | T1AMF-MW064_JUN24 | 24F019-06 | RFG111 | 06/11/24 | 21:21 |
| 9 | T1AMF-MW063_JUN24 | 24F019-07 | RFG112 | 06/11/24 | 21:45 |
| 10 | T1AMF-MW062_JUN24 | 24F019-08 | RFG113 | 06/11/24 | 22:09 |
| 11 | T1AMF-MW061_JUN24 | 24F019-09 | RFG114 | 06/11/24 | 22:32 |
| 12 | T1AMF-MW066_JUN24 | 24F019-10 | RFG115 | 06/11/24 | 22:56 |
| 13 | EB-1_JUN24 | 24F019-11 | RFG116 | 06/11/24 | 23:19 |
| 14 | VSTD10 | EV0E2E1707 | RFG119 | 06/12/24 | 00:30 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F019
Date Analyzed: 05/17/24
Time Analyzed: 14:09

| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| | UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| | LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 670311 | 5.99 | 536256 | 9.56 | 276585 | 13.89 |
| 2 | LCS1W | 700127 | 5.99 | 552821 | 9.56 | 279028 | 13.89 |
| 3 | LCD1W | 703905 | 5.99 | 550837 | 9.56 | 285241 | 13.89 |
| 4 | MBLK1W | 600187 | 5.99 | 469288 | 9.56 | 222326 | 13.89 |
| 5 | T1AMF-MW058_MAY24 | 515153 | 5.99 | 402873 | 9.56 | 193530 | 13.89 |
| 6 | T1AMF-MW035_MAY24 | 470734 | 5.99 | 382077 | 9.56 | 183510 | 13.89 |
| 7 | T1ANF-MW035_MAY24_FD | 472590 | 5.99 | 364049 | 9.56 | 176717 | 13.89 |
| 8 | T1ANF-MW064_JUN24 | 465858 | 5.99 | 365830 | 9.56 | 173257 | 13.89 |
| 9 | T1AMF-MW063_JUN24 | 464133 | 5.99 | 353762 | 9.56 | 176858 | 13.89 |
| 10 | T1AMF-MW062_JUN24 | 449983 | 5.99 | 361999 | 9.56 | 174348 | 13.89 |
| 11 | T1AMF-MW061_JUN24 | 439672 | 5.99 | 353690 | 9.56 | 168920 | 13.89 |
| 12 | T1AMF-MW066_JUN24 | 448212 | 5.99 | 357736 | 9.56 | 173522 | 13.89 |
| 13 | EB-1_JUN24 | 455629 | 5.99 | 345067 | 9.56 | 168897 | 13.88 |
| 14 | VSTD10 | 558649 | 5.99 | 454298 | 9.56 | 253559 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 139 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.649 | -6.5 | 166 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 8.586 | 14.1 | 131 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.811 | -8.1 | 157 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 9.771 | 2.3 | 163 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 9.548 | 4.5 | 133 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.924 | 10.8 | 129 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.783 | 12.2 | 132 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 34.629 | 30.7# | 98 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.679 | 13.2 | 125 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 43.317 | 13.4 | 114 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 188.868 | 24.5# | 105 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 8.941 | 10.6 | 125 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 81.614 | 18.4 | 112 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 9.379 | 6.2 | 128 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 11.646 | -16.5 | 178 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.524 | -5.2 | 127 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 36.443 | 27.1# | 96 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 9.529 | 4.7 | 131 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 8.924 | 10.8 | 123 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 8.687 | 13.1 | 123 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 8.519 | 14.8 | 119 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 6.518 | 34.8# | 84 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.014 | 9.9 | 129 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 8.169 | 18.3 | 113 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 37.923 | 24.2# | 100 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 81.332 | 18.7 | 117 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 151.186 | 24.4# | 104 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.189 | -1.9 | 137 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 87.958 | 12.0 | 124 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.028 | 9.7 | 131 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.138 | 8.6 | 136 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 8.446 | 15.5 | 114 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 7.721 | 22.8# | 109 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.705 | 2.9 | 132 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 9.866 | 1.3 | 137 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 9.277 | 7.2 | 123 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 8.871 | 11.3 | 120 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.597 | -6.0 | 152 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 9.739 | 2.6 | 132 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 10.080 | -0.8 | 137 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 9.061 | 9.4 | 126 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 8.246 | 17.5 | 117 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 5.935 | 40.7# | 86 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 8.839 | 11.6 | 123 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.01 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.636 | 3.6 | 133 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 8.470 | 15.3 | 120 | 0.01 |

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 5.920 | 40.8# | 80 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 37.966 | 24.1# | 101 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 8.995 | 10.1 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 131 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.547 | -5.5 | 137 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.244 | 7.6 | 117 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 9.752 | 2.5 | 129 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.861 | 1.4 | 127 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 40.672 | 18.7 | 101 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.121 | 8.8 | 120 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 9.625 | 3.8 | 128 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.050 | 9.5 | 123 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 8.470 | 15.3 | 114 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 8.250 | 17.5 | 106 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.359 | 6.4 | 123 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.312 | 6.9 | 125 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.481 | 5.2 | 122 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.633 | 3.7 | 130 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.700 | 6.5 | 132 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 9.826 | 1.7 | 129 | 0.01 |
| 72 | T,M | Styrene | 10.000 | 9.591 | 4.1 | 125 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.667 | 3.3 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 140 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.979 | 20.2# | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.290 | 17.1 | 120 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.427 | -4.3 | 148 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 8.633 | 13.7 | 124 | 0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 8.773 | 12.3 | 121 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.032 | 9.7 | 133 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.711 | 12.9 | 122 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 8.948 | 10.5 | 130 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.622 | 3.8 | 143 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 10.110 | -1.1 | 121 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.022 | 9.8 | 131 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 8.989 | 10.1 | 128 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.033 | 9.7 | 129 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 8.762 | 12.4 | 128 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 9.940 | 0.6 | 127 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 8.965 | 10.4 | 127 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 9.670 | 3.3 | 126 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 8.962 | 10.4 | 130 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 8.707 | 12.9 | 132 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.548 | 24.5# | 113 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.068 | 9.3 | 131 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.359 | 6.4 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 8.020 | 19.8 | 114 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.765 | 12.3 | 126 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 139 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.611 | -6.4 | 166 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.354 | 14.1 | 131 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.470 | -8.0 | 157 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.287 | 2.4 | 163 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 0.949 | 4.5 | 133 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.190 | 10.8 | 129 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.858 | 12.2 | 132 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.045 | 30.8# | 98 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.370 | 13.1 | 125 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.113 | 37.6# | 114 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.046 | 24.6# | 105 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.799 | 10.6 | 125 | 0.00 |
| 14 | T,M Acetonitrile | 0.030 | 0.025 | 16.7 | 112 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.221 | 6.4 | 128 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.555 | -29.4# | 178 | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.671 | 16.2 | 127 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.110 | 26.7# | 96 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.424 | 4.7 | 131 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.222 | 10.8 | 123 | 0.01 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.414 | 13.2 | 123 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.295 | 14.8 | 119 | 0.01 |
| 24 | T,M Vinyl acetate | 0.866 | 0.564 | 34.9# | 84 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 0.870 | 9.8 | 129 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.508 | 18.3 | 113 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.036 | 23.4# | 100 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.045 | 18.2 | 117 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.015 | 25.0# | 104 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 0.984 | -1.9 | 137 | 0.00 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.080 | 12.1 | 124 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.490 | 9.8 | 131 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.093 | 8.6 | 136 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.269 | 15.7 | 114 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.097 | 23.0# | 109 | -0.01 |
| 36 | S Dibromofluoromethane | 0.612 | 0.594 | 2.9 | 132 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.064 | 1.4 | 137 | 0.00 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.306 | 7.0 | 123 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.209 | 11.4 | 120 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.858 | -6.1 | 152 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 0.889 | 2.6 | 132 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 0.927 | -0.9 | 137 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.658 | 9.4 | 126 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.416 | 17.6 | 117 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.266 | 40.6# | 86 | 0.00 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.413 | 11.6 | 123 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.01 |
| 50 | T,M Bromodichloromethane | 0.884 | 0.852 | 3.6 | 133 | 0.01 |
| 51 | T,M Dibromomethane | 0.380 | 0.322 | 15.3 | 120 | 0.01 |

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.137 | 40.7# | 80 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.388 | 24.2# | 101 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.735 | 10.0 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 131 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.096 | -5.5 | 137 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.631 | 7.5 | 117 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.212 | 2.5 | 129 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.957 | 1.3 | 127 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.334 | 18.5 | 101 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.491 | 8.7 | 120 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.769 | 3.8 | 128 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.449 | 9.5 | 123 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.684 | 15.2 | 114 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.479 | 17.4 | 106 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.702 | 6.5 | 123 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.395 | 6.9 | 125 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.604 | 5.2 | 122 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.641 | 3.7 | 130 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.090 | 6.5 | 132 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.080 | 1.7 | 129 | 0.01 |
| 72 | T,M | Styrene | 1.480 | 1.420 | 4.1 | 125 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.331 | 3.4 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 140 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.871 | 20.2# | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.155 | 17.1 | 120 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.655 | -4.3 | 148 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.332 | 13.8 | 124 | 0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.342 | 12.1 | 121 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.727 | 9.7 | 133 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.212 | 12.9 | 122 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.901 | 10.5 | 130 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.765 | 3.8 | 143 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.357 | 11.6 | 121 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.609 | 9.8 | 131 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.832 | 10.1 | 128 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.462 | 9.7 | 129 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.632 | 12.4 | 128 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 1.988 | 13.7 | 127 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 3.787 | 10.3 | 127 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.009 | 14.5 | 126 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.533 | 10.4 | 130 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.902 | 12.9 | 132 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.214 | 24.4# | 113 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.210 | 19.0 | 131 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.707 | 6.4 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.709 | 19.8 | 114 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.113 | 21.6# | 126 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.899 | -9.0 | 142 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 10.507 | -5.1 | 134 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 14.645 | -46.4# | 177 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 5.366 | 46.3# | 75 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.635 | -6.3 | 123 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.983 | 10.2 | 108 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.845 | 11.5 | 111 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 27.725 | 44.5# | 65 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 9.660 | 3.4 | 116 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 43.732 | 12.5 | 96 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 220.530 | 11.8 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.041 | -0.4 | 117 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 96.026 | 4.0 | 109 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.309 | -3.1 | 117 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 6.669 | 33.3# | 83 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 11.646 | -16.5 | 117 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 37.860 | 24.3# | 83 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.448 | -4.5 | 120 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.631 | 3.7 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.302 | 7.0 | 110 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.475 | 5.3 | 110 | 0.00 |
| 24 | T,M | Vinyl acetate | 10.000 | 4.668 | 53.3# | 50 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.917 | 0.8 | 118 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.146 | 8.5 | 105 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 38.964 | 22.1# | 86 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 87.169 | 12.8 | 104 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 162.595 | 18.7 | 93 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 9.936 | 0.6 | 112 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 98.112 | 1.9 | 115 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.823 | 1.8 | 119 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.263 | -2.6 | 127 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.343 | 6.6 | 105 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 8.042 | 19.6 | 94 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.797 | 2.0 | 111 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 11.196 | -12.0 | 130 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.723 | -7.2 | 118 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 9.737 | 2.6 | 110 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.807 | -8.1 | 129 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.964 | -9.6 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.513 | -15.1 | 130 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.133 | -1.3 | 118 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.332 | 6.7 | 110 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 7.356 | 26.4# | 89 | -0.01 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.808 | -8.1 | 126 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.853 | -18.5 | 137 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 10.325 | -3.2 | 122 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 6.922 | 30.8# | 78 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 50.000 | 0.0 | 111 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.839 | -8.4 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 111 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.731 | -7.3 | 118 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.287 | -12.9 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.162 | -11.6 | 125 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.206 | -12.1 | 122 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 46.086 | 7.8 | 97 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.767 | 2.3 | 109 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.557 | -5.6 | 119 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.984 | 0.2 | 115 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.345 | 6.5 | 106 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.352 | 6.5 | 102 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.235 | -2.3 | 114 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 10.045 | -0.4 | 114 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.661 | -6.6 | 117 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 10.555 | -5.5 | 121 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 20.592 | -3.0 | 123 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 10.863 | -8.6 | 121 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.638 | -6.4 | 117 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 10.626 | -6.3 | 117 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 128 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.882 | 21.2# | 103 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.414 | 15.9 | 111 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 9.596 | 4.0 | 125 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.239 | 7.6 | 122 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 7.310 | 26.9# | 92 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.067 | 9.3 | 123 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.800 | 12.0 | 113 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.018 | 9.8 | 120 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.124 | 8.8 | 125 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.052 | -10.5 | 121 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.334 | 6.7 | 125 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 9.256 | 7.4 | 121 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 8.968 | 10.3 | 117 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.112 | 8.9 | 122 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 10.374 | -3.7 | 122 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 9.762 | 2.4 | 127 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.438 | -4.4 | 125 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.705 | 2.9 | 129 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.067 | 9.3 | 126 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.358 | 26.4# | 101 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 8.528 | 14.7 | 113 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 8.779 | 12.2 | 113 | -0.01 |
| 97 | T,M | Naphthalene | 10.000 | 8.048 | 19.5 | 105 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.570 | 14.3 | 113 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = ~~1~~ 0

MW 6/28/24

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 115 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.625 | -8.9 | 142 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.433 | -5.1 | 134 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.637 | -46.4# | 177 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.158 | 46.3# | 75 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 1.057 | -6.3 | 123 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.191 | 10.3 | 108 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.864 | 11.6 | 111 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.036 | 44.6# | 65 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.411 | 3.5 | 116 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.114 | 37.0# | 96 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.054 | 11.5 | 102 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.897 | -0.3 | 117 | 0.00 |
| 14 | T,M Acetonitrile | 0.030 | 0.029 | 3.3 | 109 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.243 | -3.0 | 117 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.312 | 27.3# | 83 | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.738 | 7.9 | 117 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.114 | 24.0# | 83 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.561 | -4.5 | 120 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.319 | 3.7 | 111 | 0.00 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.444 | 6.9 | 110 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.441 | 5.2 | 110 | 0.00 |
| 24 | T,M Vinyl acetate | 0.866 | 0.404 | 53.3# | 50 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 0.957 | 0.8 | 118 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.689 | 8.5 | 105 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.037 | 21.3# | 86 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.048 | 12.7 | 104 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.016 | 20.0 | 93 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 0.959 | 0.7 | 112 | 0.00 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.089 | 2.2 | 115 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.533 | 1.8 | 119 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.227 | -2.6 | 127 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.298 | 6.6 | 105 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.101 | 19.8 | 94 | -0.01 |
| 36 | S Dibromofluoromethane | 0.612 | 0.600 | 2.0 | 111 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.208 | -12.0 | 130 | 0.00 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.353 | -7.3 | 118 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.230 | 2.5 | 110 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.875 | -8.2 | 129 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 1.001 | -9.6 | 124 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 1.058 | -15.1 | 130 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.854 | -1.3 | 118 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.471 | 6.7 | 110 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.329 | 26.6# | 89 | -0.01 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.505 | -8.1 | 126 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.003 | 0.0 | 0# | 0.00 |
| 50 | T,M Bromodichloromethane | 0.884 | 1.048 | -18.6 | 137 | 0.00 |
| 51 | T,M Dibromomethane | 0.380 | 0.392 | -3.2 | 122 | 0.00 |

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.160 | 30.7# | 78 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.512 | 0.0 | 111 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.885 | -8.3 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 111 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.132 | -7.3 | 118 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.770 | -12.9 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.531 | -11.6 | 125 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.087 | -12.1 | 122 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.378 | 7.8 | 97 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.526 | 2.2 | 109 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.844 | -5.6 | 119 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.495 | 0.2 | 115 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.754 | 6.6 | 106 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.542 | 6.6 | 102 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.768 | -2.3 | 114 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.505 | -0.5 | 114 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.680 | -6.8 | 117 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.894 | -5.5 | 121 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.302 | -3.0 | 123 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.299 | -8.6 | 121 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.575 | -6.4 | 117 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.563 | -6.3 | 117 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 128 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.860 | 21.2# | 103 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.173 | 15.9 | 111 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.523 | 4.0 | 125 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.356 | 7.5 | 122 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.285 | 26.7# | 92 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.749 | 9.3 | 123 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.225 | 12.0 | 113 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.931 | 9.8 | 120 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.571 | 8.8 | 125 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.656 | 3.7 | 121 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.630 | 6.7 | 125 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.946 | 7.4 | 121 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.430 | 10.3 | 117 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.777 | 8.9 | 122 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.071 | 10.1 | 122 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.124 | 2.4 | 127 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.162 | 8.0 | 125 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.826 | 2.9 | 129 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.981 | 9.3 | 126 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.209 | 26.1# | 101 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.141 | 23.6# | 113 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.663 | 12.2 | 113 | -0.01 |
| 97 | T,M | Naphthalene | 3.377 | 2.718 | 19.5 | 105 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.089 | 23.3# | 113 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = ~~1~~ 0

MV 6/28/24

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F019
Lab File ID: RFG122 BFB Injection Date: 06/13/24
Instrument ID: E2 BFB Injection Time: 08:43

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 25.266 |
| 75 | 30 - 60% of mass 95 | 55.392 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.423 |
| 173 | Less than 2% of mass 174 | 0.462(.65)1 |
| 174 | Greater than 50% of mass 95 | 71.256 |
| 175 | 5 - 9% of mass 174 | 5.840(8.2)1 |
| 176 | 95 - 101% % of mass 174 | 68.951(96.77)1 |
| 177 | 5 - 9% % of mass 176 | 5.107(7.41)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1708 | RFG123 | 06/13/24 | 09:30 |
| 2 | LCS2W | VOE2F05L | RFG124 | 06/13/24 | 10:20 |
| 3 | LCD2W | VOE2F05C | RFG125 | 06/13/24 | 10:44 |
| 4 | MBLK2W | VOE2F05B | RFG127 | 06/13/24 | 11:31 |
| 5 | TB-3_MAY24 | 24F019-13 | RFG129 | 06/13/24 | 13:06 |
| 6 | RB-1_JUN24 | 24F019-12 | RFG130 | 06/13/24 | 13:30 |
| 7 | T1AMF-MW053_MAY24 | 24F019-02N | RFG131 | 06/13/24 | 13:54 |
| 8 | T1AMF-MW051_MAY24 | 24F019-03 | RFG132 | 06/13/24 | 14:17 |
| 9 | T1AMF-MW053_MAY24_MS | 24F019-02M | RFG133 | 06/13/24 | 14:41 |
| 10 | T1AMF-MW053_MAY24_MSD | 24F019-02S | RFG134 | 06/13/24 | 15:05 |
| 11 | T1AMF-MW051_MAY24_MS | 24F019-03M | RFG135 | 06/13/24 | 15:28 |
| 12 | T1AMF-MW051_MAY24_MSD | 24F019-03S | RFG136 | 06/13/24 | 15:52 |
| 13 | VSTD10 | EVOE2E1708 | RFG149 | 06/13/24 | 21:01 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F019
Date Analyzed: 05/17/24
Time Analyzed: 14:09

| INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 VSTD10 | 557288 | 5.99 | 472243 | 9.56 | 216831 | 13.89 |
| 2 LCS2W | 546903 | 5.99 | 471957 | 9.56 | 227711 | 13.89 |
| 3 LCD2W | 558714 | 5.99 | 480301 | 9.56 | 220875 | 13.89 |
| 4 MBLK2W | 516821 | 5.99 | 418923 | 9.56 | 189458 | 13.89 |
| 5 TB-3_MAY24 | 488771 | 5.99 | 405733 | 9.56 | 180846 | 13.89 |
| 6 RB-1_JUN24 | 471621 | 5.99 | 391806 | 9.56 | 174958 | 13.89 |
| 7 T1AMF-MW053_MAY24 | 462358 | 5.99 | 384262 | 9.56 | 174428 | 13.89 |
| 8 T1AMF-MW051_MAY24 | 467069 | 5.99 | 388902 | 9.56 | 169327 | 13.89 |
| 9 T1AMF-MW053_MAY24_MS | 482397 | 5.99 | 411288 | 9.56 | 190647 | 13.89 |
| 10 T1AMF-MW053_MAY24_MSD | 482381 | 5.99 | 410664 | 9.56 | 197209 | 13.89 |
| 11 T1AMF-MW051_MAY24_MS | 491277 | 5.99 | 419964 | 9.56 | 199196 | 13.89 |
| 12 T1AMF-MW051_MAY24_MSD | 499209 | 5.99 | 430525 | 9.56 | 203072 | 13.89 |
| 13 VSTD10 | 427914 | 5.99 | 374037 | 9.56 | 186275 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG123.D  Vial: 2
Acq On : 13 Jun 2024 9:30  Operator: DNguye
Sample : CVOE2E1708  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 11.477 | -14.8 | 149 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 10.368 | -3.7 | 132 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 11.953 | -19.5 | 144 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 9.912 | 0.9 | 138 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.946 | -9.5 | 127 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 11.200 | -12.0 | 135 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.865 | 11.3 | 111 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 47.829 | 4.3 | 112 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.989 | 10.1 | 108 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 62.862 | -25.7# | 133 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 246.863 | 1.3 | 114 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 11.181 | -11.8 | 130 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 110.975 | -11.0 | 126 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 11.104 | -11.0 | 126 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 7.522 | 24.8# | 94 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 14.747 | -47.5# | 145 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 60.440 | -20.9# | 132 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.984 | -9.8 | 126 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.910 | 0.9 | 114 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.802 | 2.0 | 115 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 13.125 | -31.3# | 152 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 8.844 | 11.6 | 95 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 11.491 | -14.9 | 137 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 11.146 | -11.5 | 128 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 49.616 | 0.8 | 109 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 118.944 | -18.9 | 142 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 234.405 | -17.2 | 134 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 11.132 | -11.3 | 125 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 120.851 | -20.9# | 142 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.267 | -2.7 | 124 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.033 | -0.3 | 124 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 10.100 | -1.0 | 114 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 12.099 | -21.0# | 142 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.353 | 6.5 | 106 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 10.294 | -2.9 | 119 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 12.029 | -20.3# | 132 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.739 | -7.4 | 121 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.552 | -5.5 | 126 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.224 | -2.2 | 116 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.795 | -17.9 | 133 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.837 | -8.4 | 126 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.918 | 0.8 | 117 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 7.219 | 27.8# | 87 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 12.036 | -20.4# | 139 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 10.302 | -3.0 | 118 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 9.244 | 7.6 | 109 | 0.00 |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG123.D
Acq On : 13 Jun 2024 9:30
Sample : CVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 11.885 | -18.8 | 133 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 60.683 | -21.4# | 134 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.807 | -8.1 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 115 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.912 | 0.9 | 113 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 10.876 | -8.8 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 10.689 | -6.9 | 124 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.587 | -5.9 | 120 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 59.103 | -18.2 | 129 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.826 | 1.7 | 114 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.699 | -7.0 | 126 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.955 | 0.4 | 119 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.230 | 7.7 | 109 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.745 | 2.6 | 110 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.447 | -4.5 | 121 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.859 | 1.4 | 116 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.031 | -0.3 | 114 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 10.513 | -5.1 | 125 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 20.590 | -2.9 | 128 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 10.729 | -7.3 | 124 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.827 | -8.3 | 124 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 11.000 | -10.0 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 110 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 8.761 | 12.4 | 98 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.121 | -1.2 | 115 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 11.107 | -11.1 | 124 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.577 | -5.8 | 119 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 11.085 | -10.9 | 120 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 10.957 | -9.6 | 127 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.957 | 0.4 | 109 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 11.347 | -13.5 | 129 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 11.768 | -17.7 | 137 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.434 | -24.3# | 116 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 10.587 | -5.9 | 121 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.577 | -15.8 | 129 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 11.099 | -11.0 | 124 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 11.095 | -11.0 | 127 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 12.097 | -21.0# | 120 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 11.667 | -16.7 | 129 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.643 | -16.4 | 118 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 10.963 | -9.6 | 125 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.273 | -2.7 | 122 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.863 | 11.4 | 104 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 10.145 | -1.4 | 115 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.351 | 6.5 | 103 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 9.990 | 0.1 | 111 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 9.786 | 2.1 | 110 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG123.D
Acq On : 13 Jun 2024 9:30
Sample : CVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = ~~1~~ 0

MV 6/28/24

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG123.D  Vial: 2
Acq On : 13 Jun 2024 9:30  Operator: DNguye
Sample : CVOE2E1708  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.659 | -14.8 | 149 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.427 | -3.6 | 132 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.520 | -19.5 | 144 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.292 | 0.7 | 138 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.088 | -9.5 | 127 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.239 | -12.2 | 135 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.866 | 11.4 | 111 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.062 | 4.6 | 112 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.383 | 10.1 | 108 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.159 | 12.2 | 133 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.060 | 1.6 | 114 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.999 | -11.7 | 130 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.033 | -10.0 | 126 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.262 | -11.0 | 126 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.354 | 17.5 | 94 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.921 | -15.0 | 145 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.182 | -21.3# | 132 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.641 | -9.8 | 126 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.357 | 0.9 | 114 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.467 | 2.1 | 115 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.996 | -31.3# | 152 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.766 | 11.5 | 95 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 1.108 | -14.8 | 137 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 2.058 | -11.5 | 128 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.047 | 0.0 | 109 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.066 | -20.0# | 142 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.023 | -15.0 | 134 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 1.075 | -11.3 | 125 | 0.01 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.110 | -20.9# | 142 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.557 | -2.6 | 124 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.200 | -0.3 | 124 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.322 | -0.9 | 114 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.152 | -20.6# | 142 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.573 | 6.4 | 106 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.110 | -2.9 | 119 | 0.01 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.396 | -20.4# | 132 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.254 | -7.6 | 121 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.854 | -5.6 | 126 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 0.933 | -2.2 | 116 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.084 | -18.0 | 133 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.983 | -8.4 | 126 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.501 | 0.8 | 117 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.323 | 27.9# | 87 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.562 | -20.3# | 139 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.911 | -3.1 | 118 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.351 | 7.6 | 109 | 0.00 |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG123.D
Acq On : 13 Jun 2024 9:30
Sample : CVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.275 | -19.0 | 133 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.621 | -21.3# | 134 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.883 | -8.1 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 115 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 1.970 | 0.9 | 113 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.742 | -8.8 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.424 | -6.9 | 124 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.027 | -5.9 | 120 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.485 | -18.3 | 129 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.529 | 1.7 | 114 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.855 | -7.0 | 126 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.494 | 0.4 | 119 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.745 | 7.7 | 109 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.565 | 2.6 | 110 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.784 | -4.4 | 121 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.477 | 1.4 | 116 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.639 | -0.3 | 114 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.883 | -5.1 | 125 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.302 | -3.0 | 128 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.271 | -7.3 | 124 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.602 | -8.2 | 124 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.653 | -10.0 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 110 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.956 | 12.4 | 98 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.411 | -1.2 | 115 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.763 | -11.1 | 124 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.407 | -5.7 | 119 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.432 | -11.1 | 120 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.947 | -9.6 | 127 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.386 | 0.4 | 109 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.946 | -13.5 | 129 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.606 | -17.7 | 137 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.095 | -7.9 | 116 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.714 | -5.8 | 121 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.935 | -15.8 | 129 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 5.483 | -11.0 | 124 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.599 | -11.0 | 127 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.400 | -4.2 | 120 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.928 | -16.7 | 129 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.402 | -2.3 | 118 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 4.322 | -9.6 | 125 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.244 | -2.7 | 122 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.251 | 11.3 | 104 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.348 | 9.7 | 115 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.706 | 6.5 | 103 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 3.374 | 0.1 | 111 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.237 | 12.8 | 110 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG123.D
Acq On : 13 Jun 2024 9:30
Sample : CVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = ~~1~~ 0

KV 6/28/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG149.D
Acq On : 13 Jun 2024 21:01
Sample : EVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 88 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 10.000 | 8.966 | 10.3 | 89 | 0.00 |
| 3 | P,T,M Chloromethane | 10.000 | 7.166 | 28.3# | 70 | 0.00 |
| 4 | C,T,M Vinyl chloride | 10.000 | 9.154 | 8.5 | 85 | 0.00 |
| 5 | T,M Bromomethane | 10.000 | 1.466 | 85.3# | 16 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 10.000 | 10.574 | -5.7 | 94 | 0.00 |
| 7 | T,M Chloroethane | 10.000 | 9.084 | 9.2 | 84 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 10.000 | 7.482 | 25.2# | 72 | 0.00 |
| 9 | T,M Acrolein | 50.000 | 37.238 | 25.5# | 67 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.778 | 12.2 | 81 | 0.00 |
| 11 | T,M Acetone | 50.000 | 59.348 | -18.7 | 97 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 250.000 | 229.929 | 8.0 | 81 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 10.000 | 10.852 | -8.5 | 97 | 0.00 |
| 14 | T,M Acetonitrile | 100.000 | 107.038 | -7.0 | 93 | 0.00 |
| 15 | T,M Allyl chloride | 10.000 | 9.876 | 1.2 | 86 | 0.00 |
| 16 | T,M Iodomethane | 10.000 | 3.080 | 69.2# | 28 | 0.00 |
| 17 | T,M Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M Methylene chloride | 10.000 | 14.015 | -40.2# | 106 | 0.00 |
| 19 | T,M Acrylonitrile | 50.000 | 54.547 | -9.1 | 92 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 10.000 | 10.572 | -5.7 | 93 | 0.00 |
| 21 | T,M Carbon disulfide | 10.000 | 9.741 | 2.6 | 86 | 0.00 |
| 22 | T,M trans-1,2-Dichloroethene | 10.000 | 9.162 | 8.4 | 83 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 10.000 | 12.035 | -20.4# | 107 | 0.01 |
| 24 | T,M Vinyl acetate | 10.000 | 7.393 | 26.1# | 61 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 10.000 | 11.299 | -13.0 | 103 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 10.000 | 10.507 | -5.1 | 93 | 0.00 |
| 27 | T,M 2-Butanone | 50.000 | 42.587 | 14.8 | 72 | 0.00 |
| 28 | T,M Propionitrile | 100.000 | 107.833 | -7.8 | 99 | 0.00 |
| 29 | T,M Isobutyl alcohol | 200.000 | 196.503 | 1.7 | 86 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 10.000 | 10.779 | -7.8 | 93 | 0.01 |
| 31 | T,M Methacrylonitrile | 100.000 | 116.040 | -16.0 | 105 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 10.000 | 9.663 | 3.4 | 89 | 0.00 |
| 33 | C,T,M Chloroform | 10.000 | 9.838 | 1.6 | 93 | 0.00 |
| 34 | T,M Bromochloromethane | 10.000 | 9.320 | 6.8 | 81 | 0.00 |
| 35 | T,M Tetrahydrofuran | 10.000 | 10.847 | -8.5 | 98 | 0.00 |
| 36 | S Dibromofluoromethane | 10.000 | 9.489 | 5.1 | 82 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 10.000 | 10.613 | -6.1 | 94 | 0.00 |
| 38 | T,M Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 10.000 | 10.770 | -7.7 | 91 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 10.000 | 10.022 | -0.2 | 87 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 10.000 | 11.122 | -11.2 | 102 | 0.00 |
| 42 | T,M Carbon tetrachloride | 10.000 | 10.574 | -5.7 | 92 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 10.000 | 11.820 | -18.2 | 103 | 0.00 |
| 44 | T,M Benzene | 10.000 | 9.914 | 0.9 | 88 | 0.00 |
| 45 | T,M Trichloroethene | 10.000 | 9.332 | 6.7 | 84 | 0.00 |
| 46 | T,M Methyl methacrylate | 10.000 | 6.654 | 33.5# | 62 | 0.00 |
| 47 | T,M Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 10.000 | 10.735 | -7.3 | 95 | 0.00 |
| 49 | T,M 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M Bromodichloromethane | 10.000 | 10.332 | -3.3 | 91 | 0.00 |
| 51 | T,M Dibromomethane | 10.000 | 9.289 | 7.1 | 84 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG149.D
Acq On : 13 Jun 2024 21:01
Sample : EVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 10.584 | -5.8 | 91 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 56.046 | -12.1 | 95 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 9.878 | 1.2 | 87 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 91 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.610 | 3.9 | 87 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.828 | 1.7 | 87 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 9.817 | 1.8 | 90 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.518 | 4.8 | 85 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 53.663 | -7.3 | 93 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.012 | 9.9 | 83 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 9.979 | 0.2 | 93 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.055 | 9.5 | 86 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 8.642 | 13.6 | 81 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 8.861 | 11.4 | 79 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.359 | 6.4 | 86 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.128 | 8.7 | 85 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.705 | 2.9 | 87 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.820 | 1.8 | 92 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 19.400 | 3.0 | 95 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 9.909 | 0.9 | 91 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.059 | -0.6 | 91 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 10.275 | -2.8 | 93 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 94 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.265 | 27.4# | 70 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.726 | 12.7 | 85 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.362 | -3.6 | 99 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.580 | 4.2 | 93 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 5.668 | 43.3# | 53 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.263 | 7.4 | 92 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.677 | 13.2 | 82 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.839 | 1.6 | 96 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.471 | 5.3 | 95 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.398 | -14.0 | 92 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.389 | 6.1 | 92 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 9.905 | 1.0 | 95 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.601 | 4.0 | 92 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.554 | 4.5 | 94 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 10.404 | -4.0 | 90 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.014 | -0.1 | 95 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.378 | -3.8 | 91 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.144 | 8.6 | 89 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.089 | 9.1 | 93 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.298 | 27.0# | 73 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 8.186 | 18.1 | 80 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 7.773 | 22.3# | 74 | -0.01 |
| 97 | T,M | Naphthalene | 10.000 | 8.075 | 19.3 | 77 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.319 | 16.8 | 81 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG149.D Vial: 28
Acq On : 13 Jun 2024 21:01 Operator: DNguye
Sample : EVOE2E1708 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG149.D
Acq On : 13 Jun 2024 21:01
Sample : EVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 88 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.515 | 10.3 | 89 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.295 | 28.4# | 70 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.398 | 8.5 | 85 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.043 | 85.4# | 16# | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.051 | -5.7 | 94 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.194 | 8.9 | 84 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.731 | 25.2# | 72 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.048 | 26.2# | 67 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.374 | 12.2 | 81 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.151 | 16.6 | 97 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.056 | 8.2 | 81 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.970 | -8.5 | 97 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.032 | -6.7 | 93 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.233 | 1.3 | 86 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.137 | 68.1# | 28# | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.878 | -9.6 | 106 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.164 | -9.3 | 92 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.580 | -5.8 | 93 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.334 | 2.6 | 86 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.437 | 8.4 | 83 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.830 | -20.4# | 107 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.640 | 26.1# | 61 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 1.090 | -13.0 | 103 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.940 | -5.1 | 93 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.040 | 14.9 | 72 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.060 | -9.1 | 99 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.019 | 5.0 | 86 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 1.041 | -7.8 | 93 | 0.01 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.105 | -15.4 | 105 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.525 | 3.3 | 89 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.177 | 1.6 | 93 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.297 | 6.9 | 81 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.137 | -8.7 | 98 | 0.00 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.581 | 5.1 | 82 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.145 | -6.1 | 94 | 0.00 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.355 | -7.9 | 91 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.237 | -0.4 | 87 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.900 | -11.2 | 102 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 0.965 | -5.7 | 92 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.087 | -18.3 | 103 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.814 | 0.9 | 88 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.471 | 6.7 | 84 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.298 | 33.5# | 62 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.501 | -7.3 | 95 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.001 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.913 | -3.3 | 91 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.353 | 7.1 | 84 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG149.D
Acq On : 13 Jun 2024 21:01
Sample : EVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.245 | -6.1 | 91 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.573 | -11.9 | 95 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.807 | 1.2 | 87 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 91 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 1.910 | 3.9 | 87 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.671 | 1.6 | 87 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.226 | 1.9 | 90 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.924 | 4.7 | 85 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.440 | -7.3 | 93 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.485 | 9.9 | 83 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.798 | 0.1 | 93 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.449 | 9.5 | 86 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.698 | 13.5 | 81 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.514 | 11.4 | 79 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.702 | 6.5 | 86 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.367 | 8.7 | 85 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.619 | 2.8 | 87 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.693 | 1.8 | 92 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.169 | 3.0 | 95 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.097 | 0.9 | 91 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.489 | -0.6 | 91 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.478 | -2.7 | 93 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 94 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.793 | 27.3# | 70 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.216 | 12.8 | 85 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.645 | -3.7 | 99 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.369 | 4.2 | 93 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.221 | 43.2# | 53 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.873 | 7.4 | 92 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.207 | 13.3 | 82 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.289 | 1.6 | 96 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.707 | 5.3 | 95 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.766 | 0.8 | 92 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.633 | 6.2 | 92 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.223 | 0.9 | 95 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.743 | 4.0 | 92 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.960 | 4.5 | 94 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.077 | 9.8 | 90 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.230 | -0.1 | 95 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.150 | 8.5 | 91 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.605 | 8.5 | 89 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.985 | 9.1 | 93 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.207 | 26.9# | 73 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.097 | 26.5# | 80 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.587 | 22.3# | 74 | -0.01 |
| 97 | T,M | Naphthalene | 3.377 | 2.727 | 19.2 | 77 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.059 | 25.4# | 81 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG149.D
Acq On : 13 Jun 2024 21:01
Sample : EVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F019
Lab File ID: RFG152 BFB Injection Date: 06/14/24
Instrument ID: E2 BFB Injection Time: 10:16

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 24.911 |
| 75 | 30 - 60% of mass 95 | 55.024 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 5.690 |
| 173 | Less than 2% of mass 174 | 0.000(0)1 |
| 174 | Greater than 50% of mass 95 | 80.432 |
| 175 | 5 - 9% of mass 174 | 5.922(7.36)1 |
| 176 | 95 - 101% % of mass 174 | 76.497(95.11)1 |
| 177 | 5 - 9% % of mass 176 | 4.861(6.35)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1709 | RFG153 | 06/14/24 | 11:54 |
| 2 | LCS3W | VOE2F06L | RFG154 | 06/14/24 | 12:35 |
| 3 | LCD3W | VOE2F06C | RFG155 | 06/14/24 | 12:58 |
| 4 | MBLK3W | VOE2F06B | RFG157 | 06/14/24 | 13:46 |
| 5 | TB-4_JUN24 | 24F019-14N | RFG158 | 06/14/24 | 14:10 |
| 6 | VSTD10 | EVOE2E1709 | RFG179 | 06/14/24 | 22:28 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F019
Date Analyzed: 05/17/24
Time Analyzed: 14:09

| INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 VSTD10 | 531899 | 5.99 | 423005 | 9.56 | 200791 | 13.89 |
| 2 LCS3W | 533808 | 5.99 | 446338 | 9.56 | 205070 | 13.89 |
| 3 LCD3W | 528358 | 5.99 | 450867 | 9.56 | 206285 | 13.89 |
| 4 MBLK3W | 495022 | 5.99 | 408577 | 9.56 | 172895 | 13.89 |
| 5 TB-4_JUN24 | 471785 | 5.99 | 386284 | 9.56 | 171246 | 13.89 |
| 6 VSTD10 | 475094 | 5.99 | 398319 | 9.56 | 182539 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG153.D
Acq On : 14 Jun 2024 11:54
Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 110 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 11.233 | -12.3 | 139 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 9.254 | 7.5 | 112 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 11.357 | -13.6 | 131 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 4.560 | 54.4# | 60 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.322 | -3.2 | 114 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 10.721 | -7.2 | 123 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 9.104 | 9.0 | 109 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 47.571 | 4.9 | 107 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.772 | 12.3 | 100 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 59.782 | -19.6 | 121 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 236.493 | 5.4 | 104 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.531 | -5.3 | 116 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 108.655 | -8.7 | 118 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 9.870 | 1.3 | 107 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 4.852 | 51.5# | 57 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 13.451 | -34.5# | 127 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 58.361 | -16.7 | 122 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.371 | -3.7 | 113 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 10.142 | -1.4 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.214 | 7.9 | 103 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 12.064 | -20.6# | 133 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 8.546 | 14.5 | 88 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.938 | -9.4 | 124 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 10.523 | -5.2 | 115 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 47.285 | 5.4 | 99 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 111.798 | -11.8 | 127 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 209.417 | -4.7 | 114 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.674 | -6.7 | 114 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 115.261 | -15.3 | 129 | 0.01 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.393 | 6.1 | 108 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.668 | 3.3 | 114 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.230 | 7.7 | 99 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 11.326 | -13.3 | 127 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 8.730 | 12.7 | 94 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 10.018 | -0.2 | 111 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.835 | -8.4 | 114 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.008 | -0.1 | 108 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.263 | -2.6 | 117 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 9.914 | 0.9 | 107 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.301 | -13.0 | 122 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 9.871 | 1.3 | 109 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.158 | 8.4 | 103 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 6.909 | 30.9# | 80 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.954 | -9.5 | 121 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.01 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.925 | 0.7 | 109 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 9.030 | 9.7 | 102 | 0.01 |

Data File : D:\Data\24F14\RFG153.D
Acq On : 14 Jun 2024 11:54
Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 52 | T,M 2-Chloroethyl vinyl ether | 10.000 | 10.901 | -9.0 | 116 | 0.00 |
| 53 | T,M 4-Methyl-2-pentanone | 50.000 | 58.855 | -17.7 | 124 | 0.01 |
| 54 | T,M cis-1,3-Dichloropropene | 10.000 | 10.116 | -1.2 | 110 | 0.00 |
| 55 | I CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 103 | 0.00 |
| 56 | S Toluene-d8 | 10.000 | 9.821 | 1.8 | 101 | 0.00 |
| 57 | T,M Ethyl methacrylate | 10.000 | 10.610 | -6.1 | 106 | 0.00 |
| 58 | C,T,M Toluene | 10.000 | 10.485 | -4.8 | 109 | 0.00 |
| 59 | T,M trans-1,3-Dichloropropene | 10.000 | 10.937 | -9.4 | 111 | 0.00 |
| 60 | T,M 2-Hexanone | 50.000 | 62.043 | -24.1# | 121 | 0.01 |
| 61 | T,M 1,1,2-Trichloroethane | 10.000 | 9.684 | 3.2 | 101 | 0.00 |
| 62 | T,M 1,3-Dichloropropane | 10.000 | 10.956 | -9.6 | 115 | 0.00 |
| 63 | T,M Tetrachloroethene | 10.000 | 9.917 | 0.8 | 107 | 0.01 |
| 64 | T,M Dibromochloromethane | 10.000 | 9.379 | 6.2 | 99 | 0.00 |
| 65 | T,M 1,2-Dibromoethane | 10.000 | 9.540 | 4.6 | 97 | 0.00 |
| 66 | T,M 1-Chlorohexane | 10.000 | 10.389 | -3.9 | 108 | 0.00 |
| 67 | P,T,M Chlorobenzene | 10.000 | 9.897 | 1.0 | 104 | 0.00 |
| 68 | T,M 1,1,1,2-Tetrachloroethane | 10.000 | 10.128 | -1.3 | 103 | 0.00 |
| 69 | C,T,M Ethylbenzene | 10.000 | 10.424 | -4.2 | 111 | 0.00 |
| 70 | T,M m-Xylene & p-Xylene | 20.000 | 20.703 | -3.5 | 115 | 0.01 |
| 71 | T,M o-Xylene | 10.000 | 10.816 | -8.2 | 112 | 0.00 |
| 72 | T,M Styrene | 10.000 | 10.847 | -8.5 | 111 | 0.00 |
| 73 | T,M Isopropylbenzene | 10.000 | 11.136 | -11.4 | 114 | 0.00 |
| 74 | I 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 101 | 0.00 |
| 75 | P,T,M Bromoform | 10.000 | 8.632 | 13.7 | 89 | 0.00 |
| 76 | P,T,M 1,1,2,2-Tetrachloroethane | 10.000 | 9.880 | 1.2 | 104 | 0.00 |
| 77 | S 4-Bromofluorobenzene | 10.000 | 10.582 | -5.8 | 109 | 0.00 |
| 78 | T,M 1,2,3-Trichloropropane | 10.000 | 10.520 | -5.2 | 110 | 0.00 |
| 79 | T,M trans-1,4-Dichloro-2-butene | 10.000 | 9.976 | 0.2 | 100 | 0.01 |
| 80 | T,M n-Propylbenzene | 10.000 | 10.489 | -4.9 | 112 | 0.00 |
| 81 | T,M Bromobenzene | 10.000 | 9.424 | 5.8 | 96 | 0.00 |
| 82 | T,M 1,3,5-Trimethylbenzene | 10.000 | 11.054 | -10.5 | 116 | 0.00 |
| 83 | T,M 2-Chlorotoluene | 10.000 | 11.242 | -12.4 | 122 | 0.00 |
| 84 | T,M 4-Chlorotoluene | 10.000 | 12.217 | -22.2# | 106 | 0.01 |
| 85 | T,M tert-Butylbenzene | 10.000 | 10.345 | -3.5 | 109 | 0.00 |
| 86 | T,M 1,2,4-Trimethylbenzene | 10.000 | 11.093 | -10.9 | 115 | 0.01 |
| 87 | T,M sec-Butylbenzene | 10.000 | 10.739 | -7.4 | 111 | 0.01 |
| 88 | T,M p-Isopropyltoluene | 10.000 | 10.722 | -7.2 | 114 | 0.01 |
| 89 | T,M 1,3-Dichlorobenzene | 10.000 | 11.487 | -14.9 | 106 | 0.01 |
| 90 | T,M 1,2,3-Trimethylbenzene | 10.000 | 11.253 | -12.5 | 116 | 0.01 |
| 91 | T,M 1,4-Dichlorobenzene | 10.000 | 11.407 | -14.1 | 108 | 0.00 |
| 92 | T,M n-Butylbenzene | 10.000 | 10.442 | -4.4 | 110 | 0.00 |
| 93 | T,M 1,2-Dichlorobenzene | 10.000 | 10.018 | -0.2 | 110 | 0.00 |
| 94 | T,M 1,2-Dibromo-3-chloropropane | 10.000 | 8.767 | 12.3 | 95 | 0.01 |
| 95 | T,M 1,2,4-Trichlorobenzene | 10.000 | 9.971 | 0.3 | 104 | 0.01 |
| 96 | T,M Hexachlorobutadiene | 10.000 | 9.537 | 4.6 | 97 | 0.00 |
| 97 | T,M Naphthalene | 10.000 | 9.558 | 4.4 | 99 | 0.00 |
| 98 | T,M 1,2,3-Trichlorobenzene | 10.000 | 9.524 | 4.8 | 99 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG153.D
Acq On : 14 Jun 2024 11:54
Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev Area% | Dev(min) |
|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG153.D
Acq On : 14 Jun 2024 11:54
Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 110 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.645 | -12.4 | 139 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.381 | 7.5 | 112 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.494 | -13.6 | 131 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.134 | 54.4# | 60 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 1.026 | -3.2 | 114 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.228 | -7.0 | 123 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.890 | 8.9 | 109 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.062 | 4.6 | 107 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.374 | 12.2 | 100 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.152 | 16.0 | 121 | 0.01 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.058 | 4.9 | 104 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.941 | -5.3 | 116 | 0.00 |
| 14 | T,M Acetonitrile | 0.030 | 0.033 | -10.0 | 118 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.233 | 1.3 | 107 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.223 | 48.0# | 57 | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.845 | -5.5 | 127 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.175 | -16.7 | 122 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.550 | -3.7 | 113 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.389 | -1.4 | 111 | 0.00 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.439 | 8.0 | 103 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.834 | -20.7# | 133 | 0.01 |
| 24 | T,M Vinyl acetate | 0.866 | 0.740 | 14.5 | 88 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 1.055 | -9.3 | 124 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.943 | -5.3 | 115 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.044 | 6.4 | 99 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.062 | -12.7 | 127 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.020 | 0.0 | 114 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 1.031 | -6.7 | 114 | 0.01 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.105 | -15.4 | 129 | 0.01 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.510 | 6.1 | 108 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.156 | 3.3 | 114 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.294 | 7.8 | 99 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.143 | -13.5 | 127 | -0.01 |
| 36 | S Dibromofluoromethane | 0.612 | 0.535 | 12.6 | 94 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.081 | -0.2 | 111 | 0.01 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.357 | -8.5 | 114 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.236 | 0.0 | 108 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.831 | -2.7 | 117 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 0.905 | 0.9 | 107 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 1.039 | -13.1 | 122 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.806 | 1.3 | 109 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.463 | 8.3 | 103 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.309 | 31.0# | 80 | 0.00 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.512 | -9.6 | 121 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.01 |
| 50 | T,M Bromodichloromethane | 0.884 | 0.877 | 0.8 | 109 | 0.00 |
| 51 | T,M Dibromomethane | 0.380 | 0.343 | 9.7 | 102 | 0.01 |

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Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.252 | -9.1 | 116 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.602 | -17.6 | 124 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.826 | -1.1 | 110 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 103 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 1.951 | 1.8 | 101 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.724 | -6.2 | 106 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.378 | -4.9 | 109 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.061 | -9.4 | 111 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.509 | -24.1# | 121 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.521 | 3.2 | 101 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.876 | -9.6 | 115 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.492 | 0.8 | 107 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.757 | 6.2 | 99 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.553 | 4.7 | 97 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.780 | -3.9 | 108 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.483 | 1.0 | 104 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.646 | -1.4 | 103 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.858 | -4.2 | 111 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.314 | -3.5 | 115 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.289 | -8.1 | 112 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.605 | -8.4 | 111 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.686 | -11.4 | 114 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 101 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.942 | 13.7 | 89 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.377 | 1.2 | 104 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.680 | -5.9 | 109 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.405 | -5.2 | 110 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.388 | 0.3 | 100 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.650 | -4.9 | 112 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.311 | 5.8 | 96 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.819 | -10.6 | 116 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.399 | -12.4 | 122 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.026 | -6.1 | 106 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.698 | -3.4 | 109 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.729 | -10.9 | 115 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 5.305 | -7.4 | 111 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.444 | -7.2 | 114 | 0.01 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.283 | 0.9 | 106 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.754 | -12.5 | 116 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.355 | -0.3 | 108 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 4.117 | -4.4 | 110 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.188 | -0.2 | 110 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.248 | 12.4 | 95 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.326 | 11.2 | 104 | 0.01 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.720 | 4.6 | 97 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 3.228 | 4.4 | 99 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.206 | 15.0 | 99 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG153.D
Acq On : 14 Jun 2024 11:54
Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG179.D
Acq On : 14 Jun 2024 22:28
Sample : EVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 98 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 10.000 | 9.136 | 8.6 | 101 | 0.00 |
| 3 | P,T,M Chloromethane | 10.000 | 7.381 | 26.2# | 80 | 0.00 |
| 4 | C,T,M Vinyl chloride | 10.000 | 9.895 | 1.1 | 102 | 0.00 |
| 5 | T,M Bromomethane | 10.000 | 3.908 | 60.9# | 46 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 10.000 | 10.206 | -2.1 | 101 | 0.00 |
| 7 | T,M Chloroethane | 10.000 | 9.074 | 9.3 | 93 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 10.000 | 7.657 | 23.4# | 82 | 0.00 |
| 9 | T,M Acrolein | 50.000 | 41.640 | 16.7 | 83 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.465 | 15.4 | 87 | 0.00 |
| 11 | T,M Acetone | 50.000 | 60.514 | -21.0# | 110 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 250.000 | 260.566 | -4.2 | 102 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 10.000 | 10.722 | -7.2 | 106 | 0.00 |
| 14 | T,M Acetonitrile | 100.000 | 121.509 | -21.5# | 118 | 0.00 |
| 15 | T,M Allyl chloride | 10.000 | 10.090 | -0.9 | 98 | 0.00 |
| 16 | T,M Iodomethane | 10.000 | 4.272 | 57.3# | 44 | 0.00 |
| 17 | T,M Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M Methylene chloride | 10.000 | 13.273 | -32.7# | 112 | 0.00 |
| 19 | T,M Acrylonitrile | 50.000 | 60.020 | -20.0# | 112 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 10.000 | 10.539 | -5.4 | 103 | 0.00 |
| 21 | T,M Carbon disulfide | 10.000 | 8.476 | 15.2 | 83 | 0.00 |
| 22 | T,M trans-1,2-Dichloroethene | 10.000 | 9.132 | 8.7 | 91 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 10.000 | 12.010 | -20.1# | 119 | 0.00 |
| 24 | T,M Vinyl acetate | 10.000 | 7.766 | 22.3# | 71 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 10.000 | 11.115 | -11.2 | 113 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 10.000 | 10.388 | -3.9 | 102 | 0.00 |
| 27 | T,M 2-Butanone | 50.000 | 48.086 | 3.8 | 90 | 0.00 |
| 28 | T,M Propionitrile | 100.000 | 118.007 | -18.0 | 120 | 0.00 |
| 29 | T,M Isobutyl alcohol | 200.000 | 242.624 | -21.3# | 118 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 10.000 | 9.645 | 3.6 | 92 | 0.00 |
| 31 | T,M Methacrylonitrile | 100.000 | 119.349 | -19.3 | 119 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 10.000 | 9.692 | 3.1 | 100 | 0.00 |
| 33 | C,T,M Chloroform | 10.000 | 9.703 | 3.0 | 102 | 0.00 |
| 34 | T,M Bromochloromethane | 10.000 | 9.450 | 5.5 | 91 | 0.00 |
| 35 | T,M Tetrahydrofuran | 10.000 | 11.555 | -15.5 | 115 | -0.01 |
| 36 | S Dibromofluoromethane | 10.000 | 8.953 | 10.5 | 86 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 10.000 | 10.078 | -0.8 | 99 | 0.01 |
| 38 | T,M Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 10.000 | 11.185 | -11.9 | 105 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 10.000 | 9.795 | 2.1 | 94 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 10.000 | 10.658 | -6.6 | 109 | 0.00 |
| 42 | T,M Carbon tetrachloride | 10.000 | 10.038 | -0.4 | 97 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 10.000 | 11.595 | -16.0 | 112 | 0.00 |
| 44 | T,M Benzene | 10.000 | 9.973 | 0.3 | 99 | 0.00 |
| 45 | T,M Trichloroethene | 10.000 | 9.051 | 9.5 | 91 | 0.00 |
| 46 | T,M Methyl methacrylate | 10.000 | 6.892 | 31.1# | 71 | -0.01 |
| 47 | T,M Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 10.000 | 10.732 | -7.3 | 106 | 0.00 |
| 49 | T,M 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M Bromodichloromethane | 10.000 | 10.023 | -0.2 | 98 | 0.00 |
| 51 | T,M Dibromomethane | 10.000 | 9.223 | 7.8 | 93 | 0.00 |

Data File : D:\Data\24F14\RFG179.D
Acq On : 14 Jun 2024 22:28
Sample : EVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 10.309 | -3.1 | 98 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 59.900 | -19.8 | 113 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 9.804 | 2.0 | 96 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.214 | 7.9 | 89 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 10.145 | -1.4 | 95 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 9.962 | 0.4 | 98 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.904 | 1.0 | 95 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 60.633 | -21.3# | 112 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.394 | 6.1 | 92 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.226 | -2.3 | 101 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.558 | 4.4 | 97 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 8.891 | 11.1 | 89 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.454 | 5.5 | 90 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.561 | 4.4 | 93 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.449 | 5.5 | 94 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.546 | 4.5 | 92 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 10.063 | -0.6 | 101 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 19.358 | 3.2 | 101 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 10.137 | -1.4 | 99 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.341 | -3.4 | 100 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 10.348 | -3.5 | 100 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 92 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 8.337 | 16.6 | 78 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.062 | -0.6 | 96 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.241 | -2.4 | 96 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.467 | -4.7 | 99 | -0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 9.525 | 4.7 | 86 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 10.277 | -2.8 | 100 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.118 | 8.8 | 84 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 10.785 | -7.9 | 103 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 10.246 | -2.5 | 101 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.665 | -26.6# | 99 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 10.240 | -2.4 | 98 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.016 | -10.2 | 104 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 10.488 | -4.9 | 99 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 10.384 | -3.8 | 100 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.492 | -14.9 | 97 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 11.009 | -10.1 | 103 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.090 | -10.9 | 95 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.977 | 0.2 | 96 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.784 | 2.2 | 98 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.473 | 15.3 | 84 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.297 | 7.0 | 89 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 8.332 | 16.7 | 77 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 9.131 | 8.7 | 86 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 9.049 | 9.5 | 86 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG179.D
Acq On : 14 Jun 2024 22:28
Sample : EVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev Area% | Dev(min) |
|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG179.D
Acq On : 14 Jun 2024 22:28
Sample : EVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 98 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.524 | 8.7 | 101 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.304 | 26.2# | 80 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.430 | 1.1 | 102 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.115 | 60.9# | 46# | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 1.014 | -2.0 | 101 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.193 | 9.4 | 93 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.748 | 23.4# | 82 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.054 | 16.9 | 83 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.361 | 15.3 | 87 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.153 | 15.5 | 110 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.063 | -3.3 | 102 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.958 | -7.2 | 106 | 0.00 |
| 14 | T,M Acetonitrile | 0.030 | 0.037 | -23.3# | 118 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.238 | -0.8 | 98 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.195 | 54.5# | 44# | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.834 | -4.1 | 112 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.180 | -20.0 | 112 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.575 | -5.4 | 103 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.161 | 15.3 | 83 | 0.00 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.435 | 8.8 | 91 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.826 | -20.1# | 119 | 0.00 |
| 24 | T,M Vinyl acetate | 0.866 | 0.673 | 22.3# | 71 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 1.072 | -11.1 | 113 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.918 | -3.9 | 102 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.045 | 4.3 | 90 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.065 | -18.2 | 120 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.024 | -20.0 | 118 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 0.931 | 3.6 | 92 | 0.00 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.108 | -18.7 | 119 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.526 | 3.1 | 100 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.160 | 3.0 | 102 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.301 | 5.6 | 91 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.146 | -15.9 | 115 | -0.01 |
| 36 | S Dibromofluoromethane | 0.612 | 0.548 | 10.5 | 86 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.087 | -0.7 | 99 | 0.01 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.369 | -12.2 | 105 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.231 | 2.1 | 94 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.863 | -6.7 | 109 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 0.916 | -0.3 | 97 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 1.066 | -16.0 | 112 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.825 | 0.3 | 99 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.457 | 9.5 | 91 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.308 | 31.3# | 71 | -0.01 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.501 | -7.3 | 106 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.00 |
| 50 | T,M Bromodichloromethane | 0.884 | 0.886 | -0.2 | 98 | 0.00 |
| 51 | T,M Dibromomethane | 0.380 | 0.350 | 7.9 | 93 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG179.D
Acq On : 14 Jun 2024 22:28
Sample : EVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.238 | -3.0 | 98 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.613 | -19.7 | 113 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.801 | 2.0 | 96 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 1.831 | 7.9 | 89 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.692 | -1.5 | 95 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.259 | 0.4 | 98 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.961 | 0.9 | 95 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.497 | -21.2# | 112 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.506 | 5.9 | 92 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.817 | -2.3 | 101 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.474 | 4.4 | 97 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.718 | 11.0 | 89 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.548 | 5.5 | 90 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.718 | 4.4 | 93 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.416 | 5.5 | 94 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.608 | 4.6 | 92 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.759 | -0.6 | 101 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.164 | 3.2 | 101 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.146 | -1.4 | 99 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.531 | -3.4 | 100 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.496 | -3.5 | 100 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 92 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.910 | 16.6 | 78 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.402 | -0.6 | 96 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.626 | -2.5 | 96 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.403 | -4.7 | 99 | -0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.371 | 4.6 | 86 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.516 | -2.8 | 100 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.269 | 8.8 | 84 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.701 | -7.8 | 103 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.010 | -2.5 | 101 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.169 | -9.8 | 99 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.691 | -2.4 | 98 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.696 | -10.2 | 104 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 5.181 | -4.9 | 99 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.304 | -3.8 | 100 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.284 | 0.8 | 97 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.650 | -10.1 | 103 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.292 | 2.4 | 95 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.933 | 0.2 | 96 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.137 | 2.2 | 98 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.240 | 15.2 | 84 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.239 | 17.0 | 89 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.629 | 16.7 | 77 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 3.084 | 8.7 | 86 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.148 | 19.1 | 86 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG179.D
Acq On : 14 Jun 2024 22:28
Sample : EVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 05/17/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge Book #: AE2-031

BATCH VOE2E17

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH ≤2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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Instrument No.: E2

INITIAL CALIBRATION REFERENCE

DATE: 5/17/24

ICAL ID: VOE2E17

STANDARDS

| NAME | ID | Amount [µl] | Conc [mg/L] |
|---|---|---|---|
| DCC $CS_2$ | SV1-43-98-01 | * | 250 |
| DCC GAS | -98-03 | | 250 |
| DCC ~~METHANOL~~ | -97-02 | | 250/6250 |
| DCC 8260 | -97-01 | | 250 |
| BFB | -76-02 | 1 | 50 |
| IS/SURR. | -96-02 | 5 | 20 |
| | -96-03 | 2 | 250 |
| ICV/LCS | -79-02 | 0.4 | 250 |
| ICV/LCS | -94-01 | .4 | 250 |
| ICV/LCS | -90-01 | 2 | 250 |
| ICV/LCS | -94-02 | 2 | 50 |
| ICV/LCS | -85-02 | 2 | 50 |
| Data File Folder | 24E17 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | | 14SV-03-04-14-6 |
| Chlorine strip | | -04-13-3 |
| Methanol | | -03-25 |
| $NaHSO_4$ | | -02-25 |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments: * Varied amount

Analyzed By: DN

Date Disposed: 5/18/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24E17

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Reg116.d | 1. | BFBE2E09 | T/CHK | 17 May 2024 11:2 |
| 2 | 2 | Reg117.d | 1. | VOE2E161 0.012 WRONG SPIKE | 0.3ppb 8260/1.5pp... | 17 May 2024 12:1 |
| 3 | 3 | Reg118.d | 1. | VOE2E172 0.02 | 0.5ppb 8260/2.5pp... | 17 May 2024 12:3 |
| 4 | 4 | Reg119.d | 1. | VOE2E173 0.04 | 1.0ppb 8260/5.0pp... | 17 May 2024 12:5 |
| 5 | 5 | Reg120.d | 1. | VOE2E174 0.08 | 2.0ppb 8260/10ppb... | 17 May 2024 13:2 |
| 6 | 6 | Reg121.d | 1. | VOE2E175 0.2 | 5.0ppb 8260/25ppb... | 17 May 2024 13:4 |
| 7 | 7 | Reg122.d | 1. | VOE2E176 0.4 | 10ppb 8260/50ppb ... | 17 May 2024 14:0 |
| 8 | 8 | Reg123.d | 1. | VOE2E177 1.2uL | 30ppb 8260/150ppb... | 17 May 2024 14:3 |
| 9 | 9 | Reg124.d | 1. | VOE2E178 2uL | 50ppb 8260/250pb ... | 17 May 2024 14:5 |
| 10 | 10 | Reg125.d | 1. | VOE2E179 4uL | 100ppb 8260/500pp... | 17 May 2024 15:2 |
| 11 | 11 | Reg126.d | 1. | VOE2E1710 8uL | 200ppb 8260/1000p... | 17 May 2024 15:4 |
| 12 | 12 | Reg127.d | 1. | RINSE | | 17 May 2024 16:0 |
| 13 | 13 | Reg128.d | 1. | RINSE | | 17 May 2024 16:3 |
| 14 | 14 | Reg129.d | 1. | IVOE2E1701 %REC>20 | 10ppb 8260/50ppb ... | 17 May 2024 21:0 |

ZL 5/23/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-MB260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 05/18/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH 10E2819

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH < 2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | 10E2E17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc (ng/L) |
|---|---|---|---|
| DCC | | | |
| DCC | | | |
| DCC | | | |
| DCC | | | |
| BFB | SVI-43-76-02 | 1 | 50 |
| IS/SURR | -96-02 -96-03 | 5 4 | 20 250 |
| ICV/LCS | -91-02 | 4 | 250 |
| ICV/LCS | -94-01 | 4 | 250 |
| ICV/LCS | -90-01 -94-02 | 2 2 | 250 50 |
| ICV/LCS | -85-02 | 2 | 50 |
| Data File Folder | 24E18 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | | MSV-03-04-14-6 |
| Chlorine strip | | ↓ -04-13-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/10E2 | |

Comments:

Analyzed By: DN

Date Disposed: 5/20/24 Disposed By: DN

5/23/24

# Injection Log

Directory: d:\Data\24E18

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Reg130.d | 1. | BFBE2E09 | T/CHK | 18 May 2024 09:1 |
| 2 | 2 | Reg131.d | 1. | IVOE2E1702 | 10ppb 8260/50ppb ... | 18 May 2024 09:5 |

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-MB260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/11/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH ≤ 2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | VOE2F17 |

STANDARDS

| NAME | ID | Amount (µL) | Conc. (mg/L) |
|---|---|---|---|
| DCC | SV1-43-94-02 | .4 | |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | |
| DCC | -86-01 | 2 | 50/150 |
| BFB | -38-02 | 1 | |
| IS/SURR. | SV1-45-04-02 | 5 | 20 |
| ICV/LCS | SV1-43-79-02 | .4 | |
| ICV/LCS | -82-01 | .4 | 50/150 |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC210330 | MGV-03-01-14-6 |
| Chlorine strip | 3191178 | -B-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | RWH-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

Analyzed By: DH

Date Disposed: 6/12/24 Disposed By: DH

# Injection Log

Directory: d:\Data\24F11

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg091.d | 1. | BFBF04 | T/CHK | 11 Jun 2024 12:47 |
| 2 | 2 | Rfg092.d | 1. | CVOE2E1707 | 10ppb 8260/50ppb ... | 11 Jun 2024 13:35 |
| 3 | 3 | Rfg093.d | 1. | VOE2F04L | 10ppb 8260/50ppb ... | 11 Jun 2024 14:15 |
| 4 | 4 | Rfg094.d | 1. | VOE2F04C | 10ppb 8260/50ppb ... | 11 Jun 2024 14:39 |
| 5 | 5 | Rfg095.d | 1. | RINSE | 10ppb 8260/50ppb ... | 11 Jun 2024 15:03 |
| 6 | 6 | Rfg096.d | 1. | VOE2F04B | 10.0mL | 11 Jun 2024 15:26 |
| 7 | 7 | Rfg097.d | 1. | 24F004-06N | 10.0mL | 11 Jun 2024 15:50 |
| 8 | 8 | Rfg098.d | 1. | 24F004-01N | 10.0mL | 11 Jun 2024 16:14 |
| 9 | 9 | Rfg099.d | 1. | PV-004-08-03 | 10.0mL | 11 Jun 2024 16:37 |
| 10 | 10 | Rfg100.d | 1. | 24F004-08l 10X | 1.0mL | 11 Jun 2024 17:01 |
| 11 | 11 | Rfg101.d | 1. | 24F003-14 | 10mL | 11 Jun 2024 17:25 |
| 12 | 12 | Rfg102.d | 1. | 24F003-15 | 10mL | 11 Jun 2024 17:49 |
| 13 | 13 | Rfg103.d | 1. | 24F003-16 | 10mL | 11 Jun 2024 18:13 |
| 14 | 14 | Rfg104.d | 1. | 24F003-17 | 10mL | 11 Jun 2024 18:37 |
| 15 | 15 | Rfg105.d | 1. | 24F038-01 | 10mL | 11 Jun 2024 19:00 |
| 16 | 16 | Rfg106.d | 1. | RIMSE | 1.0mL | 11 Jun 2024 19:24 |
| 17 | 17 | Rfg107.d | 1. | 24F019-01 | 10mL | 11 Jun 2024 19:47 |
| 18 | 18 | Rfg108.d | 1. | 24F019-02 | 10mL | 11 Jun 2024 20:11 |
| 19 | 19 | Rfg109.d | 1. | 24F019-04 | 10mL | 11 Jun 2024 20:34 |
| 20 | 20 | Rfg110.d | 1. | 24F019-05 | 10mL | 11 Jun 2024 20:58 |
| 21 | 21 | Rfg111.d | 1. | 24F019-06 | 10mL | 11 Jun 2024 21:21 |
| 22 | 22 | Rfg112.d | 1. | 24F019-07 | 10mL | 11 Jun 2024 21:45 |
| 23 | 23 | Rfg113.d | 1. | 24F019-08 | 10mL | 11 Jun 2024 22:09 |
| 24 | 24 | Rfg114.d | 1. | 24F019-09 | 10mL | 11 Jun 2024 22:32 |
| 25 | 25 | Rfg115.d | 1. | 24F019-10 | 10mL | 11 Jun 2024 22:56 |
| 26 | 26 | Rfg116.d | 1. | 24F019-11 | 10mL | 11 Jun 2024 23:19 |
| 27 | 27 | Rfg117.d | 1. | 24F019-02M | 10mL | 11 Jun 2024 23:42 |
| 28 | 28 | Rfg118.d | 1. | 24F019-02S | 10mL | 12 Jun 2024 00:06 |
| 29 | 29 | Rfg119.d | 1. | EVOE2E1707 | 10ppb 8260/50ppb ... | 12 Jun 2024 00:30 |
| 30 | 30 | Rfg120.d | 1. | EVOE2E17071 | 10ppb 8260/50ppb ... | 12 Jun 2024 00:53 |
| 31 | 31 | Rfg121.d | 1. | EVOE2E17072 | 10ppb 8260/50ppb ... | 12 Jun 2024 01:17 |

pH < 2 Cl < 5

pH 7 Cl < 5

pH < 2 Cl < 5

DI 6/18/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP: ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/13/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH < 2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | V0E2E17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc (µg/L) |
|---|---|---|---|
| DCC | SVI-43-24-02 | .4 | |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | 50/50 |
| DCC | -86-01 | 2 | |
| BFB | -38-02 | 1 | |
| IS/SURR. | SVI-45-04-02 | 5 | 20 |
| CV/LCS | SVI-43-79-02 | .4 | |
| ICV/LCS | -82-01 | .4 | 50/50 |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | 24F13 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC240330 | MSV-03-24-14-6 |
| Chlorine strip | 3191178 | ↓ -13-2 |
| Methanol | | |
| $NaHSO_3$ | | |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

Analyzed By: DN

Date Disposed: 6/14/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24F13

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg122.d | 1. | BFBF05 | T/CHK | 13 Jun 2024 08:43 |
| 2 | 2 | Rfg123.d | 1. | CVOE2E1708 | 10ppb 8260/50ppb ... | 13 Jun 2024 09:30 |
| 3 | 3 | Rfg124.d | 1. | VOE2F05L | 10ppb 8260/50ppb ... | 13 Jun 2024 10:20 |
| 4 | 4 | Rfg125.d | 1. | VOE2F05C | 10ppb 8260/50ppb ... | 13 Jun 2024 10:44 |
| 5 | 5 | Rfg126.d | 1. | RINSE | 10mL | 13 Jun 2024 11:08 |
| 6 | 6 | Rfg127.d | 1. | VOE2F05B | 10mL | 13 Jun 2024 11:31 |
| 7 | 7 | Rfg128.d | 1. | 24F019-14 | 10mL | 13 Jun 2024 12:42 |
| 8 | 8 | Rfg129.d | 1. | 24F019-13 | 10mL | 13 Jun 2024 13:06 |
| 9 | 9 | Rfg130.d | 1. | 24F019-12 | 10mL | 13 Jun 2024 13:30 |
| 10 | 10 | Rfg131.d | 1. | 24F019-02N | 10mL | 13 Jun 2024 13:54 |
| 11 | 11 | Rfg132.d | 1. | 24F019-03 | 10mL | 13 Jun 2024 14:17 |
| 12 | 12 | Rfg133.d | 1. | 24F019-02M | 10mL | 13 Jun 2024 14:41 |
| 13 | 13 | Rfg134.d | 1. | 24F019-02S | 10mL | 13 Jun 2024 15:05 |
| 14 | 14 | Rfg135.d | 1. | 24F019-03M | 10mL | 13 Jun 2024 15:28 |
| 15 | 15 | Rfg136.d | 1. | 24F019-03S | 10mL | 13 Jun 2024 15:52 |
| 16 | 16 | Rfg137.d | 1. | 24033-01M | 10mL | 13 Jun 2024 16:16 |
| 17 | 17 | Rfg138.d | 1. | 24033-01S | 10mL | 13 Jun 2024 16:39 |
| 18 | 18 | Rfg139.d | 1. | RINSE | 10mL | 13 Jun 2024 17:03 |
| 19 | 19 | Rfg140.d | 1. | 24F033-09 | 10mL | 13 Jun 2024 17:26 |
| 20 | 20 | Rfg141.d | 1. | 24F033-01 | 10mL | 13 Jun 2024 17:51 |
| 21 | 21 | Rfg142.d | 1. | 24F033-02 | 10mL | 13 Jun 2024 18:14 |
| 22 | 22 | Rfg143.d | 1. | 24F033-03 | 10mL | 13 Jun 2024 18:38 |
| 23 | 23 | Rfg144.d | 1. | 24F033-04 | 10mL | 13 Jun 2024 19:02 |
| 24 | 24 | Rfg145.d | 1. | 24F033-05 | 10mL | 13 Jun 2024 19:25 |
| 25 | 25 | Rfg146.d | 1. | 24F033-06 | 10mL | 13 Jun 2024 19:50 |
| 26 | 26 | Rfg147.d | 1. | 24F033-07 | 10mL | 13 Jun 2024 20:14 |
| 27 | 27 | Rfg148.d | 1. | 24F033-08 | 10mL | 13 Jun 2024 20:37 |
| 28 | 28 | Rfg149.d | 1. | EVOE2E1708 | 10ppb 8260/50ppb ... | 13 Jun 2024 21:01 |
| 29 | 29 | Rfg150.d | 1. | EVOE2E17081 | 10ppb 8260/50ppb ... | 13 Jun 2024 21:25 |
| 30 | 30 | Rfg151.d | 1. | EVOE2E1782 | 10ppb 8260/50ppb ... | 13 Jun 2024 21:49 |

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/16/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $C_l$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
| 02 | | | | | | | | | |
| 03 | | | | | | | | | |
| 04 | | | | | | | | | |
| 05 | | | | | | | | | |
| 06 | | | | | | | | | |
| 07 | | | | | | | | | |
| 08 | | | | | | | | | |
| 09 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |
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| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| 26 | | | | | | | | | |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |

| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | V0E2E17 |

STANDARDS

| NAME | ID | Amount (µL) | Conc. (mg/L) |
|---|---|---|---|
| DCC | SVI-43-94-02 | .4 | |
| DCC | -89-03 | .4 | |
| DCC | -93-03 | 2 | 50/500 |
| DCC | -86-01 | 2 | |
| BFB | -38-02 | 1 | |
| IS/SURR. | SVI-45-04-02 | 5 | 20 |
| ICV/LCS | SVI-43-79-02 | .4 | |
| ICV/LCS | -82-01 | .4 | |
| ICV/LCS | -92-01 | 2 | 50/250 |
| ICV/LCS | 77-01 | 2 | |
| Data File Folder | 24F14 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC310330 | HGV-03-04-14-6 |
| Chlorine strip | 3141713 | -13-5 |
| Methanol | | |
| $NaHSO_3$ | | |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

Analyzed By: DH

Date Disposed: 6/17/24 Disposed By: DH

# Injection Log

Directory: d:\Data\24F14

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg152.d | 1. | BFBF06 | T/CHK | 14 Jun 2024 10:16 |
| 2 | 2 | Rfg153.d | 1. | CVOE2E1709 | 10ppb 8260/50ppb ... | 14 Jun 2024 11:54 |
| 3 | 3 | Rfg154.d | 1. | VOE2F06L | 10ppb 8260/50ppb ... | 14 Jun 2024 12:35 |
| 4 | 4 | Rfg155.d | 1. | VOE2F06C | 10ppb 8260/50ppb ... | 14 Jun 2024 12:58 |
| 5 | 5 | Rfg156.d | 1. | RINSE | 10mL | 14 Jun 2024 13:22 |
| 6 | 6 | Rfg157.d | 1. | VOE2F06B | 10mL | 14 Jun 2024 13:46 |
| 7 | 7 | Rfg158.d | 1. | 24F019-14N | 10mL | 14 Jun 2024 14:10 |
| 8 | 8 | Rfg159.d | 1. | 24F061-01 | 10mL | 14 Jun 2024 14:34 |
| 9 | 9 | Rfg160.d | 1. | 24F061-02 | 10mL | 14 Jun 2024 14:57 |
| 10 | 10 | Rfg161.d | 1. | 24F061-03 | 10mL | 14 Jun 2024 15:21 |
| 11 | 11 | Rfg162.d | 1. | 24F061-04 | 10mL | 14 Jun 2024 15:45 |
| 12 | 12 | Rfg163.d | 1. | 24F061-05 | 10mL | 14 Jun 2024 16:09 |
| 13 | 13 | Rfg164.d | 1. | 24F061-06 | 10mL | 14 Jun 2024 16:33 |
| 14 | 14 | Rfg165.d | 1. | 24F061-07 | 10mL | 14 Jun 2024 16:57 |
| 15 | 15 | Rfg166.d | 1. | 24F049-13 | 10mL | 14 Jun 2024 17:20 |
| 16 | 16 | Rfg167.d | 1. | RINSE | 10mL | 14 Jun 2024 17:44 |
| 17 | 17 | Rfg168.d | 1. | 24F049-10 | 10mL | 14 Jun 2024 18:08 |
| 18 | 18 | Rfg169.d | 1. | 24F049-01 | 10mL | 14 Jun 2024 18:31 |
| 19 | 19 | Rfg170.d | 1. | 24F049-02 | 10mL | 14 Jun 2024 18:55 |
| 20 | 20 | Rfg171.d | 1. | 24F049-03 | 10mL | 14 Jun 2024 19:19 |
| 21 | 21 | Rfg172.d | 1. | 24F049-04 | 10mL | 14 Jun 2024 19:43 |
| 22 | 22 | Rfg173.d | 1. | 24F049-05 | 10mL | 14 Jun 2024 20:06 |
| 23 | 23 | Rfg174.d | 1. | 24F049-06 | 10mL | 14 Jun 2024 20:30 |
| 24 | 24 | Rfg175.d | 1. | 24F049-07 | 10mL | 14 Jun 2024 20:53 |
| 25 | 25 | Rfg176.d | 1. | 24F049-08 | 10mL | 14 Jun 2024 21:17 |
| 26 | 26 | Rfg177.d | 1. | 24F049-10M | 10mL | 14 Jun 2024 21:41 |
| 27 | 27 | Rfg178.d | 1. | 24F049-10S | 10mL | 14 Jun 2024 22:04 |
| 28 | 28 | Rfg179.d | 1. | EVOE2E1709 | 10ppb 8260/50ppb ... | 14 Jun 2024 22:28 |
| 29 | 29 | Rfg180.d | 1. | EVOE2E17091 | 10ppb 8260/50ppb ... | 14 Jun 2024 22:51 |
| 30 | 30 | Rfg181.d | 1. | EVOE2E17092 | 10ppb 8260/50ppb ... | 14 Jun 2024 23:15 |

# RAW DATA
# VOLATILE ORGANICS

LABORATORY REPORT FOR

PARSONS

TITAN 1-A

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

SDG#: 24F019

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F019

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

A total of fourteen(14) water samples were received on 06/05/24 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030C/8260C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There were six(6) CCVs (Data File IDs: RFG092, RFG119, RFG123, RFG149, RFG153 and RFG179) associated with this SDG. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, three(3) method blanks were analyzed. V0E2F04B, V0E2F05B and V0E2F06B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, five(3) sets of LCS/LCD were analyzed. Lab control sample was prepared and analyzed at a frequency required by the project. All analytes were within LCS limits except for: V0E2F05L/V0E2F05C - Percent recovery for 1,4-Dichlorobenzene in LCD. The rest of the analytes were in control. V0E2F06L/V0E2F06C - Percent recovery for 1,4-Dichlorobenzene in LCD. The rest of the analytes were in control. Refer to LCS summary forms for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of MS/MSD were analyzed. 24F019-02M/24F019-02S - all analytes were within MS QC limits. 24F019-03M/24F019-03S - all analytes were within MS QC limits. Refer to Matrix QC summary forms for details.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F019
Instrument ID : E2

WATER

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| LCS1W | VOE2F04L | 1 | NA | 06/11/2414:15 | 06/11/2414:15 | RFG093 | REG122 | VOE2F04 | Lab Control Sample (LCS) |
| LCD1W | VOE2F04C | 1 | NA | 06/11/2414:39 | 06/11/2414:39 | RFG094 | REG122 | VOE2F04 | LCS Duplicate |
| MBLK1W | VOE2F04B | 1 | NA | 06/11/2415:26 | 06/11/2415:26 | RFG096 | REG122 | VOE2F04 | Method Blank |
| T1AMF-MW058_MAY24 | 24F019-01 | 1 | NA | 06/11/2419:47 | 06/11/2419:47 | RFG107 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW035_MAY24 | 24F019-04 | 1 | NA | 06/11/2420:34 | 06/11/2420:34 | RFG109 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW035_MAY24_FD | 24F019-05 | 1 | NA | 06/11/2420:58 | 06/11/2420:58 | RFG110 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW064_JUN24 | 24F019-06 | 1 | NA | 06/11/2421:21 | 06/11/2421:21 | RFG111 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW063_JUN24 | 24F019-07 | 1 | NA | 06/11/2421:45 | 06/11/2421:45 | RFG112 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW062_JUN24 | 24F019-08 | 1 | NA | 06/11/2422:09 | 06/11/2422:09 | RFG113 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW061_JUN24 | 24F019-09 | 1 | NA | 06/11/2422:32 | 06/11/2422:32 | RFG114 | REG122 | VOE2F04 | Field Sample |
| T1AMF-MW066_JUN24 | 24F019-10 | 1 | NA | 06/11/2422:56 | 06/11/2422:56 | RFG115 | REG122 | VOE2F04 | Field Sample |
| EB-1_JUN24 | 24F019-11 | 1 | NA | 06/11/2423:19 | 06/11/2423:19 | RFG116 | REG122 | VOE2F04 | Field Sample |
| LCS2W | VOE2F05L | 1 | NA | 06/13/2410:20 | 06/13/2410:20 | RFG124 | REG122 | VOE2F05 | Lab Control Sample (LCS) |
| LCD2W | VOE2F05C | 1 | NA | 06/13/2410:44 | 06/13/2410:44 | RFG125 | REG122 | VOE2F05 | LCS Duplicate |
| MBLK2W | VOE2F05B | 1 | NA | 06/13/2411:31 | 06/13/2411:31 | RFG127 | REG122 | VOE2F05 | Method Blank |
| TB-3_MAY24 | 24F019-13 | 1 | NA | 06/13/2413:06 | 06/13/2413:06 | RFG129 | REG122 | VOE2F05 | Field Sample |
| RB-1_JUN24 | 24F019-12 | 1 | NA | 06/13/2413:30 | 06/13/2413:30 | RFG130 | REG122 | VOE2F05 | Field Sample |
| T1AMF-MW053_MAY24 | 24F019-02N | 1 | NA | 06/13/2413:54 | 06/13/2413:54 | RFG131 | REG122 | VOE2F05 | Field Sample |
| T1AMF-MW051_MAY24 | 24F019-03 | 1 | NA | 06/13/2414:17 | 06/13/2414:17 | RFG132 | REG122 | VOE2F05 | Field Sample |
| T1AMF-MW053_MAY24_MS | 24F019-02M | 1 | NA | 06/13/2414:41 | 06/13/2414:41 | RFG133 | REG122 | VOE2F05 | Matrix Spike Sample (MS) |
| T1AMF-MW053_MAY24_MSD | 24F019-02S | 1 | NA | 06/13/2415:05 | 06/13/2415:05 | RFG134 | REG122 | VOE2F05 | MS Duplicate (MSD) |
| T1AMF-MW051_MAY24_MS | 24F019-03M | 1 | NA | 06/13/2415:28 | 06/13/2415:28 | RFG135 | REG122 | VOE2F05 | Matrix Spike Sample (MS) |
| T1AMF-MW051_MAY24_MSD | 24F019-03S | 1 | NA | 06/13/2415:52 | 06/13/2415:52 | RFG136 | REG122 | VOE2F05 | MS Duplicate (MSD) |
| LCS3W | VOE2F06L | 1 | NA | 06/14/2412:35 | 06/14/2412:35 | RFG154 | REG122 | VOE2F06 | Lab Control Sample (LCS) |
| LCD3W | VOE2F06C | 1 | NA | 06/14/2412:58 | 06/14/2412:58 | RFG155 | REG122 | VOE2F06 | LCS Duplicate |
| MBLK3W | VOE2F06B | 1 | NA | 06/14/2413:46 | 06/14/2413:46 | RFG157 | REG122 | VOE2F06 | Method Blank |
| TB-4_JUN24 | 24F019-14N | 1 | NA | 06/14/2414:10 | 06/14/2414:10 | RFG158 | REG122 | VOE2F06 | Field Sample |

FN - Filename
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/31/24 11:10 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 19:47 |
| Sample ID | : T1AMF-MW058_MAY24 | Date Analyzed: | 06/11/24 19:47 |
| Lab Samp ID: | 24F019-01 | Dilution Factor: | 1 |
| Lab File ID: | RFG107 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LCQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 0.11J | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.2 | 10.0 | 102 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 10.0 | 10.0 | 100 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume | : 10ml |
| Prepared by | : DNguye | Analyzed by | : DNguye |

Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG107.D
Acq On : 11 Jun 2024 19:47
Sample : 24F019-01
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 18:36:25 2024
Quant Results File: VOE2E17.RES

Vial: 17
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 515153 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 402873 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 193530 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 315849 | 10.01 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.10% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 461857 | 11.08 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 110.80% | | |
| 56) Toluene-d8 | 7.594 | 98 | 839446 | 10.49 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.90% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 311830 | 10.15 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.50% | | |
| Target Compounds | | | | | | Qvalue |
| 11) Acetone | 3.775 | 43 | 43120 | 2.17 | ug/l | 94 |
| 21) Carbon disulfide | 4.315 | 76 | 26598 | 0.38 | ug/l | 93 |
| 45) Trichloroethene | 6.373 | 130 | 2945 | 0.11 | ug/L | 82 |

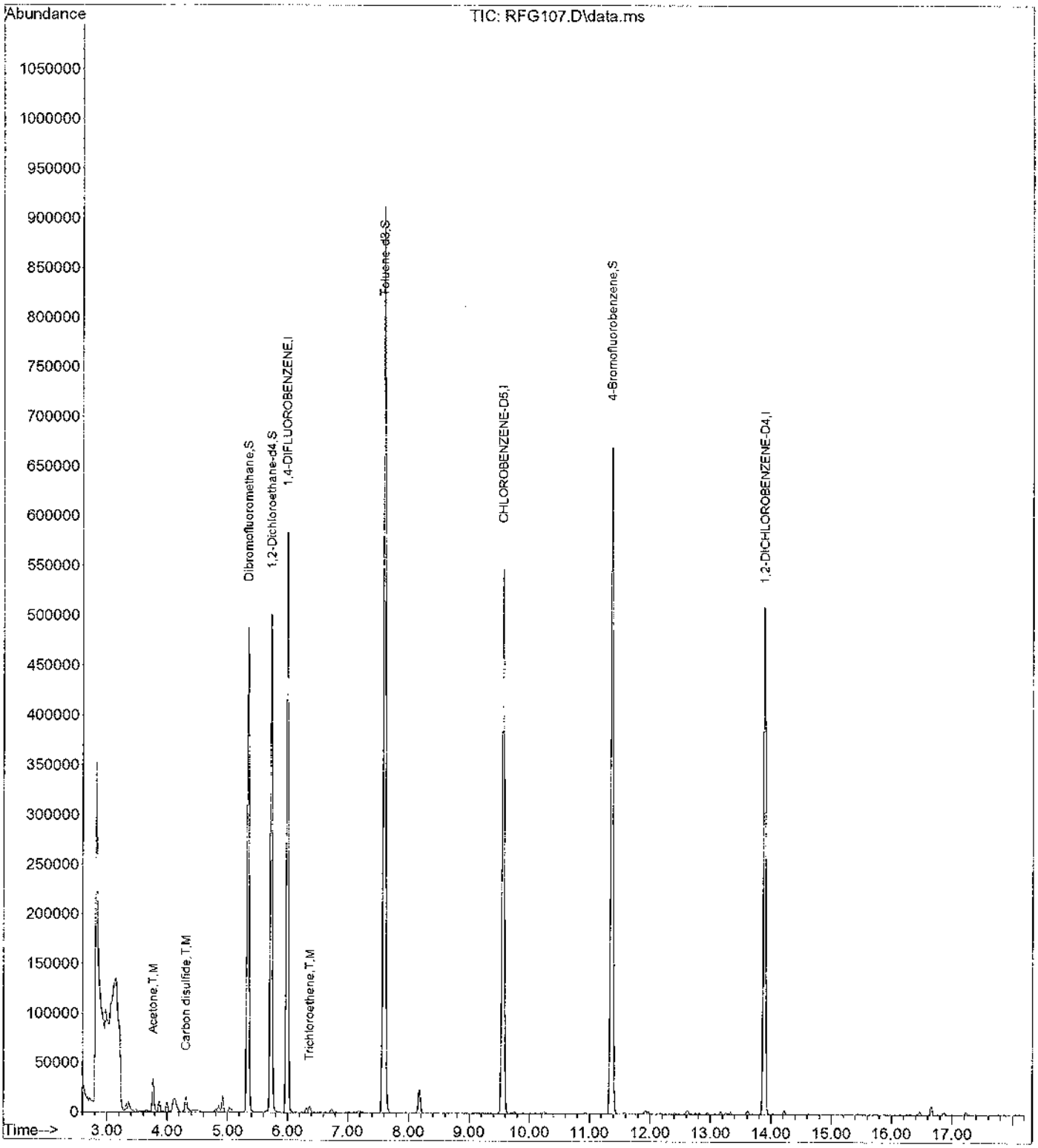
(#) = qualifier out of range (m) = manual integration (+) = signals summed

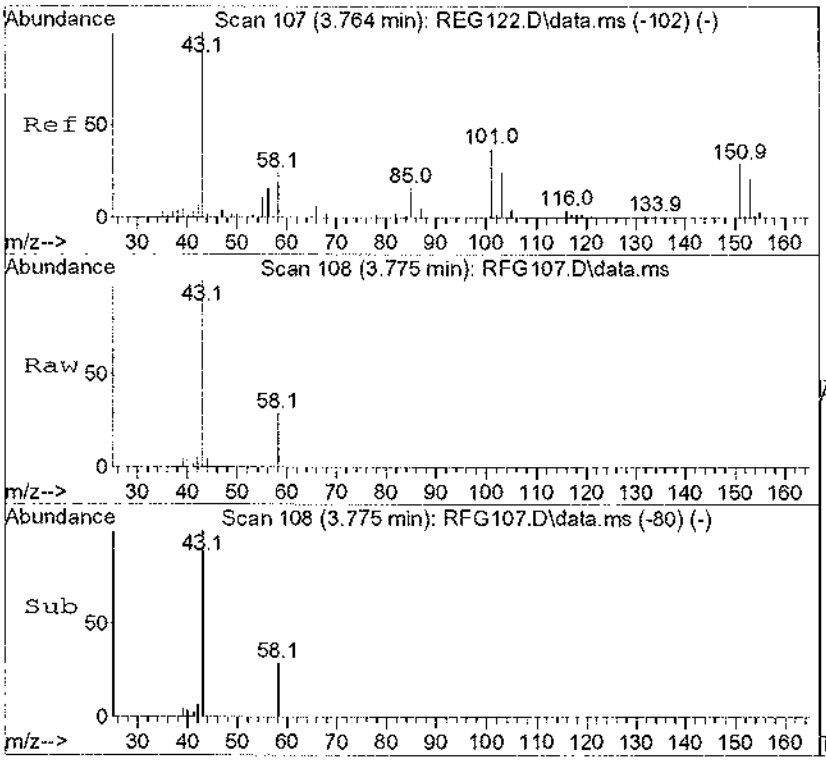
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG107.D
Acq On : 11 Jun 2024 19:47
Sample : 24F019-01
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 18:36:25 2024
Quant Results File: VOE2E17.RES

Vial: 17
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

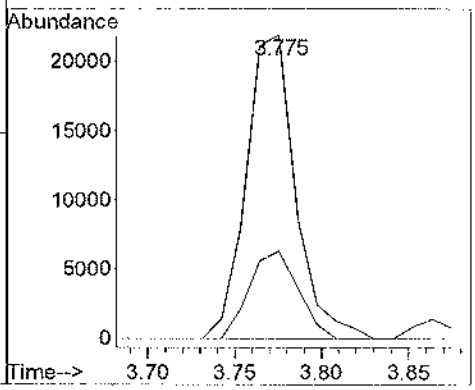


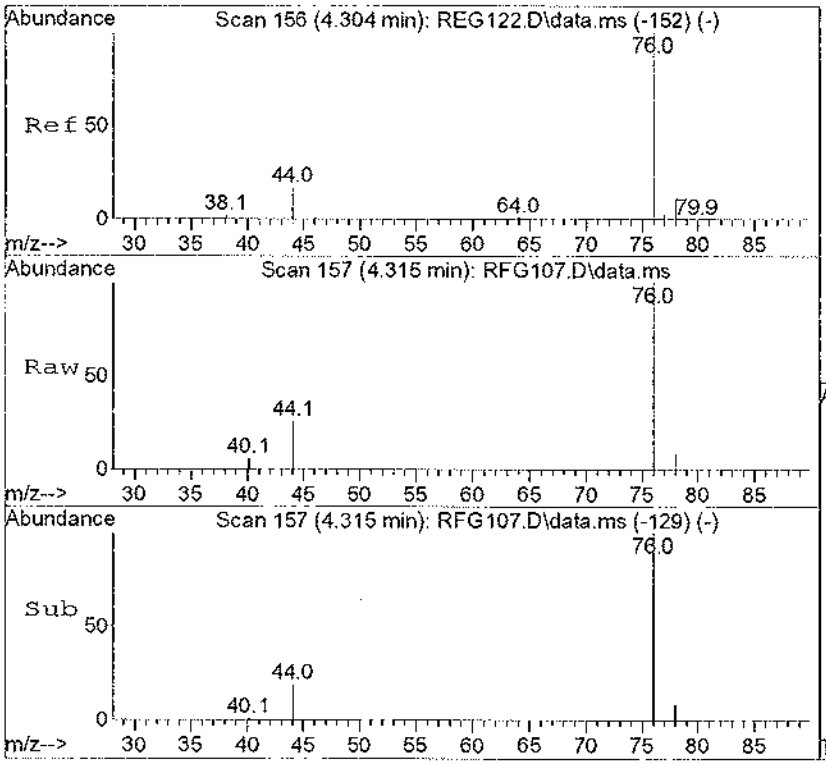



#11
Acetone
Concen: 2.17 ug/l
RT: 3.775 min Scan# 108
Delta R.T. 0.011 min
Lab File: RFG107.D
Acq: 11 Jun 2024 19:47

Tgt Ion: 43 Resp: 43120

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 28.5 | 0.0 | 55.4 |

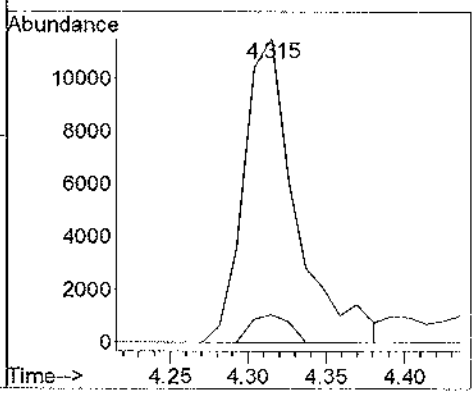


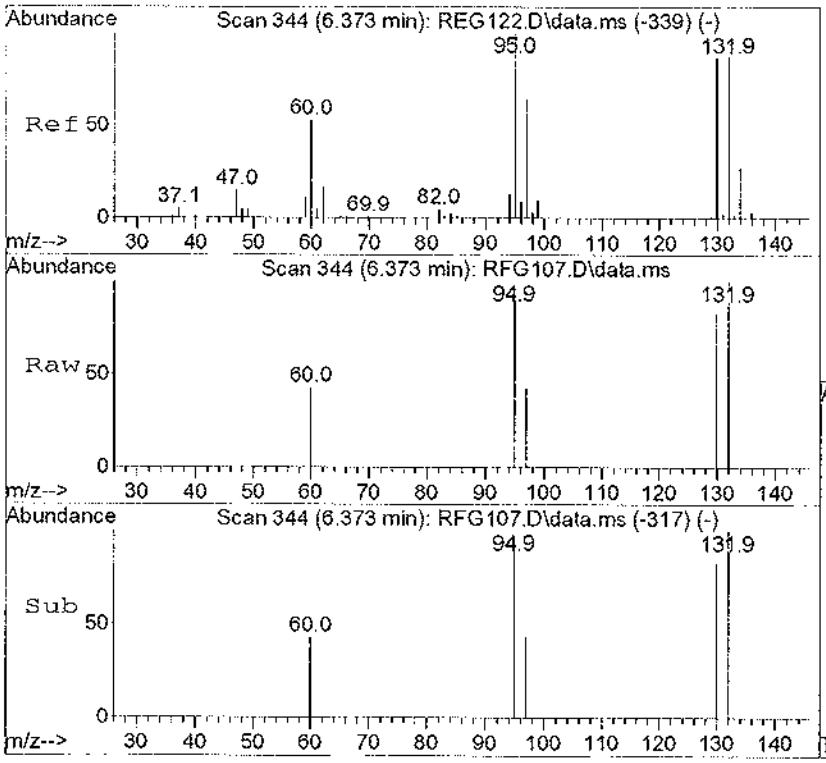




#21
Carbon disulfide
Concen: 0.38 ug/l
RT: 4.315 min Scan# 157
Delta R.T. 0.011 min
Lab File: RFG107.D
Acq: 11 Jun 2024 19:47

Tgt Ion: 76 Resp: 26598

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 6.6 | 0.0 | 39.2 |

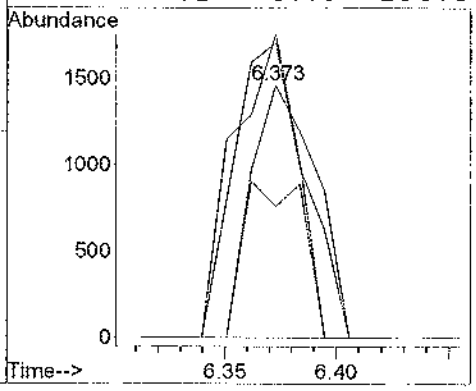





#45
Trichloroethene
Concen: 0.11 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG107.D
Acq: 11 Jun 2024 19:47

Tgt Ion:130 Resp: 2945

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 116.6 | 67.6 | 127.6 |
| 95 | 127.5 | 82.6 | 142.6 |
| 97 | 57.1 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/31/24 12:06 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/13/24 13:54 |
| Sample ID | : T1AMF-MW053_MAY24 | Date Analyzed: | 06/13/24 13:54 |
| Lab Samp ID: | 24F019-02N | Dilution Factor: | 1 |
| Lab File ID: | RFG131 | Matrix: | WATER |
| Ext Btch ID: | VOE2F05 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.0 | 10.0 | 110 | 81-118 |
| 4-Bromofluorobenzene | 11.2 | 10.0 | 112 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 9.72 | 10.0 | 97 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG131.D
Acq On : 13 Jun 2024 13:54
Sample : 24F019-02N
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:38:15 2024
Quant Results File: VOE2E17.RES

Vial: 10
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 462358 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 384262 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 174428 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 275358 | 9.72 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 97.20% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 410426 | 10.97 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 109.70% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 787811 | 10.32 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 103.20% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 309408 | 11.17 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 111.70% | | | |
| Target Compounds | | | | | | Qvalue |

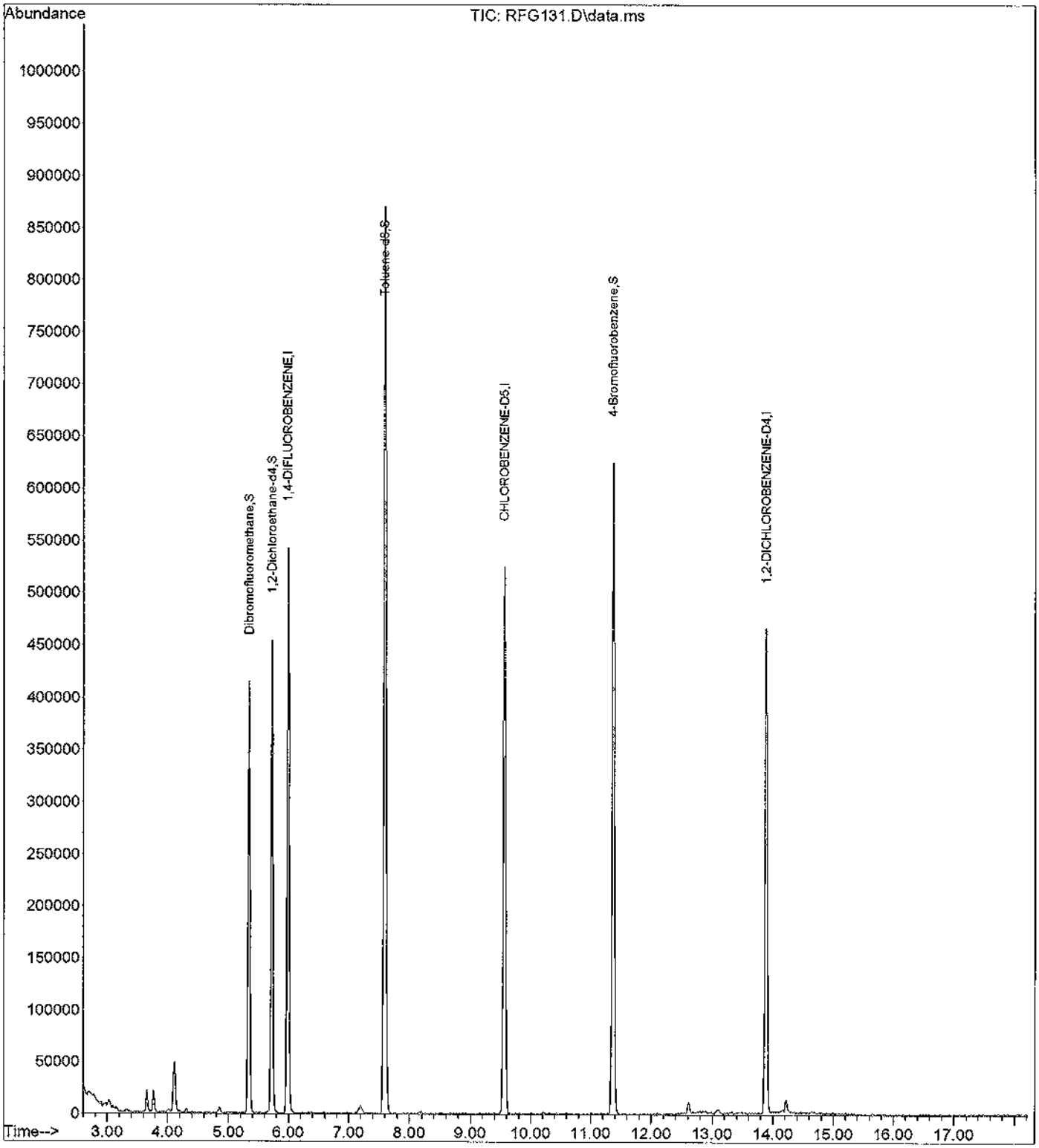
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG131.D
Acq On : 13 Jun 2024 13:54
Sample : 24F019-02N
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:38:15 2024
Quant Results File: VOE2E17.RES

Vial: 10
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/31/24 13:43 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/13/24 14:17 |
| Sample ID | : T1AMF-MW051_MAY24 | Date Analyzed: | 06/13/24 14:17 |
| Lab Samp ID: | 24F019-03 | Dilution Factor: | 1 |
| Lab File ID: | RFG132 | Matrix: | WATER |
| Ext Btch ID: | VOE2F05 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 0.11J | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 9.3 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.9 | 10.0 | 109 | 81-118 |
| 4-Bromofluorobenzene | 11.2 | 10.0 | 112 | 85-114 |
| Toluene-d8 | 10.1 | 10.0 | 101 | 89-112 |
| Dibromofluoromethane | 9.57 | 10.0 | 96 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG132.D
Acq On : 13 Jun 2024 14:17
Sample : 24F019-03
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:40:20 2024
Quant Results File: VOE2E17.RES

Vial: 11
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 467069 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 388902 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 169327 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 273889 | 9.57 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 95.70% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 412313 | 10.91 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 109.10% | | |
| 56) Toluene-d8 | 7.594 | 98 | 777934 | 10.07 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.70% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 300293 | 11.17 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 111.70% | | |
| Target Compounds | | | | | | Qvalue |
| 11) Acetone | 3.764 | 43 | 32225 | 0.91 | ug/l | 96 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 2905 | 0.11 | ug/l | 88 |
| 33) Chloroform | 5.173 | 83 | 7368 | 0.13 | ug/l | 81 |
| 45) Trichloroethene | 6.372 | 130 | 218247 | 9.25 | ug/L | 99 |

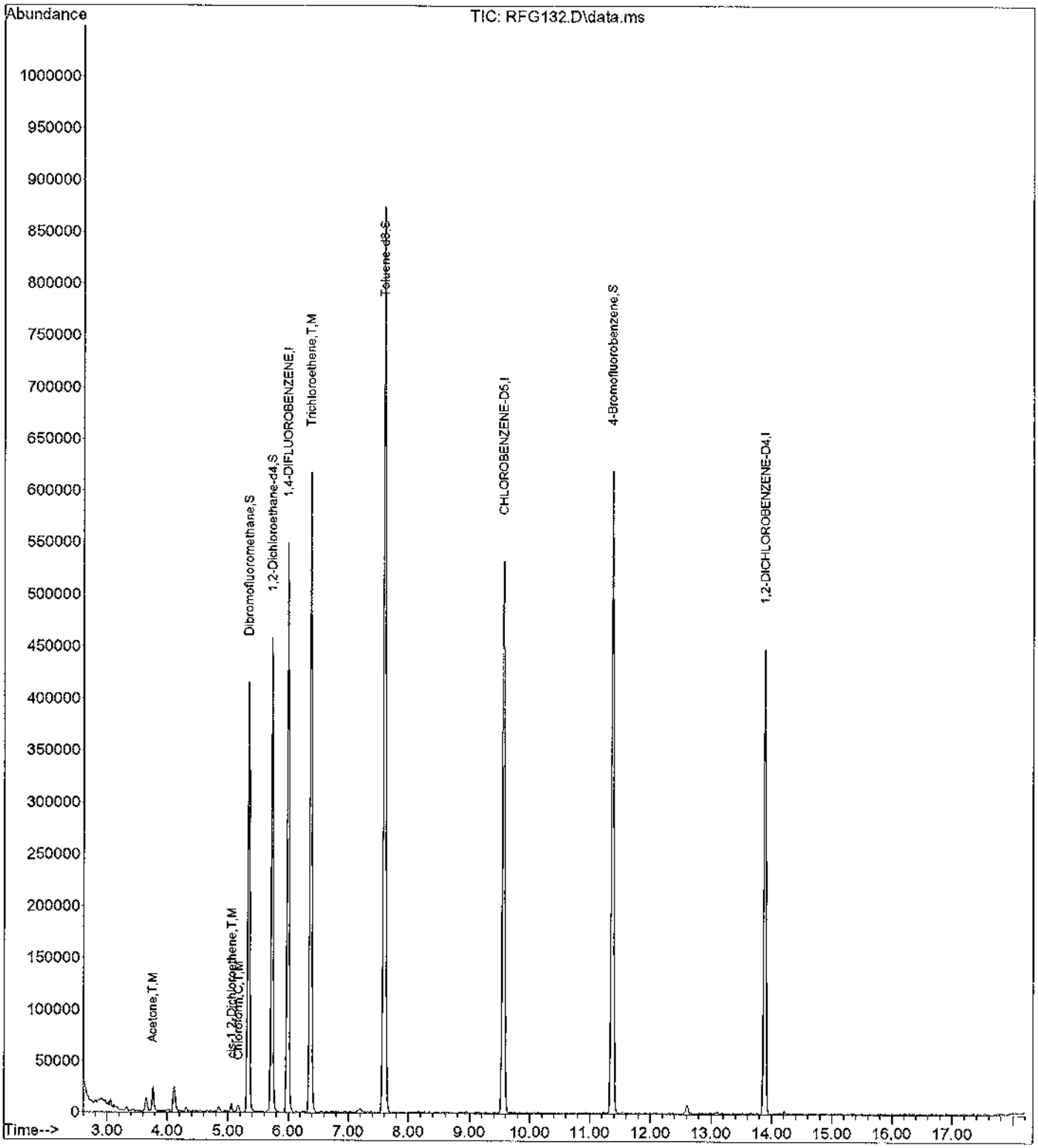
(#) = qualifier out of range (m) = manual integration (+) = signals summed

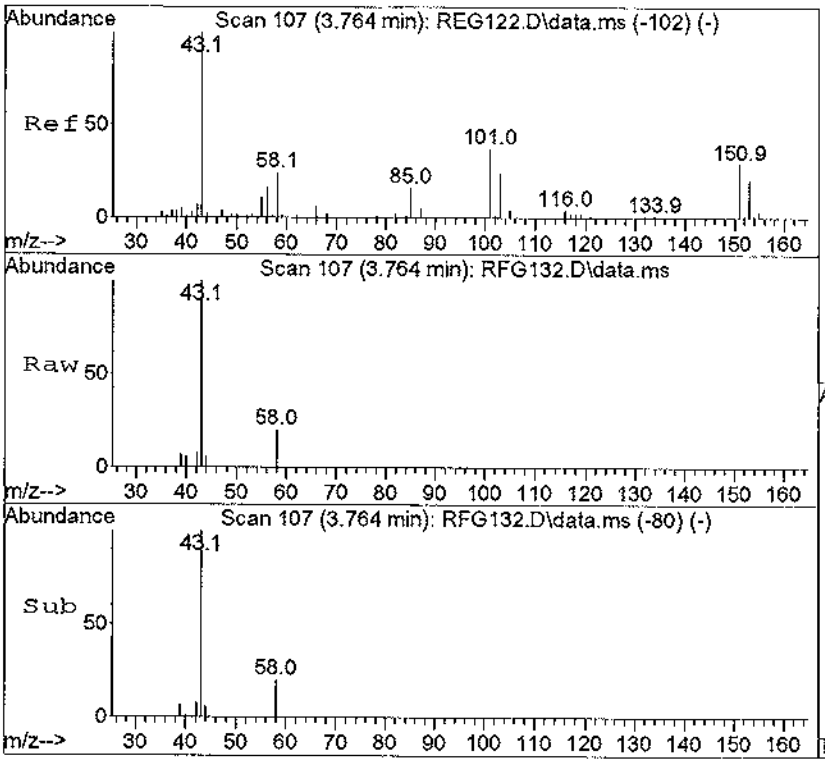
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG132.D
Acq On : 13 Jun 2024 14:17
Sample : 24F019-03
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:40:20 2024
Quant Results File: VOE2E17.RES

Vial: 11
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

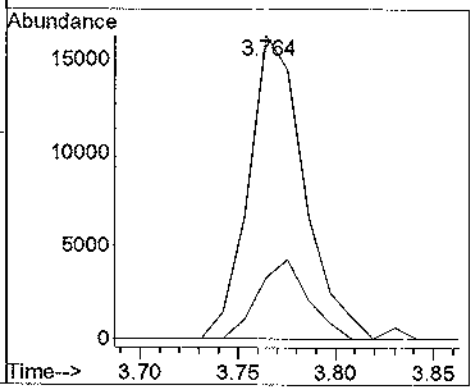


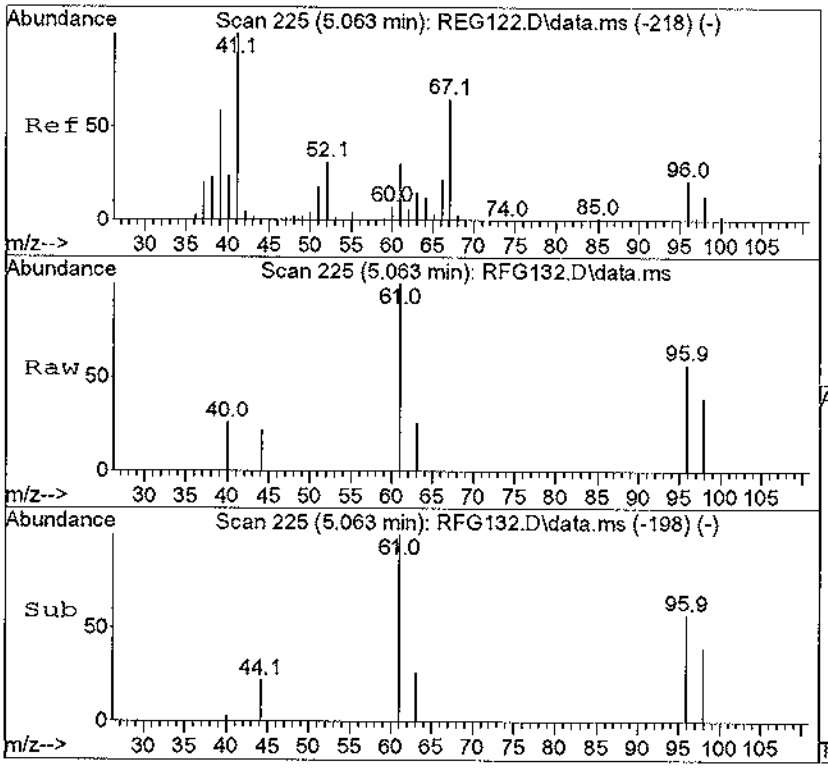



#11
Acetone
Concen: 0.91 ug/l
RT: 3.764 min Scan# 107
Delta R.T. 0.000 min
Lab File: RFG132.D
Acq: 13 Jun 2024 14:17

Tgt Ion: 43 Resp: 32225

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 23.4 | 0.0 | 55.4 |

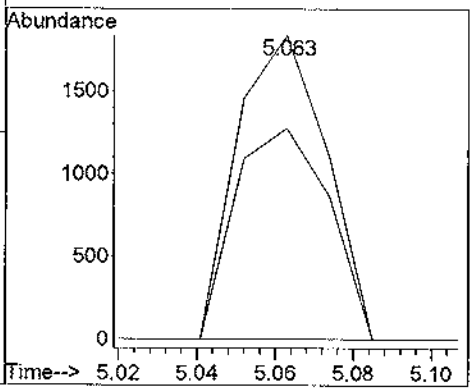


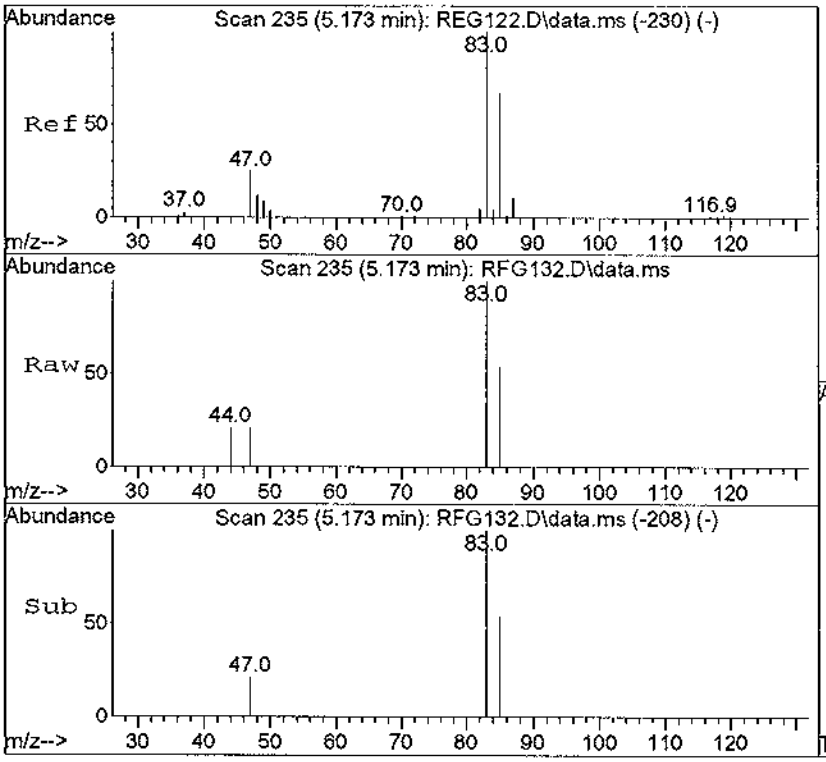




#32
cis-1,2-Dichloroethene
Concen: 0.11 ug/l
RT: 5.063 min Scan# 225
Delta R.T. -0.000 min
Lab File: RFG132.D
Acq: 13 Jun 2024 14:17

Tgt Ion: 96 Resp: 2905

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 73.4 | 33.9 | 93.9 |

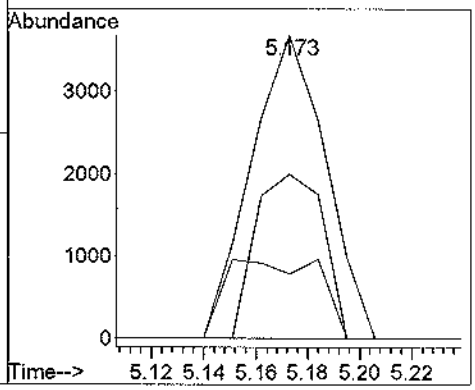


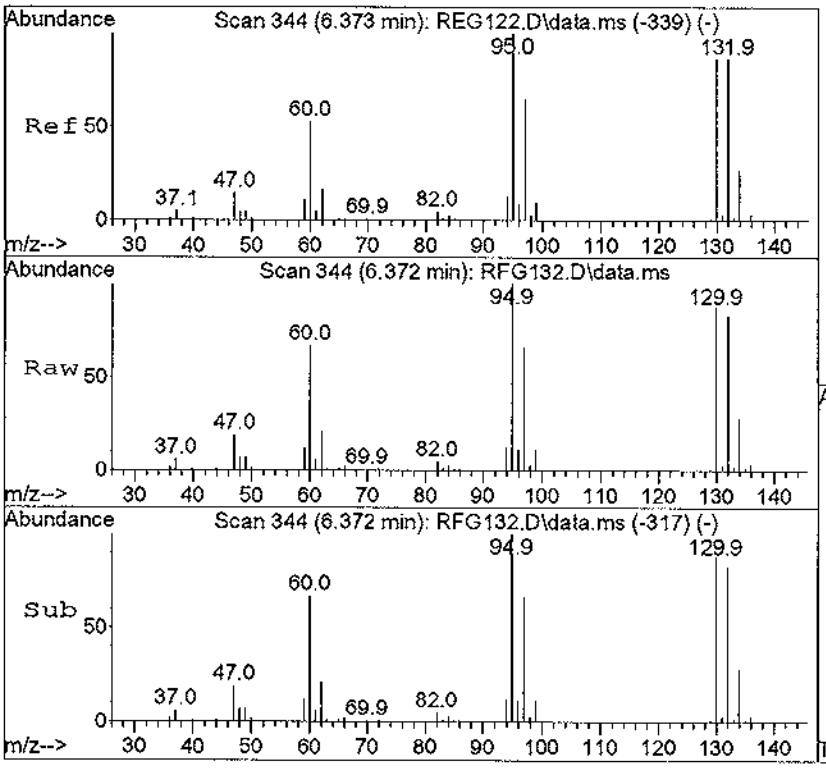



#33
Chloroform
Concen: 0.13 ug/l
RT: 5.173 min Scan# 235
Delta R.T. -0.000 min
Lab File: RFG132.D
Acq: 13 Jun 2024 14:17

Tgt Ion: 83 Resp: 7368

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 49.1 | 35.4 | 95.4 |
| 47 | 32.4 | 0.0 | 55.4 |

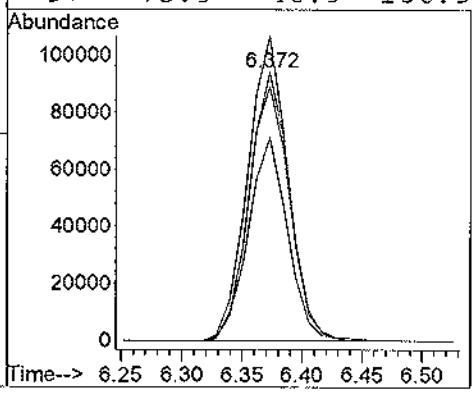



#45
Trichloroethene
Concen: 9.25 ug/L
RT: 6.372 min Scan# 344
Delta R.T. -0.001 min
Lab File: RFG132.D
Acq: 13 Jun 2024 14:17

Tgt Ion:130 Resp: 218247

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 97.5 | 67.6 | 127.6 |
| 95 | 113.6 | 82.6 | 142.6 |
| 97 | 73.9 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/31/24 14:35 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 20:34 |
| Sample ID | : T1AMF-MW035_MAY24 | Date Analyzed: | 06/11/24 20:34 |
| Lab Samp ID: | 24F019-04 | Dilution Factor: | 1 |
| Lab File ID: | RFG109 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.3 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 6.2 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.4 | 10.0 | 114 | 81-118 |
| 4-Bromofluorobenzene | 10.4 | 10.0 | 104 | 85-114 |
| Toluene-d8 | 10.4 | 10.0 | 104 | 89-112 |
| Dibromofluoromethane | 10.3 | 10.0 | 103 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG109.D
Acq On : 11 Jun 2024 20:34
Sample : 24F019-04
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 18:41:10 2024
Quant Results File: VOE2E17.RES

Vial: 19
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 470734 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 382077 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 183510 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 296076 | 10.27 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.70% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 433832 | 11.39 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 113.90% | | |
| 56) Toluene-d8 | 7.594 | 98 | 785972 | 10.35 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 103.50% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 303797 | 10.43 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.30% | | |
| Target Compounds | | | | | | Qvalue |
| 11) Acetone | 3.764 | 43 | 33340 | 1.07 | ug/l | 93 |
| 21) Carbon disulfide | 4.304 | 76 | 28944 | 0.45 | ug/l | 85 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 34181 | 1.34 | ug/l | 98 |
| 45) Trichloroethene | 6.373 | 130 | 148400 | 6.24 | ug/L | 97 |

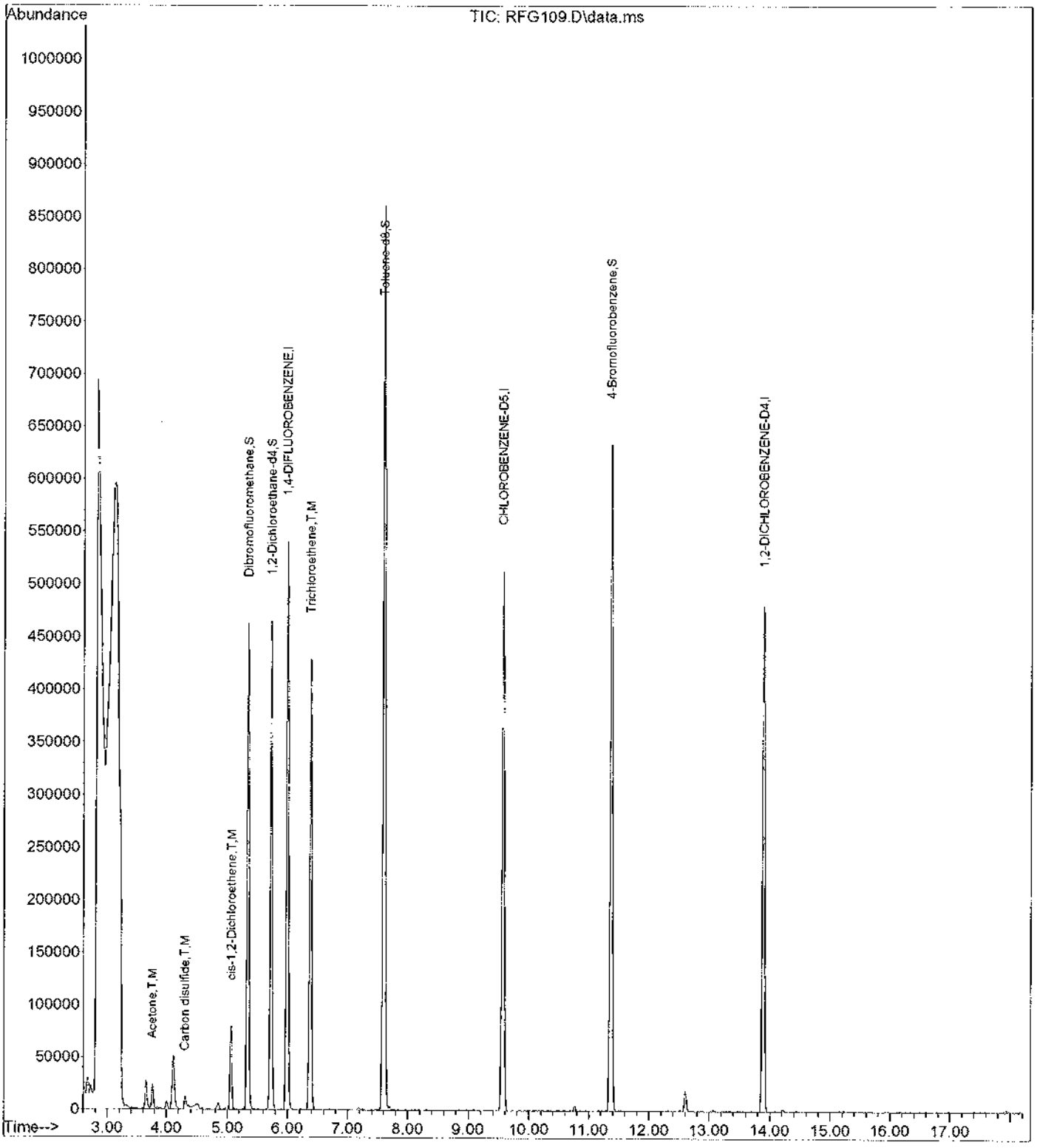
(#) = qualifier out of range (m) = manual integration (+) = signals summed

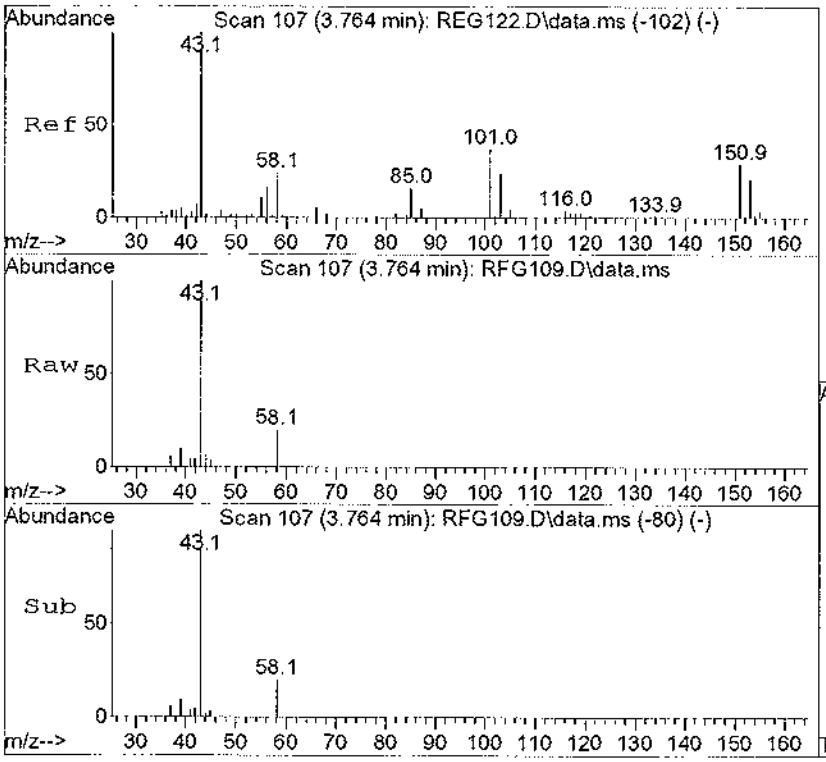
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG109.D
Acq On : 11 Jun 2024 20:34
Sample : 24F019-04
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 18:41:10 2024
Quant Results File: VOE2E17.RES

Vial: 19
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

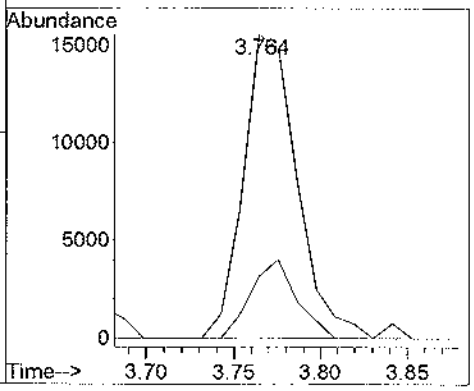


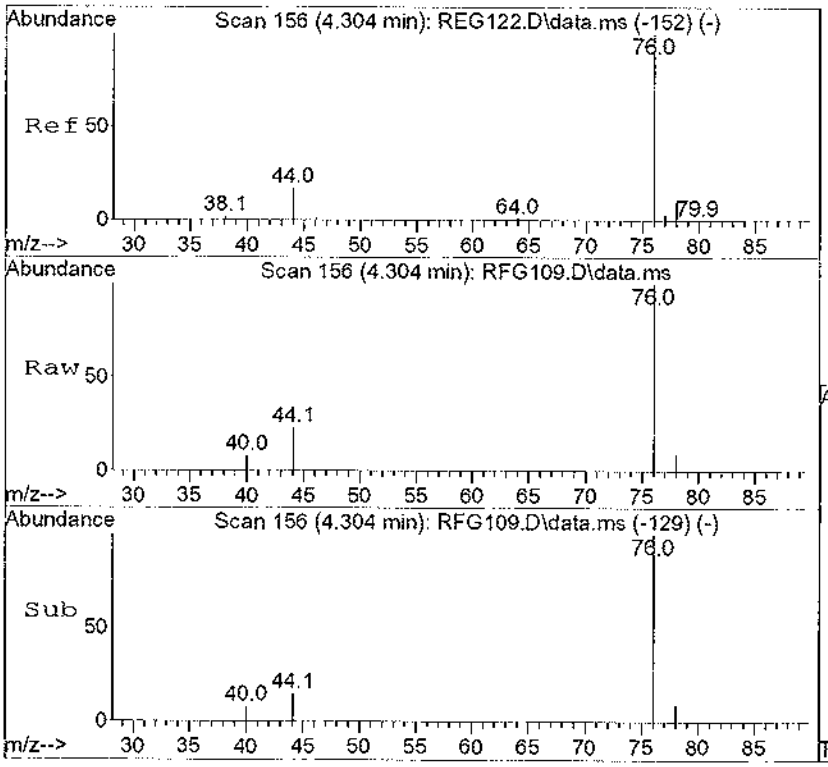



#11
Acetone
Concen: 1.07 ug/l
RT: 3.764 min Scan# 107
Delta R.T. 0.000 min
Lab File: RFG109.D
Acq: 11 Jun 2024 20:34

Tgt Ion: 43 Resp: 33340

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 22.1 | 0.0 | 55.4 |

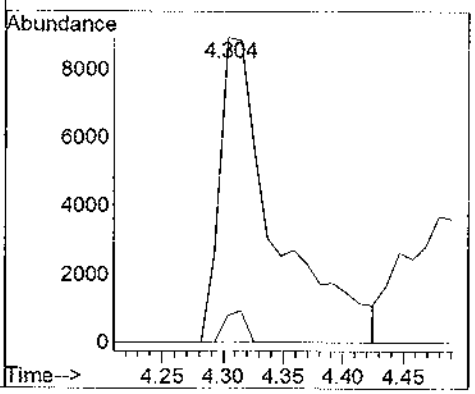


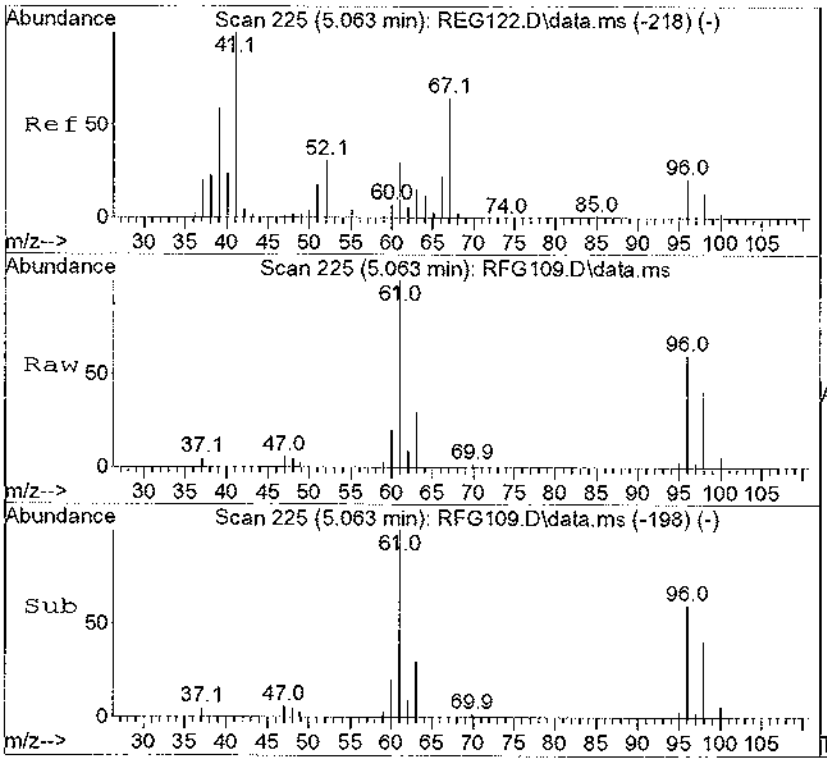




#21
Carbon disulfide
Concen: 0.45 ug/l
RT: 4.304 min Scan# 156
Delta R.T. -0.000 min
Lab File: RFG109.D
Acq: 11 Jun 2024 20:34

Tgt Ion: 76 Resp: 28944

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 3.9 | 0.0 | 39.2 |

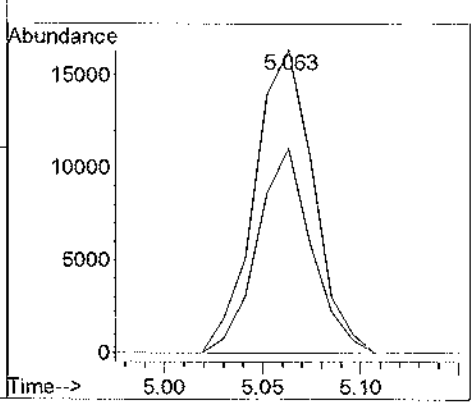


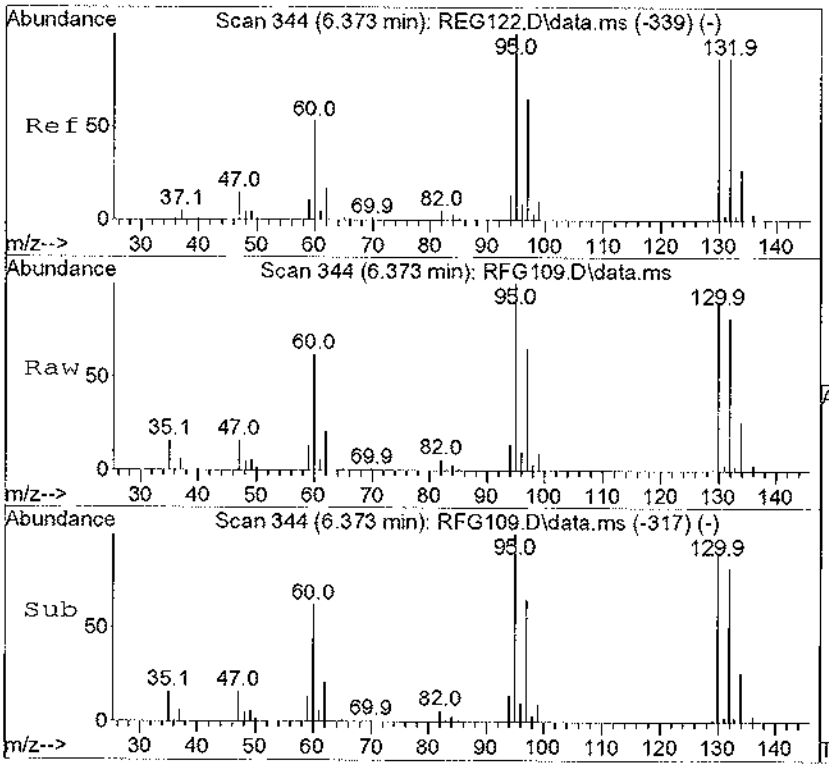



#32
cis-1,2-Dichloroethene
Concen: 1.34 ug/l
RT: 5.063 min Scan# 225
Delta R.T. 0.000 min
Lab File: RFG109.D
Acq: 11 Jun 2024 20:34

Tgt Ion: 96 Resp: 34181

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 62.3 | 33.9 | 93.9 |

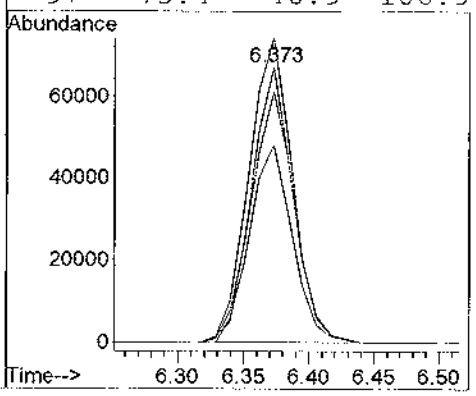



#45
Trichloroethene
Concen: 6.24 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG109.D
Acq: 11 Jun 2024 20:34

Tgt Ion:130 Resp: 148400

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 94.3 | 67.6 | 127.6 |
| 95 | 115.2 | 82.6 | 142.6 |
| 97 | 73.4 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/31/24 14:40 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 20:58 |
| Sample ID | : T1AMF-MW035_MAY24_FD | Date Analyzed: | 06/11/24 20:58 |
| Lab Samp ID: | 24F019-05 | Dilution Factor: | 1 |
| Lab File ID: | RFG110 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | 1.3 | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | 6.0 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 9.98 | 10.0 | 100 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG110.D
Acq On : 11 Jun 2024 20:58
Sample : 24F019-05
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 18:43:27 2024
Quant Results File: VOE2E17.RES

Vial: 20
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 472590 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 364049 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 176717 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 288794 | 9.98 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.80% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 423117 | 11.06 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 110.60% | | |
| 56) Toluene-d8 | 7.594 | 98 | 772422 | 10.68 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.80% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 294721 | 10.51 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.10% | | |
| Target Compounds | | | | | | Qvalue |
| 21) Carbon disulfide | 4.315 | 76 | 20851 | 0.32 | ug/l | 88 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 32673 | 1.27 | ug/l | 98 |
| 45) Trichloroethene | 6.373 | 130 | 142870 | 5.99 | ug/L | 97 |

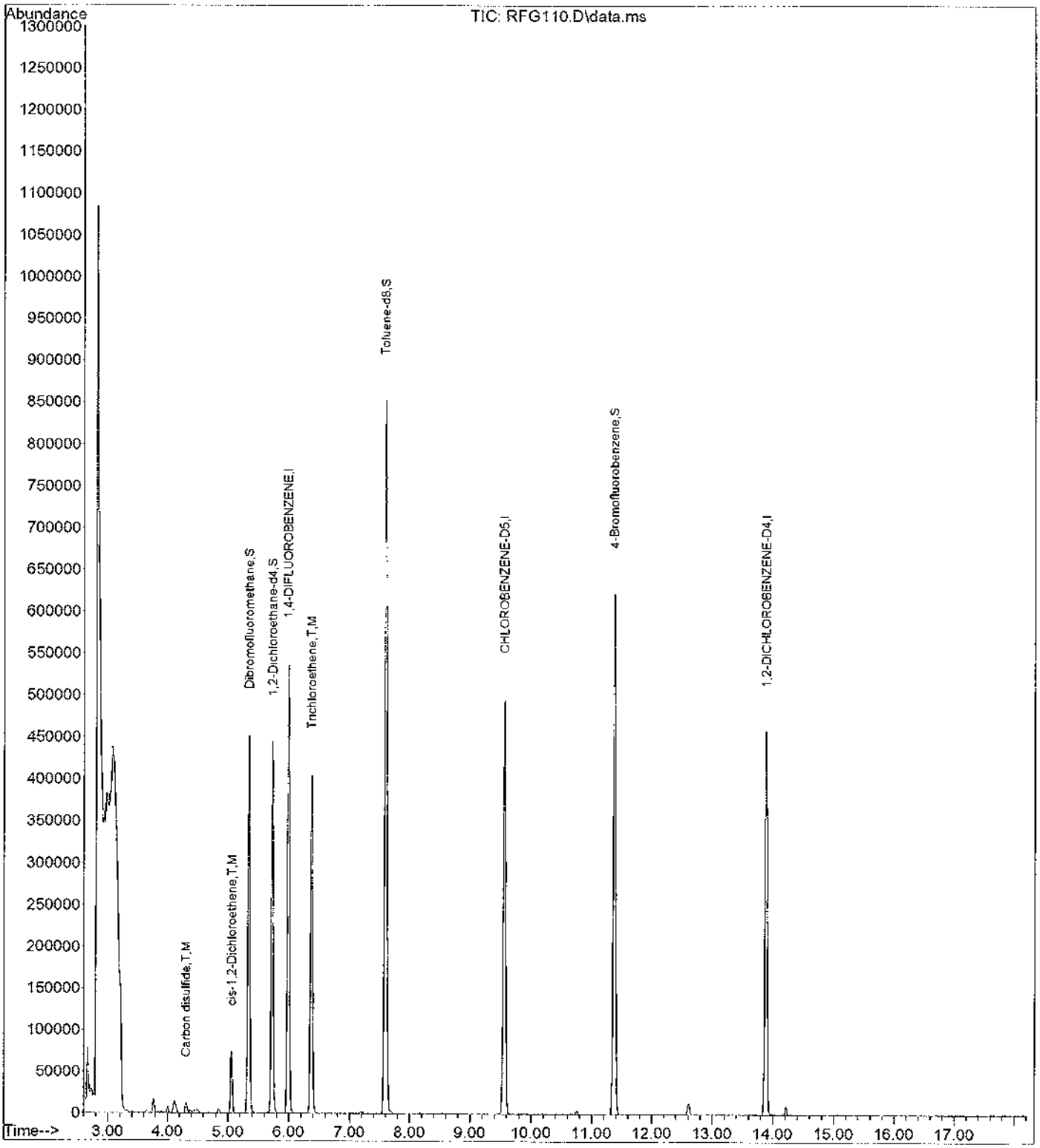
(#) = qualifier out of range (m) = manual integration (+) = signals summed

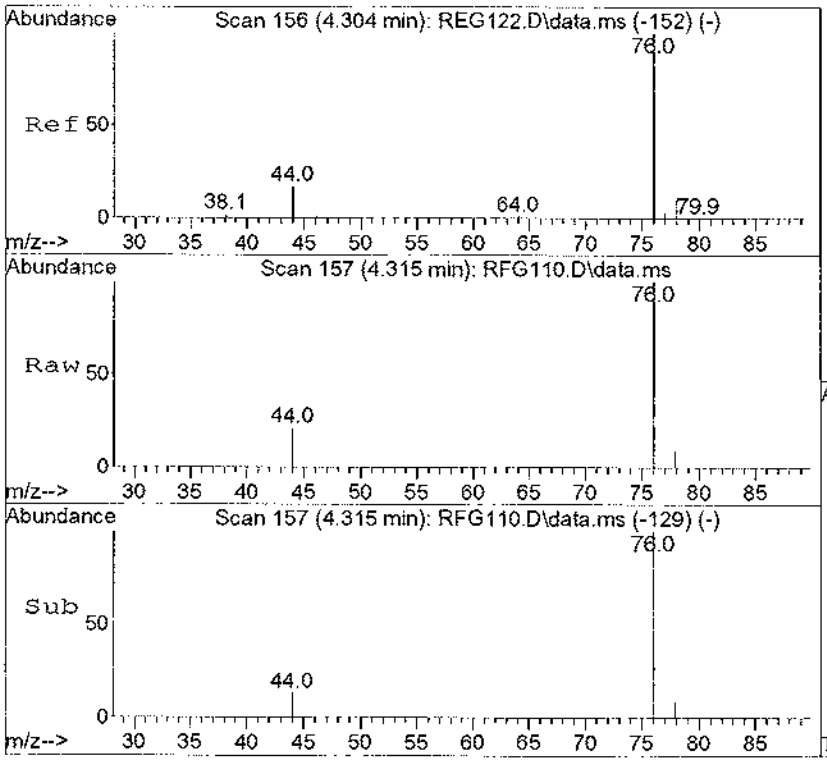
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG110.D
Acq On : 11 Jun 2024 20:58
Sample : 24F019-05
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 18:43:27 2024
Quant Results File: VOE2E17.RES

Vial: 20
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

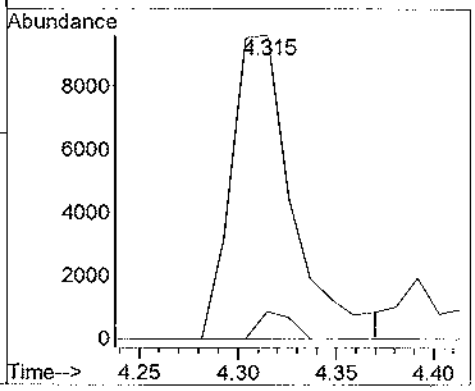


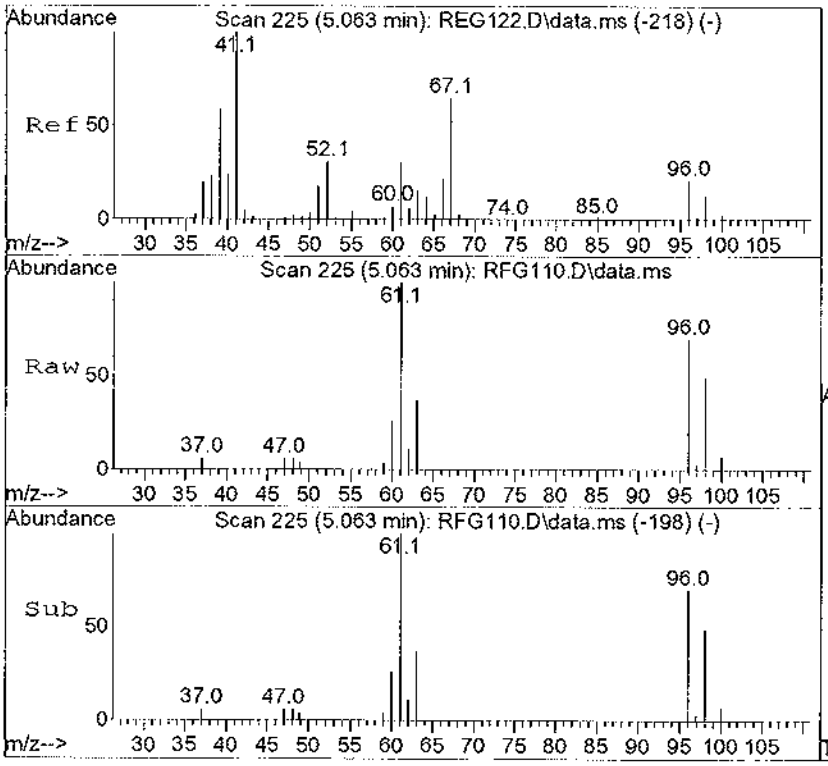



#21
Carbon disulfide
Concen: 0.32 ug/l
RT: 4.315 min Scan# 157
Delta R.T. 0.011 min
Lab File: RFG110.D
Acq: 11 Jun 2024 20:58

Tgt Ion: 76 Resp: 20851

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 4.9 | 0.0 | 39.2 |

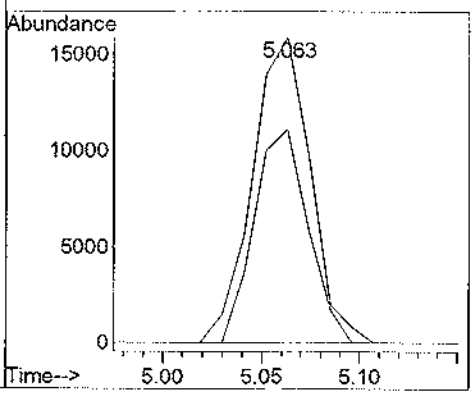


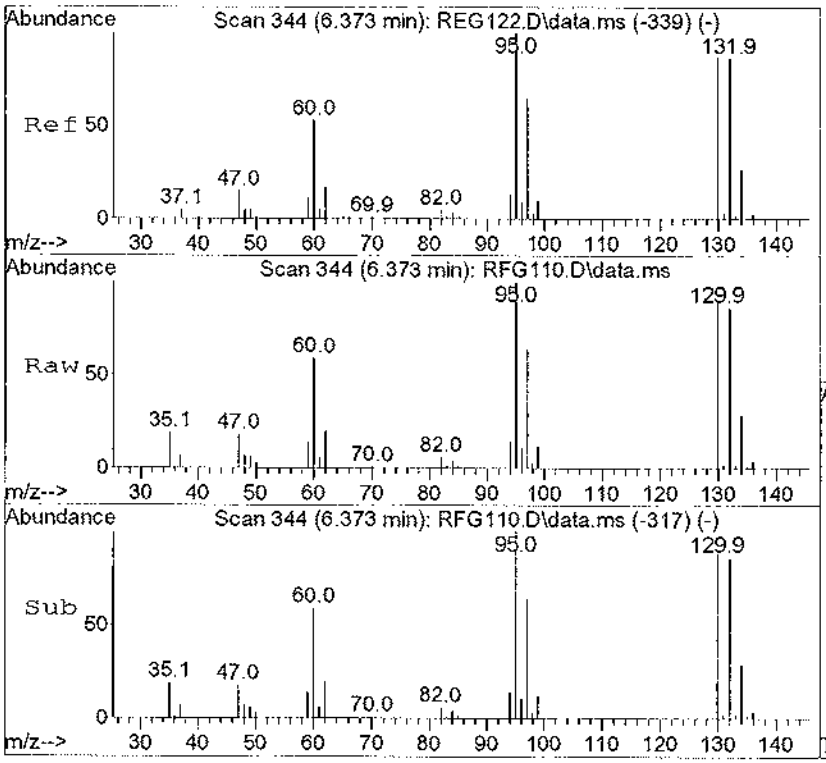




#32
cis-1,2-Dichloroethene
Concen: 1.27 ug/l
RT: 5.063 min Scan# 225
Delta R.T. 0.000 min
Lab File: RFG110.D
Acq: 11 Jun 2024 20:58

Tgt Ion: 96 Resp: 32673

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 65.4 | 33.9 | 93.9 |

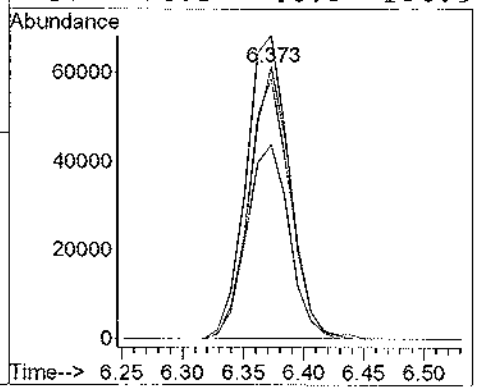





#45
Trichloroethene
Concen: 5.99 ug/L
RT: 6.373 min Scan# 344
Delta R.T. -0.000 min
Lab File: RFG110.D
Acq: 11 Jun 2024 20:58

Tgt Ion:130 Resp: 142870

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 96.4 | 67.6 | 127.6 |
| 95 | 117.5 | 82.6 | 142.6 |
| 97 | 74.5 | 46.9 | 106.9 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 08:56 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 21:21 |
| Sample ID | : T1AMF-MW064_JUN24 | Date Analyzed: | 06/11/24 21:21 |
| Lab Samp ID: | 24F019-06 | Dilution Factor: | 1 |
| Lab File ID: | RFG111 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.2 | 10.0 | 112 | 81-118 |
| 4-Bromofluorobenzene | 10.5 | 10.0 | 105 | 85-114 |
| Toluene-d8 | 10.4 | 10.0 | 104 | 89-112 |
| Dibromofluoromethane | 9.97 | 10.0 | 100 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG111.D
Acq On : 11 Jun 2024 21:21
Sample : 24F019-06
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 19:14:13 2024
Quant Results File: VOE2E17.RES

Vial: 21
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 465858 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 365830 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 173257 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 284351 | 9.97 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.70% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 424075 | 11.25 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 112.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 753323 | 10.36 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 103.60% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 288918 | 10.50 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.00% | | |
| Target Compounds | | | | | | Qvalue |

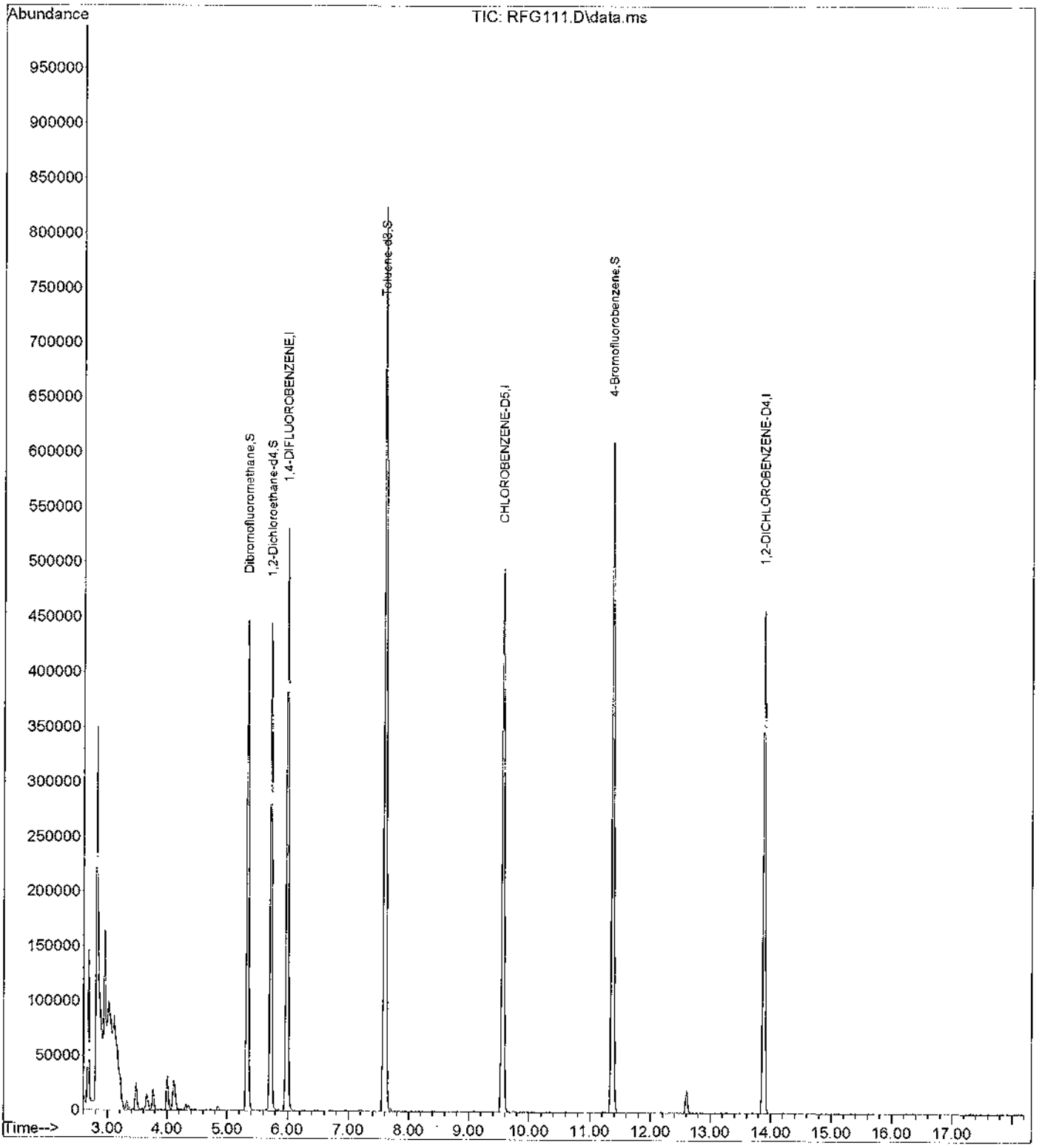
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG111.D
Acq On : 11 Jun 2024 21:21
Sample : 24F019-06
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 19:14:13 2024
Quant Results File: VOE2E17.RES

Vial: 21
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 10:29 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 21:45 |
| Sample ID | : T1AMF-MW063_JUN24 | Date Analyzed: | 06/11/24 21:45 |
| Lab Samp ID: | 24F019-07 | Dilution Factor: | 1 |
| Lab File ID: | RFG112 | Matrix: | WATER |
| Ext Btch ID: | VQE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 10.1 | 10.0 | 101 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 9.89 | 10.0 | 99 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG112.D
Acq On : 11 Jun 2024 21:45
Sample : 24F019-07
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 19:15:16 2024
Quant Results File: VOE2E17.RES

Vial: 22
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 464133 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 353762 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 176858 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 281058 | 9.89 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.90% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 418228 | 11.13 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 111.30% | | |
| 56) Toluene-d8 | 7.594 | 98 | 754077 | 10.73 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.30% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 282756 | 10.07 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.70% | | |
| Target Compounds | | | | | | Qvalue |

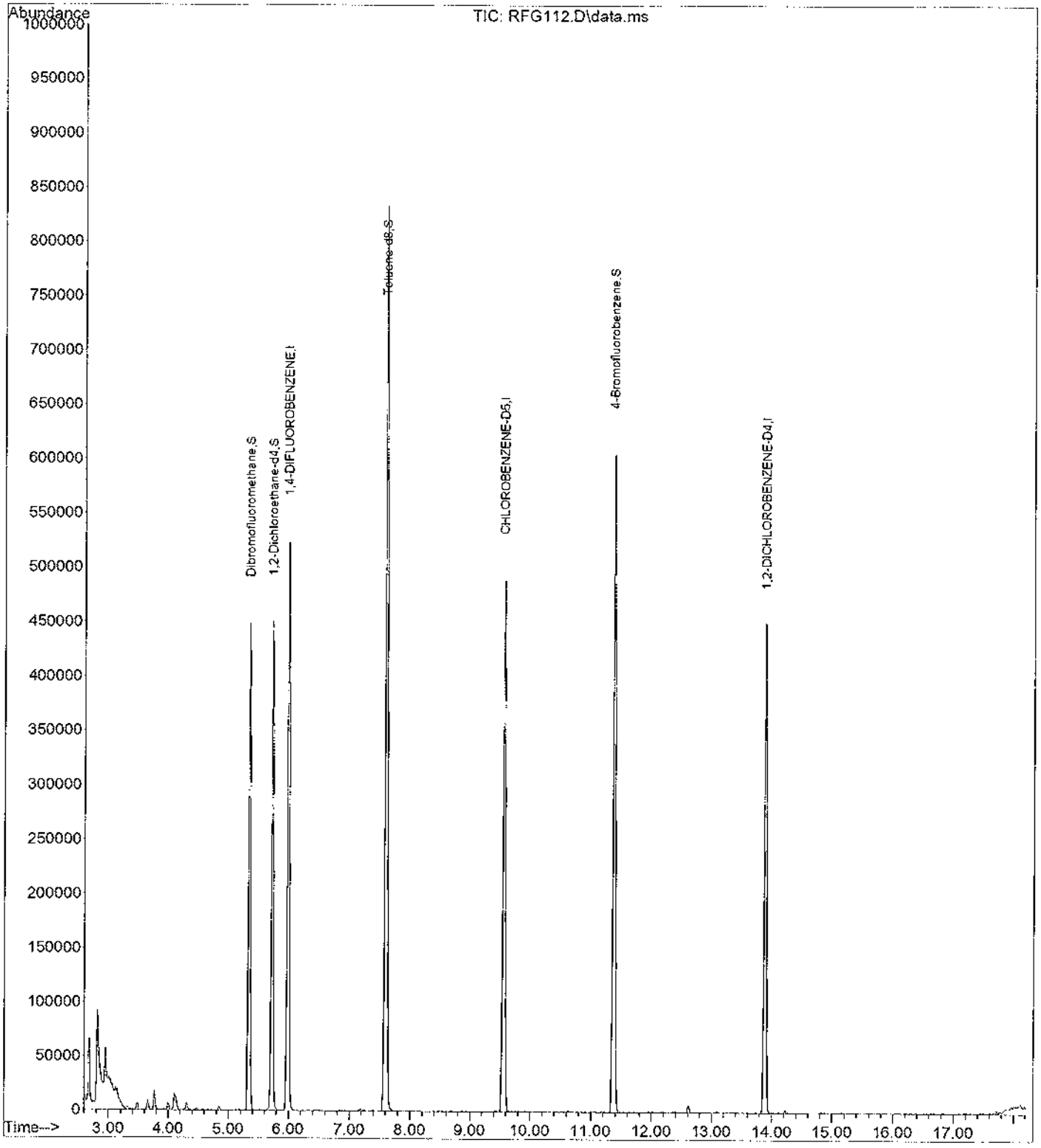
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG112.D
Acq On : 11 Jun 2024 21:45
Sample : 24F019-07
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 19:15:16 2024
Quant Results File: VOE2E17.RES

Vial: 22
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 11:41 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 22:09 |
| Sample ID | : T1AMF-MW062_JUN24 | Date Analyzed: | 06/11/24 22:09 |
| Lab Samp ID: | 24F019-08 | Dilution Factor: | 1 |
| Lab File ID: | RFG113 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.3 | 10.0 | 113 | 81-118 |
| 4-Bromofluorobenzene | 9.86 | 10.0 | 99 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 10.2 | 10.0 | 102 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG113.D
Acq On : 11 Jun 2024 22:09
Sample : 24F019-08
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 19:16:56 2024
Quant Results File: VOE2E17.RES

Vial: 23
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 449983 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 361999 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 174348 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 280095 | 10.16 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.60% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 412019 | 11.31 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 113.10% | | |
| 56) Toluene-d8 | 7.594 | 98 | 738338 | 10.26 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.60% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 273008 | 9.86 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.60% | | |
| Target Compounds | | | | | | Qvalue |

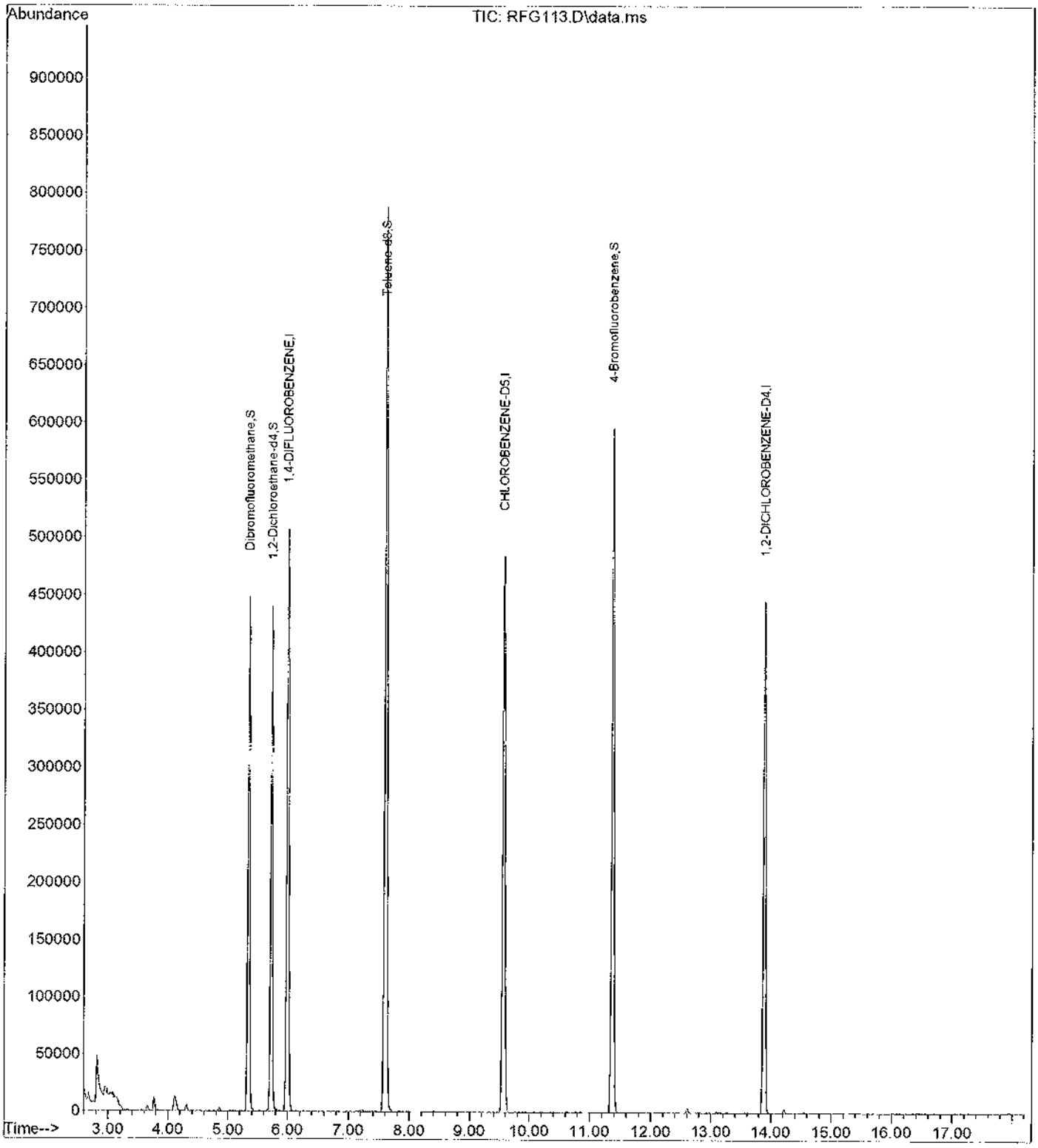
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG113.D
Acq On : 11 Jun 2024 22:09
Sample : 24F019-08
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 19:16:56 2024
Quant Results File: VOE2E17.RES

Vial: 23
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 13:13 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 22:32 |
| Sample ID | : T1AMF-MW061_JUN24 | Date Analyzed: | 06/11/24 22:32 |
| Lab Samp ID: | 24F019-09 | Dilution Factor: | 1 |
| Lab File ID: | RFG114 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.6 | 10.0 | 116 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.5 | 10.0 | 105 | 89-112 |
| Dibromofluoromethane | 10.4 | 10.0 | 104 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG114.D
Acq On : 11 Jun 2024 22:32
Sample : 24F019-09
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 19:20:32 2024
Quant Results File: VOE2E17.RES

Vial: 24
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 439672 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 353690 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 168920 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 279744 | 10.39 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 103.90% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 413026 | 11.61 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 116.10% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 736290 | 10.48 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 104.80% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 276716 | 10.32 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 103.20% | | | |
| Target Compounds | | | | | | Qvalue |
| 11) Acetone | 3.764 | 43 | 277511 | 48.94 | ug/l | 87 |

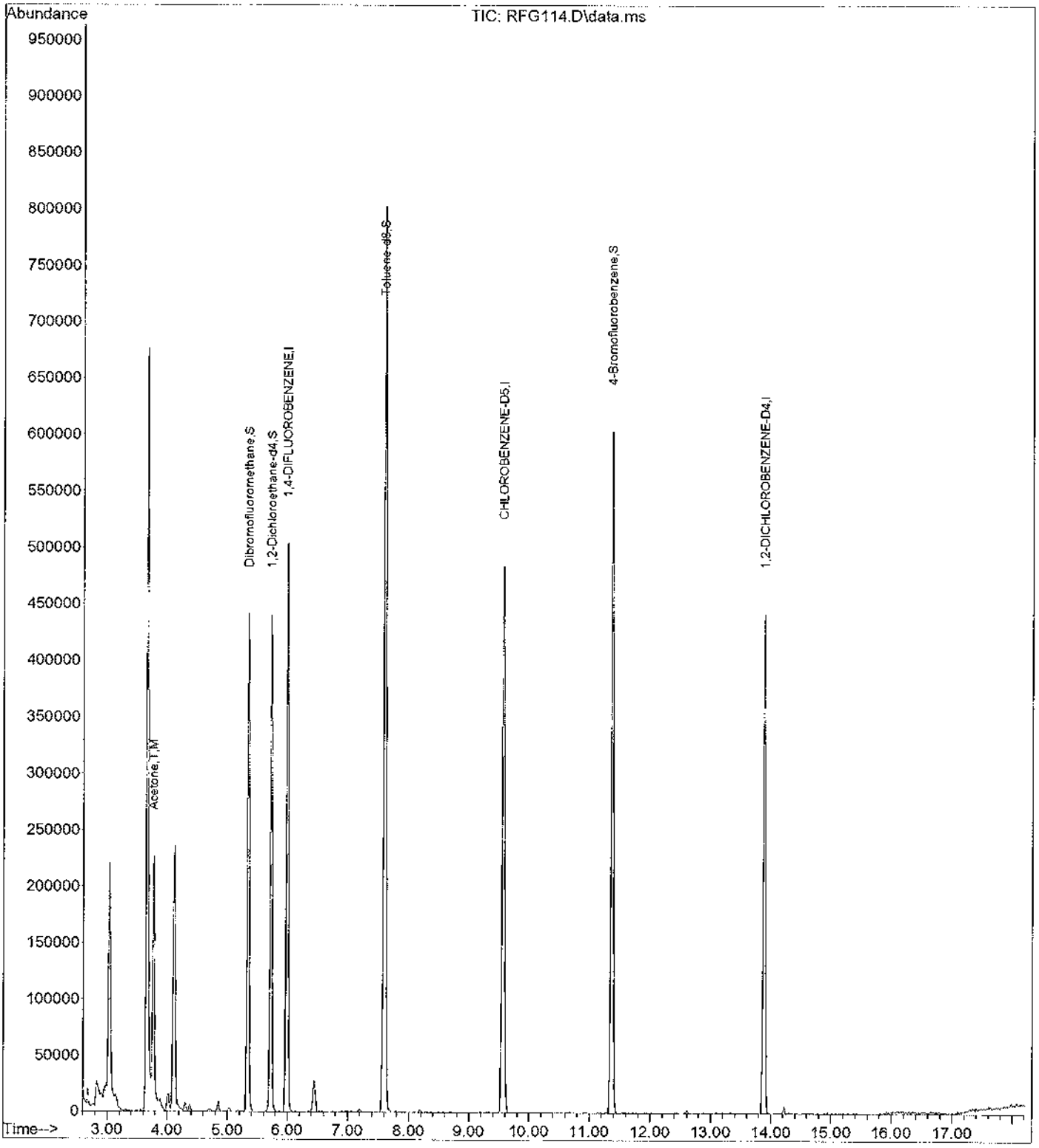
(#) = qualifier out of range (m) = manual integration (+) = signals summed

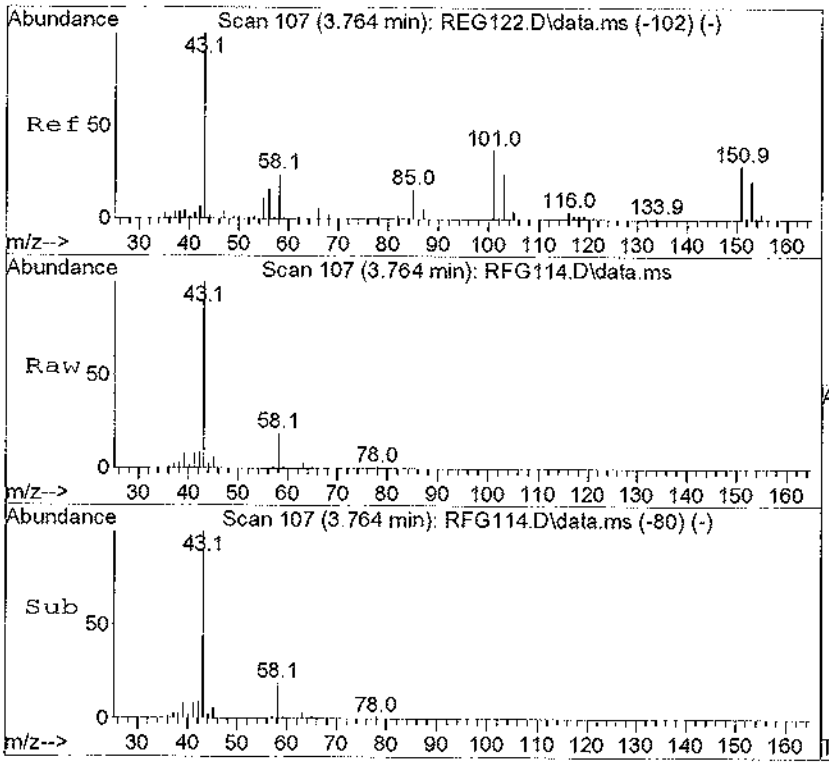
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG114.D
Acq On : 11 Jun 2024 22:32
Sample : 24F019-09
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 19:20:32 2024
Quant Results File: VOE2E17.RES

Vial: 24
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

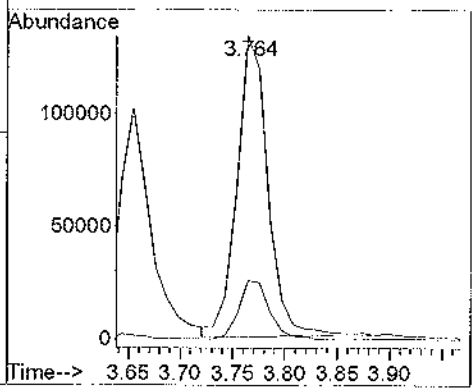





#11
Acetone
Concen: 48.94 ug/l
RT: 3.764 min Scan# 107
Delta R.T. 0.000 min
Lab File: RFG114.D
Acq: 11 Jun 2024 22:32

Tgt Ion: 43 Resp: 277511

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 19.0 | 0.0 | 55.4 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 14:59 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 22:56 |
| Sample ID | : T1AMF-MW066_JUN24 | Date Analyzed: | 06/11/24 22:56 |
| Lab Samp ID: | 24F019-10 | Dilution Factor: | 1 |
| Lab File ID: | RFG115 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.5 | 10.0 | 115 | 81-118 |
| 4-Bromofluorobenzene | 10.4 | 10.0 | 104 | 85-114 |
| Toluene-d8 | 10.3 | 10.0 | 103 | 89-112 |
| Dibromofluoromethane | 10.2 | 10.0 | 102 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG115.D
Acq On : 11 Jun 2024 22:56
Sample : 24F019-10
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 19:21:38 2024
Quant Results File: VOE2E17.RES

Vial: 25
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 448212 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 357736 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 173522 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 280115 | 10.20 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 102.00% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 417581 | 11.51 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 115.10% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 731449 | 10.29 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 102.90% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 286549 | 10.40 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 104.00% | | | |
| Target Compounds | | | | | | Qvalue |

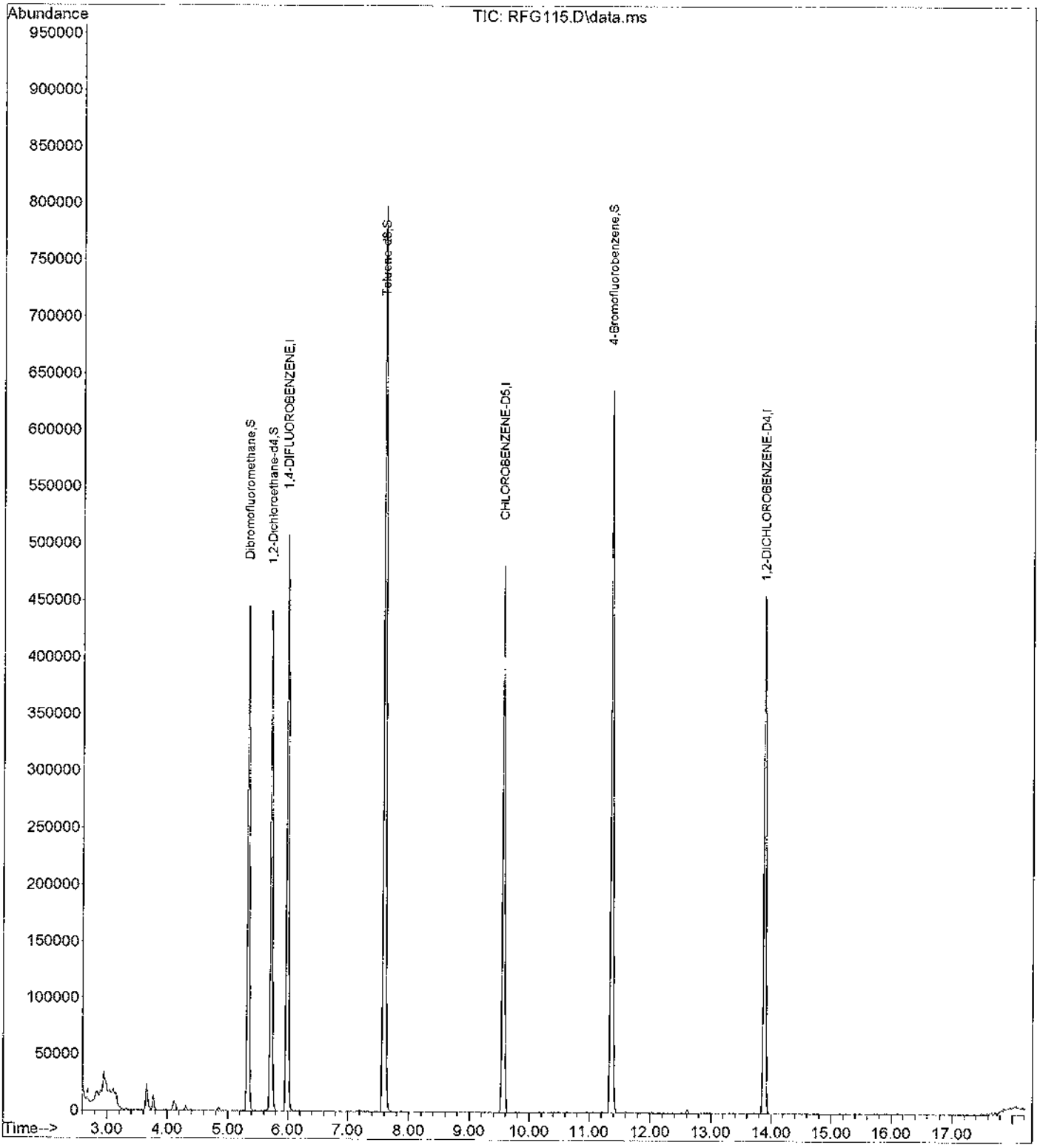
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG115.D
Acq On : 11 Jun 2024 22:56
Sample : 24F019-10
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 19:21:38 2024
Quant Results File: VOE2E17.RES

Vial: 25
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 15:30 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 23:19 |
| Sample ID | : E8-1_JUN24 | Date Analyzed: | 06/11/24 23:19 |
| Lab Samp ID: | 24F019-11 | Dilution Factor: | 1 |
| Lab File ID: | RFG116 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.2 | 10.0 | 112 | 81-118 |
| 4-Bromofluorobenzene | 10.3 | 10.0 | 103 | 85-114 |
| Toluene-d8 | 10.7 | 10.0 | 107 | 89-112 |
| Dibromofluoromethane | 9.77 | 10.0 | 98 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG116.D
Acq On : 11 Jun 2024 23:19
Sample : 24F019-11
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 19:23:00 2024
Quant Results File: VOE2E17.RES

Vial: 26
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 455629 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 345067 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.878 | 152 | 168897 | 10.00 | ug/l | -0.01 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 272506 | 9.77 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 97.70% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 414283 | 11.23 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 112.30% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 731945 | 10.67 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 106.70% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 277144 | 10.34 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 103.40% | | | |

Target Compounds Qvalue

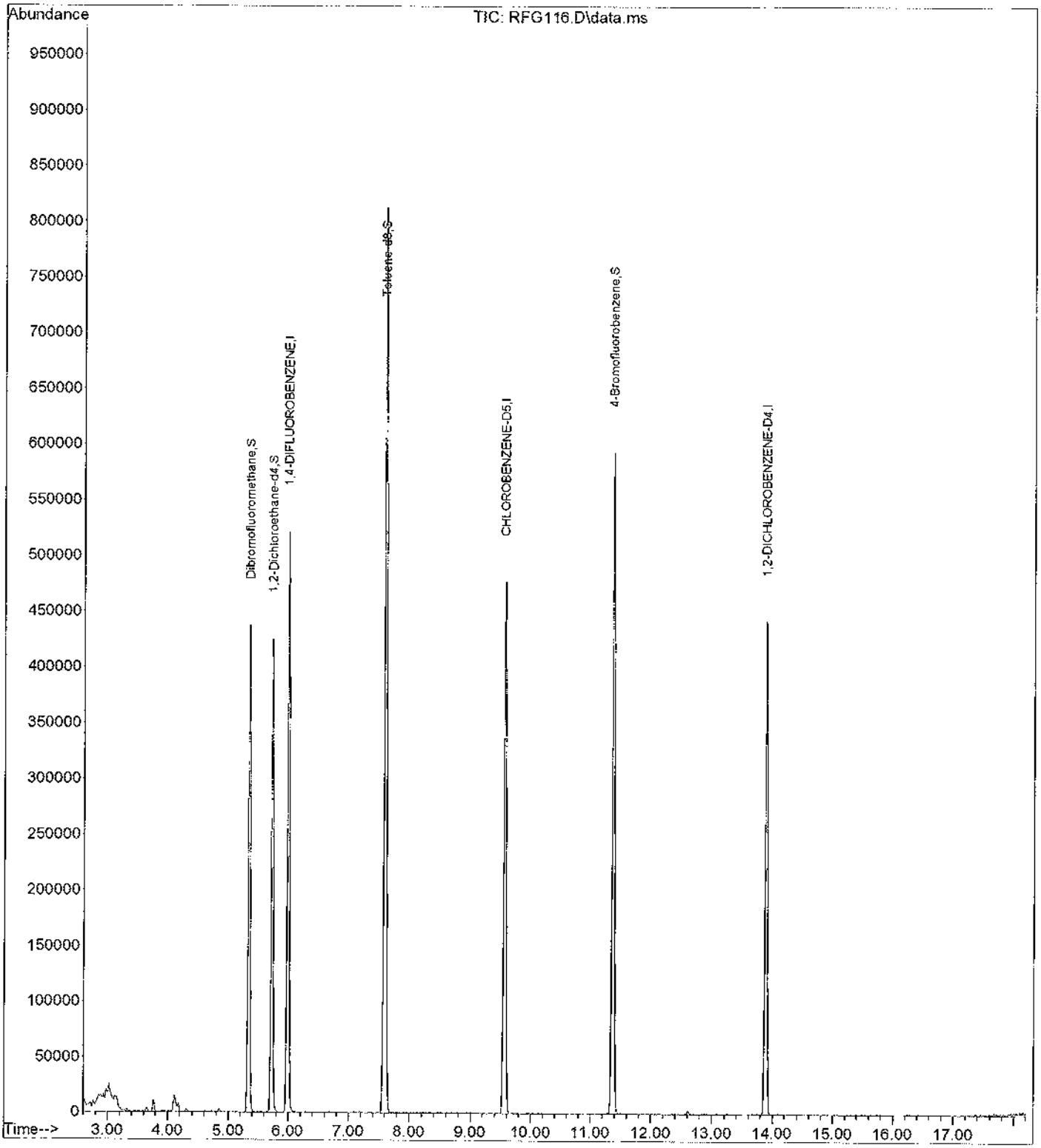
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG116.D
Acq On : 11 Jun 2024 23:19
Sample : 24F019-11
Misc : 10mL
Integrator: RTE
Quant Time: Jun 13 19:23:00 2024
Quant Results File: VOE2E17.RES

Vial: 26
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 15:40 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/13/24 13:30 |
| Sample ID | : RB-1_JUN24 | Date Analyzed: | 06/13/24 13:30 |
| Lab Samp ID: | 24F019-12 | Dilution Factor: | 1 |
| Lab File ID: | RFG130 | Matrix: | WATER |
| Ext Btch ID: | VOE2F05 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.3 | 10.0 | 113 | 81-118 |
| 4-Bromofluorobenzene | 11.0 | 10.0 | 110 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 9.78 | 10.0 | 98 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG130.D
Acq On : 13 Jun 2024 13:30
Sample : 24F019-12
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:36:56 2024
Quant Results File: VOE2E17.RES

Vial: 9
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 471621 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 391806 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 174958 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 282479 | 9.78 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 97.80% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 430374 | 11.28 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 112.80% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 791410 | 10.17 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 101.70% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 305003 | 10.98 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 109.80% | | | |
| Target Compounds | | | | | | Qvalue |

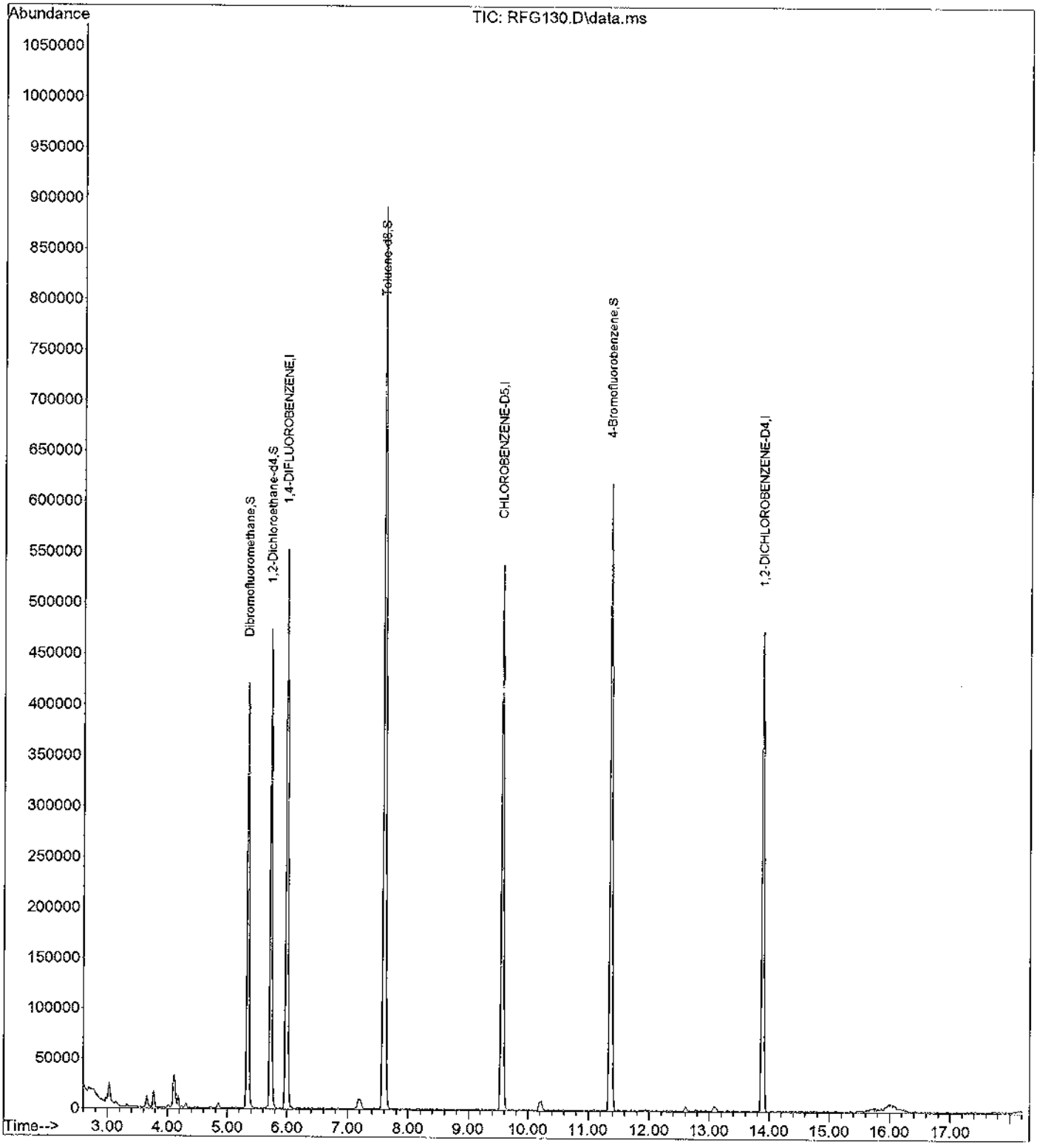
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG130.D
Acq On : 13 Jun 2024 13:30
Sample : 24F019-12
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:36:56 2024
Quant Results File: VOE2E17.RES

Vial: 9
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 05/31/24 07:30 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/13/24 13:06 |
| Sample ID | : TB-3_MAY24 | Date Analyzed: | 06/13/24 13:06 |
| Lab Samp ID: | 24F019-13 | Dilution Factor: | 1 |
| Lab File ID: | RFG129 | Matrix: | WATER |
| Ext Btch ID: | VQE2F05 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | 0.33J | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.8 | 10.0 | 108 | 81-118 |
| 4-Bromofluorobenzene | 11.0 | 10.0 | 110 | 85-114 |
| Toluene-d8 | 10.2 | 10.0 | 102 | 89-112 |
| Dibromofluoromethane | 9.72 | 10.0 | 97 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG129.D
Acq On : 13 Jun 2024 13:06
Sample : 24F019-13
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:35:34 2024
Quant Results File: VOE2E17.RES

Vial: 8
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 488771 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 405733 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 180846 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 290895 | 9.72 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 97.20% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 426766 | 10.79 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.90% | | |
| 56) Toluene-d8 | 7.594 | 98 | 823827 | 10.22 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 315342 | 10.98 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 109.80% | | |
| Target Compounds | | | | | | Qvalue |
| 58) Toluene | 7.693 | 91 | 30221 | 0.33 | ug/l | 89 |

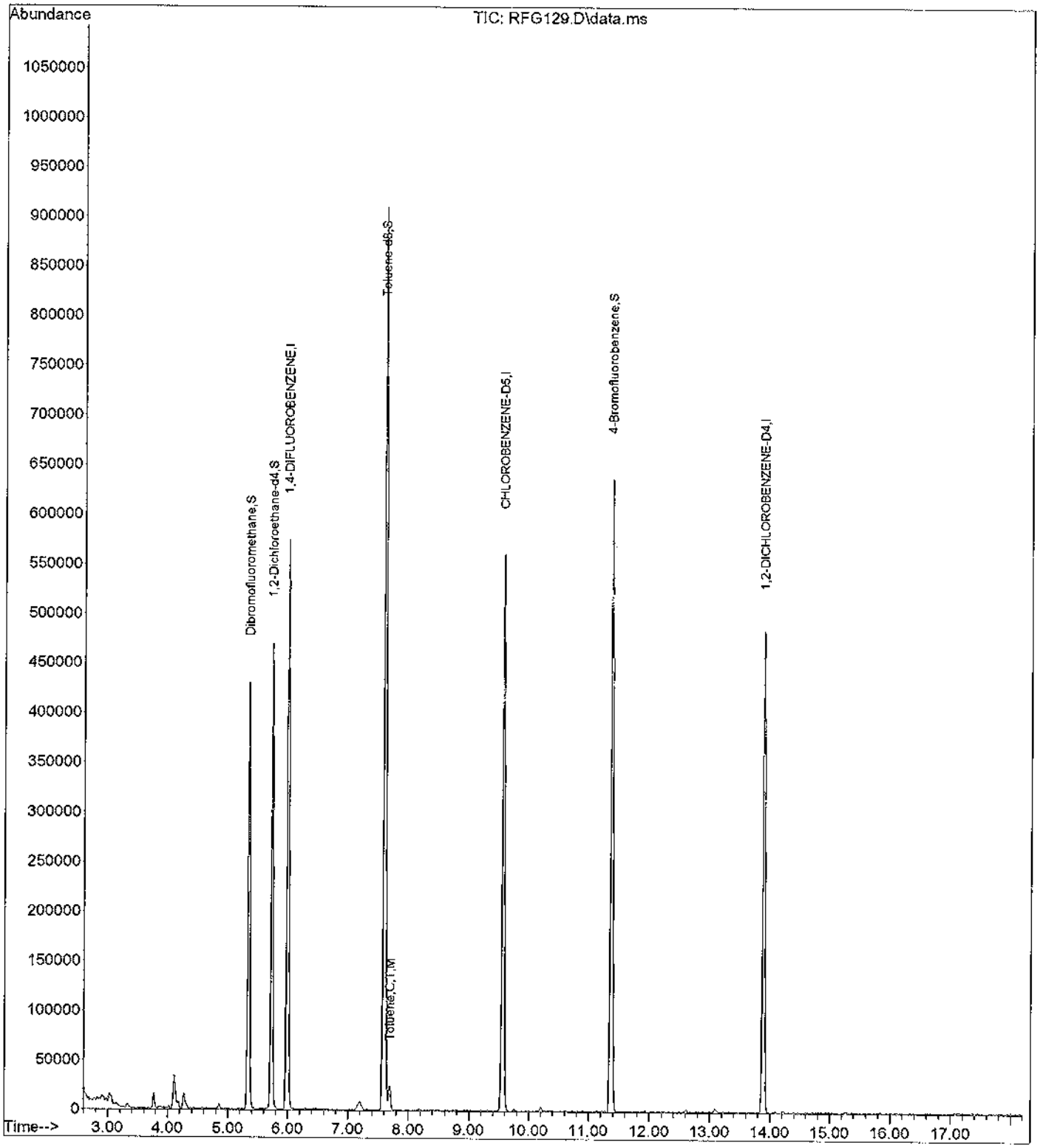
(#) = qualifier out of range (m) = manual integration (+) = signals summed

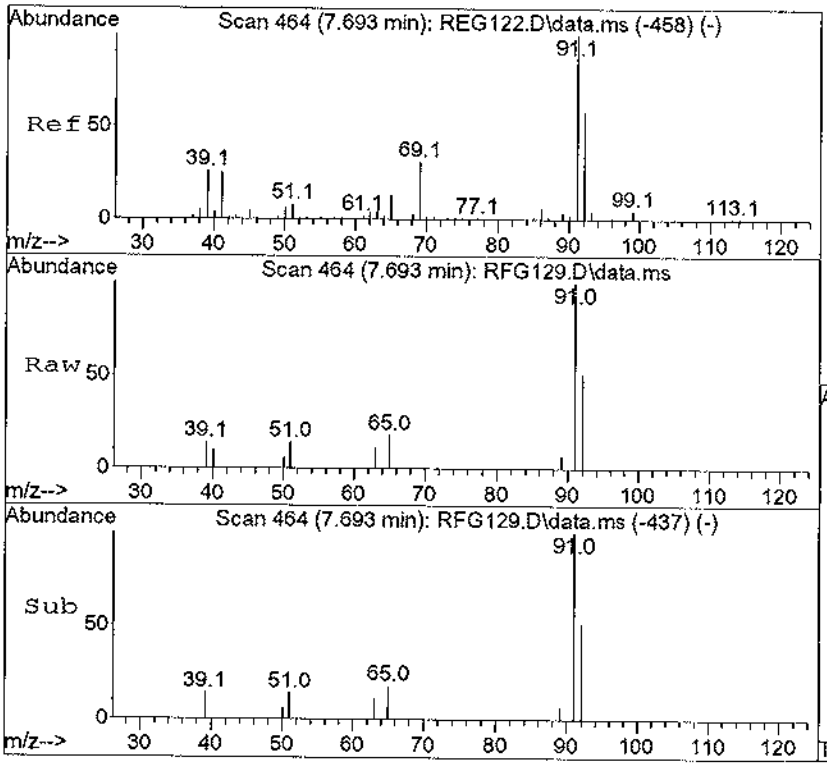
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG129.D
Acq On : 13 Jun 2024 13:06
Sample : 24F019-13
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:35:34 2024
Quant Results File: VOE2E17.RES

Vial: 8
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

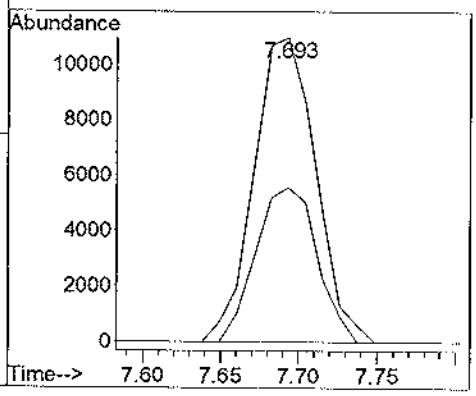





#58
Toluene
Concen: 0.33 ug/l
RT: 7.693 min Scan# 464
Delta R.T. 0.000 min
Lab File: RFG129.D
Acq: 13 Jun 2024 13:06

Tgt Ion: 91 Resp: 30221

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 92 | 50.2 | 28.5 | 88.5 |



METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/03/24 07:30 |
| Project | : TITAN 1-A | Date Received: | 06/05/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/14/24 14:10 |
| Sample ID | : TB-4_JUN24 | Date Analyzed: | 06/14/24 14:10 |
| Lab Samp ID: | 24F019-14N | Dilution Factor: | 1 |
| Lab File ID: | RFG158 | Matrix: | WATER |
| Ext Btch ID: | VOE2F06 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | 0.30J | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.5 | 10.0 | 105 | 81-118 |
| 4-Bromofluorobenzene | 10.7 | 10.0 | 107 | 85-114 |
| Toluene-d8 | 9.84 | 10.0 | 98 | 89-112 |
| Dibromofluoromethane | 9.21 | 10.0 | 92 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 10ml | Final Volume : | 10ml |
| Prepared by | : DNguye | Analyzed by : | DNguye |

Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG158.D
Acq On : 14 Jun 2024 14:10
Sample : 24F019-14N
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 19:55:13 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 471785 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 386284 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 171246 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 266037 | 9.21 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 92.10% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 399882 | 10.47 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.70% | | |
| 56) Toluene-d8 | 7.594 | 98 | 754925 | 9.84 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.40% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 290040 | 10.67 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.70% | | |
| Target Compounds | | | | | | Qvalue |
| 58) Toluene | 7.693 | 91 | 26633 | 0.30 | ug/l | 94 |

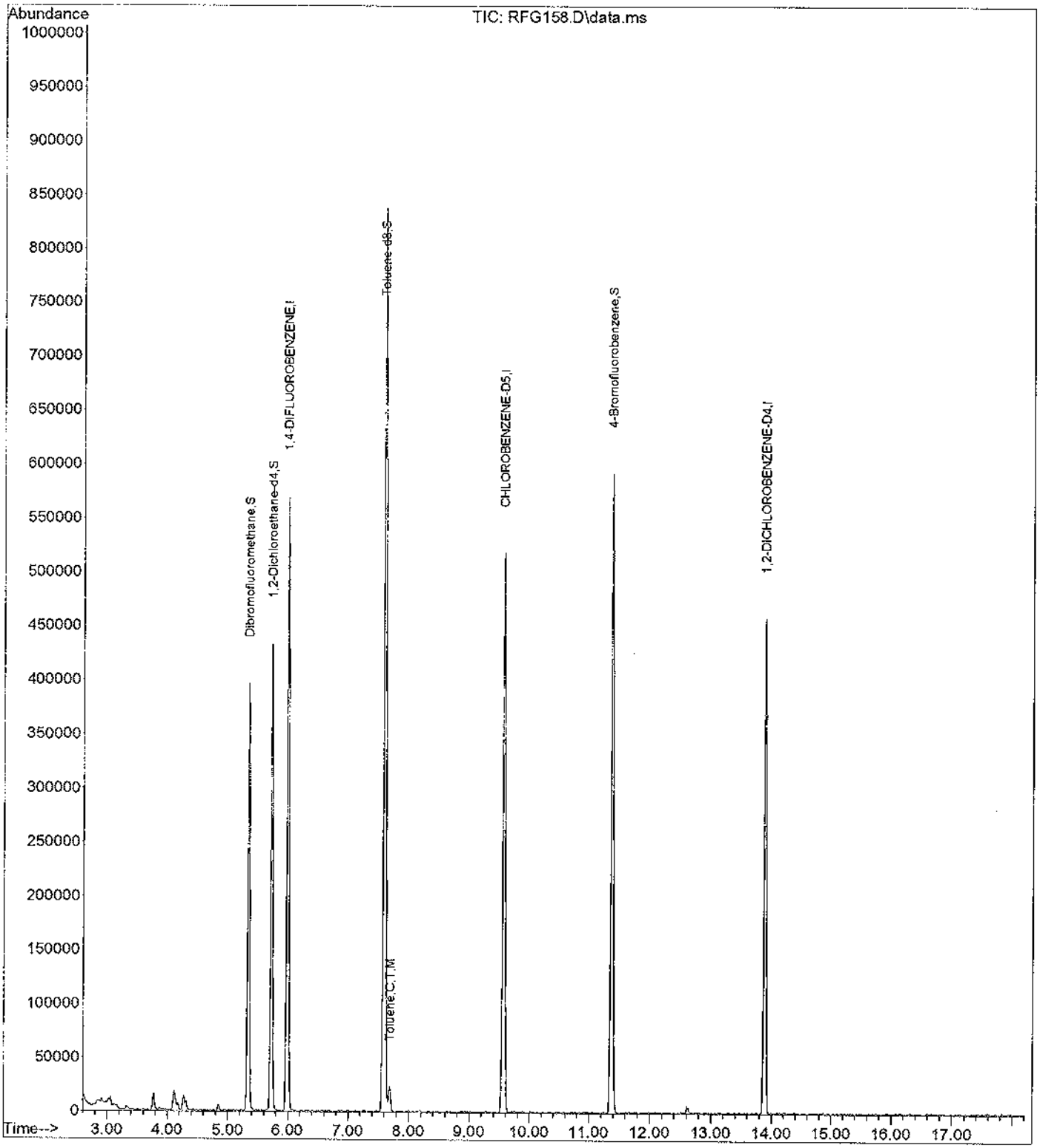
(#) = qualifier out of range (m) = manual integration (+) = signals summed

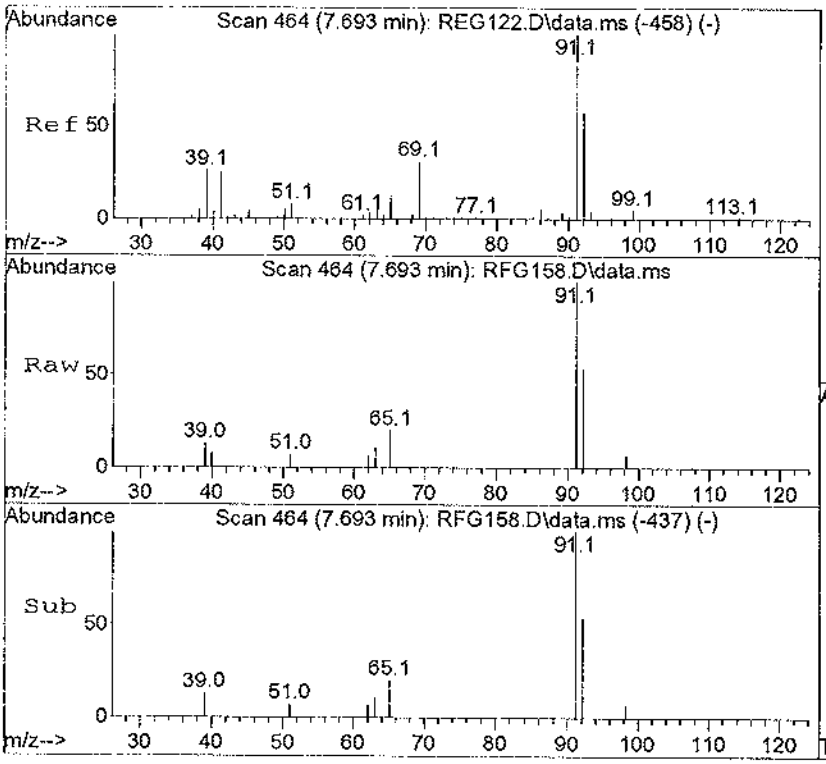
Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG158.D
Acq On : 14 Jun 2024 14:10
Sample : 24F019-14N
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 19:55:13 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

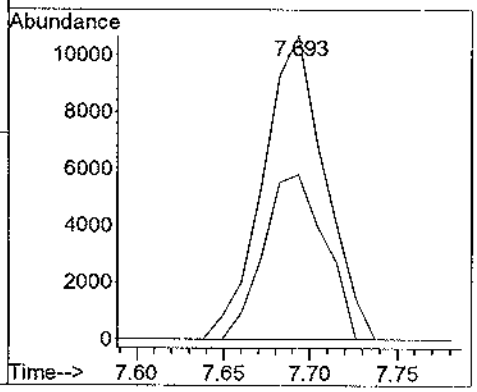





#58
Toluene
Concen: 0.30 ug/l
RT: 7.693 min Scan# 464
Delta R.T. -0.000 min
Lab File: RFG158.D
Acq: 14 Jun 2024 14:10

Tgt Ion: 91 Resp: 26633

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 92 | 53.8 | 28.5 | 88.5 |



# QC SUMMARIES

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/11/24 15:26 |
| Project | : TITAN 1-A | Date Received: | 06/11/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/11/24 15:26 |
| Sample ID | : MBLK1W | Date Analyzed: | 06/11/24 15:26 |
| Lab Samp ID: | VOE2F04B | Dilution Factor: | 1 |
| Lab File ID: | RFG096 | Matrix: | WATER |
| Ext Btch ID: | VOE2F04 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.8 | 10.0 | 108 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.95 | 10.0 | 100 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F019
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK1W | LCS1W | LCD1W |
| LAB SAMPLE ID | : VOE2F04B | VOE2F04L | VOE2F04C |
| LAB FILE ID | : RFG096 | RFG093 | RFG094 |
| DATE PREPARED | : 06/11/24 15:26 | 06/11/24 14:15 | 06/11/24 14:39 |
| DATE ANALYZED | : 06/11/24 15:26 | 06/11/24 14:15 | 06/11/24 14:39 |
| PREP BATCH | : VOE2F04 | VOE2F04 | VOE2F04 |
| CALIBRATION REF: | REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 9.69 | 97 | 10.0 | 9.34 | 93 | 4 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.7 | 107 | 10.0 | 10.3 | 103 | 4 | 79-118 | 20 |
| Benzene | ND | 10.0 | 9.98 | 100 | 10.0 | 9.74 | 97 | 2 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 9.91 | 99 | 10.0 | 9.49 | 95 | 4 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.5 | 105 | 10.0 | 10.4 | 104 | 1 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 20.4 | 102 | 20.0 | 20.2 | 101 | 1 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.7 | 107 | 10.0 | 10.6 | 106 | 1 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.4 | 104 | 10.0 | 10.3 | 103 | 1 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 9.39 | 94 | 10.0 | 9.07 | 91 | 3 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.00 | 90 | 10.0 | 8.65 | 87 | 4 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 11.0 | 110 | 10.0 | 10.4 | 104 | 6 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.6 | 106 | 10.0 | 10.1 | 101 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 11.1 | 111 | 10.0 | 10.6 | 106 | 85-114 |
| Toluene-d8 | 10.0 | 10.6 | 106 | 10.0 | 10.6 | 106 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.84 | 98 | 10.0 | 9.56 | 96 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/13/24 11:31 |
| Project | : TITAN 1-A | Date Received: | 06/13/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/13/24 11:31 |
| Sample ID | : MBLK2W | Date Analyzed: | 06/13/24 11:31 |
| Lab Samp ID: | VOE2F05B | Dilution Factor: | 1 |
| Lab File ID: | RFG127 | Matrix: | WATER |
| Ext Btch ID: | VOE2F05 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.5 | 10.0 | 105 | 81-118 |
| 4-Bromofluorobenzene | 11.3 | 10.0 | 113 | 85-114 |
| Toluene-d8 | 10.4 | 10.0 | 104 | 89-112 |
| Dibromofluoromethane | 9.37 | 10.0 | 94 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F019
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : MBLK2W | LCS2W | LCD2W |
| LAB SAMPLE ID | : VOE2F05B | VOE2F05L | VOE2F05C |
| LAB FILE ID | : RFG127 | RFG124 | RFG125 |
| DATE PREPARED | : 06/13/24 11:31 | 06/13/24 10:20 | 06/13/24 10:44 |
| DATE ANALYZED | : 06/13/24 11:31 | 06/13/24 10:20 | 06/13/24 10:44 |
| PREP BATCH | : VOE2F05 | VOE2F05 | VOE2F05 |
| CALIBRATION REF | : REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 11.6 | 116 | 10.0 | 11.7 | 117 | 1 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 11.5 | 115 | 10.0 | 12.0 | 120* | 4 | 79-118 | 20 |
| Benzene | ND | 10.0 | 11.1 | 111 | 10.0 | 11.2 | 112 | 1 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 10.8 | 108 | 10.0 | 10.7 | 107 | 1 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.8 | 108 | 10.0 | 11.1 | 111 | 3 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 21.1 | 106 | 20.0 | 21.4 | 107 | 1 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 11.0 | 110 | 10.0 | 11.2 | 112 | 2 | 78-122 | 20 |
| Toluene | ND | 10.0 | 11.0 | 110 | 10.0 | 10.9 | 109 | 1 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 10.3 | 103 | 10.0 | 10.2 | 102 | 1 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 10.2 | 102 | 10.0 | 10.4 | 104 | 2 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 12.5 | 125 | 10.0 | 12.7 | 127 | 2 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.5 | 105 | 10.0 | 10.3 | 103 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.5 | 105 | 10.0 | 11.3 | 113 | 85-114 |
| Toluene-d8 | 10.0 | 9.89 | 99 | 10.0 | 9.84 | 98 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.58 | 96 | 10.0 | 9.54 | 95 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate
* Out of QC Limit

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/14/24 13:46 |
| Project | : TITAN 1-A | Date Received: | 06/14/24 |
| Batch No. | : 24F019 | Date Extracted: | 06/14/24 13:46 |
| Sample ID | : MBLK3W | Date Analyzed: | 06/14/24 13:46 |
| Lab Samp ID: | VOE2F06B | Dilution Factor: | 1 |
| Lab File ID: | RFG157 | Matrix: | WATER |
| Ext Btch ID: | VOE2F06 | % Moisture: | NA |
| Calib. Ref.: | REG122 | Instrument ID: | E2 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| cis-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Ethylbenzene | ND | 1.0 | 0.10 | 0.20 |
| m,p-Xylene | ND | 2.0 | 0.21 | 0.50 |
| o-Xylene | ND | 1.0 | 0.10 | 0.20 |
| Toluene | ND | 1.0 | 0.10 | 0.20 |
| Trans-1,2-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.2 | 10.0 | 102 | 81-118 |
| 4-Bromofluorobenzene | 10.6 | 10.0 | 106 | 85-114 |
| Toluene-d8 | 9.52 | 10.0 | 95 | 89-112 |
| Dibromofluoromethane | 8.88 | 10.0 | 89 | 80-119 |

Notes:
Sample Amount : 10ml Final Volume : 10ml
Prepared by : DNguye Analyzed by : DNguye
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F019
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK3W | LCS3W | LCD3W |
| LAB SAMPLE ID | : VOE2F06B | VOE2F06L | VOE2F06C |
| LAB FILE ID | : RFG157 | RFG154 | RFG155 |
| DATE PREPARED | : 06/14/24 13:46 | 06/14/24 12:35 | 06/14/24 12:58 |
| DATE ANALYZED | : 06/14/24 13:46 | 06/14/24 12:35 | 06/14/24 12:58 |
| PREP BATCH | : VOE2F06 | VOE2F06 | VOE2F06 |
| CALIBRATION REF: | REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 10.8 | 108 | 10.0 | 11.7 | 117 | 8 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 11.3 | 113 | 10.0 | 12.0 | 120* | 6 | 79-118 | 20 |
| Benzene | ND | 10.0 | 10.2 | 102 | 10.0 | 11.0 | 110 | 8 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 9.87 | 99 | 10.0 | 10.2 | 102 | 3 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.1 | 101 | 10.0 | 10.8 | 108 | 7 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 20.1 | 101 | 20.0 | 21.0 | 105 | 4 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 10.4 | 104 | 10.0 | 11.2 | 112 | 7 | 78-122 | 20 |
| Toluene | ND | 10.0 | 10.2 | 102 | 10.0 | 10.8 | 108 | 6 | 80-121 | 20 |
| Trans-1,2-Dichloroethene | ND | 10.0 | 9.36 | 94 | 10.0 | 10.1 | 101 | 8 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.43 | 94 | 10.0 | 10.1 | 101 | 7 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 12.0 | 120 | 10.0 | 11.3 | 113 | 6 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.2 | 102 | 10.0 | 10.3 | 103 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.7 | 107 | 10.0 | 10.5 | 105 | 85-114 |
| Toluene-d8 | 10.0 | 9.56 | 96 | 10.0 | 9.32 | 93 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.00 | 90 | 10.0 | 8.96 | 90 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate
* Out of QC Limit

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F019
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : T1AMF-MW053_MAY24 | T1AMF-MW053_MAY24_MS | T1AMF-MW053_MAY24_MSD |
| LAB SAMPLE ID | : 24F019-02N | 24F019-02M | 24F019-02S |
| LAB FILE ID | : RFG131 | RFG133 | RFG134 |
| DATE PREPARED | : 06/13/24 13:54 | 06/13/24 14:41 | 06/13/24 15:05 |
| DATE ANALYZED | : 06/13/24 13:54 | 06/13/24 14:41 | 06/13/24 15:05 |
| PREP BATCH | : VOE2F05 | VOE2F05 | VOE2F05 |
| CALIBRATION REF | : REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | PSResult (ug/L) | SpikeAmt (ug/L) | MSResult (ug/L) | MSRec (%) | SpikeAmt (ug/L) | MSDResult (ug/L) | MSDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 11.0 | 110 | 10.0 | 11.1 | 111 | 1 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.6 | 106 | 10.0 | 10.3 | 103 | 3 | 79-118 | 20 |
| Benzene | ND | 10.0 | 9.96 | 100 | 10.0 | 10.1 | 101 | 1 | 79-120 | 20 |
| cis-1,2-Dichloroethene | ND | 10.0 | 9.69 | 97 | 10.0 | 9.41 | 94 | 3 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 10.0 | 100 | 10.0 | 9.97 | 100 | 0 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 19.4 | 97 | 20.0 | 19.4 | 97 | 0 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 9.98 | 100 | 10.0 | 9.99 | 100 | 0 | 78-122 | 20 |
| Toluene | ND | 10.0 | 9.95 | 100 | 10.0 | 10.1 | 101 | 1 | 80-121 | 20 |
| trans-1,2-Dichloroethene | ND | 10.0 | 9.41 | 94 | 10.0 | 9.57 | 96 | 2 | 75-124 | 20 |
| Trichloroethene | ND | 10.0 | 9.43 | 94 | 10.0 | 9.20 | 92 | 2 | 79-123 | 20 |
| Vinyl chloride | ND | 10.0 | 12.0 | 120 | 10.0 | 11.9 | 119 | 1 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | MSResult (ug/L) | MSRec (%) | SpikeAmt (ug/L) | MSDResult (ug/L) | MSDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.3 | 103 | 10.0 | 10.6 | 106 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 10.9 | 109 | 10.0 | 10.7 | 107 | 85-114 |
| Toluene-d8 | 10.0 | 9.69 | 97 | 10.0 | 9.94 | 99 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.29 | 93 | 10.0 | 9.53 | 95 | 80-119 |

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F019
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : T1AMF-MW051_MAY24 | T1AMF-MW051_MAY24_MS | T1AMF-MW051_MAY24_MSD |
| LAB SAMPLE ID | : 24F019-03 | 24F019-03M | 24F019-03S |
| LAB FILE ID | : RFG132 | RFG135 | RFG136 |
| DATE PREPARED | : 06/13/24 14:17 | 06/13/24 15:28 | 06/13/24 15:52 |
| DATE ANALYZED | : 06/13/24 14:17 | 06/13/24 15:28 | 06/13/24 15:52 |
| PREP BATCH | : VOE2F05 | VOE2F05 | VOE2F05 |
| CALIBRATION REF: | REG122 | REG122 | REG122 |

ACCESSION:

| PARAMETERS | PSResult (ug/L) | SpikeAmt (ug/L) | MSResult (ug/L) | MSRec (%) | SpikeAmt (ug/L) | MSDResult (ug/L) | MSDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 11.1 | 111 | 10.0 | 11.0 | 110 | 1 | 71-131 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 10.3 | 103 | 10.0 | 10.3 | 103 | 0 | 79-118 | 20 |
| Benzene | ND | 10.0 | 10.1 | 101 | 10.0 | 10.1 | 101 | 0 | 79-120 | 20 |
| cis-1,2-Dichloroethene | 0.115J | 10.0 | 9.73 | 96 | 10.0 | 9.66 | 95 | 1 | 78-123 | 20 |
| Ethylbenzene | ND | 10.0 | 9.90 | 99 | 10.0 | 9.93 | 99 | 0 | 79-121 | 20 |
| m,p-Xylene | ND | 20.0 | 19.3 | 97 | 20.0 | 19.1 | 96 | 1 | 80-121 | 20 |
| o-Xylene | ND | 10.0 | 9.93 | 99 | 10.0 | 9.85 | 99 | 1 | 78-122 | 20 |
| Toluene | ND | 10.0 | 9.89 | 99 | 10.0 | 9.86 | 99 | 0 | 80-121 | 20 |
| trans-1,2-Dichloroethene | ND | 10.0 | 9.21 | 92 | 10.0 | 9.40 | 94 | 2 | 75-124 | 20 |
| Trichloroethene | 9.25 | 10.0 | 19.2 | 100 | 10.0 | 18.2 | 90 | 5 | 79-123 | 20 |
| Vinyl chloride | ND | 10.0 | 13.5 | 135 | 10.0 | 13.1 | 131 | 3 | 58-137 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | MSResult (ug/L) | MSRec (%) | SpikeAmt (ug/L) | MSDResult (ug/L) | MSDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.8 | 108 | 10.0 | 10.7 | 107 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 11.0 | 110 | 10.0 | 11.0 | 110 | 85-114 |
| Toluene-d8 | 10.0 | 9.90 | 99 | 10.0 | 9.66 | 97 | 89-112 |
| Dibromofluoromethane | 10.0 | 9.56 | 96 | 10.0 | 9.63 | 96 | 80-119 |

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

# QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG096.D
Acq On : 11 Jun 2024 15:26
Sample : VOE2F04B
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 17:06:01 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 600187 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 469288 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 222326 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 365937 | 9.95 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 99.50% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 524716 | 10.80 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 108.00% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 987879 | 10.59 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.90% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 374680 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 106.20% | | | |
| Target Compounds | | | | | | Qvalue |

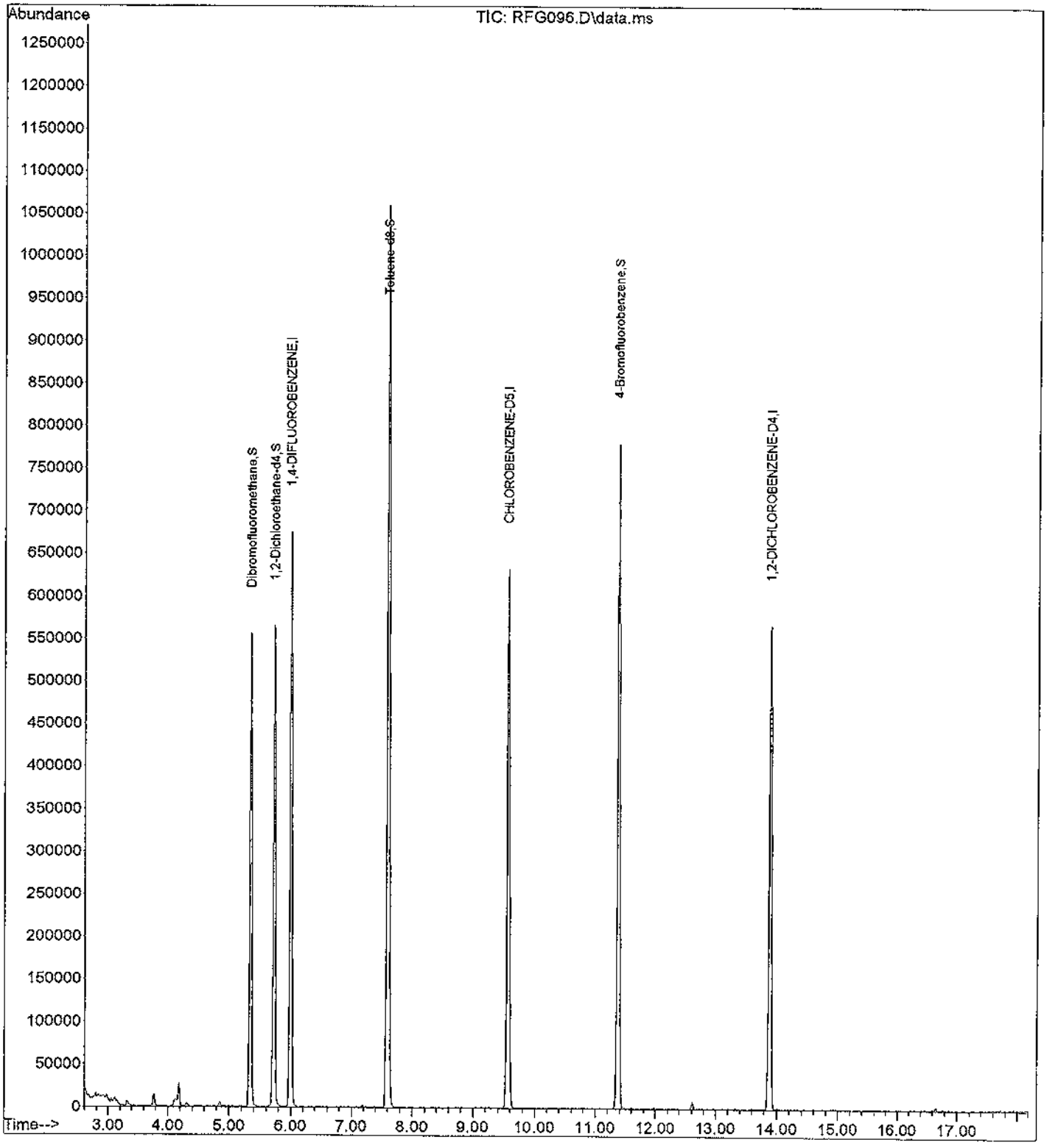
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG096.D
Acq On : 11 Jun 2024 15:26
Sample : VOE2F04B
Misc : 10.0mL
Integrator: RTE
Quant Time: Jun 13 17:06:01 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG093.D
Acq On : 11 Jun 2024 14:15
Sample : VOE2F04L
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 17:00:17 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 700127 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 552821 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 279028 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 421921 | 9.84 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.40% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 600152 | 10.59 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.90% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1166618 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 489887 | 11.06 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 110.60% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 454089 | 11.30 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 263643 | 9.14 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 333714 | 10.96 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 252289 | 12.25 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 719907 | 10.35 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 140485 | 9.42 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 603142 | 8.82 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 174984 | 38.43 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 283991 | 9.52 | ug/l | 99 |
| 11) Acetone | 3.765 | 43 | 420709 | 46.35 | ug/l | 98 |
| 12) tert-Butyl alcohol | 3.875 | 59 | 880251 | 206.75 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 606508 | 9.69 | ug/l | 98 |
| 14) Acetonitrile | 3.875 | 41 | 179260 | 84.84 | ug/L | 92 |
| 15) Allyl chloride | 4.106 | 76 | 172916 | 10.46 | ug/L | 99 |
| 16) Iodomethane | 4.150 | 142 | 405519 | 12.14 | ug/l | 93 |
| 18) Methylene chloride | 4.183 | 49 | 505043 | 11.37 | ug/l | 97 |
| 19) Acrylonitrile | 4.216 | 53 | 426217 | 40.49 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1076360 | 10.29 | ug/L | 97 |
| 21) Carbon disulfide | 4.304 | 76 | 936457 | 9.77 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 313496 | 9.39 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1010133 | 9.49 | ug/l | 97 |
| 24) Vinyl acetate | 4.546 | 43 | 453098 | 7.47 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 666915 | 9.88 | ug/l | 98 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1176130 | 9.10 | ug/l | 90 |
| 27) 2-Butanone | 4.854 | 72 | 140045 | 42.63 | ug/l | 96 |
| 28) Propionitrile | 4.909 | 54 | 340372 | 87.93 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 213474 | 156.09 | ug/L | 87 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 739363 | 10.94 | ug/l | 98 |
| 31) Methacrylonitrile | 5.052 | 52 | 600892 | 94.55 | ug/L | 92 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 376607 | 9.91 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 822837 | 9.83 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 201585 | 9.03 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.316 | 42 | 76582 | 8.68 | ug/L | 97 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 793370 | 10.51 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 237534 | 10.30 | ug/l | 98 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 157738 | 9.54 | ug/L | 100 |
| 42) Carbon tetrachloride | 5.734 | 119 | 658836 | 10.31 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 683149 | 10.61 | ug/L | 99 |
| 44) Benzene | 5.866 | 78 | 1278445 | 9.98 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG093.D
Acq On : 11 Jun 2024 14:15
Sample : V0E2F04L
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 17:00:17 2024
Quant Results File: V0E2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\V0E2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:V0E2E17.M

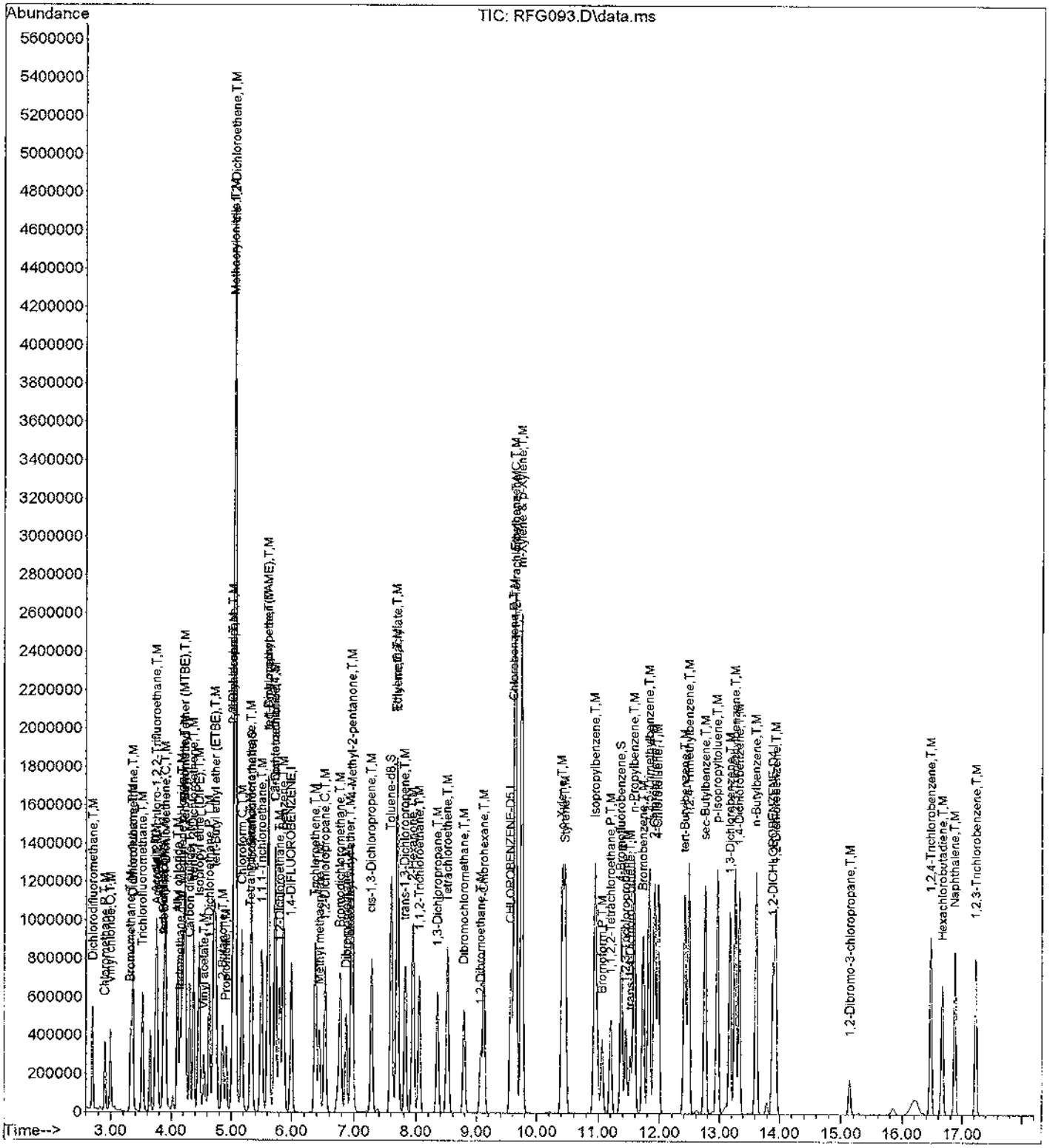
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.373 | 130 | 318340 | 9.00 | ug/L | | 97 |
| 46) Methyl methacrylate | 6.439 | 69 | 212881 | 6.79 | ug/L | # | 71 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 309313 | 9.46 | ug/L | | 90 |
| 50) Bromodichloromethane | 6.769 | 83 | 641238 | 10.36 | ug/L | | 97 |
| 51) Dibromomethane | 6.868 | 93 | 247594 | 9.31 | ug/L | | 95 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 108876 | 6.72 | ug/L | | 96 |
| 53) 4-Methyl-2-pentanone | 6.967 | 43 | 1489659 | 41.59 | ug/L | | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 569407 | 9.96 | ug/L | | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 384317 | 10.19 | ug/L | | 98 |
| 58) Toluene | 7.693 | 91 | 1307264 | 10.43 | ug/l | | 99 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 582395 | 10.86 | ug/l | | 99 |
| 60) 2-Hexanone | 7.935 | 43 | 1022146 | 45.09 | ug/l | | 99 |
| 61) 1,1,2-Trichloroethane | 8.046 | 97 | 294632 | 9.90 | ug/l | | 98 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 463223 | 10.48 | ug/l | | 99 |
| 63) Tetrachloroethene | 8.508 | 164 | 273046 | 9.96 | ug/l | | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 406992 | 9.12 | ug/l | | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 298958 | 9.32 | ug/l | | 99 |
| 66) 1-Chlorohexane | 9.124 | 91 | 421550 | 10.16 | ug/l | | 100 |
| 67) Chlorobenzene | 9.619 | 112 | 826544 | 9.98 | ug/l | | 97 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 363656 | 10.32 | ug/l | | 98 |
| 69) Ethylbenzene | 9.641 | 91 | 1585307 | 10.46 | ug/l | | 99 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 2524452 | 20.42 | ug/l | | 98 |
| 71) o-Xylene | 10.412 | 91 | 1249901 | 10.68 | ug/l | | 97 |
| 72) Styrene | 10.467 | 104 | 864317 | 10.56 | ug/l | | 96 |
| 73) Isopropylbenzene | 10.940 | 105 | 1400137 | 10.50 | ug/L | | 98 |
| 75) Bromoform | 11.061 | 173 | 269912 | 8.86 | ug/l | | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 369729 | 9.51 | ug/l | | 97 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 105995 | 9.87 | ug/l | | 94 |
| 79) trans-1,4-Dichloro-2-b... | 11.523 | 53 | 113616 | 10.46 | ug/l | | 97 |
| 80) n-Propylbenzene | 11.578 | 91 | 1759863 | 9.95 | ug/l | | 98 |
| 81) Bromobenzene | 11.732 | 156 | 372634 | 9.60 | ug/l | | 98 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 1202750 | 9.89 | ug/l | | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1155247 | 10.58 | ug/l | | 90 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 1040173 | 11.28 | ug/l | | 98 |
| 85) tert-Butylbenzene | 12.415 | 134 | 183905 | 9.77 | ug/l | | 95 |
| 86) 1,2,4-Trimethylbenzene | 12.481 | 105 | 1189538 | 10.00 | ug/l | | 97 |
| 87) sec-Butylbenzene | 12.756 | 105 | 1353899 | 9.82 | ug/l | | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1115672 | 9.65 | ug/l | | 98 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 604225 | 10.87 | ug/l | | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 1154202 | 9.79 | ug/L | | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 620279 | 10.74 | ug/l | | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 1095185 | 9.96 | ug/l | | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 573597 | 9.41 | ug/l | | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 66232 | 8.38 | ug/l | | 99 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 372683 | 10.05 | ug/l | | 97 |
| 96) Hexachlorobutadiene | 16.663 | 225 | 214530 | 10.18 | ug/l | | 98 |
| 97) Naphthalene | 16.872 | 128 | 856628 | 9.09 | ug/l | | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 344018 | 9.75 | ug/l | | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG093.D Vial: 3
Acq On : 11 Jun 2024 14:15 Operator: DNguye
Sample : VOE2F04L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 17:00:17 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG094.D
Acq On : 11 Jun 2024 14:39
Sample : V0E2F04C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 17:01:36 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 703905 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 550837 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 285241 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 412093 | 9.56 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 95.60% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 576775 | 10.12 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.20% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1162432 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 480962 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.20% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 429087 | 10.62 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 257185 | 8.87 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 319492 | 10.44 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 265338 | 12.82 | ug/l | 99 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 691592 | 9.89 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 140113 | 9.34 | ug/l | 94 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 588714 | 8.56 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 154395 | 33.73 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 270239 | 9.01 | ug/l | 99 |
| 11) Acetone | 3.775 | 43 | 371678 | 40.12 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 781645 | 182.61 | ug/L | 100 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 587741 | 9.34 | ug/l | 98 |
| 14) Acetonitrile | 3.874 | 41 | 159832 | 75.24 | ug/L | 97 |
| 15) Allyl chloride | 4.105 | 76 | 170855 | 10.28 | ug/L | 98 |
| 16) Iodomethane | 4.149 | 142 | 392698 | 11.70 | ug/l | 92 |
| 18) Methylene chloride | 4.183 | 49 | 491995 | 10.99 | ug/l | 96 |
| 19) Acrylonitrile | 4.216 | 53 | 391830 | 37.02 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1042482 | 9.91 | ug/L | 96 |
| 21) Carbon disulfide | 4.304 | 76 | 921603 | 9.56 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 304388 | 9.07 | ug/l | 97 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 997004 | 9.32 | ug/l | 97 |
| 24) Vinyl acetate | 4.546 | 43 | 408897 | 6.71 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 632418 | 9.31 | ug/l | 100 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1121655 | 8.63 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 126722 | 38.36 | ug/l | 95 |
| 28) Propionitrile | 4.909 | 54 | 306274 | 78.70 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 197729 | 143.80 | ug/L | 91 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 719885 | 10.59 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 555765 | 86.98 | ug/L | 92 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 362567 | 9.49 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 793893 | 9.43 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 194225 | 8.65 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.316 | 42 | 65118 | 7.34 | ug/L | 96 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 774383 | 10.20 | ug/l | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 233970 | 10.09 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 148685 | 8.95 | ug/L | 94 |
| 42) Carbon tetrachloride | 5.734 | 119 | 645169 | 10.04 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 669808 | 10.35 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 1254363 | 9.74 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG094.D
Acq On : 11 Jun 2024 14:39
Sample : VOE2F04C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 17:01:36 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.373 | 130 | 307489 | 8.65 | ug/L | 98 |
| 46) Methyl methacrylate | 6.439 | 69 | 188126 | 5.97 | ug/L | 78 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 309948 | 9.43 | ug/L | 91 |
| 50) Bromodichloromethane | 6.769 | 83 | 630062 | 10.13 | ug/L | 97 |
| 51) Dibromomethane | 6.857 | 93 | 235423 | 8.80 | ug/L | 97 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 102188 | 6.28 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1367442 | 37.97 | ug/L | 97 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 558773 | 9.72 | ug/L | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 377587 | 10.04 | ug/L | 95 |
| 58) Toluene | 7.693 | 91 | 1291225 | 10.34 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 571984 | 10.70 | ug/l | 99 |
| 60) 2-Hexanone | 7.935 | 43 | 934321 | 41.37 | ug/l | 100 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 284396 | 9.59 | ug/l | 96 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 450358 | 10.23 | ug/l | 99 |
| 63) Tetrachloroethene | 8.508 | 164 | 265229 | 9.71 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 402619 | 9.05 | ug/l | 98 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 289885 | 9.07 | ug/l | 99 |
| 66) 1-Chlorohexane | 9.124 | 91 | 429380 | 10.39 | ug/l | 99 |
| 67) Chlorobenzene | 9.619 | 112 | 829948 | 10.06 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 352598 | 10.04 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 1564560 | 10.36 | ug/l | 98 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 2486658 | 20.19 | ug/l | 98 |
| 71) o-Xylene | 10.411 | 91 | 1230876 | 10.56 | ug/l | 100 |
| 72) Styrene | 10.455 | 104 | 841026 | 10.32 | ug/l | 95 |
| 73) Isopropylbenzene | 10.940 | 105 | 1404173 | 10.57 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 252254 | 8.10 | ug/l | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 353612 | 8.89 | ug/l | 95 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 103207 | 9.40 | ug/l | 92 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 98217 | 8.84 | ug/l | 94 |
| 80) n-Propylbenzene | 11.578 | 91 | 1746437 | 9.66 | ug/l | 98 |
| 81) Bromobenzene | 11.732 | 156 | 360780 | 9.09 | ug/l | 98 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 1203026 | 9.68 | ug/l | 97 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1047325 | 9.38 | ug/l | 96 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 1126160 | 11.97 | ug/l | 96 |
| 85) tert-Butylbenzene | 12.403 | 134 | 181405 | 9.43 | ug/l | 97 |
| 86) 1,2,4-Trimethylbenzene | 12.469 | 105 | 1192047 | 9.80 | ug/l | 97 |
| 87) sec-Butylbenzene | 12.745 | 105 | 1337130 | 9.49 | ug/l | 99 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1112699 | 9.41 | ug/l | 98 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 600613 | 10.56 | ug/l | 98 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 1168204 | 9.70 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 609827 | 10.32 | ug/l | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 1101247 | 9.79 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 570193 | 9.15 | ug/l | 99 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 61363 | 7.59 | ug/l | 99 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 363876 | 9.58 | ug/l | 97 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 211631 | 9.83 | ug/l | 98 |
| 97) Naphthalene | 16.871 | 128 | 805049 | 8.36 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 343180 | 9.50 | ug/l | 97 |

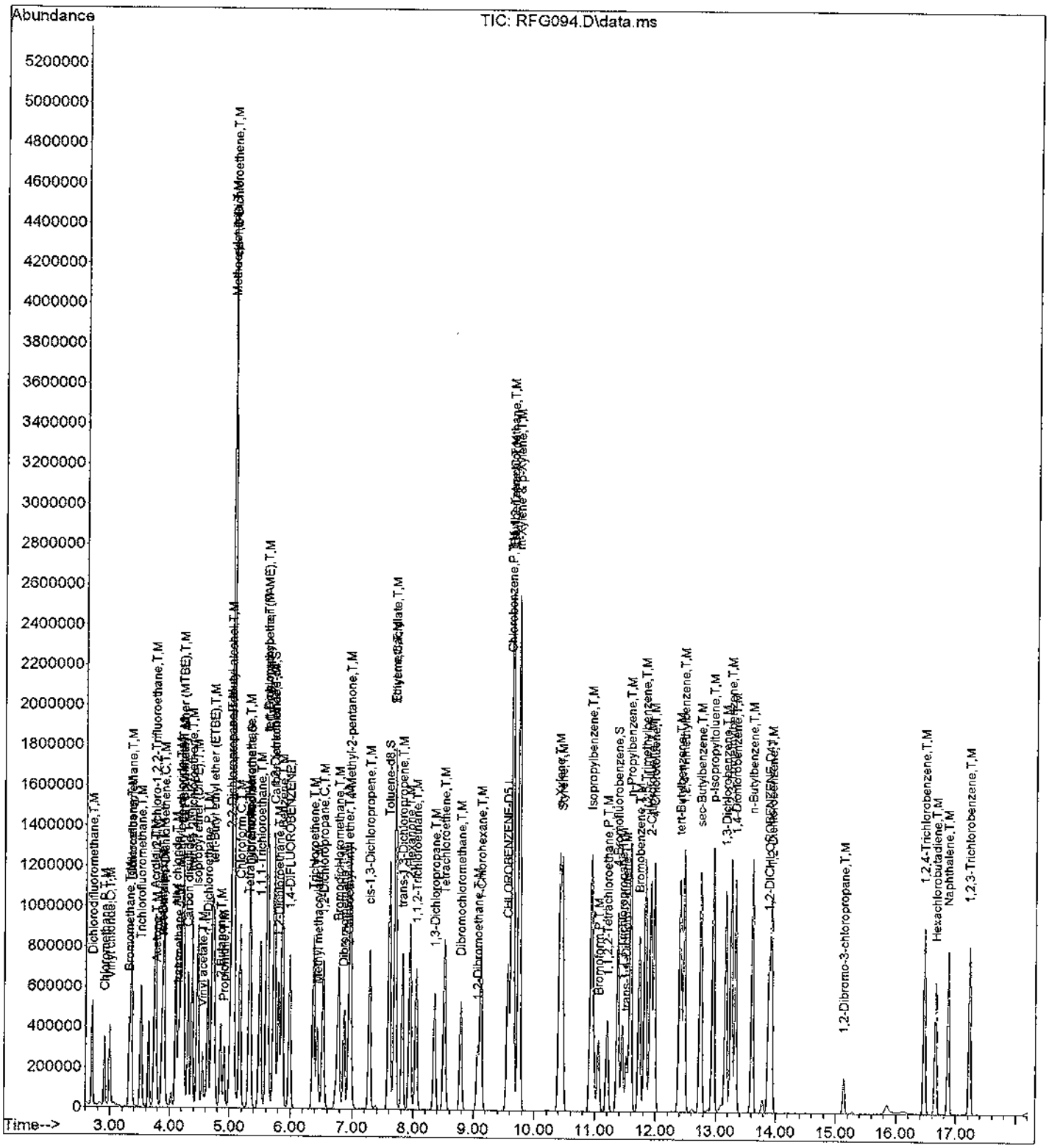
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG094.D
Acq On : 11 Jun 2024 14:39
Sample : VOE2F04C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 17:01:36 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu Jun 13 17:01:46 2024

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG127.D
Acq On : 13 Jun 2024 11:31
Sample : VOE2F05B
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 17:52:32 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 516821 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 418923 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 189458 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 296664 | 9.37 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 93.70% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 438986 | 10.49 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.90% | | |
| 56) Toluene-d8 | 7.594 | 98 | 866529 | 10.41 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.10% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 338643 | 11.26 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 112.60% | | |
| Target Compounds | | | | | | Qvalue |

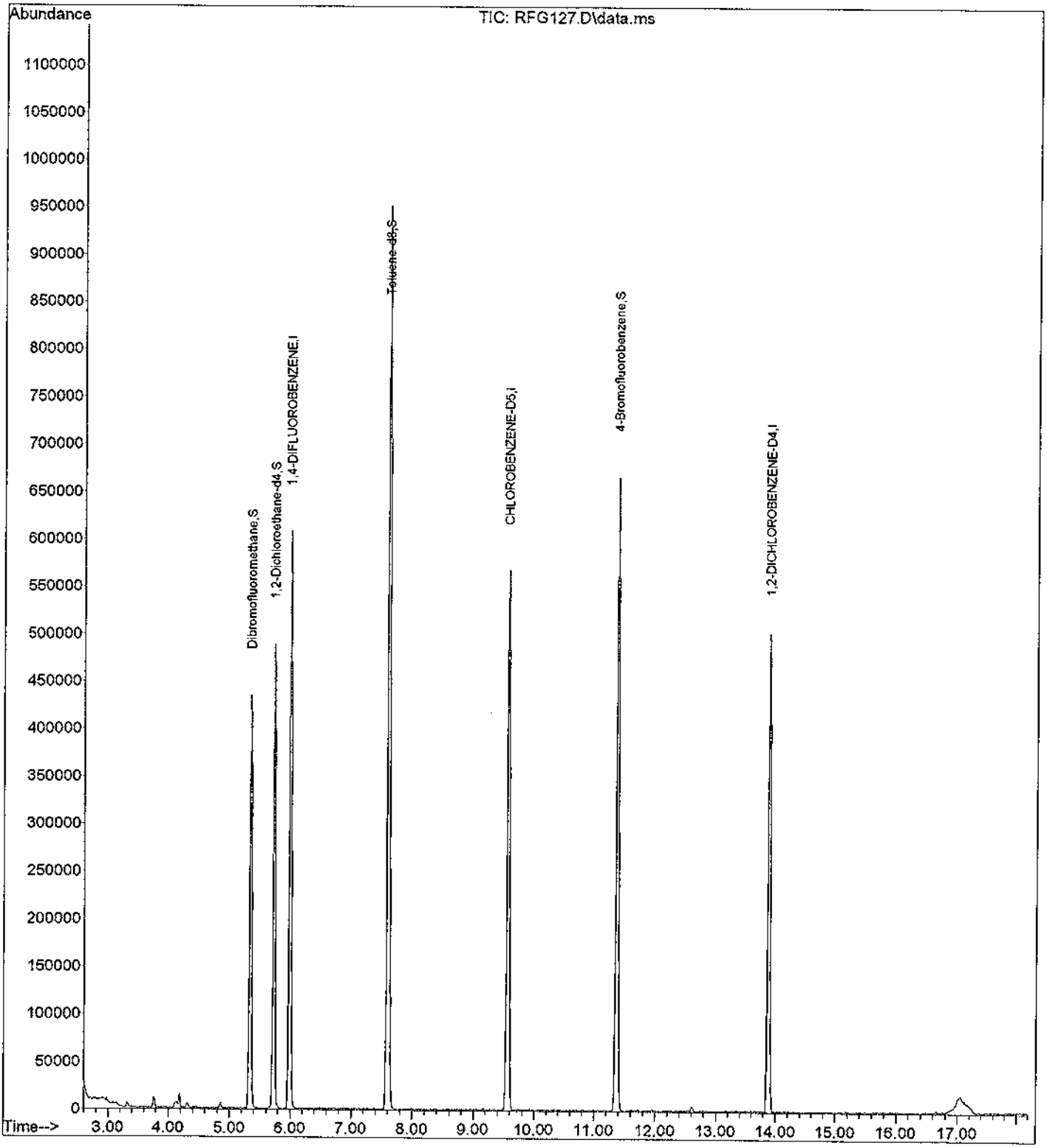
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG127.D
Acq On : 13 Jun 2024 11:31
Sample : VOE2F05B
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 17:52:32 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG124.D
Acq On : 13 Jun 2024 10:20
Sample : VOE2F05L
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:04:58 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 546903 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 471957 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 227711 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 320860 | 9.58 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 95.80% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 464776 | 10.50 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.00% | | |
| 56) Toluene-d8 | 7.594 | 98 | 927793 | 9.89 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.90% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 380040 | 10.51 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.10% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 370579 | 11.81 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 237614 | 10.55 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 297958 | 12.53 | ug/l | 96 |
| 5) Bromomethane | 3.313 | 94 | 169406 | 10.53 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 612805 | 11.27 | ug/L | 97 |
| 7) Chloroethane | 3.346 | 64 | 139074 | 11.93 | ug/l | 100 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 490776 | 9.18 | ug/l | 97 |
| 9) Acrolein | 3.742 | 56 | 166344 | 46.77 | ug/l | 96 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 222895 | 9.57 | ug/l | 99 |
| 11) Acetone | 3.764 | 43 | 404578 | 58.21 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 775685 | 233.24 | ug/L | 97 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 564732 | 11.55 | ug/l | 94 |
| 14) Acetonitrile | 3.874 | 41 | 169384 | 102.63 | ug/L | 94 |
| 15) Allyl chloride | 4.106 | 76 | 146035 | 11.31 | ug/L | 97 |
| 16) Iodomethane | 4.150 | 142 | 210806 | 8.17 | ug/l | 93 |
| 18) Methylene chloride | 4.183 | 49 | 528617 | 15.51 | ug/l | 87 |
| 19) Acrylonitrile | 4.216 | 53 | 475497 | 57.83 | ug/l | 100 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 919518 | 11.25 | ug/L | 94 |
| 21) Carbon disulfide | 4.315 | 76 | 837630 | 11.18 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 268193 | 10.28 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1139876 | 13.71 | ug/l | 95 |
| 24) Vinyl acetate | 4.546 | 43 | 434944 | 9.18 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 648926 | 12.30 | ug/l | 96 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1173433 | 11.62 | ug/l | 97 |
| 27) 2-Butanone | 4.854 | 72 | 117114 | 45.63 | ug/l | 95 |
| 28) Propionitrile | 4.909 | 54 | 336205 | 111.19 | ug/L | 97 |
| 29) Isobutyl alcohol | 5.030 | 43 | 221410 | 207.25 | ug/L | 88 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 611848 | 11.59 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 587223 | 118.29 | ug/L | 90 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 321897 | 10.84 | ug/l | 98 |
| 33) Chloroform | 5.173 | 83 | 684638 | 10.47 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 176930 | 10.14 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.316 | 42 | 82081 | 11.91 | ug/L | 83 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 650080 | 11.02 | ug/l | 97 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 216713 | 12.03 | ug/l | 96 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 141574 | 10.96 | ug/L | 97 |
| 42) Carbon tetrachloride | 5.734 | 119 | 532142 | 10.66 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 606116 | 12.06 | ug/L | 94 |
| 44) Benzene | 5.866 | 78 | 1115387 | 11.15 | ug/L | 95 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG124.D
Acq On : 13 Jun 2024 10:20
Sample : VOE2F05L
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:04:58 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.373 | 130 | 280577 | 10.16 | ug/L | 98 |
| 46) | Methyl methacrylate | 6.439 | 69 | 176273 | 7.20 | ug/L | 95 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 314106 | 12.30 | ug/L | 93 |
| 50) | Bromodichloromethane | 6.780 | 83 | 518764 | 10.73 | ug/L | 99 |
| 51) | Dibromomethane | 6.868 | 93 | 197360 | 9.50 | ug/L | 95 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 152426 | 12.05 | ug/L | 99 |
| 53) | 4-Methyl-2-pentanone | 6.967 | 43 | 1616373 | 57.77 | ug/L | 98 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 503108 | 11.26 | ug/L | 92 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 334468 | 10.38 | ug/L | 80 |
| 58) | Toluene | 7.693 | 91 | 1174684 | 10.97 | ug/l | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 500400 | 10.93 | ug/l | 91 |
| 60) | 2-Hexanone | 7.946 | 43 | 1079287 | 55.77 | ug/l | 99 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 253013 | 9.96 | ug/l | 99 |
| 62) | 1,3-Dichloropropane | 8.354 | 76 | 403992 | 10.71 | ug/l | 99 |
| 63) | Tetrachloroethene | 8.519 | 164 | 242249 | 10.35 | ug/l | 99 |
| 64) | Dibromochloromethane | 8.783 | 129 | 346004 | 9.08 | ug/l | 98 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 256027 | 9.35 | ug/l | 97 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 385601 | 10.89 | ug/l | 98 |
| 67) | Chlorobenzene | 9.619 | 112 | 716467 | 10.13 | ug/l | 98 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 309874 | 10.30 | ug/l | 99 |
| 69) | Ethylbenzene | 9.641 | 91 | 1394215 | 10.77 | ug/l | 99 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 2230802 | 21.14 | ug/l | 99 |
| 71) | o-Xylene | 10.412 | 91 | 1101370 | 11.03 | ug/l | 99 |
| 72) | Styrene | 10.456 | 104 | 786661 | 11.26 | ug/l | 97 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1308091 | 11.49 | ug/L | 99 |
| 75) | Bromoform | 11.061 | 173 | 206674 | 8.32 | ug/l | 99 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 303906 | 9.58 | ug/l | 99 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 86362 | 9.86 | ug/l | 99 |
| 79) | trans-1,4-Dichloro-2-b... | 11.523 | 53 | 96896 | 10.93 | ug/l | 85 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1564286 | 10.83 | ug/l | 99 |
| 81) | Bromobenzene | 11.732 | 156 | 300834 | 9.49 | ug/l | 99 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 1099870 | 11.08 | ug/l | 98 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 1019693 | 11.44 | ug/l | 91 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 921395 | 12.28 | ug/l | 96 |
| 85) | tert-Butylbenzene | 12.415 | 134 | 165005 | 10.74 | ug/l | 93 |
| 86) | 1,2,4-Trimethylbenzene | 12.481 | 105 | 1097956 | 11.31 | ug/l | 95 |
| 87) | sec-Butylbenzene | 12.756 | 105 | 1247116 | 11.09 | ug/l | 98 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 1021790 | 10.83 | ug/l | 99 |
| 89) | 1,3-Dichlorobenzene | 13.174 | 146 | 525136 | 11.61 | ug/l | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.262 | 105 | 1087426 | 11.30 | ug/L | 98 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 540130 | 11.49 | ug/l | 98 |
| 92) | n-Butylbenzene | 13.614 | 91 | 972431 | 10.83 | ug/l | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 492598 | 9.90 | ug/l | 99 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 48625 | 7.53 | ug/l | 99 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 304081 | 10.05 | ug/l | 97 |
| 96) | Hexachlorobutadiene | 16.663 | 225 | 162663 | 9.46 | ug/l | 98 |
| 97) | Naphthalene | 16.872 | 128 | 709546 | 9.23 | ug/l | 98 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 277076 | 9.62 | ug/l | 99 |

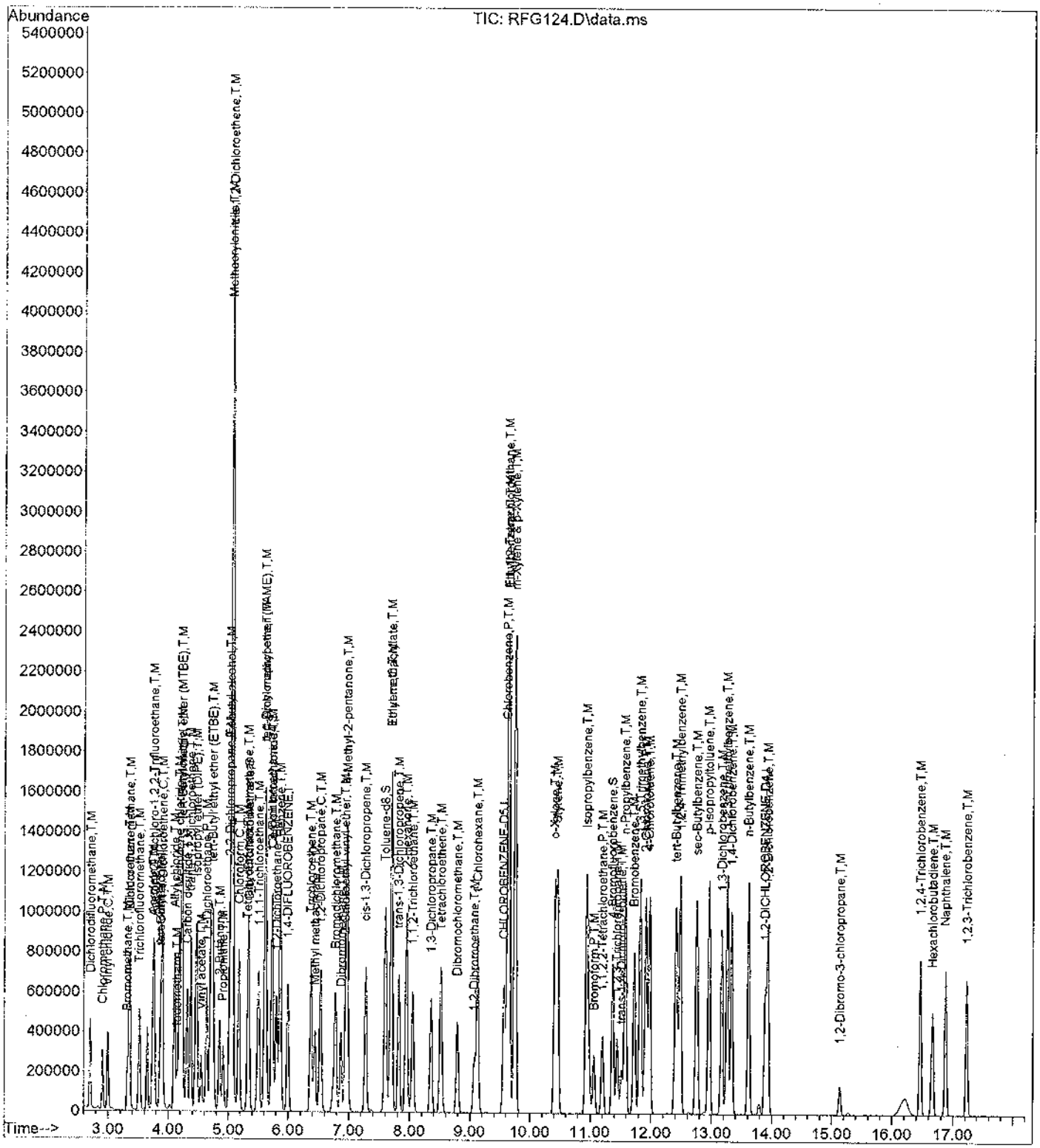
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG124.D
Acq On : 13 Jun 2024 10:20
Sample : VOE2F05L
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:04:58 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG125.D
Acq On : 13 Jun 2024 10:44
Sample : VOE2F05C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:08:28 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 558714 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 480301 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 220875 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 326349 | 9.54 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 95.40% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 467509 | 10.34 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 103.40% | | |
| 56) Toluene-d8 | 7.594 | 98 | 938954 | 9.84 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.40% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 395119 | 11.27 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 112.70% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 396465 | 12.36 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 241439 | 10.49 | ug/l | 97 |
| 4) Vinyl chloride | 2.994 | 62 | 308384 | 12.69 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 176632 | 10.75 | ug/l | 94 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 637940 | 11.49 | ug/L | 98 |
| 7) Chloroethane | 3.346 | 64 | 145123 | 12.19 | ug/l | 99 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 517674 | 9.48 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 165289 | 45.49 | ug/l | 97 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 231201 | 9.71 | ug/l | 99 |
| 11) Acetone | 3.764 | 43 | 401857 | 56.46 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 825122 | 242.86 | ug/L | 96 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 585487 | 11.72 | ug/l | 93 |
| 14) Acetonitrile | 3.874 | 41 | 186340 | 110.52 | ug/L | 96 |
| 15) Allyl chloride | 4.105 | 76 | 155248 | 11.77 | ug/L | 96 |
| 16) Iodomethane | 4.149 | 142 | 229268 | 8.68 | ug/l | 92 |
| 18) Methylene chloride | 4.183 | 49 | 535617 | 15.38 | ug/l | 88 |
| 19) Acrylonitrile | 4.216 | 53 | 474409 | 56.48 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 953544 | 11.42 | ug/L | 96 |
| 21) Carbon disulfide | 4.304 | 76 | 828558 | 10.83 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 271393 | 10.19 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 1160156 | 13.66 | ug/l | 95 |
| 24) Vinyl acetate | 4.546 | 43 | 433767 | 8.96 | ug/l | 97 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 660679 | 12.26 | ug/l | 97 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1212355 | 11.75 | ug/l | 97 |
| 27) 2-Butanone | 4.854 | 72 | 115373 | 44.01 | ug/l | 93 |
| 28) Propionitrile | 4.909 | 54 | 358005 | 115.90 | ug/L | 100 |
| 29) Isobutyl alcohol | 5.030 | 43 | 242331 | 222.04 | ug/L | 91 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 625642 | 11.60 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 618503 | 121.96 | ug/L | 91 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 323214 | 10.66 | ug/l | 98 |
| 33) Chloroform | 5.173 | 83 | 691773 | 10.35 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 186726 | 10.48 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.327 | 42 | 85716 | 12.17 | ug/L | 85 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 654206 | 10.86 | ug/l | 96 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 227383 | 12.35 | ug/l | 95 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 143479 | 10.88 | ug/L | 97 |
| 42) Carbon tetrachloride | 5.734 | 119 | 553203 | 10.85 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 615957 | 11.99 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 1144567 | 11.20 | ug/L | 95 |

Data File : D:\Data\24F13\RFG125.D
Acq On : 13 Jun 2024 10:44
Sample : VOE2F05C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:08:28 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.373 | 130 | 292466 | 10.36 | ug/L | 98 |
| 46) Methyl methacrylate | 6.428 | 69 | 185722 | 7.43 | ug/L | 99 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 327185 | 12.54 | ug/L | 94 |
| 50) Bromodichloromethane | 6.769 | 83 | 538839 | 10.91 | ug/L | 98 |
| 51) Dibromomethane | 6.857 | 93 | 202716 | 9.55 | ug/L | 98 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 158835 | 12.29 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1644097 | 57.52 | ug/L | 97 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 513315 | 11.25 | ug/L | 92 |
| 57) Ethyl methacrylate | 7.693 | 69 | 362766 | 11.07 | ug/L | 86 |
| 58) Toluene | 7.693 | 91 | 1192216 | 10.94 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 519936 | 11.15 | ug/l | 92 |
| 60) 2-Hexanone | 7.935 | 43 | 1076140 | 54.64 | ug/l | 100 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 256658 | 9.93 | ug/l | 98 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 419577 | 10.93 | ug/l | 99 |
| 63) Tetrachloroethene | 8.508 | 164 | 252406 | 10.60 | ug/l | 97 |
| 64) Dibromochloromethane | 8.783 | 129 | 374369 | 9.65 | ug/l | 98 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 273889 | 9.83 | ug/l | 98 |
| 66) 1-Chlorohexane | 9.124 | 91 | 400590 | 11.11 | ug/l | 100 |
| 67) Chlorobenzene | 9.619 | 112 | 730696 | 10.16 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 317133 | 10.36 | ug/l | 100 |
| 69) Ethylbenzene | 9.641 | 91 | 1461697 | 11.10 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 2296752 | 21.39 | ug/l | 99 |
| 71) o-Xylene | 10.411 | 91 | 1134364 | 11.16 | ug/l | 99 |
| 72) Styrene | 10.455 | 104 | 808131 | 11.37 | ug/l | 97 |
| 73) Isopropylbenzene | 10.940 | 105 | 1337374 | 11.55 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 219425 | 9.10 | ug/l | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 320829 | 10.42 | ug/l | 98 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 88554 | 10.42 | ug/l | 99 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 98250 | 11.42 | ug/l | 86 |
| 80) n-Propylbenzene | 11.578 | 91 | 1610667 | 11.50 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 316798 | 10.31 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 1151985 | 11.96 | ug/l | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 969150 | 11.21 | ug/l | 99 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 1022405 | 14.11 | ug/l | 97 |
| 85) tert-Butylbenzene | 12.403 | 134 | 169045 | 11.34 | ug/l | 99 |
| 86) 1,2,4-Trimethylbenzene | 12.469 | 105 | 1126228 | 11.96 | ug/l | 97 |
| 87) sec-Butylbenzene | 12.745 | 105 | 1294377 | 11.86 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1057237 | 11.55 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 544762 | 12.45 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 1140000 | 12.22 | ug/L | 97 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 547054 | 12.02 | ug/l | 97 |
| 92) n-Butylbenzene | 13.614 | 91 | 1009248 | 11.59 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 519031 | 10.76 | ug/l | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 53092 | 8.48 | ug/l | 98 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 306824 | 10.47 | ug/l | 97 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 168802 | 10.12 | ug/l | 97 |
| 97) Naphthalene | 16.871 | 128 | 733502 | 9.83 | ug/l | 98 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 288985 | 10.37 | ug/l | 99 |

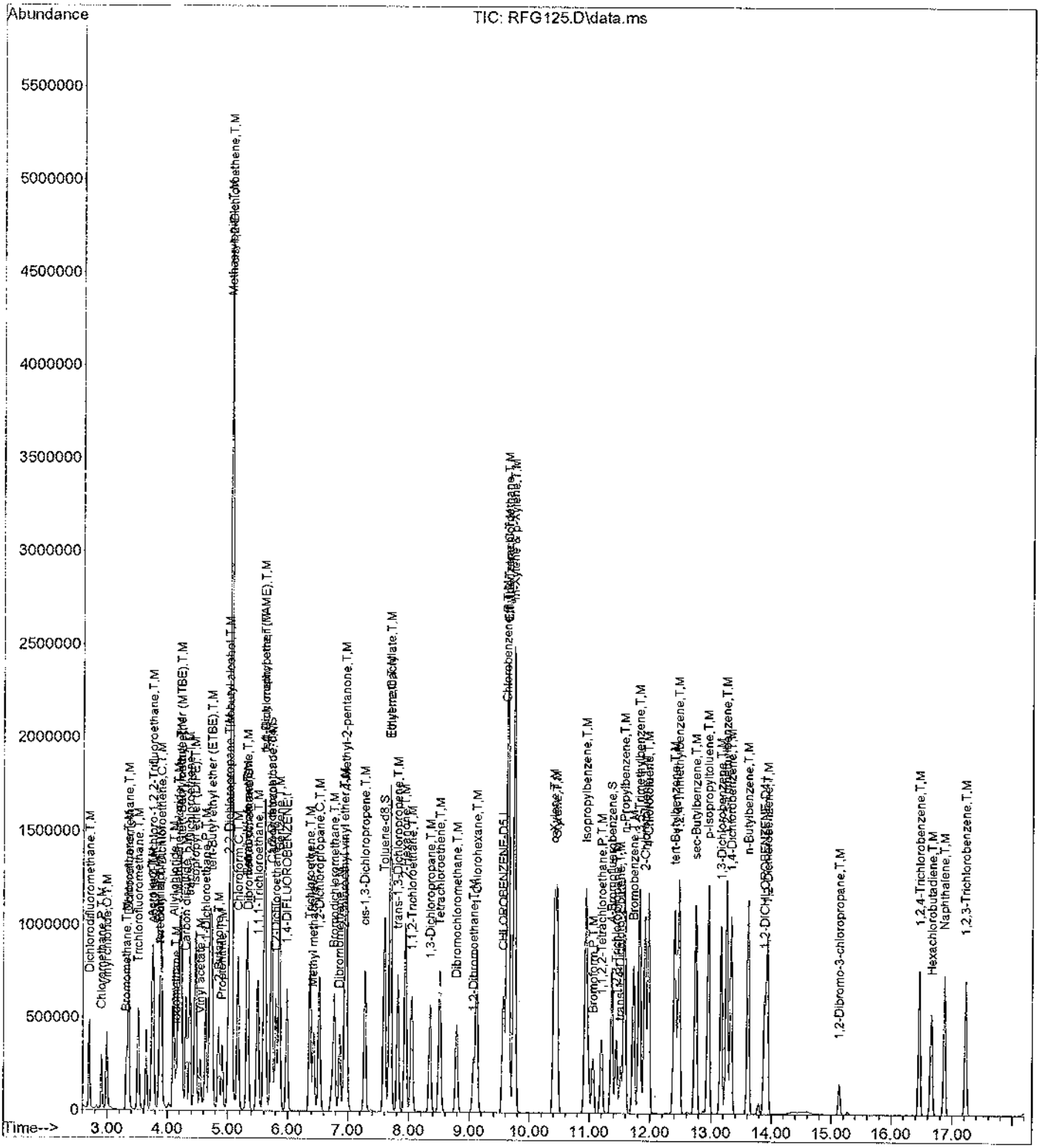
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG125.D
Acq On : 13 Jun 2024 10:44
Sample : VOE2F05C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:08:28 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG157.D
Acq On : 14 Jun 2024 13:46
Sample : VOE2F06B
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 19:40:19 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 495022 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 408577 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 172895 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 269201 | 8.88 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 88.80% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 409452 | 10.22 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 102.20% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 772634 | 9.52 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 95.20% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 290334 | 10.58 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.80% | | | |
| Target Compounds | | | | | | Qvalue |

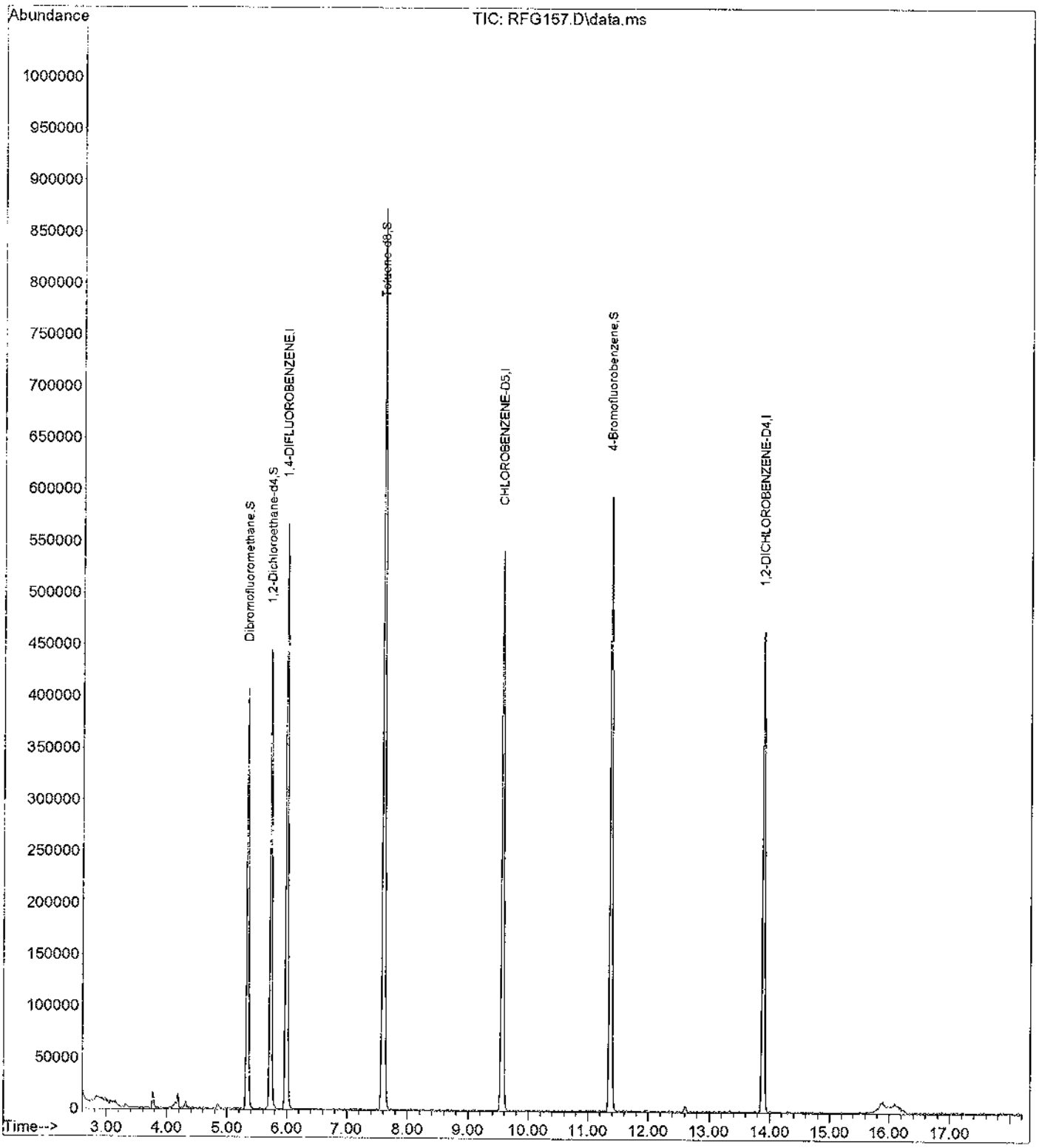
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG157.D
Acq On : 14 Jun 2024 13:46
Sample : VOE2F06B
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 19:40:19 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG154.D
Acq On : 14 Jun 2024 12:35
Sample : VOE2F06L
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:41:20 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 533808 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 446338 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 205070 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 294326 | 9.00 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 90.00% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 440420 | 10.19 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.90% | | |
| 56) Toluene-d8 | 7.594 | 98 | 848303 | 9.56 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 95.60% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 348701 | 10.71 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.10% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 388749 | 12.69 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 217673 | 9.90 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 278896 | 12.01 | ug/l | 100 |
| 5) Bromomethane | 3.313 | 94 | 70107 | 4.46 | ug/l | 93 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 559816 | 10.55 | ug/L | 97 |
| 7) Chloroethane | 3.346 | 64 | 134809 | 11.85 | ug/l | 99 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 524658 | 10.06 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 140795 | 40.56 | ug/l | 97 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 202112 | 8.89 | ug/l | 99 |
| 11) Acetone | 3.764 | 43 | 365350 | 53.48 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 764837 | 235.62 | ug/L | 95 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 516735 | 10.83 | ug/l | 93 |
| 14) Acetonitrile | 3.874 | 41 | 164940 | 102.39 | ug/L | 94 |
| 15) Allyl chloride | 4.106 | 76 | 129743 | 10.30 | ug/L | 99 |
| 16) Iodomethane | 4.150 | 142 | 121310 | 4.94 | ug/l | 99 |
| 18) Methylene chloride | 4.183 | 49 | 466922 | 13.96 | ug/l | 86 |
| 19) Acrylonitrile | 4.216 | 53 | 404125 | 50.35 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 852819 | 10.69 | ug/L | 96 |
| 21) Carbon disulfide | 4.315 | 76 | 775575 | 10.61 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 238375 | 9.36 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1011831 | 12.47 | ug/l | 95 |
| 24) Vinyl acetate | 4.546 | 43 | 423189 | 9.15 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 575949 | 11.19 | ug/l | 96 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1057885 | 10.73 | ug/l | 96 |
| 27) 2-Butanone | 4.854 | 72 | 106128 | 42.37 | ug/l | 95 |
| 28) Propionitrile | 4.909 | 54 | 325762 | 110.38 | ug/L | 97 |
| 29) Isobutyl alcohol | 5.030 | 43 | 225250 | 216.02 | ug/L | 95 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 565774 | 10.98 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 550193 | 113.55 | ug/L | 90 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 286157 | 9.87 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 618660 | 9.69 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 163330 | 9.59 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.327 | 42 | 75029 | 11.15 | ug/L | 86 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 586390 | 10.18 | ug/l | 96 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 203441 | 11.57 | ug/l | 97 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 130009 | 10.31 | ug/L | 93 |
| 42) Carbon tetrachloride | 5.734 | 119 | 492744 | 10.11 | ug/L | 98 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 564946 | 11.51 | ug/L | 99 |
| 44) Benzene | 5.866 | 78 | 993212 | 10.17 | ug/L | 96 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG154.D
Acq On : 14 Jun 2024 12:35
Sample : VOE2F06L
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:41:20 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

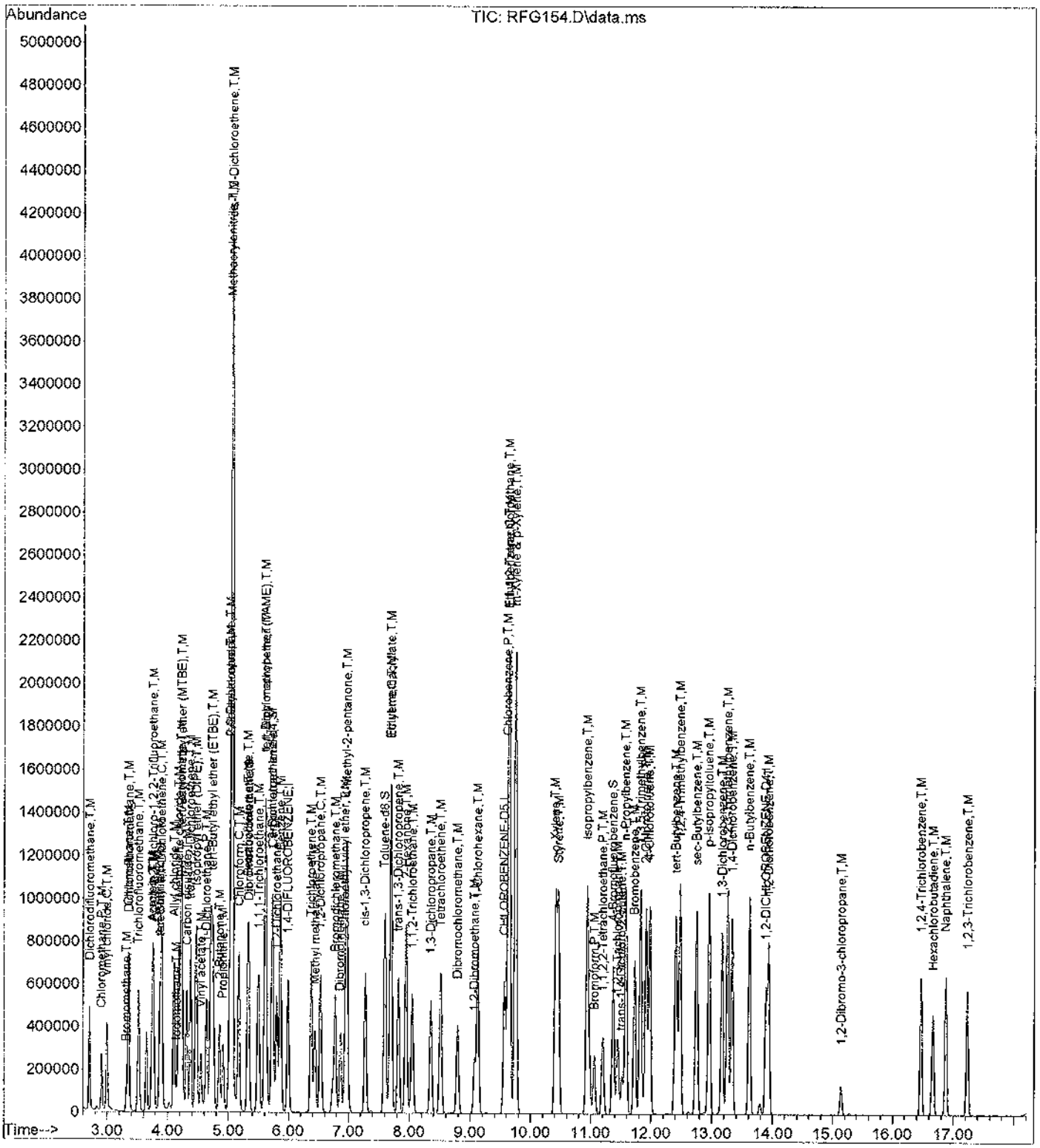
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.373 | 130 | 254185 | 9.43 | ug/L | 98 |
| 46) | Methyl methacrylate | 6.439 | 69 | 161680 | 6.77 | ug/L | 99 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 283040 | 11.35 | ug/L | 96 |
| 50) | Bromodichloromethane | 6.780 | 83 | 477245 | 10.12 | ug/L | 100 |
| 51) | Dibromomethane | 6.857 | 93 | 185617 | 9.15 | ug/L | 94 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 137241 | 11.12 | ug/L | 97 |
| 53) | 4-Methyl-2-pentanone | 6.967 | 43 | 1448806 | 53.05 | ug/L | 97 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 449519 | 10.31 | ug/L | 91 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 310841 | 10.20 | ug/L | 82 |
| 58) | Toluene | 7.693 | 91 | 1032946 | 10.20 | ug/l | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 447760 | 10.34 | ug/l | 88 |
| 60) | 2-Hexanone | 7.946 | 43 | 960694 | 52.49 | ug/l | 98 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 228738 | 9.52 | ug/l | 99 |
| 62) | 1,3-Dichloropropane | 8.354 | 76 | 363863 | 10.20 | ug/l | 100 |
| 63) | Tetrachloroethene | 8.508 | 164 | 214449 | 9.69 | ug/l | 99 |
| 64) | Dibromochloromethane | 8.783 | 129 | 323042 | 8.96 | ug/l | 100 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 242956 | 9.38 | ug/l | 98 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 348171 | 10.39 | ug/l | 92 |
| 67) | Chlorobenzene | 9.619 | 112 | 646055 | 9.66 | ug/l | 100 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 279684 | 9.83 | ug/l | 99 |
| 69) | Ethylbenzene | 9.641 | 91 | 1235773 | 10.10 | ug/l | 98 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 2008517 | 20.13 | ug/l | 99 |
| 71) | o-Xylene | 10.412 | 91 | 980215 | 10.38 | ug/l | 100 |
| 72) | Styrene | 10.467 | 104 | 704025 | 10.66 | ug/l | 99 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1159339 | 10.77 | ug/L | 98 |
| 75) | Bromoform | 11.061 | 173 | 196222 | 8.77 | ug/l | 98 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 279983 | 9.80 | ug/l | 99 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 82802 | 10.49 | ug/l | 98 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 71764 | 8.99 | ug/l | 87 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1375962 | 10.58 | ug/l | 98 |
| 81) | Bromobenzene | 11.732 | 156 | 276619 | 9.69 | ug/l | 99 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 990073 | 11.08 | ug/l | 96 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 908314 | 11.32 | ug/l | 92 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 813077 | 12.02 | ug/l | 97 |
| 85) | tert-Butylbenzene | 12.414 | 134 | 136851 | 9.89 | ug/l | 94 |
| 86) | 1,2,4-Trimethylbenzene | 12.480 | 105 | 1001120 | 11.45 | ug/l | 94 |
| 87) | sec-Butylbenzene | 12.756 | 105 | 1102653 | 10.88 | ug/l | 97 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 906141 | 10.66 | ug/l | 100 |
| 89) | 1,3-Dichlorobenzene | 13.174 | 146 | 472311 | 11.59 | ug/l | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.262 | 105 | 975085 | 11.26 | ug/L | 97 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 480486 | 11.35 | ug/l | 98 |
| 92) | n-Butylbenzene | 13.614 | 91 | 846306 | 10.47 | ug/l | 98 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 434726 | 9.70 | ug/l | 99 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 45466 | 7.82 | ug/l | 96 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 256747 | 9.40 | ug/l | 96 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 144149 | 9.31 | ug/l | 98 |
| 97) | Naphthalene | 16.872 | 128 | 632949 | 9.14 | ug/l | 99 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 237211 | 9.12 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG154.D Vial: 3
Acq On : 14 Jun 2024 12:35 Operator: DNguye
Sample : VOE2F06L Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 19:41:20 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG155.D
Acq On : 14 Jun 2024 12:58
Sample : VOE2F06C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:42:03 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 528358 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 450867 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 206285 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 290055 | 8.96 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 89.60% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 438393 | 10.25 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 835268 | 9.32 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 93.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 343893 | 10.50 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 339057 | 11.18 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 194741 | 8.95 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 260731 | 11.35 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 77614 | 4.99 | ug/l | 95 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 587761 | 11.19 | ug/L | 97 |
| 7) Chloroethane | 3.346 | 64 | 121353 | 10.78 | ug/l | 95 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 462023 | 8.95 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 151713 | 44.15 | ug/l | 97 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 215510 | 9.57 | ug/l | 98 |
| 11) Acetone | 3.764 | 43 | 391055 | 58.24 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 803561 | 250.10 | ug/L | 96 |
| 13) 1,1-Dichloroethene | 3.897 | 61 | 550514 | 11.66 | ug/l | 93 |
| 14) Acetonitrile | 3.874 | 41 | 171141 | 107.33 | ug/L | 97 |
| 15) Allyl chloride | 4.106 | 76 | 139004 | 11.15 | ug/L | 97 |
| 16) Iodomethane | 4.150 | 142 | 134476 | 5.49 | ug/l | 100 |
| 18) Methylene chloride | 4.183 | 49 | 482468 | 14.61 | ug/l | 87 |
| 19) Acrylonitrile | 4.216 | 53 | 460187 | 57.93 | ug/l | 97 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 899822 | 11.40 | ug/L | 95 |
| 21) Carbon disulfide | 4.315 | 76 | 777051 | 10.74 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 255019 | 10.12 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1062580 | 13.23 | ug/l | 96 |
| 24) Vinyl acetate | 4.546 | 43 | 424513 | 9.28 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 616523 | 12.10 | ug/l | 96 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1107440 | 11.35 | ug/l | 95 |
| 27) 2-Butanone | 4.854 | 72 | 112061 | 45.20 | ug/l | 93 |
| 28) Propionitrile | 4.909 | 54 | 349284 | 119.57 | ug/L | 97 |
| 29) Isobutyl alcohol | 5.030 | 43 | 236026 | 228.69 | ug/L | 93 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 588809 | 11.54 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 590823 | 123.19 | ug/L | 91 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 293317 | 10.23 | ug/l | 98 |
| 33) Chloroform | 5.173 | 83 | 662886 | 10.49 | ug/l | 96 |
| 34) Bromochloromethane | 5.327 | 130 | 176912 | 10.50 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.316 | 42 | 81682 | 12.27 | ug/L | 86 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 619965 | 10.88 | ug/l | 96 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 211481 | 12.15 | ug/l | 98 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 133330 | 10.69 | ug/L | 96 |
| 42) Carbon tetrachloride | 5.734 | 119 | 520337 | 10.79 | ug/L | 98 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 588529 | 12.12 | ug/L | 99 |
| 44) Benzene | 5.866 | 78 | 1062397 | 10.99 | ug/L | 96 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG155.D
Acq On : 14 Jun 2024 12:58
Sample : VOE2F06C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:42:03 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.373 | 130 | 268657 | 10.07 | ug/L | 98 |
| 46) Methyl methacrylate | 6.439 | 69 | 178385 | 7.54 | ug/L | 97 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 300370 | 12.17 | ug/L | 94 |
| 50) Bromodichloromethane | 6.769 | 83 | 508552 | 10.89 | ug/L | 99 |
| 51) Dibromomethane | 6.857 | 93 | 197762 | 9.85 | ug/L | 96 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 145309 | 11.89 | ug/L | 98 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1545664 | 57.18 | ug/L | 97 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 482820 | 11.19 | ug/L | 91 |
| 57) Ethyl methacrylate | 7.693 | 69 | 336834 | 10.95 | ug/L | 80 |
| 58) Toluene | 7.693 | 91 | 1106988 | 10.83 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 482777 | 11.03 | ug/l | 89 |
| 60) 2-Hexanone | 7.935 | 43 | 1039555 | 56.23 | ug/l | 100 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 244912 | 10.09 | ug/l | 97 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 393240 | 10.91 | ug/l | 99 |
| 63) Tetrachloroethene | 8.508 | 164 | 226790 | 10.15 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 354284 | 9.73 | ug/l | 99 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 255477 | 9.77 | ug/l | 95 |
| 66) 1-Chlorohexane | 9.124 | 91 | 373992 | 11.05 | ug/l | 91 |
| 67) Chlorobenzene | 9.619 | 112 | 691225 | 10.23 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 305615 | 10.63 | ug/l | 100 |
| 69) Ethylbenzene | 9.641 | 91 | 1337503 | 10.82 | ug/l | 99 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 2119433 | 21.03 | ug/l | 99 |
| 71) o-Xylene | 10.412 | 91 | 1069112 | 11.20 | ug/l | 99 |
| 72) Styrene | 10.456 | 104 | 747009 | 11.19 | ug/l | 96 |
| 73) Isopropylbenzene | 10.940 | 105 | 1247165 | 11.47 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 202632 | 9.00 | ug/l | 97 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 303363 | 10.55 | ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 86303 | 10.87 | ug/l | 99 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 88240 | 10.99 | ug/l | 82 |
| 80) n-Propylbenzene | 11.578 | 91 | 1475572 | 11.28 | ug/l | 98 |
| 81) Bromobenzene | 11.732 | 156 | 291297 | 10.15 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 1062633 | 11.82 | ug/l | 97 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 904016 | 11.20 | ug/l | 98 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 948439 | 14.02 | ug/l | 97 |
| 85) tert-Butylbenzene | 12.403 | 134 | 147518 | 10.60 | ug/l | 96 |
| 86) 1,2,4-Trimethylbenzene | 12.470 | 105 | 1054414 | 11.99 | ug/l | 97 |
| 87) sec-Butylbenzene | 12.745 | 105 | 1178440 | 11.56 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 973337 | 11.38 | ug/l | 100 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 516024 | 12.63 | ug/l | 98 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 1047235 | 12.02 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 512063 | 12.05 | ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 924526 | 11.37 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 478108 | 10.61 | ug/l | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 50520 | 8.64 | ug/l | 95 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 277472 | 10.12 | ug/l | 99 |
| 96) Hexachlorobutadiene | 16.663 | 225 | 158641 | 10.18 | ug/l | 97 |
| 97) Naphthalene | 16.872 | 128 | 693892 | 9.96 | ug/l | 98 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 262367 | 10.07 | ug/l | 97 |

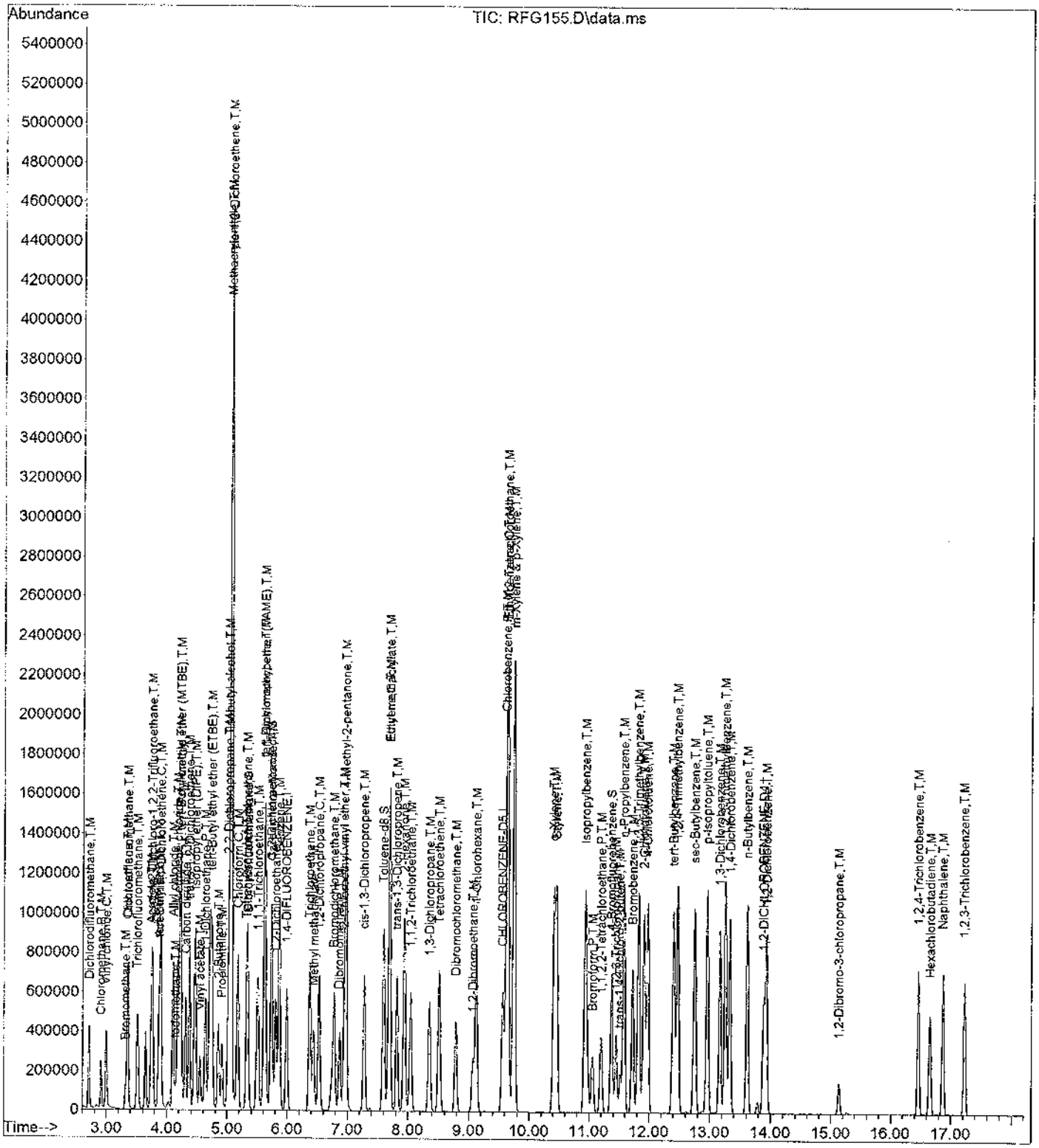
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG155.D
Acq On : 14 Jun 2024 12:58
Sample : VOE2F06C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:42:03 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG133.D
Acq On : 13 Jun 2024 14:41
Sample : 24F019-02M
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:41:24 2024
Quant Results File: VOE2E17.RES

Vial: 12
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 482397 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 411288 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 190647 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 274553 | 9.29 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 92.90% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 403801 | 10.34 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 103.40% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 792100 | 9.69 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 96.90% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 328847 | 10.87 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 108.70% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 339864 | 12.28 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 171654 | 8.64 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 252490 | 12.03 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 98016 | 6.91 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 509440 | 10.63 | ug/L | 96 |
| 7) Chloroethane | 3.346 | 64 | 106843 | 10.39 | ug/l | 95 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 435256 | 9.23 | ug/l | 97 |
| 9) Acrolein | 3.742 | 56 | 120617 | 38.45 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 186582 | 9.08 | ug/l | 98 |
| 11) Acetone | 3.775 | 43 | 312800 | 50.41 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 648139 | 220.95 | ug/L | 95 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 476151 | 11.04 | ug/l | 93 |
| 14) Acetonitrile | 3.874 | 41 | 146908 | 100.91 | ug/L | 100 |
| 15) Allyl chloride | 4.105 | 76 | 122467 | 10.76 | ug/L | 97 |
| 16) Iodomethane | 4.149 | 142 | 122470 | 5.48 | ug/l | 97 |
| 18) Methylene chloride | 4.183 | 49 | 365520 | 11.98 | ug/l | 89 |
| 19) Acrylonitrile | 4.216 | 53 | 358595 | 49.44 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 710098 | 9.85 | ug/L | 97 |
| 21) Carbon disulfide | 4.315 | 76 | 698631 | 10.57 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 216365 | 9.41 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 850744 | 11.60 | ug/l | 96 |
| 24) Vinyl acetate | 4.546 | 43 | 254940 | 6.10 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 511809 | 11.00 | ug/l | 96 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 900977 | 10.12 | ug/l | 96 |
| 27) 2-Butanone | 4.854 | 72 | 86234 | 38.10 | ug/l | 93 |
| 28) Propionitrile | 4.909 | 54 | 261199 | 97.94 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 182852 | 194.05 | ug/L | 97 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 507181 | 10.89 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 454687 | 103.84 | ug/L | 89 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 253746 | 9.69 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 554898 | 9.62 | ug/l | 96 |
| 34) Bromochloromethane | 5.327 | 130 | 141967 | 9.23 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.316 | 42 | 61644 | 10.14 | ug/L | 84 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 539578 | 10.37 | ug/l | 96 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 164162 | 10.33 | ug/l | 94 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 115978 | 10.18 | ug/L | 94 |
| 42) Carbon tetrachloride | 5.734 | 119 | 459744 | 10.44 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 486300 | 10.97 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 879411 | 9.96 | ug/L | 95 |

Data File : D:\Data\24F13\RFG133.D
Acq On : 13 Jun 2024 14:41
Sample : 24F019-02M
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:41:24 2024
Quant Results File: VOE2E17.RES

Vial: 12
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.373 | 130 | 229695 | 9.43 | ug/L | | 98 |
| 46) | Methyl methacrylate | 6.439 | 69 | 129262 | 5.99 | ug/L | | 99 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 245305 | 10.89 | ug/L | | 97 |
| 50) | Bromodichloromethane | 6.769 | 83 | 410684 | 9.63 | ug/L | | 99 |
| 51) | Dibromomethane | 6.857 | 93 | 155723 | 8.50 | ug/L | | 97 |
| 52) | 2-Chloroethyl vinyl ether | 6.956 | 63 | 1620 | 0.15 | ug/L | # | 1 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 1152843 | 46.71 | ug/L | | 98 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 385042 | 9.77 | ug/L | | 89 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 258629 | 9.21 | ug/L | | 79 |
| 58) | Toluene | 7.693 | 91 | 928518 | 9.95 | ug/l | | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 389072 | 9.75 | ug/l | | 90 |
| 60) | 2-Hexanone | 7.935 | 43 | 822031 | 48.74 | ug/l | | 97 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 187667 | 8.48 | ug/l | | 98 |
| 62) | 1,3-Dichloropropane | 8.353 | 76 | 309243 | 9.41 | ug/l | | 99 |
| 63) | Tetrachloroethene | 8.508 | 164 | 194219 | 9.52 | ug/l | | 98 |
| 64) | Dibromochloromethane | 8.783 | 129 | 273988 | 8.25 | ug/l | | 98 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 201446 | 8.44 | ug/l | | 99 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 316886 | 10.27 | ug/l | | 91 |
| 67) | Chlorobenzene | 9.619 | 112 | 577018 | 9.37 | ug/l | | 99 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 251848 | 9.61 | ug/l | | 99 |
| 69) | Ethylbenzene | 9.641 | 91 | 1129493 | 10.02 | ug/l | | 100 |
| 70) | m-Xylene & p-Xylene | 9.740 | 91 | 1784493 | 19.41 | ug/l | | 99 |
| 71) | o-Xylene | 10.411 | 91 | 868723 | 9.98 | ug/l | | 99 |
| 72) | Styrene | 10.455 | 104 | 552795 | 9.08 | ug/l | | 95 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1031057 | 10.39 | ug/L | | 99 |
| 75) | Bromoform | 11.061 | 173 | 161220 | 7.75 | ug/l | | 99 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 235512 | 8.86 | ug/l | | 98 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 69228 | 9.44 | ug/l | | 93 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 74677 | 10.06 | ug/l | | 88 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1240324 | 10.26 | ug/l | | 99 |
| 81) | Bromobenzene | 11.732 | 156 | 239126 | 9.01 | ug/l | | 99 |
| 82) | 1,3,5-Trimethylbenzene | 11.820 | 105 | 879528 | 10.58 | ug/l | | 97 |
| 83) | 2-Chlorotoluene | 11.908 | 91 | 755509 | 10.13 | ug/l | | 98 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 769328 | 12.25 | ug/l | | 99 |
| 85) | tert-Butylbenzene | 12.414 | 134 | 129504 | 10.07 | ug/l | | 98 |
| 86) | 1,2,4-Trimethylbenzene | 12.469 | 105 | 875720 | 10.77 | ug/l | | 95 |
| 87) | sec-Butylbenzene | 12.745 | 105 | 998467 | 10.60 | ug/l | | 98 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 833228 | 10.54 | ug/l | | 98 |
| 89) | 1,3-Dichlorobenzene | 13.163 | 146 | 422676 | 11.14 | ug/l | | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.251 | 105 | 855476 | 10.62 | ug/L | | 98 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 420118 | 10.65 | ug/l | | 98 |
| 92) | n-Butylbenzene | 13.614 | 91 | 758310 | 10.09 | ug/l | | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 389495 | 9.35 | ug/l | | 98 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 38287 | 7.09 | ug/l | | 96 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 217396 | 8.52 | ug/l | | 98 |
| 96) | Hexachlorobutadiene | 16.651 | 225 | 114675 | 7.97 | ug/l | | 99 |
| 97) | Naphthalene | 16.871 | 128 | 513729 | 7.98 | ug/l | | 97 |
| 98) | 1,2,3-Trichlorobenzene | 17.224 | 180 | 198120 | 8.16 | ug/l | | 98 |

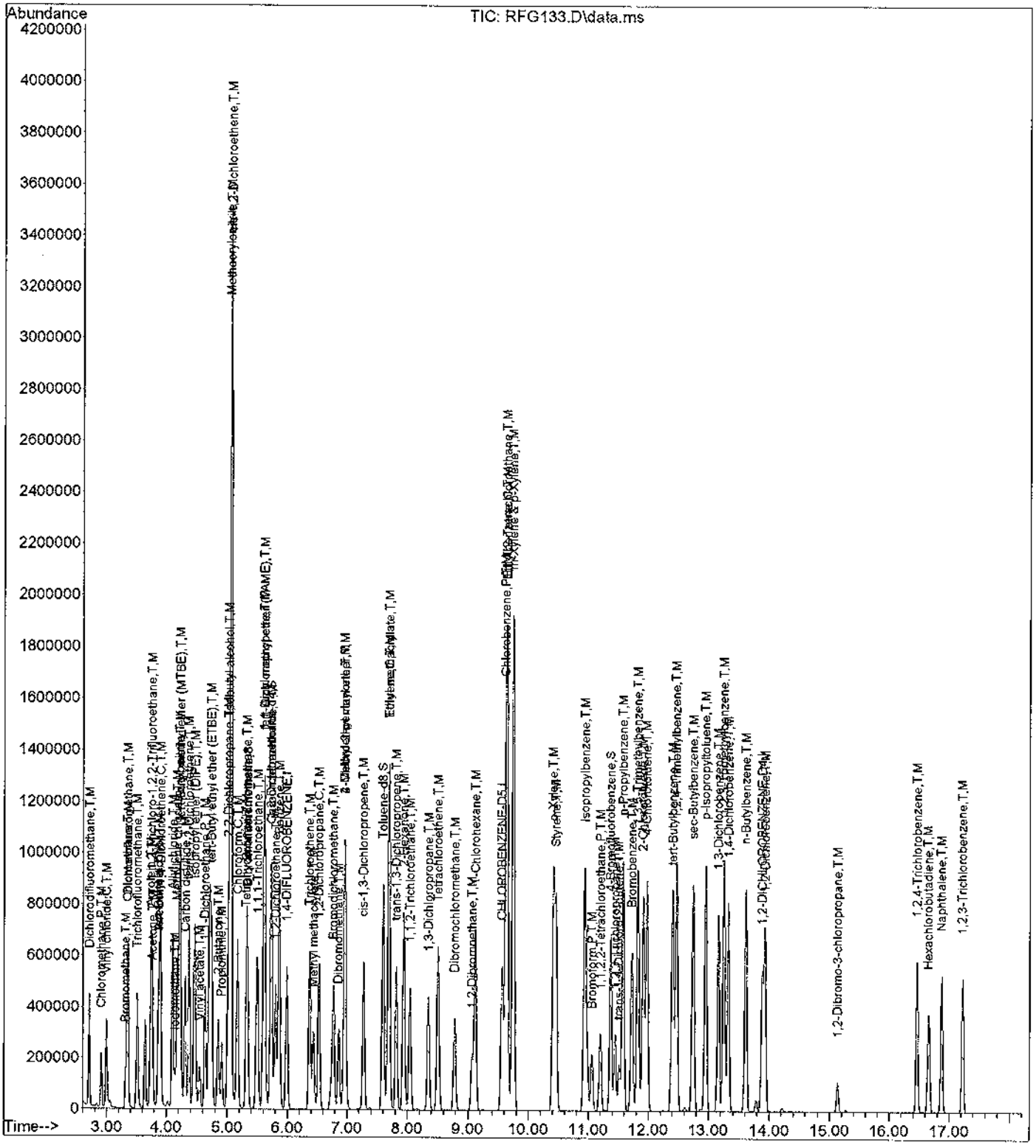
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG133.D
Acq On : 13 Jun 2024 14:41
Sample : 24F019-02M
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:41:24 2024
Quant Results File: VOE2E17.RES

Vial: 12
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG134.D
Acq On : 13 Jun 2024 15:05
Sample : 24F019-02S
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:42:17 2024
Quant Results File: VOE2E17.RES

Vial: 13
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 482381 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 410664 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 197209 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 281547 | 9.53 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 95.30% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 412955 | 10.58 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.80% | | |
| 56) Toluene-d8 | 7.594 | 98 | 811059 | 9.94 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.40% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 336491 | 10.75 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.50% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 323973 | 11.70 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 160301 | 8.07 | ug/l | 100 |
| 4) Vinyl chloride | 2.994 | 62 | 249782 | 11.91 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 109188 | 7.70 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 511917 | 10.68 | ug/L | 96 |
| 7) Chloroethane | 3.346 | 64 | 103771 | 10.10 | ug/l | 96 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 432585 | 9.18 | ug/l | 98 |
| 9) Acrolein | 3.742 | 56 | 116707 | 37.20 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 189054 | 9.20 | ug/l | 97 |
| 11) Acetone | 3.764 | 43 | 323106 | 52.24 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 640631 | 218.39 | ug/L | 96 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 477280 | 11.07 | ug/l | 93 |
| 14) Acetonitrile | 3.874 | 41 | 143298 | 98.44 | ug/L | 97 |
| 15) Allyl chloride | 4.106 | 76 | 127129 | 11.17 | ug/L | 93 |
| 16) Iodomethane | 4.150 | 142 | 141979 | 6.31 | ug/l | 96 |
| 18) Methylene chloride | 4.183 | 49 | 378245 | 12.43 | ug/l | 85 |
| 19) Acrylonitrile | 4.216 | 53 | 354774 | 48.92 | ug/l | 100 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 708401 | 9.83 | ug/L | 95 |
| 21) Carbon disulfide | 4.304 | 76 | 688172 | 10.42 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 220178 | 9.57 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 858656 | 11.71 | ug/l | 96 |
| 24) Vinyl acetate | 4.546 | 43 | 240870 | 5.77 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 495399 | 10.65 | ug/l | 98 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 888466 | 9.97 | ug/l | 95 |
| 27) 2-Butanone | 4.854 | 72 | 88902 | 39.27 | ug/l | 93 |
| 28) Propionitrile | 4.909 | 54 | 259968 | 97.48 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 175450 | 186.20 | ug/L | 92 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 498498 | 10.70 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 442334 | 101.02 | ug/L | 87 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 246412 | 9.41 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 544032 | 9.43 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 142608 | 9.27 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.327 | 42 | 58314 | 9.59 | ug/L | 85 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 536919 | 10.32 | ug/l | 96 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 162409 | 10.22 | ug/l | 95 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 117526 | 10.32 | ug/L | 92 |
| 42) Carbon tetrachloride | 5.734 | 119 | 459820 | 10.44 | ug/L | 100 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 483449 | 10.90 | ug/L | 97 |
| 44) Benzene | 5.866 | 78 | 892437 | 10.11 | ug/L | 96 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG134.D
Acq On : 13 Jun 2024 15:05
Sample : 24F019-02S
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:42:17 2024
Quant Results File: VOE2E17.RES

Vial: 13
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.373 | 130 | 224040 | 9.20 | ug/L | 99 |
| 46) Methyl methacrylate | 6.439 | 69 | 132236 | 6.13 | ug/L | 98 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 240320 | 10.67 | ug/L | 99 |
| 50) Bromodichloromethane | 6.769 | 83 | 405068 | 9.50 | ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 159590 | 8.71 | ug/L | 93 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1148156 | 46.52 | ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 388613 | 9.87 | ug/L | 90 |
| 57) Ethyl methacrylate | 7.693 | 69 | 254975 | 9.10 | ug/L | 80 |
| 58) Toluene | 7.693 | 91 | 940868 | 10.10 | ug/l | 98 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 385174 | 9.67 | ug/l | 90 |
| 60) 2-Hexanone | 7.935 | 43 | 814062 | 48.34 | ug/l | 98 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 189132 | 8.56 | ug/l | 99 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 307270 | 9.36 | ug/l | 97 |
| 63) Tetrachloroethene | 8.508 | 164 | 191073 | 9.38 | ug/l | 97 |
| 64) Dibromochloromethane | 8.783 | 129 | 268652 | 8.10 | ug/l | 98 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 201806 | 8.47 | ug/l | 99 |
| 66) 1-Chlorohexane | 9.113 | 91 | 311177 | 10.10 | ug/l | 90 |
| 67) Chlorobenzene | 9.619 | 112 | 567341 | 9.22 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 248966 | 9.51 | ug/l | 100 |
| 69) Ethylbenzene | 9.641 | 91 | 1122153 | 9.97 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 1784812 | 19.44 | ug/l | 100 |
| 71) o-Xylene | 10.411 | 91 | 868692 | 9.99 | ug/l | 99 |
| 72) Styrene | 10.455 | 104 | 543621 | 8.94 | ug/l | 95 |
| 73) Isopropylbenzene | 10.940 | 105 | 1033206 | 10.43 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 157574 | 7.32 | ug/l | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 223612 | 8.14 | ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 66280 | 8.73 | ug/l | 96 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 69567 | 9.06 | ug/l | 90 |
| 80) n-Propylbenzene | 11.578 | 91 | 1229460 | 9.83 | ug/l | 98 |
| 81) Bromobenzene | 11.732 | 156 | 236883 | 8.63 | ug/l | 96 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 880701 | 10.24 | ug/l | 97 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 755377 | 9.79 | ug/l | 97 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 780166 | 12.00 | ug/l | 96 |
| 85) tert-Butylbenzene | 12.403 | 134 | 127803 | 9.61 | ug/l | 98 |
| 86) 1,2,4-Trimethylbenzene | 12.469 | 105 | 873385 | 10.39 | ug/l | 96 |
| 87) sec-Butylbenzene | 12.745 | 105 | 1007469 | 10.34 | ug/l | 97 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 815601 | 9.98 | ug/l | 100 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 412015 | 10.47 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 848826 | 10.19 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 422724 | 10.35 | ug/l | 98 |
| 92) n-Butylbenzene | 13.603 | 91 | 756551 | 9.73 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 384871 | 8.93 | ug/l | 99 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 38231 | 6.84 | ug/l | 98 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 219976 | 8.33 | ug/l | 97 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 118986 | 7.99 | ug/l | 98 |
| 97) Naphthalene | 16.872 | 128 | 510295 | 7.66 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 199052 | 7.91 | ug/l | 98 |

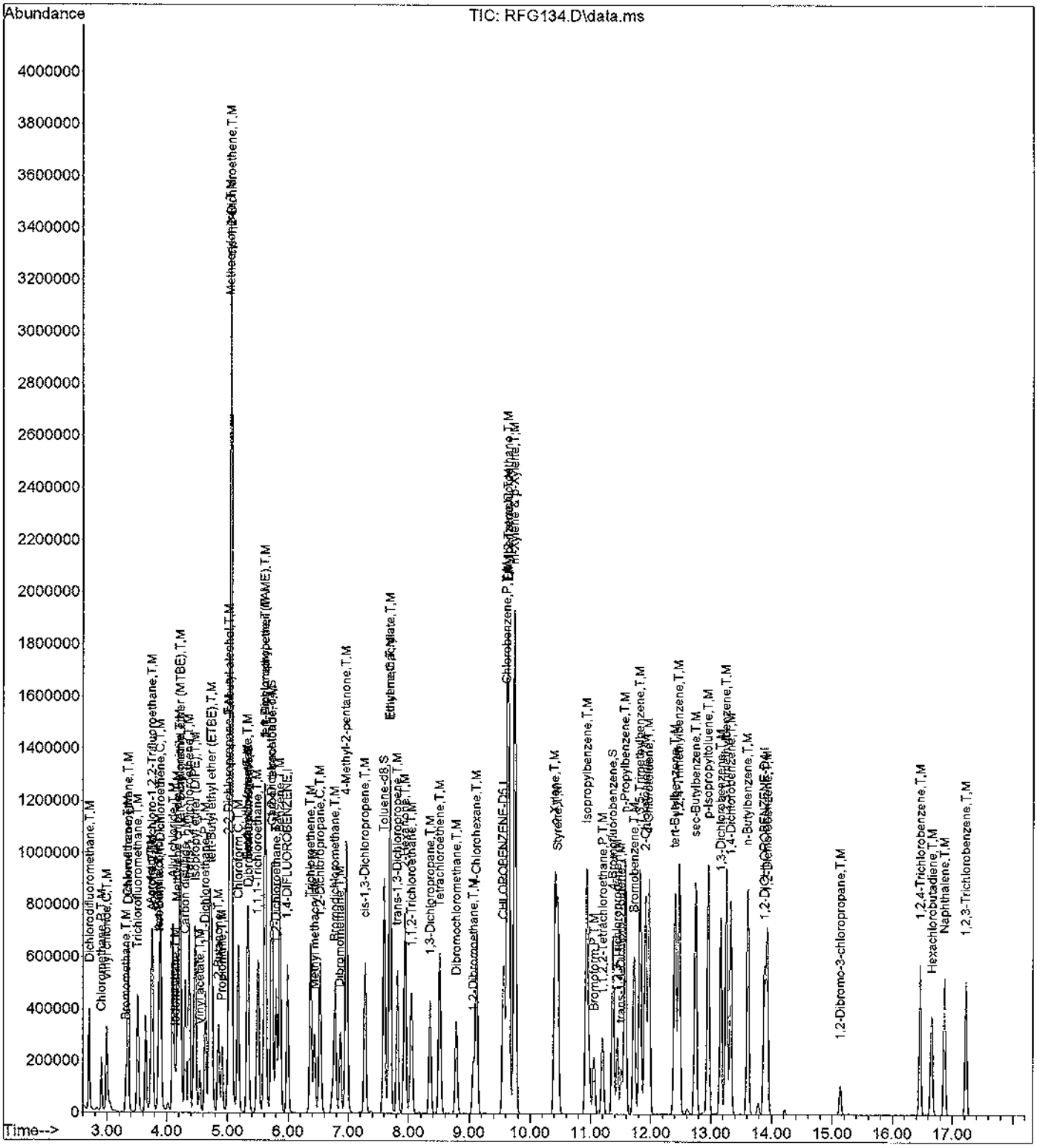
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG134.D
Acq On : 13 Jun 2024 15:05
Sample : 24F019-02S
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:42:17 2024
Quant Results File: VOE2E17.RES

Vial: 13
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG135.D
Acq On : 13 Jun 2024 15:28
Sample : 24F019-03M
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:44:05 2024
Quant Results File: VOE2E17.RES

Vial: 14
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 491277 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 419964 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 199196 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 287729 | 9.56 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 95.60% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 429676 | 10.81 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 108.10% | | |
| 56) Toluene-d8 | 7.594 | 98 | 826200 | 9.90 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.00% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 348649 | 11.03 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 110.30% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 369069 | 13.09 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 193962 | 9.59 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 289179 | 13.53 | ug/l | 97 |
| 5) Bromomethane | 3.313 | 94 | 115175 | 7.97 | ug/l | 99 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 509695 | 10.44 | ug/L | 97 |
| 7) Chloroethane | 3.346 | 64 | 120433 | 11.50 | ug/l | 97 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 493717 | 10.29 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 128282 | 40.15 | ug/l | 100 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 189308 | 9.05 | ug/l | 99 |
| 11) Acetone | 3.764 | 43 | 316045 | 49.97 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 614478 | 205.69 | ug/L | 95 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 486055 | 11.07 | ug/l | 92 |
| 14) Acetonitrile | 3.874 | 41 | 140915 | 95.05 | ug/L | 95 |
| 15) Allyl chloride | 4.105 | 76 | 121198 | 10.45 | ug/L | 97 |
| 16) Iodomethane | 4.149 | 142 | 164001 | 7.12 | ug/l | 100 |
| 18) Methylene chloride | 4.182 | 49 | 385155 | 12.43 | ug/l | 85 |
| 19) Acrylonitrile | 4.215 | 53 | 376365 | 50.95 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 708634 | 9.65 | ug/L | 94 |
| 21) Carbon disulfide | 4.303 | 76 | 681944 | 10.13 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 215823 | 9.21 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 877362 | 11.75 | ug/l | 95 |
| 24) Vinyl acetate | 4.546 | 43 | 302242 | 7.10 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 510244 | 10.77 | ug/l | 97 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 912613 | 10.06 | ug/l | 96 |
| 27) 2-Butanone | 4.854 | 72 | 89650 | 38.89 | ug/l | 91 |
| 28) Propionitrile | 4.909 | 54 | 264769 | 97.48 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 183054 | 190.75 | ug/L | 95 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 514475 | 10.85 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 463351 | 103.91 | ug/L | 86 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 259486 | 9.73 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 559473 | 9.52 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 140809 | 8.99 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 61352 | 9.91 | ug/L | 86 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 540600 | 10.20 | ug/l | 96 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 167988 | 10.38 | ug/l | 95 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 117187 | 10.10 | ug/L | 97 |
| 42) Carbon tetrachloride | 5.734 | 119 | 465258 | 10.38 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 495959 | 10.98 | ug/L | 97 |
| 44) Benzene | 5.866 | 78 | 904430 | 10.06 | ug/L | 96 |

Data File : D:\Data\24F13\RFG135.D
Acq On : 13 Jun 2024 15:28
Sample : 24F019-03M
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:44:05 2024
Quant Results File: VOE2E17.RES

Vial: 14
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.372 | 130 | 475748 | 19.17 | ug/L | | 98 |
| 46) Methyl methacrylate | 6.438 | 69 | 133232 | 6.06 | ug/L | | 99 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 252926 | 11.02 | ug/L | | 96 |
| 50) Bromodichloromethane | 6.769 | 83 | 414681 | 9.55 | ug/L | | 100 |
| 51) Dibromomethane | 6.857 | 93 | 160877 | 8.62 | ug/L | | 95 |
| 52) 2-Chloroethyl vinyl ether | 6.956 | 63 | 1626 | 0.14 | ug/L | # | 1 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1207650 | 48.05 | ug/L | | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 398837 | 9.94 | ug/L | | 90 |
| 57) Ethyl methacrylate | 7.693 | 69 | 268755 | 9.38 | ug/L | | 83 |
| 58) Toluene | 7.693 | 91 | 941686 | 9.89 | ug/l | | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 395219 | 9.70 | ug/l | | 87 |
| 60) 2-Hexanone | 7.935 | 43 | 859113 | 49.89 | ug/l | | 97 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 194254 | 8.59 | ug/l | | 97 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 319437 | 9.52 | ug/l | | 99 |
| 63) Tetrachloroethene | 8.507 | 164 | 198602 | 9.54 | ug/l | | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 274469 | 8.10 | ug/l | | 99 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 207185 | 8.51 | ug/l | | 100 |
| 66) 1-Chlorohexane | 9.124 | 91 | 324388 | 10.29 | ug/l | | 98 |
| 67) Chlorobenzene | 9.619 | 112 | 577862 | 9.19 | ug/l | | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 249902 | 9.34 | ug/l | | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 1139741 | 9.90 | ug/l | | 100 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 1815569 | 19.34 | ug/l | | 100 |
| 71) o-Xylene | 10.411 | 91 | 882994 | 9.93 | ug/l | | 100 |
| 72) Styrene | 10.455 | 104 | 582630 | 9.37 | ug/l | | 97 |
| 73) Isopropylbenzene | 10.940 | 105 | 1059090 | 10.46 | ug/L | | 98 |
| 75) Bromoform | 11.061 | 173 | 162335 | 7.47 | ug/l | | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 241675 | 8.71 | ug/l | | 100 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 66768 | 8.71 | ug/l | | 95 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 77601 | 10.00 | ug/l | | 84 |
| 80) n-Propylbenzene | 11.578 | 91 | 1284506 | 10.17 | ug/l | | 99 |
| 81) Bromobenzene | 11.732 | 156 | 245486 | 8.86 | ug/l | | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 894224 | 10.30 | ug/l | | 97 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 770168 | 9.88 | ug/l | | 97 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 803532 | 12.24 | ug/l | | 98 |
| 85) tert-Butylbenzene | 12.414 | 134 | 134610 | 10.02 | ug/l | | 98 |
| 86) 1,2,4-Trimethylbenzene | 12.469 | 105 | 880119 | 10.36 | ug/l | | 96 |
| 87) sec-Butylbenzene | 12.744 | 105 | 1021107 | 10.38 | ug/l | | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 828172 | 10.03 | ug/l | | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 423400 | 10.66 | ug/l | | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 872263 | 10.37 | ug/L | | 97 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 426649 | 10.34 | ug/l | | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 796398 | 10.14 | ug/l | | 98 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 391190 | 8.99 | ug/l | | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 38524 | 6.82 | ug/l | | 95 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 223919 | 8.40 | ug/l | | 96 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 129791 | 8.63 | ug/l | | 98 |
| 97) Naphthalene | 16.871 | 128 | 523579 | 7.78 | ug/l | | 98 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 205748 | 8.10 | ug/l | | 99 |

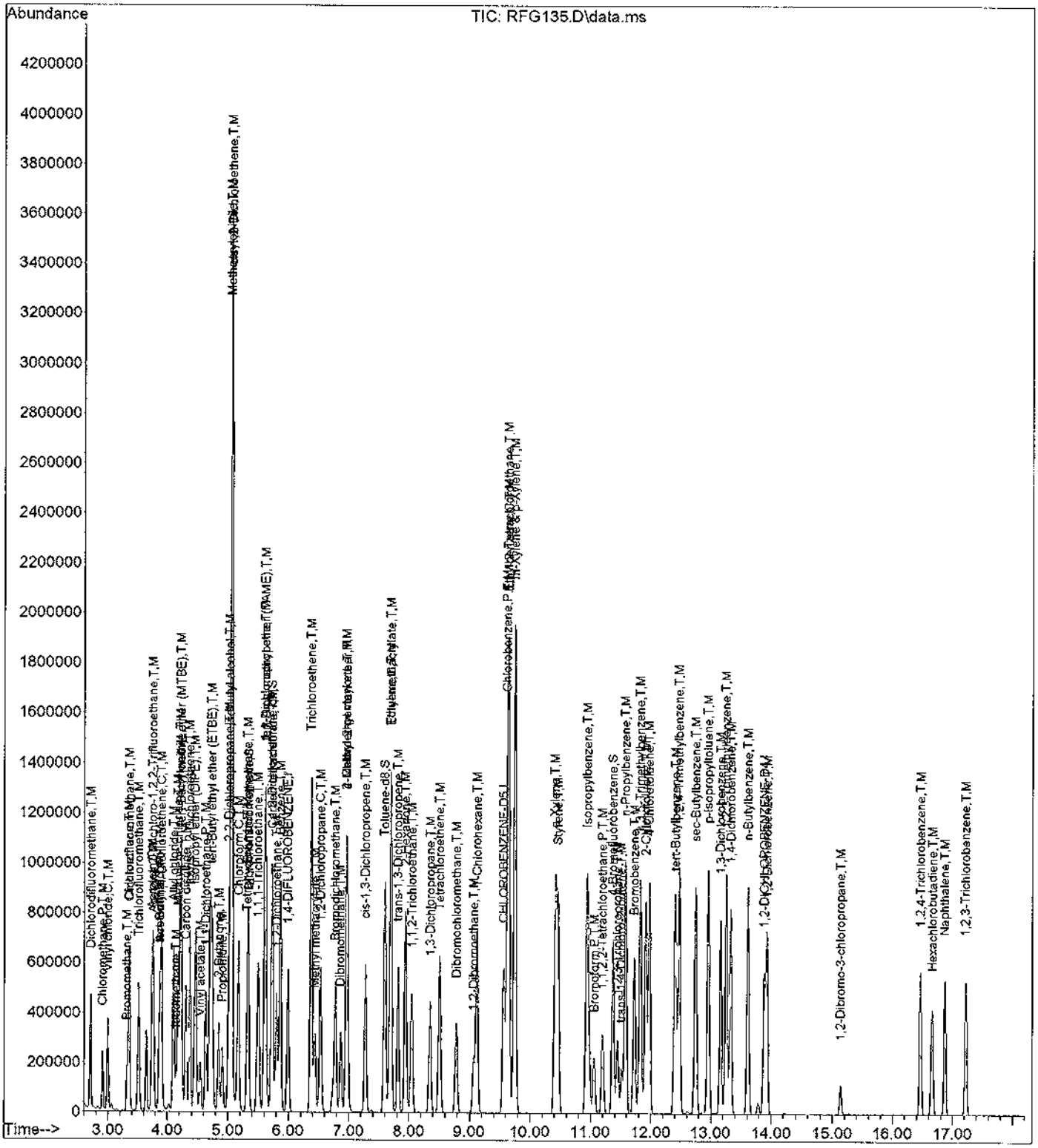
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG135.D
Acq On : 13 Jun 2024 15:28
Sample : 24F019-03M
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:44:05 2024
Quant Results File: VOE2E17.RES

Vial: 14
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG136.D
Acq On : 13 Jun 2024 15:52
Sample : 24F019-03S
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:45:01 2024
Quant Results File: VOE2E17.RES

Vial: 15
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 499209 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 430525 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 203072 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 294314 | 9.63 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 96.30% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 431287 | 10.67 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 106.70% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 826653 | 9.66 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 96.60% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 354785 | 11.01 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 110.10% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 371153 | 12.95 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 195442 | 9.51 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 285470 | 13.15 | ug/l | 97 |
| 5) Bromomethane | 3.313 | 94 | 116392 | 7.93 | ug/l | 99 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 512535 | 10.33 | ug/L | 97 |
| 7) Chloroethane | 3.346 | 64 | 120228 | 11.30 | ug/l | 96 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 498473 | 10.22 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 132203 | 40.72 | ug/l | 100 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 188800 | 8.88 | ug/l | 97 |
| 11) Acetone | 3.764 | 43 | 349494 | 54.82 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 688941 | 226.95 | ug/L | 97 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 492783 | 11.04 | ug/l | 94 |
| 14) Acetonitrile | 3.874 | 41 | 151633 | 100.65 | ug/L | 98 |
| 15) Allyl chloride | 4.106 | 76 | 126687 | 10.75 | ug/L | 97 |
| 16) Iodomethane | 4.150 | 142 | 161164 | 6.89 | ug/l | 99 |
| 18) Methylene chloride | 4.183 | 49 | 385463 | 12.23 | ug/l | 86 |
| 19) Acrylonitrile | 4.216 | 53 | 393362 | 52.41 | ug/l | 100 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 744529 | 9.98 | ug/L | 95 |
| 21) Carbon disulfide | 4.304 | 76 | 718923 | 10.51 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 223861 | 9.40 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 902263 | 11.89 | ug/l | 95 |
| 24) Vinyl acetate | 4.546 | 43 | 304011 | 7.03 | ug/l | 97 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 522395 | 10.85 | ug/l | 96 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 930826 | 10.10 | ug/l | 96 |
| 27) 2-Butanone | 4.854 | 72 | 95182 | 40.63 | ug/l | 91 |
| 28) Propionitrile | 4.909 | 54 | 280441 | 101.61 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 201316 | 206.44 | ug/L | 95 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 520484 | 10.80 | ug/l | 100 |
| 31) Methacrylonitrile | 5.052 | 52 | 485686 | 107.18 | ug/L | 87 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 261750 | 9.66 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 569542 | 9.54 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 141386 | 8.88 | ug/l | 96 |
| 35) Tetrahydrofuran | 5.327 | 42 | 65961 | 10.49 | ug/L | 87 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 561347 | 10.43 | ug/l | 97 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 175230 | 10.65 | ug/l | 93 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 122229 | 10.37 | ug/L | 95 |
| 42) Carbon tetrachloride | 5.734 | 119 | 469570 | 10.31 | ug/L | 100 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 500271 | 10.90 | ug/L | 95 |
| 44) Benzene | 5.866 | 78 | 923227 | 10.11 | ug/L | 96 |

Data File : D:\Data\24F13\RFG136.D
Acq On : 13 Jun 2024 15:52
Sample : 24F019-03S
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:45:01 2024
Quant Results File: VOE2E17.RES

Vial: 15
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.373 | 130 | 458940 | 18.20 | ug/L | | 98 |
| 46) Methyl methacrylate | 6.439 | 69 | 143498 | 6.42 | ug/L | | 98 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 253613 | 10.88 | ug/L | | 96 |
| 50) Bromodichloromethane | 6.769 | 83 | 421954 | 9.56 | ug/L | | 100 |
| 51) Dibromomethane | 6.857 | 93 | 163683 | 8.63 | ug/L | | 96 |
| 52) 2-Chloroethyl vinyl ether | 6.967 | 63 | 2883 | 0.25 | ug/L | # | 1 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1256422 | 49.20 | ug/L | | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 406453 | 9.97 | ug/L | | 92 |
| 57) Ethyl methacrylate | 7.693 | 69 | 278917 | 9.49 | ug/L | | 85 |
| 58) Toluene | 7.693 | 91 | 962823 | 9.86 | ug/l | | 99 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 401424 | 9.61 | ug/l | | 88 |
| 60) 2-Hexanone | 7.935 | 43 | 897274 | 50.83 | ug/l | | 98 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 199448 | 8.61 | ug/l | | 96 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 332369 | 9.66 | ug/l | | 99 |
| 63) Tetrachloroethene | 8.508 | 164 | 200277 | 9.38 | ug/l | | 99 |
| 64) Dibromochloromethane | 8.783 | 129 | 283456 | 8.16 | ug/l | | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 215591 | 8.63 | ug/l | | 97 |
| 66) 1-Chlorohexane | 9.124 | 91 | 330747 | 10.24 | ug/l | | 98 |
| 67) Chlorobenzene | 9.619 | 112 | 582441 | 9.03 | ug/l | | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 257344 | 9.38 | ug/l | | 98 |
| 69) Ethylbenzene | 9.641 | 91 | 1172638 | 9.93 | ug/l | | 100 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 1839260 | 19.11 | ug/l | | 100 |
| 71) o-Xylene | 10.412 | 91 | 897184 | 9.85 | ug/l | | 99 |
| 72) Styrene | 10.456 | 104 | 555573 | 8.72 | ug/l | | 94 |
| 73) Isopropylbenzene | 10.940 | 105 | 1095700 | 10.55 | ug/L | | 98 |
| 75) Bromoform | 11.061 | 173 | 166719 | 7.52 | ug/l | | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 247359 | 8.74 | ug/l | | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 71328 | 9.13 | ug/l | | 99 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 87059 | 11.01 | ug/l | | 81 |
| 80) n-Propylbenzene | 11.578 | 91 | 1296620 | 10.07 | ug/l | | 98 |
| 81) Bromobenzene | 11.732 | 156 | 248716 | 8.80 | ug/l | | 97 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 907841 | 10.26 | ug/l | | 97 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 784087 | 9.87 | ug/l | | 91 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 809151 | 12.09 | ug/l | | 97 |
| 85) tert-Butylbenzene | 12.403 | 134 | 134257 | 9.80 | ug/l | | 95 |
| 86) 1,2,4-Trimethylbenzene | 12.470 | 105 | 902201 | 10.42 | ug/l | | 98 |
| 87) sec-Butylbenzene | 12.745 | 105 | 1043853 | 10.41 | ug/l | | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 850776 | 10.11 | ug/l | | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 431312 | 10.65 | ug/l | | 100 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 886529 | 10.33 | ug/L | | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 433751 | 10.31 | ug/l | | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 802006 | 10.02 | ug/l | | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 404578 | 9.12 | ug/l | | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 40093 | 6.97 | ug/l | | 95 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 231503 | 8.52 | ug/l | | 95 |
| 96) Hexachlorobutadiene | 16.651 | 225 | 132562 | 8.64 | ug/l | | 97 |
| 97) Naphthalene | 16.872 | 128 | 547155 | 7.98 | ug/l | | 98 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 211279 | 8.17 | ug/l | | 99 |

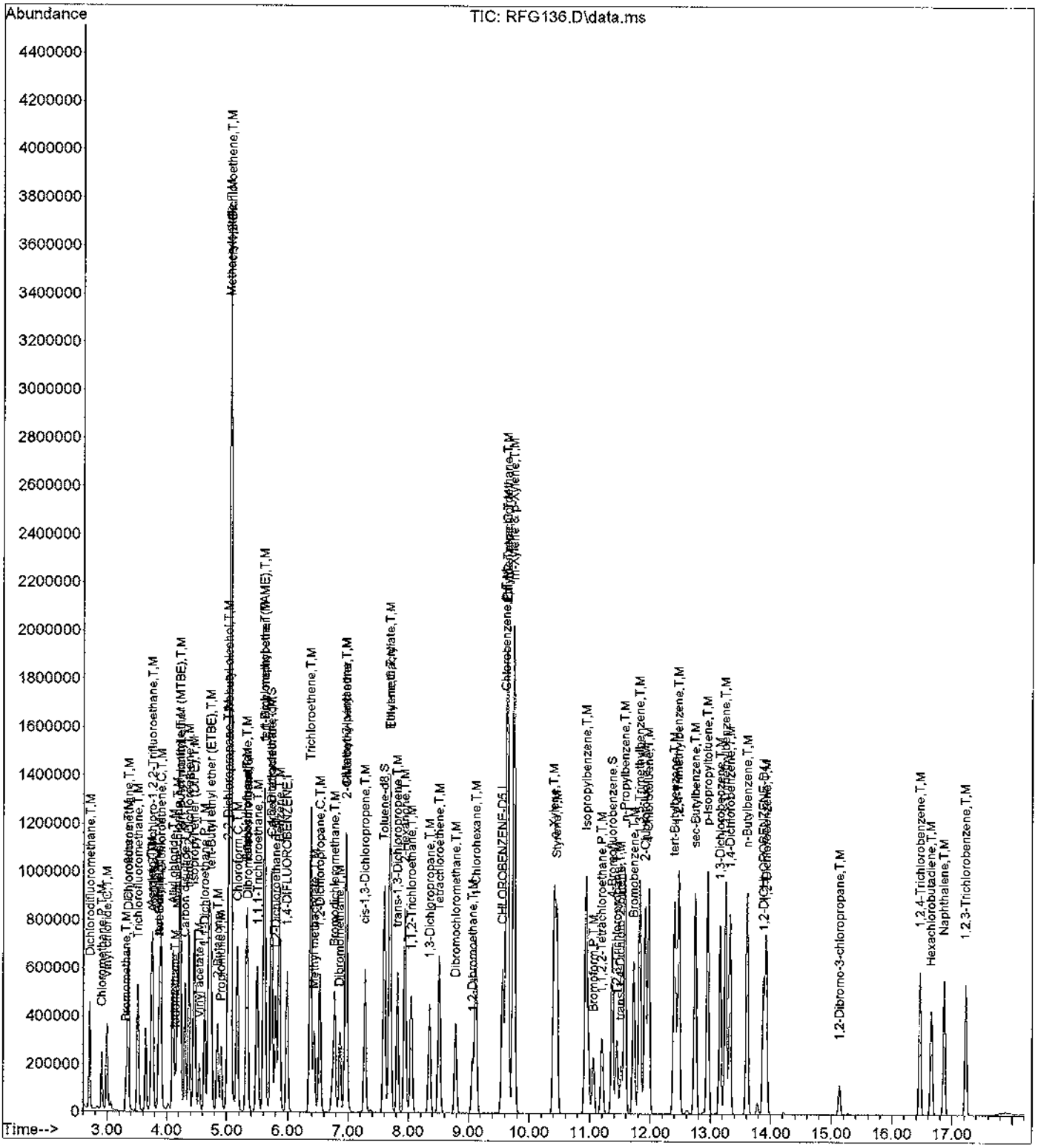
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG136.D
Acq On : 13 Jun 2024 15:52
Sample : 24F019-03S
Misc : 10mL
Integrator: RTE
Quant Time: Jun 17 18:45:01 2024
Quant Results File: VOE2E17.RES

Vial: 15
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



# INITIAL CALIBRATION(S)

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: REG116 BFB Injection Date: 05/17/24

Instrument ID: E2 BFB Injection Time: 11:23

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.276 |
| 75 | 30 - 60% of mass 95 | 50.050 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.720 |
| 173 | Less than 2% of mass 174 | 0.804(.96)1 |
| 174 | Greater than 50% of mass 95 | 83.334 |
| 175 | 5 - 9% of mass 174 | 6.239(7.49)1 |
| 176 | 95 - 101% % of mass 174 | 81.293(97.55)1 |
| 177 | 5 - 9% % of mass 176 | 5.264(6.48)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD0.5 | VOE2E172 | REG118 | 05/17/24 | 12:33 |
| 2 | VSTD1 | VOE2E173 | REG119 | 05/17/24 | 12:57 |
| 3 | VSTD2 | VOE2E174 | REG120 | 05/17/24 | 13:21 |
| 4 | VSTD5 | VOE2E175 | REG121 | 05/17/24 | 13:45 |
| 5 | VSTD10 | VOE2E176 | REG122 | 05/17/24 | 14:09 |
| 6 | VSTD30 | VOE2E177 | REG123 | 05/17/24 | 14:33 |
| 7 | VSTD50 | VOE2E178 | REG124 | 05/17/24 | 14:57 |
| 8 | VSTD100 | VOE2E179 | REG125 | 05/17/24 | 15:21 |
| 9 | VSTD200 | VOE2E1710 | REG126 | 05/17/24 | 15:44 |

SC
5/24/24

Instrument ID :E2
Beginning DateTime :05/17/24 12:33
Spike Units :PPB
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :05/17/24 15:44
HPChem Method :VOE2E17

| M | IDX | Parameters | .5<br>12:33<br>REG118 | 1<br>12:57<br>REG119 | 2<br>13:21<br>REG120 | 5<br>13:45<br>REG121 | 10<br>14:09<br>REG122 | 30<br>14:33<br>REG123 | 50<br>14:57<br>REG124 | 100<br>15:21<br>REG125 | 200<br>15:44<br>REG126 | Av_RRF | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 5.9874 |
| | 2 | Dichlorodifluoromethane | 0.621 | 0.637 | 0.579 | 0.504 | 0.509 | 0.610 | 0.570 | 0.578 | 0.556 | 0.574 | 8.06 | 2.7078 |
| | 3 | Chloromethane | 0.526 | 0.465 | 0.434 | 0.383 | 0.373 | 0.377 | 0.368 | 0.382 | 0.398 | 0.412 | 13.00 | 2.9059 |
| | 4 | Vinyl chloride | 0.419 | 0.490 | 0.461 | 0.376 | 0.416 | 0.439 | 0.449 | 0.449 | 0.415 | 0.435 | 7.58 | 2.9903 |
| | 5 | Bromomethane | 0.348 | 0.325 | 0.291 | 0.268 | 0.244 | 0.267 | 0.278 | 0.296 | 0.330 | 0.294 | 11.62 | 3.3131 |
| | 6 | Dichlorofluoromethane | 1.071 | 1.087 | 0.974 | 1.099 | 0.990 | 1.025 | 0.930 | 0.904 | 0.865 | 0.994 | 8.41 | 3.3523 |
| | 7 | Chloroethane | 0.222 | 0.255 | 0.216 | 0.196 | 0.204 | 0.219 | 0.205 | 0.207 | 0.193 | 0.213 | 8.74 | 3.3461 |
| | 8 | Trichlorofluoromethane | 1.076 | 1.027 | 0.981 | 0.846 | 0.898 | 1.033 | 0.988 | 0.997 | 0.949 | 0.977 | 7.24 | 3.5112 |
| 5 | 9 | Acrolein | 0.074 | 0.076 | 0.063 | 0.070 | 0.064 | 0.060 | 0.059 | 0.060 | 0.059 | 0.065 | 10.21 | 3.7423 |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 0.510 | 0.445 | 0.389 | 0.475 | 0.409 | 0.418 | 0.409 | 0.396 | 0.383 | 0.426 | 10.04 | 3.7521 |
| 5 | 11 | Acetone | 0.325 | 0.240 | 0.181 | 0.149 | 0.137 | 0.118 | 0.119 | ------ | ------ | 0.181 | 42.17 | 3.7690 |
| 25 | 12 | tert-Butyl alcohol | 0.075 | 0.070 | 0.063 | 0.057 | 0.061 | 0.056 | 0.057 | 0.055 | 0.054 | 0.061 | 11.83 | 3.8744 |
| | 13 | 1,1-Dichloroethene | 0.972 | 0.970 | 0.870 | 1.007 | 0.889 | 0.901 | 0.818 | 0.823 | 0.795 | 0.894 | 8.46 | 3.9025 |
| 10 | 14 | Acetonitrile | ------ | 0.037 | 0.031 | 0.030 | 0.031 | 0.026 | 0.027 | ------ | ------ | 0.030 | 12.37 | 3.8744 |
| | 15 | Allyl chloride | 0.262 | 0.270 | 0.227 | 0.265 | 0.239 | 0.241 | 0.223 | 0.204 | 0.194 | 0.236 | 11.27 | 4.1055 |
| | 16 | Iodomethane | 0.335 | 0.312 | 0.310 | 0.409 | 0.432 | 0.563 | 0.530 | 0.509 | 0.459 | 0.429 | 22.23 | 4.1434 |
| | 17 | Methyl acetate | ------ | 0.410 | 0.337 | 0.344 | 0.341 | 0.293 | 0.304 | ------ | ------ | 0.338 | 12.15 | 4.0285 |
| | 18 | Methylene chloride | 1.122 | 1.095 | 0.930 | 0.852 | 0.731 | 0.698 | 0.612 | 0.596 | 0.570 | 0.801 | 26.33 | 4.1825 |
| 5 | 19 | Acrylonitrile | 0.187 | 0.165 | 0.144 | 0.155 | 0.158 | 0.140 | 0.134 | 0.135 | 0.136 | 0.150 | 11.69 | 4.2156 |
| | 20 | tert-Butyl methyl ether (MTBE) | 1.687 | 1.599 | 1.508 | 1.603 | 1.504 | 1.453 | 1.377 | 1.365 | 1.352 | 1.494 | 7.94 | 4.2266 |
| | 21 | Carbon disulfide | 1.587 | 1.493 | 1.289 | 1.218 | 1.375 | 1.338 | 1.287 | ------ | ------ | 1.370 | 9.42 | 4.3052 |
| | 22 | trans-1,2-Dichloroethene | 0.536 | 0.534 | 0.472 | 0.542 | 0.468 | 0.442 | 0.442 | 0.426 | 0.429 | 0.477 | 10.07 | 4.3696 |
| | 23 | Isopropyl ether (DIPE) | 1.738 | 1.638 | 1.535 | 1.682 | 1.513 | 1.489 | 1.394 | 1.379 | 1.317 | 1.520 | 9.47 | 4.4601 |
| | 24 | Vinyl acetate | 0.905 | 0.932 | 0.893 | 0.899 | 0.928 | 0.816 | 0.810 | 0.820 | 0.793 | 0.866 | 6.41 | 4.5457 |
| | 25 | 1,1-Dichloroethane | 1.123 | 1.084 | 0.958 | 1.041 | 0.935 | 0.964 | 0.901 | 0.851 | 0.823 | 0.965 | 10.57 | 4.6338 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 2.025 | 2.049 | 1.829 | 2.024 | 1.854 | 1.711 | 1.759 | 1.666 | 1.701 | 1.846 | 8.21 | 4.7328 |
| 5 | 27 | 2-Butanone | ------ | 0.059 | 0.048 | 0.048 | 0.049 | 0.043 | 0.043 | 0.042 | 0.042 | 0.047 | 12.56 | 4.8539 |
| 10 | 28 | Propionitrile | 0.067 | 0.061 | 0.059 | 0.057 | 0.053 | 0.051 | 0.051 | 0.048 | 0.050 | 0.055 | 11.17 | 4.9101 |
| 20 | 29 | Isobutyl alcohol | ------ | 0.024 | 0.020 | 0.019 | 0.020 | 0.018 | 0.019 | 0.017 | ------ | 0.020 | 12.47 | 5.0299 |
| | 30 | 2,2-Dichloropropane | 1.070 | 1.031 | 0.913 | 1.100 | 0.993 | 0.952 | 0.921 | 0.878 | 0.831 | 0.966 | 9.30 | 5.0202 |
| 10 | 31 | Methacrylonitrile | 0.105 | 0.103 | 0.092 | 0.099 | 0.089 | 0.088 | 0.084 | 0.080 | 0.076 | 0.091 | 11.02 | 5.0568 |
| | 32 | cis-1,2-Dichloroethene | 0.592 | 0.622 | 0.541 | 0.585 | 0.519 | 0.520 | 0.508 | 0.491 | 0.507 | 0.543 | 8.40 | 5.0630 |
| | 33 | Chloroform | 1.500 | 1.398 | 1.172 | 1.238 | 1.117 | 1.090 | 1.041 | 1.012 | ------ | 1.196 | 14.51 | 5.1730 |
| | 34 | Bromochloromethane | 0.354 | 0.366 | 0.325 | 0.348 | 0.326 | 0.321 | 0.296 | 0.275 | 0.259 | 0.319 | 11.29 | 5.3271 |
| | 35 | Tetrahydrofuran | ------ | 0.140 | 0.129 | 0.132 | 0.124 | 0.122 | 0.118 | 0.116 | ------ | 0.126 | 6.67 | 5.3192 |
| | 36 | Dibromofluoromethane | 0.677 | 0.642 | 0.571 | 0.613 | 0.624 | 0.588 | 0.573 | ------ | ------ | 0.612 | 6.30 | 5.3381 |
| | 37 | 1,1,1-Trichloroethane | 1.193 | 1.165 | 1.010 | 1.192 | 1.074 | 1.094 | 1.020 | 0.999 | 0.960 | 1.079 | 8.19 | 5.4971 |
| | 38 | Cyclohexane | 0.684 | 0.625 | 0.466 | 0.628 | 0.461 | 0.515 | 0.544 | 0.500 | 0.528 | 0.550 | 14.22 | 5.5484 |
| | 39 | tert-Amyl methyl ether (TAME) | 0.340 | 0.348 | 0.314 | 0.372 | 0.345 | 0.297 | 0.329 | 0.313 | 0.306 | 0.329 | 7.33 | 5.6144 |
| | 40 | 1,1-Dichloropropene | 0.262 | 0.251 | 0.222 | 0.266 | 0.242 | 0.218 | 0.228 | 0.219 | 0.217 | 0.236 | 8.29 | 5.6132 |
| | 41 | 1,2-Dichloroethane-d4 | 0.972 | 0.902 | 0.780 | 0.802 | 0.781 | 0.709 | 0.720 | ------ | ------ | 0.809 | 11.80 | 5.7233 |
| | 42 | Carbon tetrachloride | 0.945 | 0.992 | 0.834 | 1.044 | 0.930 | 0.901 | 0.890 | 0.840 | 0.838 | 0.913 | 8.01 | 5.7343 |
| | 43 | 1,2-Dichloroethane | 1.036 | 1.026 | 0.936 | 1.027 | 0.937 | 0.846 | 0.859 | 0.810 | 0.796 | 0.919 | 10.41 | 5.8003 |
| | 44 | Benzene | 2.100 | 2.054 | 1.772 | 1.904 | 1.819 | 1.719 | 1.753 | 1.684 | 1.662 | 1.830 | 8.64 | 5.8663 |
| | 45 | Trichloroethene | 0.573 | 0.564 | 0.458 | 0.553 | 0.494 | 0.496 | 0.481 | 0.460 | 0.468 | 0.505 | 9.09 | 6.3714 |
| | 46 | Methyl methacrylate | 0.521 | 0.497 | 0.421 | 0.494 | 0.427 | 0.401 | 0.430 | 0.422 | 0.415 | 0.448 | 9.77 | 6.4386 |
| | 47 | Methylcyclohexane | ------ | 0.701 | 0.528 | 0.712 | 0.530 | 0.546 | 0.606 | 0.586 | 0.600 | 0.601 | 11.92 | 6.4537 |
| | 48 | 1,2-Dichloropropane | 0.559 | 0.532 | 0.465 | 0.483 | 0.464 | 0.418 | 0.437 | 0.427 | 0.418 | 0.467 | 10.74 | 6.5266 |
| 20 | 49 | 1,4-Dioxane | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 50 | Bromodichloromethane | ------ | 1.077 | 0.909 | 0.968 | 0.886 | 0.841 | 0.821 | 0.796 | 0.773 | 0.884 | 11.38 | 6.7687 |
| | 51 | Dibromomethane | 0.454 | 0.430 | 0.373 | 0.417 | 0.371 | 0.368 | 0.349 | 0.344 | 0.315 | 0.380 | 11.79 | 6.8568 |
| | 52 | 2-Chloroethyl vinyl ether | 0.233 | 0.250 | 0.232 | 0.253 | 0.238 | 0.229 | 0.224 | 0.216 | 0.206 | 0.231 | 6.45 | 6.9338 |
| 5 | 53 | 4-Methyl-2-pentanone | 0.591 | 0.572 | 0.495 | 0.557 | 0.534 | 0.467 | 0.473 | 0.467 | 0.447 | 0.512 | 10.35 | 6.9571 |
| | 54 | cis-1,3-Dichloropropene | 0.921 | 0.873 | 0.791 | 0.882 | 0.822 | 0.782 | 0.775 | 0.759 | 0.743 | 0.817 | 7.57 | 7.2750 |
| | 55 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9.5641 |
| | 56 | Toluene-d8 | ------ | 2.328 | 1.900 | 1.960 | 2.006 | 1.860 | 1.868 | ------ | ------ | 1.987 | 8.88 | 7.5941 |
| | 57 | Ethyl methacrylate | 0.687 | 0.714 | 0.662 | 0.753 | 0.707 | 0.647 | 0.685 | 0.635 | 0.651 | 0.682 | 5.59 | 7.6932 |
| | 58 | Toluene | 2.522 | 2.598 | 2.196 | 2.483 | 2.250 | 2.053 | 2.185 | 2.012 | 2.114 | 2.268 | 9.46 | 7.6932 |
| | 59 | trans-1,3-Dichloropropene | 1.019 | 1.031 | 0.921 | 1.072 | 0.988 | 0.969 | 0.957 | 0.878 | 0.899 | 0.970 | 6.61 | 7.8143 |
| 5 | 60 | 2-Hexanone | 0.494 | 0.448 | 0.391 | 0.437 | 0.433 | 0.389 | 0.385 | 0.352 | 0.362 | 0.410 | 11.13 | 7.9378 |
| | 61 | 1,1,2-Trichloroethane | 0.616 | 0.606 | 0.548 | 0.580 | 0.535 | 0.538 | 0.494 | 0.461 | 0.466 | 0.538 | 10.51 | 8.0454 |
| | 62 | 1,3-Dichloropropane | 0.881 | 0.932 | 0.787 | 0.866 | 0.785 | 0.770 | 0.765 | 0.707 | 0.701 | 0.799 | 9.83 | 8.3535 |
| | 63 | Tetrachloroethene | 0.591 | 0.595 | 0.434 | 0.529 | 0.477 | 0.495 | 0.463 | 0.431 | 0.448 | 0.496 | 12.71 | 8.5088 |
| | 64 | Dibromochloromethane | ------ | 1.038 | 0.826 | 0.858 | 0.788 | 0.824 | 0.742 | 0.693 | 0.690 | 0.807 | 13.87 | 8.7827 |
| | 65 | 1,2-Dibromoethane | 0.651 | 0.619 | 0.556 | 0.621 | 0.592 | 0.594 | 0.549 | 0.522 | 0.516 | 0.580 | 8.08 | 9.0688 |
| | 66 | 1-Chlorohexane | 0.844 | 0.848 | 0.651 | 0.843 | 0.747 | 0.751 | 0.722 | 0.671 | 0.677 | 0.751 | 10.45 | 9.1239 |
| | 67 | Chlorobenzene | 1.802 | 1.685 | 1.395 | 1.599 | 1.466 | 1.486 | 1.389 | 1.323 | 1.338 | 1.498 | 11.00 | 9.6191 |
| | 68 | 1,1,1,2-Tetrachloroethane | 0.713 | 0.709 | 0.595 | 0.685 | 0.647 | 0.654 | 0.606 | 0.565 | 0.563 | 0.637 | 9.12 | 9.6460 |
| | 69 | Ethylbenzene | 3.192 | 3.179 | 2.449 | 2.920 | 2.662 | 2.734 | 2.599 | 2.475 | 2.468 | 2.742 | 10.66 | 9.6411 |
| 2 | 70 | m-Xylene & p-Xylene | 2.549 | 2.503 | 1.987 | 2.323 | 2.078 | 2.117 | 2.094 | ------ | ------ | 2.236 | 9.97 | 9.7496 |
| | 71 | o-Xylene | 2.536 | 2.361 | 1.926 | 2.321 | 2.112 | 1.978 | 2.058 | 1.894 | 1.863 | 2.117 | 11.21 | 10.4127 |
| | 72 | Styrene | 1.648 | 1.724 | 1.354 | 1.615 | 1.493 | 1.415 | 1.441 | 1.328 | 1.303 | 1.480 | 10.19 | 10.4580 |
| | 73 | Isopropylbenzene | 2.835 | 2.945 | 2.240 | 2.644 | 2.424 | 2.142 | 2.250 | 2.149 | 2.077 | 2.412 | 13.33 | 10.9397 |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 13.8891 |
| | 75 | Bromoform | 1.246 | 1.192 | 1.112 | 1.177 | 1.072 | 1.033 | 1.055 | 0.974 | 0.961 | 1.091 | 9.03 | 11.0608 |
| | 76 | 1,1,2,2-Tetrachloroethane | 1.731 | 1.658 | 1.370 | 1.490 | 1.349 | 1.248 | 1.296 | 1.218 | 1.184 | 1.394 | 13.93 | 11.2026 |
| | 77 | 4-Bromofluorobenzene | ------ | 1.901 | 1.601 | 1.620 | 1.559 | 1.327 | 1.516 | ------ | ------ | 1.587 | 11.73 | 11.3689 |
| | 78 | 1,2,3-Trichloropropane | 0.441 | 0.449 | 0.384 | 0.439 | 0.374 | 0.344 | 0.366 | 0.344 | 0.322 | 0.385 | 12.26 | 11.4460 |
| | 79 | trans-1,4-Dichloro-2-butene | 0.345 | 0.390 | 0.351 | 0.456 | 0.395 | 0.395 | 0.414 | 0.380 | 0.379 | 0.389 | 8.47 | 11.5132 |
| | 80 | n-Propylbenzene | 7.684 | 7.739 | 5.851 | 7.164 | 6.006 | 5.607 | 5.968 | 5.582 | 5.465 | 6.341 | 14.55 | 11.5780 |
| | 81 | Bromobenzene | 1.646 | 1.681 | 1.348 | 1.563 | 1.386 | 1.206 | 1.293 | 1.208 | 1.192 | 1.392 | 13.87 | 11.7321 |
| | 82 | 1,3,5-Trimethylbenzene | 5.366 | 5.227 | 4.073 | 4.881 | 4.205 | 3.892 | 4.064 | 3.785 | 3.738 | 4.359 | 14.43 | 11.8287 |
| | 83 | 2-Chlorotoluene | ------ | 4.800 | 3.579 | 4.665 | 3.673 | 3.653 | 3.858 | 3.598 | 3.483 | 3.914 | 13.23 | 11.9192 |
| | 84 | 4-Chlorotoluene | 4.791 | 5.151 | 3.841 | 3.940 | 3.868 | 2.881 | 3.359 | 3.161 | 3.176 | 3.796 | 20.12 | 11.9754 |
| | 85 | tert-Butylbenzene | 0.747 | 0.829 | 0.605 | 0.740 | 0.648 | 0.561 | 0.592 | ------ | ------ | 0.675 | 14.63 | 12.4081 |
| | 86 | 1,2,4-Trimethylbenzene | 5.058 | 5.235 | 4.012 | 4.761 | 4.182 | 3.747 | 3.973 | 3.721 | 3.680 | 4.263 | 14.07 | 12.4780 |
| | 87 | sec-Butylbenzene | ------ | 6.256 | 4.523 | 5.517 | 4.832 | 4.450 | 4.638 | 4.362 | ------ | 4.940 | 14.11 | 12.7493 |
| | 88 | p-Isopropyltoluene | 5.045 | 5.046 | 3.819 | 4.703 | 3.968 | 3.664 | 3.821 | 3.689 | 3.551 | 4.145 | 14.69 | 12.9549 |
| | 89 | 1,3-Dichlorobenzene | 3.020 | 2.992 | 2.191 | 2.485 | 2.182 | 2.011 | 2.088 | 1.908 | 1.849 | 2.303 | 19.08 | 13.1652 |
| | 90 | 1,2,3-Trimethylbenzene | 4.849 | 5.175 | 3.973 | 4.777 | 4.170 | 3.766 | 3.928 | 3.729 | 3.652 | 4.224 | 13.33 | 13.2545 |
| | 91 | 1,4-Dichlorobenzene | 3.022 | 3.108 | 2.117 | 2.540 | 2.221 | 2.073 | 2.138 | 1.953 | 1.965 | 2.349 | 18.81 | 13.3278 |
| | 92 | n-Butylbenzene | 4.979 | 4.820 | 3.500 | 4.168 | 3.792 | 3.621 | 3.712 | 3.405 | 3.483 | 3.942 | 14.93 | 13.6140 |
| | 93 | 1,2-Dichlorobenzene | ------ | 2.697 | 2.183 | 2.392 | 2.013 | 1.895 | 1.926 | ------ | ------ | 2.184 | 14.28 | 13.9331 |
| | 94 | 1,2-Dibromo-3-chloropropane | 0.324 | 0.328 | 0.262 | 0.286 | 0.265 | 0.273 | 0.269 | 0.273 | 0.271 | 0.283 | 8.87 | 15.1339 |
| | 95 | 1,2,4-Trichlorobenzene | 2.154 | 2.073 | 1.349 | 1.477 | 1.289 | 1.277 | 1.274 | 1.228 | 1.317 | 1.493 | 24.05 | 16.4643 |
| | 96 | Hexachlorobutadiene | ------ | 0.968 | 0.705 | 0.840 | 0.750 | 0.697 | 0.696 | 0.668 | 0.717 | 0.755 | 13.33 | 16.6624 |
| | 97 | Naphthalene | ------ | 4.357 | 3.062 | 3.424 | 3.316 | 3.128 | 3.237 | 3.113 | 3.378 | 3.377 | 12.35 | 16.8715 |
| | 98 | 1,2,3-Trichlorobenzene | 2.077 | 1.941 | 1.298 | 1.377 | 1.232 | 1.225 | 1.192 | 1.180 | 1.249 | 1.419 | 24.06 | 17.2310 |

Spike Amount = Nominal Amount * M
Ave_%RSD : 11.8 Max_%RSD : 42.2

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = x0 + x1 * Amt_Ratio

| IDX | Parameter | x0 | x1 | CCF |
|---|---|---|---|---|
| 11 | Acetone | 0.05832 | 0.11706 | 0.9992 |
| 16 | Iodomethane | -0.01397 | 0.48870 | 0.9969 |
| 18 | Methylene chloride | 0.04858 | 0.59178 | 0.9974 |
| 84 | 4-Chlorotoluene | 0.14395 | 3.17771 | 0.9987 |
| 89 | 1,3-Dichlorobenzene | 0.09201 | 1.90749 | 0.9986 |
| 91 | 1,4-Dichlorobenzene | 0.08306 | 1.99157 | 0.9991 |
| 95 | 1,2,4-Trichlorobenzene | 0.04972 | 1.27956 | 0.9993 |
| 98 | 1,2,3 Trichlorobenzene | 0.04722 | 1.21614 | 0.9995 |

5/24/24

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :E2
Beginning DateTime :05/17/24 12:33
Spike Units :PPB
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :05/17/24 15:44
HPChem Method :VOE2E17

| M | IDX | Parameters | .5<br>12:33<br>REG118 | 1<br>12:57<br>REG119 | 2<br>13:21<br>REG120 | 5<br>13:45<br>REG121 | 10<br>14:09<br>REG122 | 30<br>14:33<br>REG123 | 50<br>14:57<br>REG124 | 100<br>15:21<br>REG125 | 200<br>15:44<br>REG126 | AvDRec | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 5.9874 |
| | 2 | Dichlorodifluoromethane | 108 | 111 | 101 | 88 | 89 | 106 | 99 | 101 | 97 | 6 | 8.06 | 2.7078 |
| | 3 | Chloromethane | 128 | 113 | 105 | 93 | 91 | 92 | 89 | 93 | 97 | 10.2 | 13.00 | 2.9059 |
| | 4 | Vinyl chloride | 96 | 113 | 106 | 86 | 96 | 101 | 103 | 103 | 95 | 5.8 | 7.58 | 2.9903 |
| | 5 | Bromomethane | 118 | 111 | 99 | 91 | 83 | 91 | 95 | 101 | 112 | 9.3 | 11.62 | 3.3131 |
| | 6 | Dichlorofluoromethane | 108 | 109 | 98 | 111 | 100 | 103 | 94 | 91 | 87 | 6.9 | 8.41 | 3.3523 |
| | 7 | Chloroethane | 104 | 120 | 101 | 92 | 96 | 103 | 96 | 97 | 91 | 6.3 | 8.74 | 3.3461 |
| | 8 | Trichlorofluoromethane | 110 | 105 | 100 | 87 | 92 | 106 | 101 | 102 | 97 | 5.4 | 7.24 | 3.5112 |
| 5 | 9 | Acrolein | 114 | 117 | 97 | 108 | 98 | 92 | 91 | 92 | 91 | 8.5 | 10.21 | 3.7423 |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 120 | 104 | 91 | 112 | 96 | 98 | 96 | 93 | 90 | 7.9 | 10.04 | 3.7521 |
| 5 | 11 | Acetone | 78 | 105 | 105 | 107 | 107 | 97 | 99 | ------ | ------ | 31.9 | 42.17 | 3.7690 |
| 25 | 12 | tert-Butyl alcohol | 123 | 115 | 103 | 93 | 100 | 92 | 93 | 90 | 89 | 9.3 | 11.83 | 3.8744 |
| | 13 | 1,1-Dichloroethene | 109 | 109 | 97 | 113 | 99 | 101 | 91 | 92 | 89 | 6.8 | 8.46 | 3.9025 |
| 10 | 14 | Acetonitrile | ------ | 123 | 103 | 100 | 103 | 87 | 90 | ------ | ------ | 8.9 | 12.37 | 3.8744 |
| | 15 | Allyl chloride | 111 | 114 | 96 | 112 | 101 | 102 | 94 | 86 | 82 | 9.1 | 11.27 | 4.1055 |
| | 16 | Iodomethane | 126 | 92 | 78 | 89 | 91 | 116 | 109 | 104 | 94 | 18.1 | 22.23 | 4.1434 |
| | 17 | Methyl acetate | ------ | 121 | 100 | 102 | 101 | 87 | 90 | ------ | ------ | 7.9 | 12.15 | 4.0285 |
| | 18 | Methylene chloride | 26 | 103 | 116 | 128 | 115 | 115 | 102 | 100 | 96 | 22.1 | 26.33 | 4.1825 |
| 5 | 19 | Acrylonitrile | 125 | 110 | 96 | 103 | 105 | 93 | 89 | 90 | 91 | 9.3 | 11.69 | 4.2156 |
| | 20 | tert-Butyl methyl ether (MTBE) | 113 | 107 | 101 | 107 | 101 | 97 | 92 | 91 | 90 | 6.4 | 7.94 | 4.2266 |
| | 21 | Carbon disulfide | 116 | 109 | 94 | 89 | 100 | 98 | 94 | ------ | ------ | 7.2 | 9.42 | 4.3052 |
| | 22 | trans-1,2-Dichloroethene | 112 | 112 | 99 | 114 | 98 | 93 | 93 | 89 | 90 | 8.5 | 10.07 | 4.3696 |
| | 23 | Isopropyl ether (DIPE) | 114 | 108 | 101 | 111 | 100 | 98 | 92 | 91 | 87 | 7.5 | 9.47 | 4.4601 |
| | 24 | Vinyl acetate | 105 | 108 | 103 | 104 | 107 | 94 | 94 | 95 | 92 | 5.8 | 6.41 | 4.5457 |
| | 25 | 1,1-Dichloroethane | 116 | 112 | 99 | 108 | 97 | 100 | 93 | 88 | 85 | 8.2 | 10.57 | 4.6338 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 110 | 111 | 99 | 110 | 100 | 93 | 95 | 90 | 92 | 6.8 | 8.21 | 4.7328 |
| 5 | 27 | 2-Butanone | ------ | 126 | 102 | 102 | 104 | 91 | 91 | 89 | 89 | 9 | 12.56 | 4.8539 |
| 10 | 28 | Propionitrile | 122 | 111 | 107 | 104 | 96 | 93 | 93 | 87 | 91 | 9.3 | 11.17 | 4.9101 |
| 20 | 29 | Isobutyl alcohol | ------ | 120 | 100 | 95 | 100 | 90 | 95 | 85 | ------ | 7.9 | 12.47 | 5.0299 |
| | 30 | 2,2-Dichloropropane | 111 | 107 | 95 | 114 | 103 | 99 | 95 | 91 | 86 | 7.6 | 9.30 | 5.0202 |
| 10 | 31 | Methacrylonitrile | 115 | 113 | 101 | 109 | 98 | 97 | 92 | 88 | 84 | 8.9 | 11.02 | 5.0568 |
| | 32 | cis-1,2-Dichloroethene | 109 | 115 | 100 | 108 | 96 | 96 | 94 | 90 | 93 | 7 | 8.40 | 5.0630 |
| | 33 | Chloroform | 125 | 117 | 98 | 104 | 93 | 91 | 87 | 85 | ------ | 11.5 | 14.51 | 5.1730 |
| | 34 | Bromochloromethane | 111 | 115 | 102 | 109 | 102 | 101 | 93 | 86 | 81 | 8.8 | 11.29 | 5.3271 |
| | 35 | Tetrahydrofuran | ------ | 111 | 102 | 105 | 98 | 97 | 94 | 92 | ------ | 5.3 | 6.67 | 5.3192 |
| | 36 | Dibromofluoromethane | 111 | 105 | 93 | 100 | 102 | 96 | 94 | ------ | ------ | 4.9 | 6.30 | 5.3381 |
| | 37 | 1,1,1-Trichloroethane | 111 | 108 | 94 | 110 | 100 | 101 | 95 | 93 | 89 | 6.8 | 8.19 | 5.4971 |
| | 38 | Cyclohexane | 124 | 114 | 85 | 114 | 84 | 94 | 99 | 91 | 96 | 11.6 | 14.22 | 5.5484 |
| | 39 | tert-Amyl methyl ether (TAME) | 103 | 106 | 95 | 113 | 105 | 90 | 100 | 95 | 93 | 5.9 | 7.33 | 5.6144 |
| | 40 | 1,1-Dichloropropene | 111 | 106 | 94 | 113 | 103 | 92 | 97 | 93 | 92 | 7.2 | 8.29 | 5.6132 |
| | 41 | 1,2-Dichloroethane-d4 | 120 | 111 | 96 | 99 | 97 | 88 | 89 | ------ | ------ | 9 | 11.80 | 5.7233 |
| | 42 | Carbon tetrachloride | 104 | 109 | 91 | 114 | 102 | 99 | 97 | 92 | 92 | 6.3 | 8.01 | 5.7343 |
| | 43 | 1,2-Dichloroethane | 113 | 112 | 102 | 112 | 102 | 92 | 93 | 88 | 87 | 8.9 | 10.41 | 5.8003 |
| | 44 | Benzene | 115 | 112 | 97 | 104 | 99 | 94 | 96 | 92 | 91 | 6.9 | 8.64 | 5.8663 |
| | 45 | Trichloroethene | 113 | 112 | 91 | 110 | 98 | 98 | 95 | 91 | 93 | 7.7 | 9.09 | 6.3714 |
| | 46 | Methyl methacrylate | 116 | 111 | 94 | 110 | 95 | 90 | 96 | 94 | 93 | 8.4 | 9.77 | 6.4386 |
| | 47 | Methylcyclohexane | ------ | 117 | 88 | 118 | 88 | 91 | 101 | 98 | 100 | 9 | 11.92 | 6.4537 |
| | 48 | 1,2-Dichloropropane | 120 | 114 | 100 | 103 | 99 | 90 | 94 | 91 | 90 | 8.2 | 10.74 | 6.5266 |
| 20 | 49 | 1,4-Dioxane | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 50 | Bromodichloromethane | ------ | 122 | 103 | 110 | 100 | 95 | 93 | 90 | 87 | 8.6 | 11.38 | 6.7687 |
| | 51 | Dibromomethane | 119 | 113 | 98 | 110 | 98 | 97 | 92 | 91 | 83 | 9.4 | 11.79 | 6.8568 |
| | 52 | 2-Chloroethyl vinyl ether | 101 | 108 | 100 | 110 | 103 | 99 | 97 | 94 | 89 | 4.8 | 6.45 | 6.9338 |
| 5 | 53 | 4-Methyl-2-pentanone | 115 | 112 | 97 | 109 | 104 | 91 | 92 | 91 | 87 | 9 | 10.35 | 6.9571 |
| | 54 | cis-1,3-Dichloropropene | 113 | 107 | 97 | 108 | 101 | 96 | 95 | 93 | 91 | 6.3 | 7.57 | 7.2750 |
| | 55 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9.5641 |
| | 56 | Toluene-d8 | ------ | 117 | 96 | 99 | 101 | 94 | 94 | ------ | ------ | 6 | 8.88 | 7.5941 |
| | 57 | Ethyl methacrylate | 101 | 105 | 97 | 110 | 104 | 95 | 100 | 93 | 95 | 4.4 | 5.59 | 7.6932 |
| | 58 | Toluene | 111 | 115 | 97 | 109 | 99 | 91 | 96 | 89 | 93 | 7.8 | 9.46 | 7.6932 |
| | 59 | trans-1,3-Dichloropropene | 105 | 106 | 95 | 111 | 102 | 100 | 99 | 91 | 93 | 5.2 | 6.61 | 7.8143 |
| 5 | 60 | 2-Hexanone | 120 | 109 | 95 | 107 | 106 | 95 | 94 | 86 | 88 | 9.3 | 11.13 | 7.9378 |
| | 61 | 1,1,2-Trichloroethane | 114 | 113 | 102 | 108 | 99 | 100 | 92 | 86 | 87 | 8.1 | 10.51 | 8.0454 |
| | 62 | 1,3-Dichloropropane | 110 | 117 | 98 | 108 | 98 | 96 | 96 | 88 | 88 | 7.8 | 9.83 | 8.3535 |
| | 63 | Tetrachloroethene | 119 | 120 | 88 | 107 | 96 | 100 | 93 | 87 | 90 | 10.2 | 12.71 | 8.5088 |
| | 64 | Dibromochloromethane | ------ | 129 | 102 | 106 | 98 | 102 | 92 | 86 | 86 | 9.8 | 13.87 | 8.7827 |
| | 65 | 1,2-Dibromoethane | 112 | 107 | 96 | 107 | 102 | 102 | 95 | 90 | 89 | 6.8 | 8.08 | 9.0688 |
| | 66 | 1-Chlorohexane | 112 | 113 | 87 | 112 | 99 | 100 | 96 | 89 | 90 | 8.4 | 10.45 | 9.1239 |
| | 67 | Chlorobenzene | 120 | 112 | 93 | 107 | 98 | 99 | 93 | 88 | 89 | 8.8 | 11.00 | 9.6191 |
| | 68 | 1,1,1,2-Tetrachloroethane | 112 | 111 | 93 | 108 | 102 | 103 | 95 | 89 | 88 | 7.7 | 9.12 | 9.6460 |
| | 69 | Ethylbenzene | 116 | 116 | 89 | 106 | 97 | 100 | 95 | 90 | 90 | 8.6 | 10.66 | 9.6411 |
| 2 | 70 | m-Xylene & p-Xylene | 114 | 112 | 89 | 104 | 93 | 95 | 94 | ------ | ------ | 8.5 | 9.97 | 9.7496 |
| | 71 | o-Xylene | 120 | 112 | 91 | 110 | 100 | 93 | 97 | 89 | 88 | 9.1 | 11.21 | 10.4127 |
| | 72 | Styrene | 111 | 116 | 91 | 109 | 101 | 96 | 97 | 90 | 88 | 8.4 | 10.19 | 10.4580 |
| | 73 | Isopropylbenzene | 118 | 122 | 93 | 110 | 100 | 89 | 93 | 89 | 86 | 11.1 | 13.33 | 10.9397 |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 13.8891 |
| | 75 | Bromoform | 114 | 109 | 102 | 108 | 98 | 95 | 97 | 89 | 88 | 7.4 | 9.03 | 11.0608 |
| | 76 | 1,1,2,2-Tetrachloroethane | 124 | 119 | 98 | 107 | 97 | 90 | 93 | 87 | 85 | 11.1 | 13.93 | 11.2026 |
| | 77 | 4-Bromofluorobenzene | ------ | 120 | 101 | 102 | 98 | 84 | 96 | ------ | ------ | 7.6 | 11.73 | 11.3689 |
| | 78 | 1,2,3-Trichloropropane | 115 | 117 | 100 | 114 | 97 | 89 | 95 | 89 | 84 | 10.1 | 12.26 | 11.4460 |
| | 79 | trans-1,4-Dichloro-2-butene | 89 | 100 | 90 | 117 | 102 | 102 | 106 | 98 | 97 | 5.9 | 8.47 | 11.5132 |
| | 80 | n-Propylbenzene | 121 | 122 | 92 | 113 | 95 | 88 | 94 | 88 | 86 | 12.5 | 14.55 | 11.5780 |
| | 81 | Bromobenzene | 118 | 121 | 97 | 112 | 100 | 87 | 93 | 87 | 86 | 11.4 | 13.87 | 11.7321 |
| | 82 | 1,3,5-Trimethylbenzene | 123 | 120 | 93 | 112 | 96 | 89 | 93 | 87 | 86 | 12.2 | 14.43 | 11.8287 |
| | 83 | 2-Chlorotoluene | ------ | 123 | 91 | 119 | 94 | 93 | 99 | 92 | 89 | 10.5 | 13.23 | 11.9192 |
| | 84 | 4-Chlorotoluene | 60 | 117 | 98 | 115 | 117 | 89 | 105 | 99 | 100 | 15.3 | 20.12 | 11.9754 |
| | 85 | tert-Butylbenzene | 111 | 123 | 90 | 110 | 96 | 83 | 88 | ------ | ------ | 12.4 | 14.63 | 12.4081 |
| | 86 | 1,2,4-Trimethylbenzene | 119 | 123 | 94 | 112 | 98 | 88 | 93 | 87 | 86 | 11.8 | 14.07 | 12.4780 |
| | 87 | sec-Butylbenzene | ------ | 127 | 92 | 112 | 98 | 90 | 94 | 88 | ------ | 11 | 14.11 | 12.7493 |
| | 88 | p-Isopropyltoluene | 122 | 122 | 92 | 113 | 96 | 88 | 92 | 89 | 86 | 12.6 | 14.69 | 12.9549 |
| | 89 | 1,3-Dichlorobenzene | 62 | 109 | 90 | 120 | 110 | 104 | 108 | 100 | 97 | 15.3 | 19.08 | 13.1652 |
| | 90 | 1,2,3-Trimethylbenzene | 115 | 123 | 94 | 113 | 99 | 89 | 93 | 88 | 86 | 11.2 | 13.33 | 13.2545 |
| | 91 | 1,4-Dichlorobenzene | 126 | 114 | 86 | 119 | 107 | 103 | 106 | 98 | 98 | 15.4 | 18.81 | 13.3278 |
| | 92 | n-Butylbenzene | 126 | 122 | 89 | 106 | 96 | 92 | 94 | 86 | 88 | 12.1 | 14.93 | 13.6140 |
| | 93 | 1,2-Dichlorobenzene | ------ | 123 | 100 | 110 | 92 | 87 | 88 | ------ | ------ | 11 | 14.28 | 13.9331 |
| | 94 | 1,2-Dibromo-3-chloropropane | 114 | 116 | 93 | 101 | 94 | 96 | 95 | 96 | 96 | 6.8 | 8.87 | 15.1339 |
| | 95 | 1,2,4-Trichlorobenzene | 90 | 123 | 86 | 108 | 97 | 98 | 99 | 90 | 103 | 18.5 | 24.05 | 16.4643 |
| | 96 | Hexachlorobutadiene | ------ | 128 | 93 | 111 | 99 | 92 | 92 | 88 | 95 | 9.9 | 13.33 | 16.6624 |
| | 97 | Naphthalene | ------ | 129 | 91 | 101 | 98 | 93 | 96 | 92 | 100 | 7.6 | 12.35 | 16.8715 |
| | 98 | 1,2,3-Trichlorobenzene | 94 | 121 | 88 | 105 | 97 | 97 | 97 | 97 | 102 | 18.5 | 24.06 | 17.2310 |

For 8260C
SM
5/24/24

# Compound List Report E2

Method Path : C:\MSDCHEM\1\METHODS\
Method File : VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024
Response Via : Initial Calibration

Total Cpnds : 98

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 114 | 5.987 | 1.000 | A | 1 | A | B |
| 2 | T | Dichlorodifluoromethane | 85 | 2.708 | 0.452 | A | 1 | A | B |
| 3 | T | Chloromethane | 50 | 2.906 | 0.485 | A | 1 | A | B |
| 4 | T | Vinyl chloride | 62 | 2.994 | 0.500 | A | 1 | A | B |
| 5 | T | Bromomethane | 94 | 3.313 | 0.553 | A | 1 | A | B |
| 6 | T | Dichlorofluoromethane | 67 | 3.357 | 0.561 | A | 1 | A | B |
| 7 | T | Chloroethane | 64 | 3.346 | 0.559 | A | 1 | A | B |
| 8 | T | Trichlorofluoromethane | 101 | 3.511 | 0.586 | A | 1 | A | B |
| 9 | T | Acrolein | 56 | 3.742 | 0.625 | A | 1 | A | B |
| 10 | T | 1,1,2-Trichloro-1,2,2-Trifl... | 151 | 3.753 | 0.627 | A | 1 | A | B |
| 11 | T | Acetone | 43 | 3.764 | 0.629 | L | 1 | A | B |
| 12 | T | tert-Butyl alcohol | 59 | 3.874 | 0.647 | A | 1 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 3.908 | 0.653 | A | 2 | A | B |
| 14 | T | Acetonitrile | 41 | 3.874 | 0.647 | A | 1 | A | B |
| 15 | T | Allyl chloride | 76 | 4.106 | 0.686 | A | 1 | A | B |
| 16 | T | Iodomethane | 142 | 4.150 | 0.693 | L | 1 | A | B |
| 17 | T | Methyl acetate | 43 | 4.029 | 0.673 | A | 1 | A | B |
| 18 | T | Methylene chloride | 49 | 4.183 | 0.699 | L | 2 | A | B |
| 19 | T | Acrylonitrile | 53 | 4.216 | 0.704 | A | 2 | A | B |
| 20 | T | tert-Butyl methyl ether (MTBE) | 73 | 4.227 | 0.706 | A | 1 | A | B |
| 21 | T | Carbon disulfide | 76 | 4.304 | 0.719 | A | 1 | A | B |
| 22 | T | trans-1,2-Dichloroethene | 96 | 4.370 | 0.730 | A | 1 | A | B |
| 23 | T | Isopropyl ether (DIPE) | 45 | 4.458 | 0.745 | A | 1 | A | B |
| 24 | T | Vinyl acetate | 43 | 4.546 | 0.759 | A | 1 | A | B |
| 25 | T | 1,1-Dichloroethane | 63 | 4.634 | 0.774 | A | 2 | A | B |
| 26 | T | tert-Butyl ethyl ether (ETBE) | 59 | 4.733 | 0.791 | A | 1 | A | B |
| 27 | T | 2-Butanone | 72 | 4.854 | 0.811 | A | 1 | A | B |
| 28 | T | Propionitrile | 54 | 4.909 | 0.820 | A | 1 | A | B |
| 29 | T | Isobutyl alcohol | 43 | 5.030 | 0.840 | A | 1 | A | B |
| 30 | T | 2,2-Dichloropropane | 77 | 5.019 | 0.838 | A | 2 | A | B |
| 31 | T | Methacrylonitrile | 52 | 5.052 | 0.844 | A | 1 | A | B |
| 32 | T | cis-1,2-Dichloroethene | 96 | 5.063 | 0.846 | A | 1 | A | B |
| 33 | T | Chloroform | 83 | 5.173 | 0.864 | A | 2 | A | B |
| 34 | T | Bromochloromethane | 130 | 5.327 | 0.890 | A | 1 | A | B |
| 35 | T | Tetrahydrofuran | 42 | 5.327 | 0.890 | A | 2 | A | B |
| 36 | S | Dibromofluoromethane | 111 | 5.338 | 0.892 | A | 1 | A | B |
| 37 | T | 1,1,1-Trichloroethane | 97 | 5.492 | 0.917 | A | 2 | A | B |
| 38 | T | Cyclohexane | 84 | 5.547 | 0.927 | A | 1 | A | B |
| 39 | T | tert-Amyl methyl ether (TAME) | 87 | 5.613 | 0.938 | A | 1 | A | B |
| 40 | T | 1,1-Dichloropropene | 110 | 5.613 | 0.938 | A | 1 | A | B |
| 41 | S | 1,2-Dichloroethane-d4 | 65 | 5.723 | 0.956 | A | 1 | A | B |
| 42 | T | Carbon tetrachloride | 119 | 5.734 | 0.958 | A | 1 | A | B |
| 43 | T | 1,2-Dichloroethane | 62 | 5.800 | 0.969 | A | 1 | A | B |
| 44 | T | Benzene | 78 | 5.866 | 0.980 | A | 2 | A | B |
| 45 | T | Trichloroethene | 130 | 6.373 | 1.064 | A | 3 | A | B |
| 46 | T | Methyl methacrylate | 69 | 6.439 | 1.075 | A | 1 | A | B |
| 47 | T | Methylcyclohexane | 83 | 6.450 | 1.077 | A | 2 | A | B |
| 48 | T | 1,2-Dichloropropane | 63 | 6.527 | 1.090 | A | 1 | A | B |
| 49 | T | 1,4-Dioxane | 88 | 6.725 | 1.123 | A | 1 | A | B |
| 50 | T | Bromodichloromethane | 83 | 6.769 | 1.131 | A | 1 | A | B |
| 51 | T | Dibromomethane | 93 | 6.857 | 1.145 | A | 2 | A | B |
| 52 | T | 2-Chloroethyl vinyl ether | 63 | 6.934 | 1.158 | A | 1 | A | B |
| 53 | T | 4-Methyl-2-pentanone | 43 | 6.956 | 1.162 | A | 3 | A | B |
| 54 | T | cis-1,3-Dichloropropene | 75 | 7.275 | 1.215 | A | 3 | A | B |
| 55 | I | CHLOROBENZENE-D5 | 117 | 9.564 | 1.000 | A | 2 | A | B |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 56 | S | Toluene-d8 | 98 | 7.594 | 0.794 | A | 1 | A | B |
| 57 | T | Ethyl methacrylate | 69 | 7.693 | 0.804 | A | 1 | A | B |
| 58 | T | Toluene | 91 | 7.693 | 0.804 | A | 1 | A | B |
| 59 | T | trans-1,3-Dichloropropene | 75 | 7.814 | 0.817 | A | 1 | A | B |
| 60 | T | 2-Hexanone | 43 | 7.935 | 0.830 | A | 1 | A | B |
| 61 | T | 1,1,2-Trichloroethane | 97 | 8.045 | 0.841 | A | 2 | A | B |
| 62 | T | 1,3-Dichloropropane | 76 | 8.354 | 0.873 | A | 1 | A | B |
| 63 | T | Tetrachloroethene | 164 | 8.508 | 0.890 | A | 3 | A | B |
| 64 | T | Dibromochloromethane | 129 | 8.783 | 0.918 | A | 1 | A | B |
| 65 | T | 1,2-Dibromoethane | 107 | 9.069 | 0.948 | A | 1 | A | B |
| 66 | T | 1-Chlorohexane | 91 | 9.124 | 0.954 | A | 1 | A | B |
| 67 | T | Chlorobenzene | 112 | 9.619 | 1.006 | A | 1 | A | B |
| 68 | T | 1,1,1,2-Tetrachloroethane | 131 | 9.652 | 1.009 | A | 1 | A | B |
| 69 | T | Ethylbenzene | 91 | 9.641 | 1.008 | A | 1 | A | B |
| 70 | T | m-Xylene & p-Xylene | 91 | 9.740 | 1.018 | A | 1 | A | B |
| 71 | T | o-Xylene | 91 | 10.412 | 1.089 | A | 1 | A | B |
| 72 | T | Styrene | 104 | 10.456 | 1.093 | A | 2 | A | B |
| 73 | T | Isopropylbenzene | 105 | 10.940 | 1.144 | A | 3 | A | B |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 152 | 13.889 | 1.000 | A | 1 | A | B |
| 75 | T | Bromoform | 173 | 11.061 | 0.796 | A | 2 | A | B |
| 76 | T | 1,1,2,2-Tetrachloroethane | 83 | 11.204 | 0.807 | A | 1 | A | B |
| 77 | S | 4-Bromofluorobenzene | 95 | 11.369 | 0.819 | A | 2 | A | B |
| 78 | T | 1,2,3-Trichloropropane | 110 | 11.446 | 0.824 | A | 1 | A | B |
| 79 | T | trans-1,4-Dichloro-2-butene | 53 | 11.512 | 0.829 | A | 1 | A | B |
| 80 | T | n-Propylbenzene | 91 | 11.578 | 0.834 | A | 2 | A | B |
| 81 | T | Bromobenzene | 156 | 11.732 | 0.845 | A | 1 | A | B |
| 82 | T | 1,3,5-Trimethylbenzene | 105 | 11.831 | 0.852 | A | 2 | A | B |
| 83 | T | 2-Chlorotoluene | 91 | 11.919 | 0.858 | A | 1 | A | B |
| 84 | T | 4-Chlorotoluene | 91 | 11.974 | 0.862 | L | 1 | A | B |
| 85 | T | tert-Butylbenzene | 134 | 12.415 | 0.894 | A | 1 | A | B |
| 86 | T | 1,2,4-Trimethylbenzene | 105 | 12.470 | 0.898 | A | 1 | A | B |
| 87 | T | sec-Butylbenzene | 105 | 12.745 | 0.918 | A | 1 | A | B |
| 88 | T | p-Isopropyltoluene | 119 | 12.954 | 0.933 | A | 2 | A | B |
| 89 | T | 1,3-Dichlorobenzene | 146 | 13.163 | 0.948 | L | 2 | A | B |
| 90 | T | 1,2,3-Trimethylbenzene | 105 | 13.251 | 0.954 | A | 2 | A | B |
| 91 | T | 1,4-Dichlorobenzene | 146 | 13.328 | 0.960 | L | 2 | A | B |
| 92 | T | n-Butylbenzene | 91 | 13.614 | 0.980 | A | 2 | A | B |
| 93 | T | 1,2-Dichlorobenzene | 146 | 13.933 | 1.003 | A | 1 | A | B |
| 94 | T | 1,2-Dibromo-3-chloropropane | 157 | 15.133 | 1.090 | A | 1 | A | B |
| 95 | T | 1,2,4-Trichlorobenzene | 180 | 16.464 | 1.185 | L | 2 | A | B |
| 96 | T | Hexachlorobutadiene | 225 | 16.663 | 1.200 | A | 2 | A | B |
| 97 | T | Naphthalene | 128 | 16.872 | 1.215 | A | 1 | A | B |
| 98 | T | 1,2,3-Trichlorobenzene | 180 | 17.224 | 1.240 | L | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

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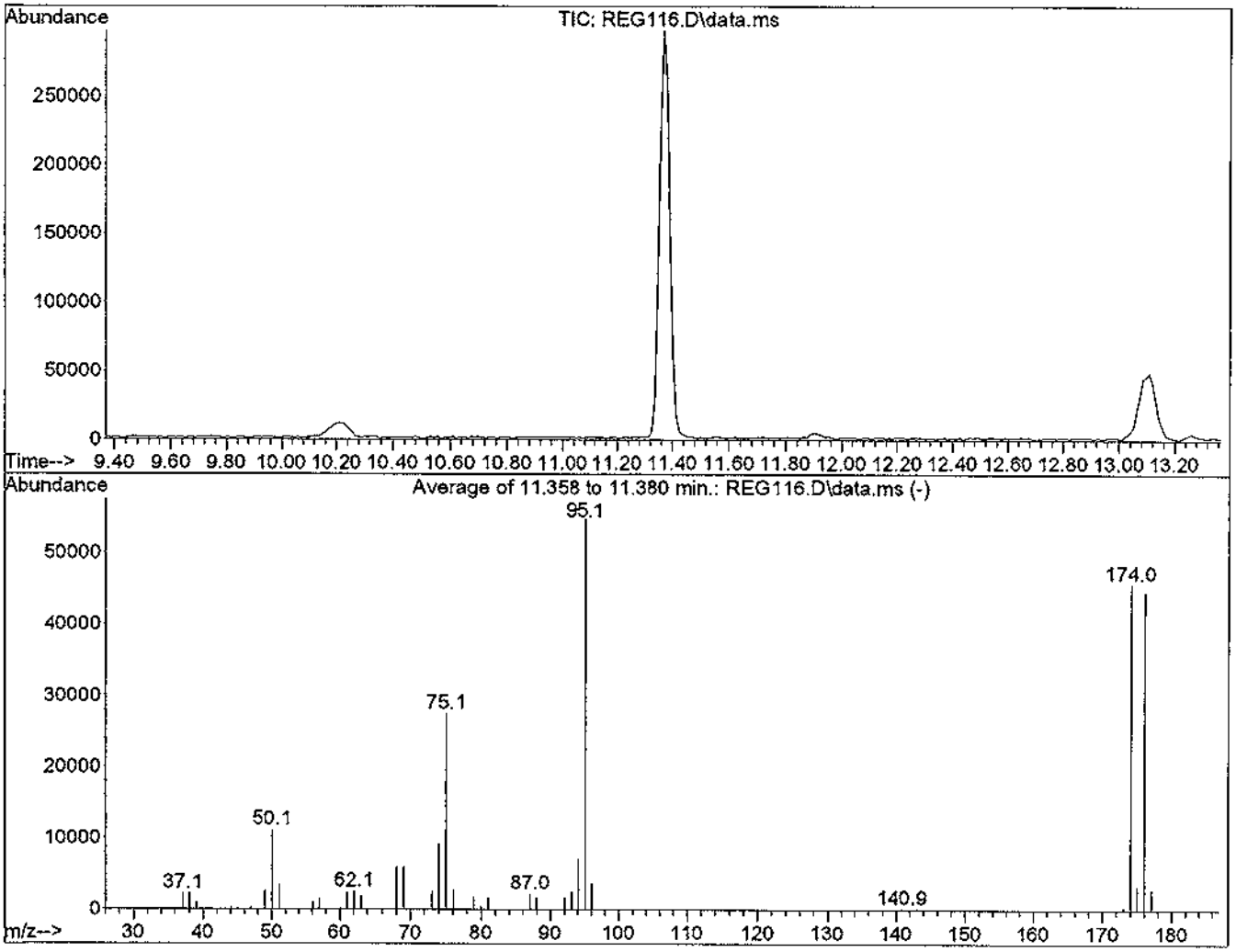
VOE2E17.M Tue May 21 20:46:28 2024

5/24/24

Data Path : D:\Data\24E17\
Data File : REG116.D
Acq On : 17 May 2024 11:23
Operator : DNguye
Sample : BFBE2E09
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




AutoFind: Scans 797, 798, 799; Background Corrected with Scan 791

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 20.3 | 11125 | PASS |
| 75 | 95 | 30 | 60 | 50.1 | 27461 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 54867 | PASS |
| 96 | 95 | 5 | 9 | 6.7 | 3687 | PASS |
| 173 | 174 | 0.00 | 2 | 1.0 | 441 | PASS |
| 174 | 95 | 50 | 100 | 83.3 | 45723 | PASS |
| 175 | 174 | 5 | 9 | 7.5 | 3423 | PASS |
| 176 | 174 | 95 | 101 | 97.6 | 44603 | PASS |
| 177 | 176 | 5 | 9 | 6.5 | 2888 | PASS |

SA 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG118.D Vial: 3
Acq On : 17 May 2024 12:33 Operator: DNguye
Sample : VOE2E172 0.02 Inst : E2
Misc : 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:44 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 549104 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 464476 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 212499 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 18576 | 0.55 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 5.50% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 26686 | 0.60 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 6.00% | | |
| 56) Toluene-d8 | 7.594 | 98 | 57312 | 0.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 6.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 22723 | 0.67 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 6.70% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 17056 | 0.54 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 14446 | 0.64 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 11508 | 0.48 | ug/l | 73 |
| 5) Bromomethane | 3.313 | 94 | 9554 | 0.59 | ug/l | 94 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 29410 | 0.54 | ug/L | 96 |
| 7) Chloroethane | 3.346 | 64 | 6087 | 0.52 | ug/l | 85 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 29529 | 0.55 | ug/l | 98 |
| 9) Acrolein | 3.742 | 56 | 10194 | 2.85 | ug/l | 91 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 14012 | 0.60 | ug/l | 91 |
| 11) Acetone | 3.764 | 43 | 44639 | 1.96 | ug/l | 96 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 51406 | 15.40 | ug/L | 97 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 26690 | 0.54 | ug/l | 96 |
| 14) Acetonitrile | 3.874 | 41 | 10893 | 6.57 | ug/L | 98 |
| 15) Allyl chloride | 4.106 | 76 | 7180 | 0.55 | ug/L | 98 |
| 16) Iodomethane | 4.139 | 142 | 9193 | 0.63 | ug/l | 87 |
| 17) Methyl acetate | 4.029 | 43 | 14730 | 0.79 | ug/L | 85 |
| 18) Methylene chloride | 4.183 | 49 | 30803 | 0.13 | ug/l | 98 |
| 19) Acrylonitrile | 4.216 | 53 | 25634 | 3.11 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 46315 | 0.56 | ug/L | 96 |
| 21) Carbon disulfide | 4.304 | 76 | 43578 | 0.58 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 14728 | 0.56 | ug/l | 97 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 47724 | 0.57 | ug/l | 94 |
| 24) Vinyl acetate | 4.546 | 43 | 24849 | 0.52 | ug/l | 95 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 30845 | 0.58 | ug/l | 92 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 55588 | 0.55 | ug/l | 98 |
| 27) 2-Butanone | 4.854 | 72 | 11165 | 4.33 | ug/l | 86 |
| 28) Propionitrile | 4.909 | 54 | 18460 | 6.08 | ug/L | 91 |
| 29) Isobutyl alcohol | 5.030 | 43 | 14416 | 13.44 | ug/L | 87 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 29380 | 0.55 | ug/l | 97 |
| 31) Methacrylonitrile | 5.052 | 52 | 28918 | 5.80 | ug/L | 100 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 16247 | 0.54 | ug/l | 98 |
| 33) Chloroform | 5.173 | 83 | 41179 | 0.63 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 9713 | 0.55 | ug/l | 96 |
| 35) Tetrahydrofuran | 5.316 | 42 | 5046 | 0.73 | ug/L | 71 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 32762 | 0.55 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 18767 | 0.62 | ug/L | 95 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 9348 | 0.52 | ug/l | 84 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 7182 | 0.55 | ug/L | 93 |
| 42) Carbon tetrachloride | 5.734 | 119 | 25943 | 0.52 | ug/L | 94 |


SU 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG118.D
Acq On : 17 May 2024 12:33
Sample : VOE2E172 0.02
Misc : 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:44 2024
Quant Results File: VOE2E17.RES

Vial: 3
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) | 1,2-Dichloroethane | 5.800 | 62 | 28450 | 0.56 | ug/L | 98 |
| 44) | Benzene | 5.866 | 78 | 57665 | 0.57 | ug/L | 99 |
| 45) | Trichloroethene | 6.362 | 130 | 15745 | 0.57 | ug/L | 92 |
| 46) | Methyl methacrylate | 6.439 | 69 | 14294 | 0.58 | ug/L | 92 |
| 47) | Methylcyclohexane | 6.450 | 83 | 24801 | 0.75 | ug/L | 98 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 15344 | 0.60 | ug/L | 87 |
| 50) | Bromodichloromethane | 6.769 | 83 | 36002 | 0.74 | ug/L | 94 |
| 51) | Dibromomethane | 6.857 | 93 | 12457 | 0.60 | ug/L | 89 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 6395 | 0.50 | ug/L | 87 |
| 53) | 4-Methyl-2-pentanone | 6.967 | 43 | 81159 | 2.89 | ug/L | 98 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 25278 | 0.56 | ug/L | 99 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 15961 | 0.50 | ug/L | 97 |
| 58) | Toluene | 7.693 | 91 | 58579 | 0.56 | ug/l | 98 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 23673 | 0.53 | ug/l | 98 |
| 60) | 2-Hexanone | 7.946 | 43 | 57309 | 3.01 | ug/l | 96 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 14308 | 0.57 | ug/l | 96 |
| 62) | 1,3-Dichloropropane | 8.354 | 76 | 20459 | 0.55 | ug/l | 96 |
| 63) | Tetrachloroethene | 8.508 | 164 | 13727 | 0.60 | ug/l | 96 |
| 64) | Dibromochloromethane | 8.783 | 129 | 29407 | 0.78 | ug/l | 97 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 15125 | 0.56 | ug/l | 99 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 19608 | 0.56 | ug/l | 96 |
| 67) | Chlorobenzene | 9.619 | 112 | 41842 | 0.60 | ug/l | 98 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 16551 | 0.56 | ug/l | 98 |
| 69) | Ethylbenzene | 9.641 | 91 | 74129 | 0.58 | ug/l | 99 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 118397 | 1.14 | ug/l | 100 |
| 71) | o-Xylene | 10.423 | 91 | 58892 | 0.60 | ug/l | 99 |
| 72) | Styrene | 10.467 | 104 | 38267 | 0.56 | ug/l | 96 |
| 73) | Isopropylbenzene | 10.940 | 105 | 65839 | 0.59 | ug/L | 99 |
| 75) | Bromoform | 11.061 | 173 | 13240 | 0.57 | ug/l | 96 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 18390 | 0.62 | ug/l | 99 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 4683 | 0.57 | ug/l | 89 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 3669 | 0.44 | ug/l | 65 |
| 80) | n-Propylbenzene | 11.578 | 91 | 81637 | 0.61 | ug/l | 99 |
| 81) | Bromobenzene | 11.732 | 156 | 17493 | 0.59 | ug/l | 90 |
| 82) | 1,3,5-Trimethylbenzene | 11.820 | 105 | 57014 | 0.62 | ug/l | 98 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 55924 | 0.67 | ug/l | 97 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 50900 | 0.30 | ug/l | 88 |
| 85) | tert-Butylbenzene | 12.414 | 134 | 7933 | 0.55 | ug/l | 81 |
| 86) | 1,2,4-Trimethylbenzene | 12.480 | 105 | 53741 | 0.59 | ug/l | 100 |
| 87) | sec-Butylbenzene | 12.756 | 105 | 65405 | 0.62 | ug/l | 99 |
| 88) | p-Isopropyltoluene | 12.965 | 119 | 53602 | 0.61 | ug/l | 97 |
| 89) | 1,3-Dichlorobenzene | 13.163 | 146 | 32090 | 0.31 | ug/l | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.251 | 105 | 51524 | 0.57 | ug/L | 99 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 32107 | 0.34 | ug/l | 100 |
| 92) | n-Butylbenzene | 13.614 | 91 | 52899 | 0.63 | ug/l | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 31197 | 0.67 | ug/l | 99 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 3444 | 0.57 | ug/l | 77 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 22885 | 0.45 | ug/l | 96 |
| 96) | Hexachlorobutadiene | 16.651 | 225 | 14673 | 0.91 | ug/l | 99 |
| 97) | Naphthalene | 16.872 | 128 | 48991 | 0.68 | ug/l | 95 |
| 98) | 1,2,3-Trichlorobenzene | 17.224 | 180 | 22069 | 0.47 | ug/l | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

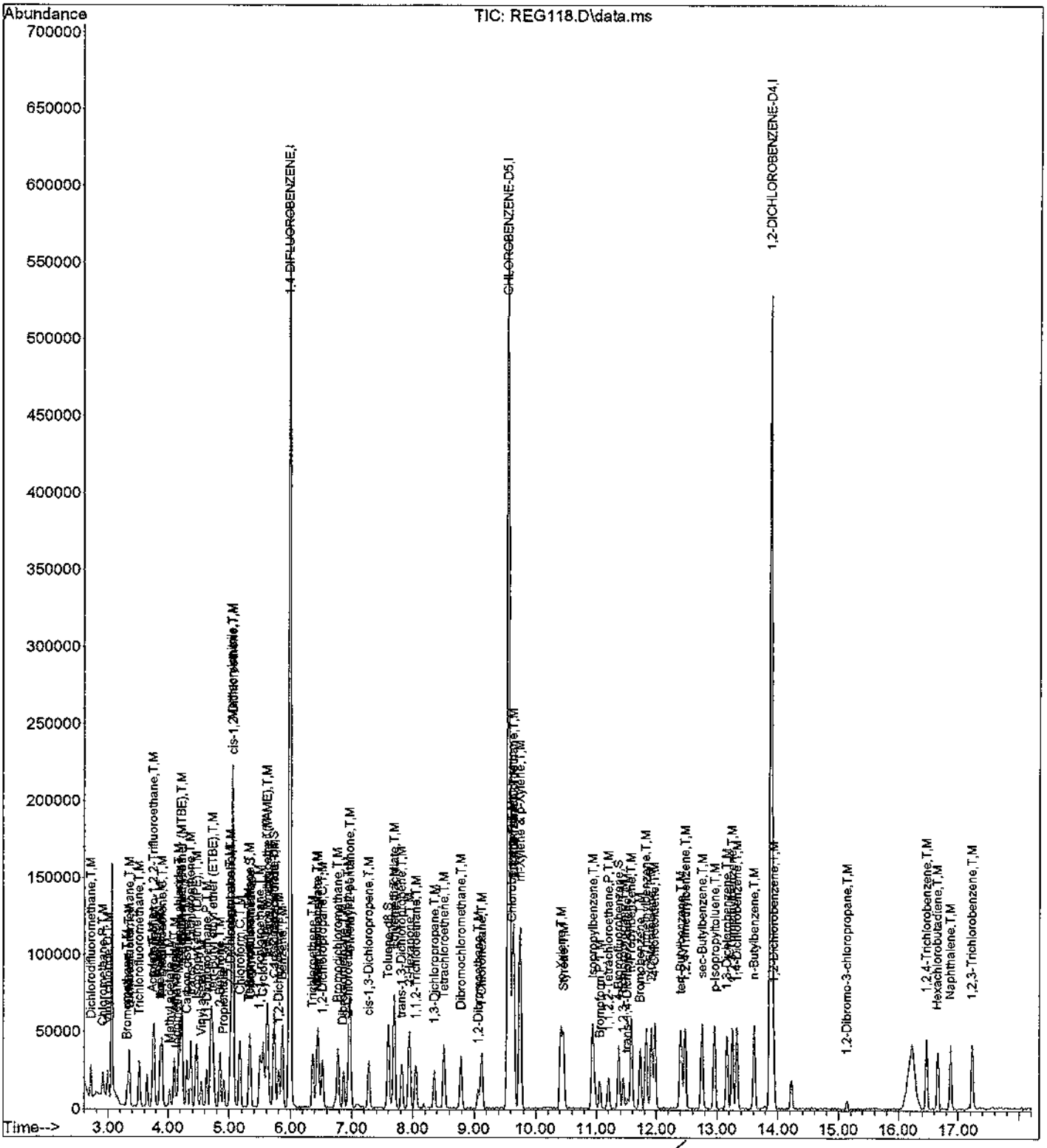


Su 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG118.D Vial: 3
Acq On : 17 May 2024 12:33 Operator: DNguye
Sample : VOE2E172 0.02 Inst : E2
Misc : 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:44 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M






SU 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG119.D Vial: 4
Acq On : 17 May 2024 12:57 Operator: DNguye
Sample : VOE2E173 0.04 Inst : E2
Misc : 1.0ppb 8260/5.0ppb KET-AA/25ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:47 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 528810 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 434355 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 203881 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 33928 | 1.05 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 10.50% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 47681 | 1.11 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 11.10% | | |
| 56) Toluene-d8 | 7.594 | 98 | 101137 | 1.17 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 11.70% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 38761 | 1.20 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 12.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 33711 | 1.11 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 24615 | 1.13 | ug/l | 97 |
| 4) Vinyl chloride | 2.994 | 62 | 25933 | 1.13 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 17186 | 1.10 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 57478 | 1.09 | ug/L | 98 |
| 7) Chloroethane | 3.346 | 64 | 13510 | 1.20 | ug/l | 94 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 54306 | 1.05 | ug/l | 91 |
| 9) Acrolein | 3.742 | 56 | 20066 | 5.83 | ug/l | 93 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 23511 | 1.04 | ug/l | 98 |
| 11) Acetone | 3.775 | 43 | 63395 | 5.26 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 92364 | 28.72 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 51276 | 1.08 | ug/l | 98 |
| 14) Acetonitrile | 3.874 | 41 | 19387 | 12.15 | ug/L | 92 |
| 15) Allyl chloride | 4.105 | 76 | 14259 | 1.14 | ug/L | 90 |
| 16) Iodomethane | 4.149 | 142 | 16513 | 0.92 | ug/l | 95 |
| 17) Methyl acetate | 4.028 | 43 | 21690 | 1.21 | ug/L | 99 |
| 18) Methylene chloride | 4.183 | 49 | 57918 | 1.03 | ug/l | 99 |
| 19) Acrylonitrile | 4.216 | 53 | 43571 | 5.48 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 84545 | 1.07 | ug/L | 98 |
| 21) Carbon disulfide | 4.304 | 76 | 78967 | 1.09 | ug/l | 98 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 28258 | 1.12 | ug/l | 93 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 86599 | 1.08 | ug/l | 100 |
| 24) Vinyl acetate | 4.546 | 43 | 49261 | 1.08 | ug/l | 97 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 57329 | 1.12 | ug/l | 96 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 108334 | 1.11 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 15702 | 6.33 | ug/l | 98 |
| 28) Propionitrile | 4.909 | 54 | 32216 | 11.02 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 25893 | 25.07 | ug/L | 94 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 54501 | 1.07 | ug/l | 99 |
| 31) Methacrylonitrile | 5.063 | 52 | 54305 | 11.31 | ug/L | 99 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 32895 | 1.15 | ug/l | 94 |
| 33) Chloroform | 5.173 | 83 | 73903 | 1.17 | ug/l | 96 |
| 34) Bromochloromethane | 5.327 | 130 | 19362 | 1.15 | ug/l | 97 |
| 35) Tetrahydrofuran | 5.327 | 42 | 7423 | 1.11 | ug/L | 88 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 61622 | 1.08 | ug/l | 99 |
| 38) Cyclohexane | 5.558 | 84 | 33028 | 1.14 | ug/L | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 18421 | 1.06 | ug/l | 94 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 13272 | 1.06 | ug/L | 97 |
| 42) Carbon tetrachloride | 5.734 | 119 | 52471 | 1.09 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG119.D
Acq On : 17 May 2024 12:57
Sample : VOE2E173 0.04
Misc : 1.0ppb 8260/5.0ppb KET-AA/25ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:47 2024
Quant Results File: VOE2E17.RES

Vial: 4
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) | 1,2-Dichloroethane | 5.800 | 62 | 54277 | 1.12 | ug/L | 96 |
| 44) | Benzene | 5.866 | 78 | 108613 | 1.12 | ug/L | 99 |
| 45) | Trichloroethene | 6.373 | 130 | 29804 | 1.12 | ug/L | 97 |
| 46) | Methyl methacrylate | 6.439 | 69 | 26306 | 1.11 | ug/L | 98 |
| 47) | Methylcyclohexane | 6.450 | 83 | 37063 | 1.17 | ug/L | 98 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 28108 | 1.14 | ug/L | 100 |
| 50) | Bromodichloromethane | 6.769 | 83 | 56931 | 1.22 | ug/L | 98 |
| 51) | Dibromomethane | 6.857 | 93 | 22728 | 1.13 | ug/L | 92 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 13231 | 1.08 | ug/L | 90 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 151354 | 5.59 | ug/L | 99 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 46187 | 1.07 | ug/L | 99 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 31012 | 1.05 | ug/L | 98 |
| 58) | Toluene | 7.693 | 91 | 112834 | 1.15 | ug/l | 97 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 44780 | 1.06 | ug/l | 97 |
| 60) | 2-Hexanone | 7.935 | 43 | 97204 | 5.46 | ug/l | 98 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 26335 | 1.13 | ug/l | 98 |
| 62) | 1,3-Dichloropropane | 8.353 | 76 | 40485 | 1.17 | ug/l | 97 |
| 63) | Tetrachloroethene | 8.508 | 164 | 25854 | 1.20 | ug/l | 93 |
| 64) | Dibromochloromethane | 8.783 | 129 | 45093 | 1.29 | ug/l | 97 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 26886 | 1.07 | ug/l | 93 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 36853 | 1.13 | ug/l | 94 |
| 67) | Chlorobenzene | 9.619 | 112 | 73176 | 1.12 | ug/l | 100 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 30816 | 1.11 | ug/l | 100 |
| 69) | Ethylbenzene | 9.641 | 91 | 138084 | 1.16 | ug/l | 100 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 217417 | 2.24 | ug/l | 99 |
| 71) | o-Xylene | 10.411 | 91 | 102543 | 1.12 | ug/l | 99 |
| 72) | Styrene | 10.455 | 104 | 74867 | 1.16 | ug/l | 96 |
| 73) | Isopropylbenzene | 10.940 | 105 | 127896 | 1.22 | ug/L | 99 |
| 75) | Bromoform | 11.061 | 173 | 24303 | 1.09 | ug/l | 98 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 33812 | 1.19 | ug/l | 99 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 9149 | 1.17 | ug/l | 96 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 7950 | 1.00 | ug/l | 84 |
| 80) | n-Propylbenzene | 11.578 | 91 | 157786 | 1.22 | ug/l | 98 |
| 81) | Bromobenzene | 11.732 | 156 | 34281 | 1.21 | ug/l | 98 |
| 82) | 1,3,5-Trimethylbenzene | 11.820 | 105 | 106571 | 1.20 | ug/l | 98 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 97870 | 1.23 | ug/l | 99 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 105023 | 1.17 | ug/l | 98 |
| 85) | tert-Butylbenzene | 12.414 | 134 | 16901 | 1.23 | ug/l | 88 |
| 86) | 1,2,4-Trimethylbenzene | 12.480 | 105 | 106726 | 1.23 | ug/l | 99 |
| 87) | sec-Butylbenzene | 12.745 | 105 | 127554 | 1.27 | ug/l | 98 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 102878 | 1.22 | ug/l | 98 |
| 89) | 1,3-Dichlorobenzene | 13.163 | 146 | 61010 | 1.09 | ug/l | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.251 | 105 | 105503 | 1.22 | ug/L | 99 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 63367 | 1.14 | ug/l | 99 |
| 92) | n-Butylbenzene | 13.614 | 91 | 98269 | 1.22 | ug/l | 100 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 54994 | 1.23 | ug/l | 94 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 6688 | 1.16 | ug/l | 90 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 42271 | 1.23 | ug/l | 95 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 19735 | 1.28 | ug/l | 96 |
| 97) | Naphthalene | 16.871 | 128 | 88837 | 1.29 | ug/l | 100 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 39581 | 1.21 | ug/l | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

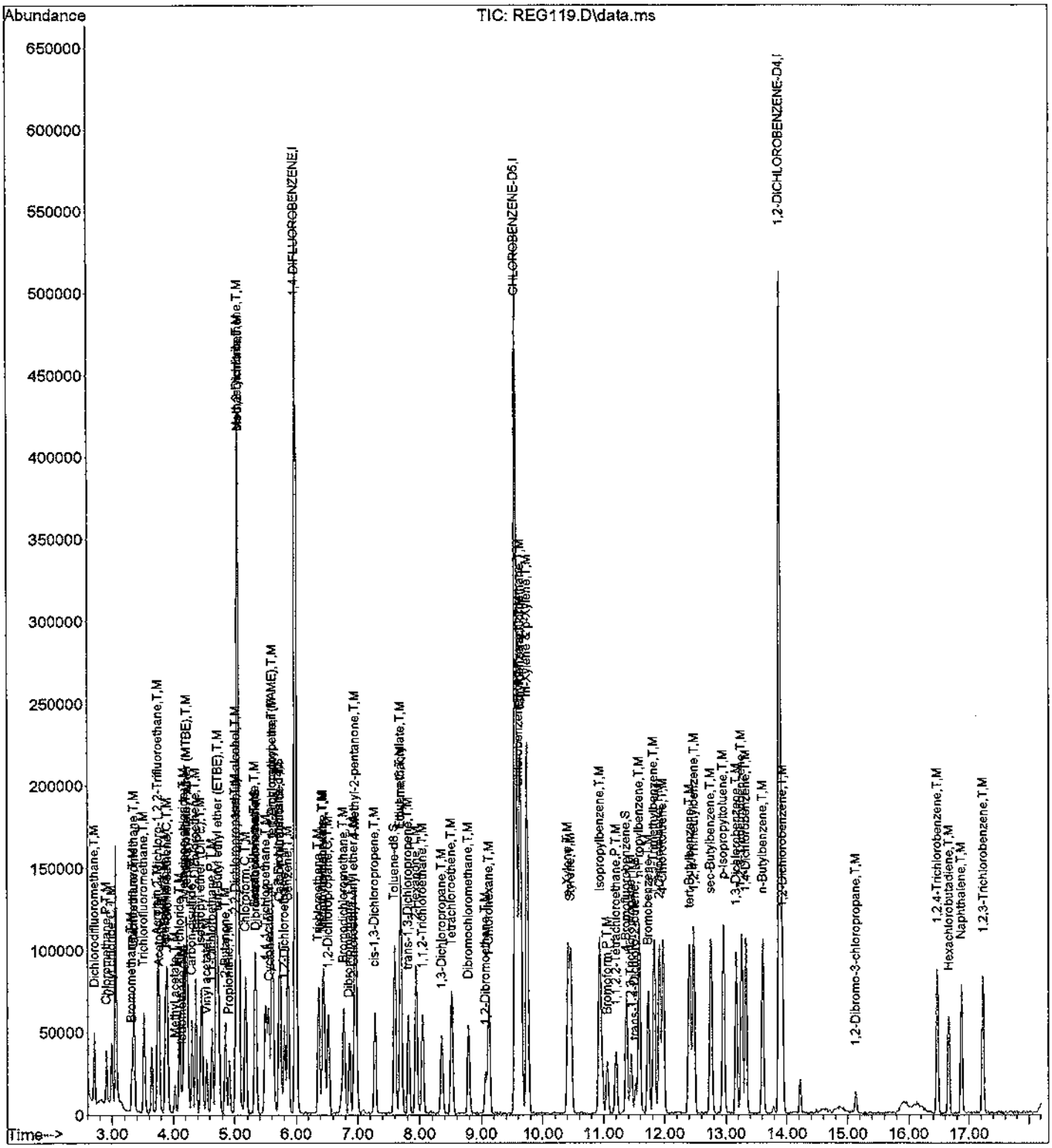


SH 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG119.D Vial: 4
Acq On : 17 May 2024 12:57 Operator: DNguye
Sample : VOE2E173 0.04 Inst : E2
Misc : 1.0ppb 8260/5.0ppb KET-AA/25ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:47 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:45:03 2024 Page 3

Su 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG120.D
Acq On : 17 May 2024 13:21
Sample : VOE2E174 0.08
Misc : 2.0ppb 8260/10ppb KET-AA/50ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:50 2024
Quant Results File: VOE2E17.RES

Vial: 5
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 504172 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 426041 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 198013 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 57595 | 1.87 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 18.70% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 78644 | 1.93 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 19.30% | | |
| 56) Toluene-d8 | 7.594 | 98 | 161890 | 1.91 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 19.10% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 63415 | 2.02 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 20.20% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 58393 | 2.02 | ug/l | 96 |
| 3) Chloromethane | 2.906 | 50 | 43714 | 2.11 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 46513 | 2.12 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 29298 | 1.98 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 98226 | 1.96 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 21773 | 2.03 | ug/l | 96 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 98938 | 2.01 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 31812 | 9.70 | ug/l | 96 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 39243 | 1.83 | ug/l | 92 |
| 11) Acetone | 3.764 | 43 | 91425 | 10.51 | ug/l | 95 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 158265 | 51.62 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 87690 | 1.95 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 31277 | 20.56 | ug/L | 94 |
| 15) Allyl chloride | 4.106 | 76 | 22925 | 1.93 | ug/L | 99 |
| 16) Iodomethane | 4.150 | 142 | 31220 | 1.55 | ug/l | 89 |
| 17) Methyl acetate | 4.028 | 43 | 33958 | 1.99 | ug/L | 99 |
| 18) Methylene chloride | 4.183 | 49 | 93752 | 2.32 | ug/l | 95 |
| 19) Acrylonitrile | 4.216 | 53 | 72852 | 9.61 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 152103 | 2.02 | ug/L | 99 |
| 21) Carbon disulfide | 4.304 | 76 | 130016 | 1.88 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 47642 | 1.98 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 154819 | 2.02 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 90028 | 2.06 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 96551 | 1.99 | ug/l | 97 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 184438 | 1.98 | ug/l | 97 |
| 27) 2-Butanone | 4.854 | 72 | 24326 | 10.28 | ug/l | 96 |
| 28) Propionitrile | 4.909 | 54 | 59115 | 21.21 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 40617 | 41.24 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 92101 | 1.89 | ug/l | 98 |
| 31) Methacrylonitrile | 5.063 | 52 | 93184 | 20.36 | ug/L | 99 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 54578 | 1.99 | ug/l | 97 |
| 33) Chloroform | 5.173 | 83 | 118215 | 1.96 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 32779 | 2.04 | ug/l | 93 |
| 35) Tetrahydrofuran | 5.316 | 42 | 13038 | 2.05 | ug/L | 90 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 101793 | 1.87 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 46966 | 1.69 | ug/L | 97 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 31686 | 1.91 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 22400 | 1.88 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 84046 | 1.83 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG120.D
Acq On : 17 May 2024 13:21
Sample : VOE2E174 0.08
Misc : 2.0ppb 8260/10ppb KET-AA/50ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:50 2024
Quant Results File: VOE2E17.RES

Vial: 5
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 94348 | 2.04 | ug/L | 97 |
| 44) Benzene | 5.866 | 78 | 178713 | 1.94 | ug/L | 99 |
| 45) Trichloroethene | 6.373 | 130 | 46157 | 1.81 | ug/L | 99 |
| 46) Methyl methacrylate | 6.439 | 69 | 42439 | 1.88 | ug/L | 99 |
| 47) Methylcyclohexane | 6.450 | 83 | 53240 | 1.76 | ug/L | 98 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 46865 | 1.99 | ug/L | 96 |
| 50) Bromodichloromethane | 6.769 | 83 | 91675 | 2.06 | ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 37625 | 1.96 | ug/L | 98 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 23373 | 2.00 | ug/L | 93 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 249599 | 9.68 | ug/L | 99 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 79803 | 1.94 | ug/L | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 56408 | 1.94 | ug/L | 95 |
| 58) Toluene | 7.693 | 91 | 187086 | 1.94 | ug/l | 97 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 78497 | 1.90 | ug/l | 99 |
| 60) 2-Hexanone | 7.935 | 43 | 166637 | 9.54 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 46722 | 2.04 | ug/l | 94 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 67082 | 1.97 | ug/l | 99 |
| 63) Tetrachloroethene | 8.519 | 164 | 36950 | 1.75 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 70358 | 2.05 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 47406 | 1.92 | ug/l | 95 |
| 66) 1-Chlorohexane | 9.124 | 91 | 55496 | 1.74 | ug/l | 97 |
| 67) Chlorobenzene | 9.619 | 112 | 118853 | 1.86 | ug/l | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 50691 | 1.87 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 208714 | 1.79 | ug/l | 97 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 338673 | 3.56 | ug/l | 98 |
| 71) o-Xylene | 10.411 | 91 | 164095 | 1.82 | ug/l | 100 |
| 72) Styrene | 10.466 | 104 | 115396 | 1.83 | ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 190859 | 1.86 | ug/L | 98 |
| 75) Bromoform | 11.061 | 173 | 44022 | 2.04 | ug/l | 95 |
| 76) 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 54240 | 1.97 | ug/l | 97 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 15209 | 2.00 | ug/l | 95 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 13882 | 1.80 | ug/l | 85 |
| 80) n-Propylbenzene | 11.578 | 91 | 231734 | 1.85 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 53404 | 1.94 | ug/l | 100 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 161315 | 1.87 | ug/l | 100 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 141734 | 1.83 | ug/l | 97 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 152101 | 1.96 | ug/l | 97 |
| 85) tert-Butylbenzene | 12.403 | 134 | 23967 | 1.79 | ug/l | 96 |
| 86) 1,2,4-Trimethylbenzene | 12.469 | 105 | 158867 | 1.88 | ug/l | 98 |
| 87) sec-Butylbenzene | 12.745 | 105 | 179127 | 1.83 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 151252 | 1.84 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 86761 | 1.81 | ug/l | 98 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 157347 | 1.88 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 83842 | 1.71 | ug/l | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 138593 | 1.78 | ug/l | 97 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 86457 | 2.00 | ug/l | 94 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 10369 | 1.85 | ug/l | 98 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 53437 | 1.72 | ug/l | 96 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 27904 | 1.87 | ug/l | 93 |
| 97) Naphthalene | 16.872 | 128 | 121259 | 1.81 | ug/l | 98 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 51397 | 1.75 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

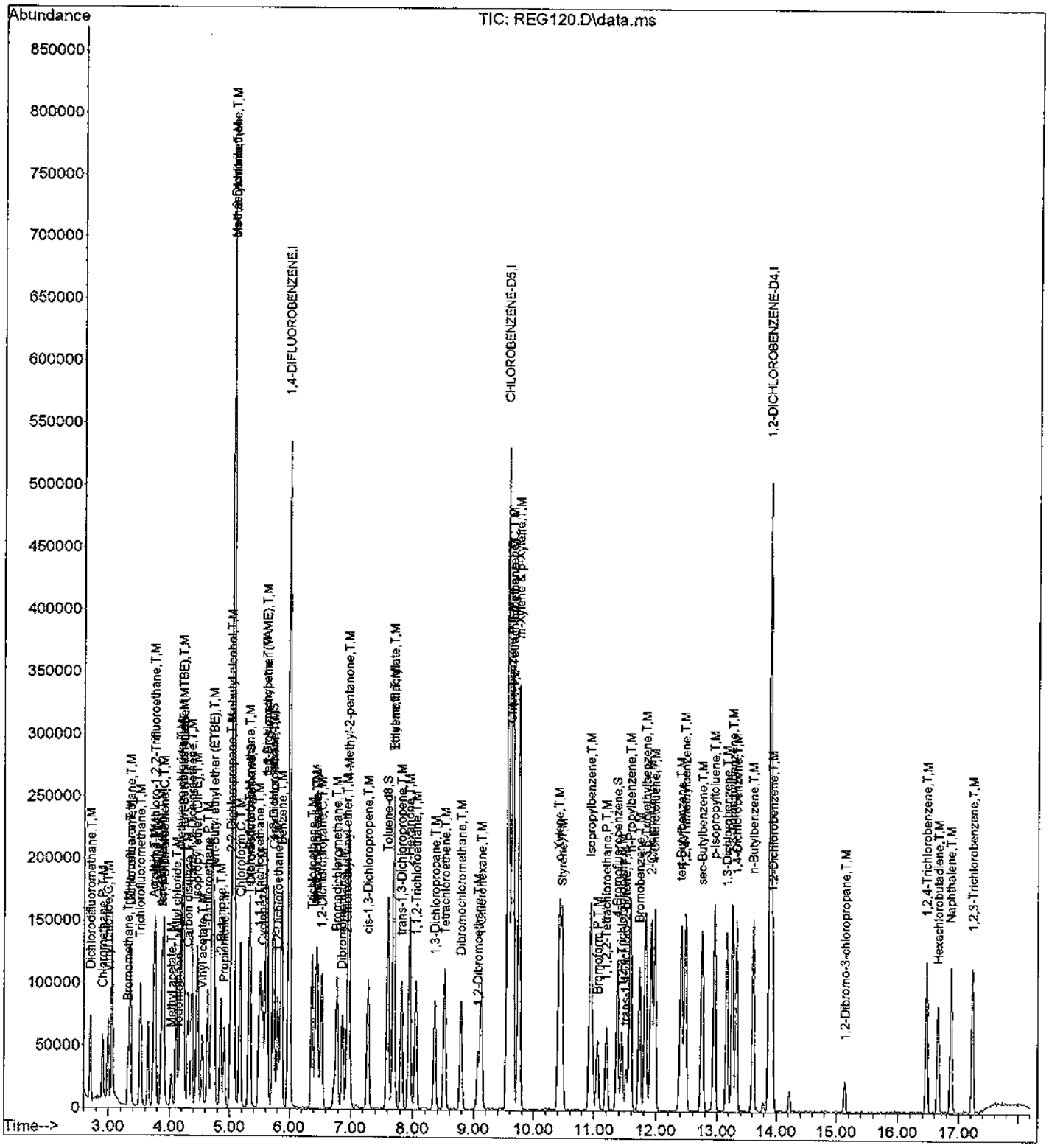
5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG120.D
Acq On : 17 May 2024 13:21
Sample : VOE2E174 0.08
Misc : 2.0ppb 8260/10ppb KET-AA/50ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:50 2024
Quant Results File: VOE2E17.RES

Vial: 5
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG121.D Vial: 6
Acq On : 17 May 2024 13:45 Operator: DNguye
Sample : VOE2E175 0.2 Inst : E2
Misc : 5.0ppb 8260/25ppb KET-AA/125ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:53 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 487048 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 411703 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 191679 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 149306 | 5.01 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 50.10% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 195277 | 4.95 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 49.50% | | |
| 56) Toluene-d8 | 7.594 | 98 | 403502 | 4.93 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 49.30% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 155282 | 5.10 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 51.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 122648 | 4.39 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 93317 | 4.65 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 91465 | 4.32 | ug/l | 100 |
| 5) Bromomethane | 3.313 | 94 | 65335 | 4.56 | ug/l | 94 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 267634 | 5.53 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 47747 | 4.60 | ug/l | 99 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 206005 | 4.33 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 85202 | 26.90 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 115708 | 5.58 | ug/l | 99 |
| 11) Acetone | 3.775 | 43 | 181295 | 26.82 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 344659 | 116.37 | ug/L | 98 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 245176 | 5.63 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 72381 | 49.24 | ug/L | 98 |
| 15) Allyl chloride | 4.106 | 76 | 64414 | 5.60 | ug/L | 96 |
| 16) Iodomethane | 4.150 | 142 | 99500 | 4.47 | ug/l | 98 |
| 17) Methyl acetate | 4.028 | 43 | 83812 | 5.09 | ug/L | 98 |
| 18) Methylene chloride | 4.183 | 49 | 207529 | 6.38 | ug/l | 99 |
| 19) Acrylonitrile | 4.216 | 53 | 188186 | 25.70 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 390334 | 5.36 | ug/L | 99 |
| 21) Carbon disulfide | 4.315 | 76 | 296530 | 4.45 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 131904 | 5.68 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 409571 | 5.53 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 218833 | 5.19 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 253600 | 5.40 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 492810 | 5.48 | ug/l | 98 |
| 27) 2-Butanone | 4.854 | 72 | 58944 | 25.79 | ug/l | 99 |
| 28) Propionitrile | 4.909 | 54 | 138597 | 51.47 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 91136 | 95.79 | ug/L | 90 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 267884 | 5.70 | ug/l | 100 |
| 31) Methacrylonitrile | 5.052 | 52 | 241029 | 54.52 | ug/L | 98 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 142504 | 5.39 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 301423 | 5.17 | ug/l | 100 |
| 34) Bromochloromethane | 5.327 | 130 | 84672 | 5.45 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 32093 | 5.23 | ug/L | 97 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 290344 | 5.53 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 153001 | 5.71 | ug/L | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 90625 | 5.65 | ug/l | 97 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 64894 | 5.64 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 254324 | 5.72 | ug/L | 99 |



SW 5/[illegible]/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG121.D
Acq On : 17 May 2024 13:45
Sample : VOE2E175 0.2
Misc : 5.0ppb 8260/25ppb KET-AA/125ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:53 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) 1,2-Dichloroethane | 5.800 | 62 | 249997 | 5.58 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 463725 | 5.20 | ug/L | 99 |
| 45) Trichloroethene | 6.373 | 130 | 134582 | 5.47 | ug/L | 99 |
| 46) Methyl methacrylate | 6.439 | 69 | 120215 | 5.52 | ug/L | 98 |
| 47) Methylcyclohexane | 6.461 | 83 | 173338 | 5.92 | ug/L | 100 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 117555 | 5.17 | ug/L | 98 |
| 50) Bromodichloromethane | 6.769 | 83 | 235788 | 5.48 | ug/L | 100 |
| 51) Dibromomethane | 6.857 | 93 | 101452 | 5.48 | ug/L | 97 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 61615 | 5.47 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 678153 | 27.22 | ug/L | 99 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 214825 | 5.40 | ug/L | 98 |
| 57) Ethyl methacrylate | 7.693 | 69 | 155089 | 5.52 | ug/L | 99 |
| 58) Toluene | 7.693 | 91 | 511175 | 5.47 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 220626 | 5.52 | ug/l | 97 |
| 60) 2-Hexanone | 7.935 | 43 | 449735 | 26.64 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 119322 | 5.38 | ug/l | 99 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 178297 | 5.42 | ug/l | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 108809 | 5.33 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 176521 | 5.31 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 127798 | 5.35 | ug/l | 96 |
| 66) 1-Chlorohexane | 9.124 | 91 | 173438 | 5.61 | ug/l | 98 |
| 67) Chlorobenzene | 9.619 | 112 | 329167 | 5.34 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 141011 | 5.37 | ug/l | 97 |
| 69) Ethylbenzene | 9.641 | 91 | 601100 | 5.32 | ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 956464 | 10.39 | ug/l | 100 |
| 71) o-Xylene | 10.411 | 91 | 477831 | 5.48 | ug/l | 100 |
| 72) Styrene | 10.456 | 104 | 332459 | 5.46 | ug/l | 98 |
| 73) Isopropylbenzene | 10.940 | 105 | 544298 | 5.48 | ug/L | 100 |
| 75) Bromoform | 11.061 | 173 | 112822 | 5.39 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 142828 | 5.35 | ug/l | 99 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 42035 | 5.70 | ug/l | 97 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 43660 | 5.85 | ug/l | 88 |
| 80) n-Propylbenzene | 11.578 | 91 | 686564 | 5.65 | ug/l | 100 |
| 81) Bromobenzene | 11.732 | 156 | 149808 | 5.62 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 467836 | 5.60 | ug/l | 99 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 447056 | 5.96 | ug/l | 93 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 377625 | 5.75 | ug/l | 93 |
| 85) tert-Butylbenzene | 12.403 | 134 | 70940 | 5.49 | ug/l | 98 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 456338 | 5.58 | ug/l | 99 |
| 87) sec-Butylbenzene | 12.756 | 105 | 528792 | 5.58 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 450688 | 5.67 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 238171 | 6.03 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 457826 | 5.65 | ug/L | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 243444 | 5.96 | ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 399502 | 5.29 | ug/l | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 229291 | 5.48 | ug/l | 97 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 27435 | 5.05 | ug/l | 92 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 141573 | 5.38 | ug/l | 98 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 80493 | 5.56 | ug/l | 98 |
| 97) Naphthalene | 16.872 | 128 | 328141 | 5.07 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 131993 | 5.27 | ug/l | 99 |

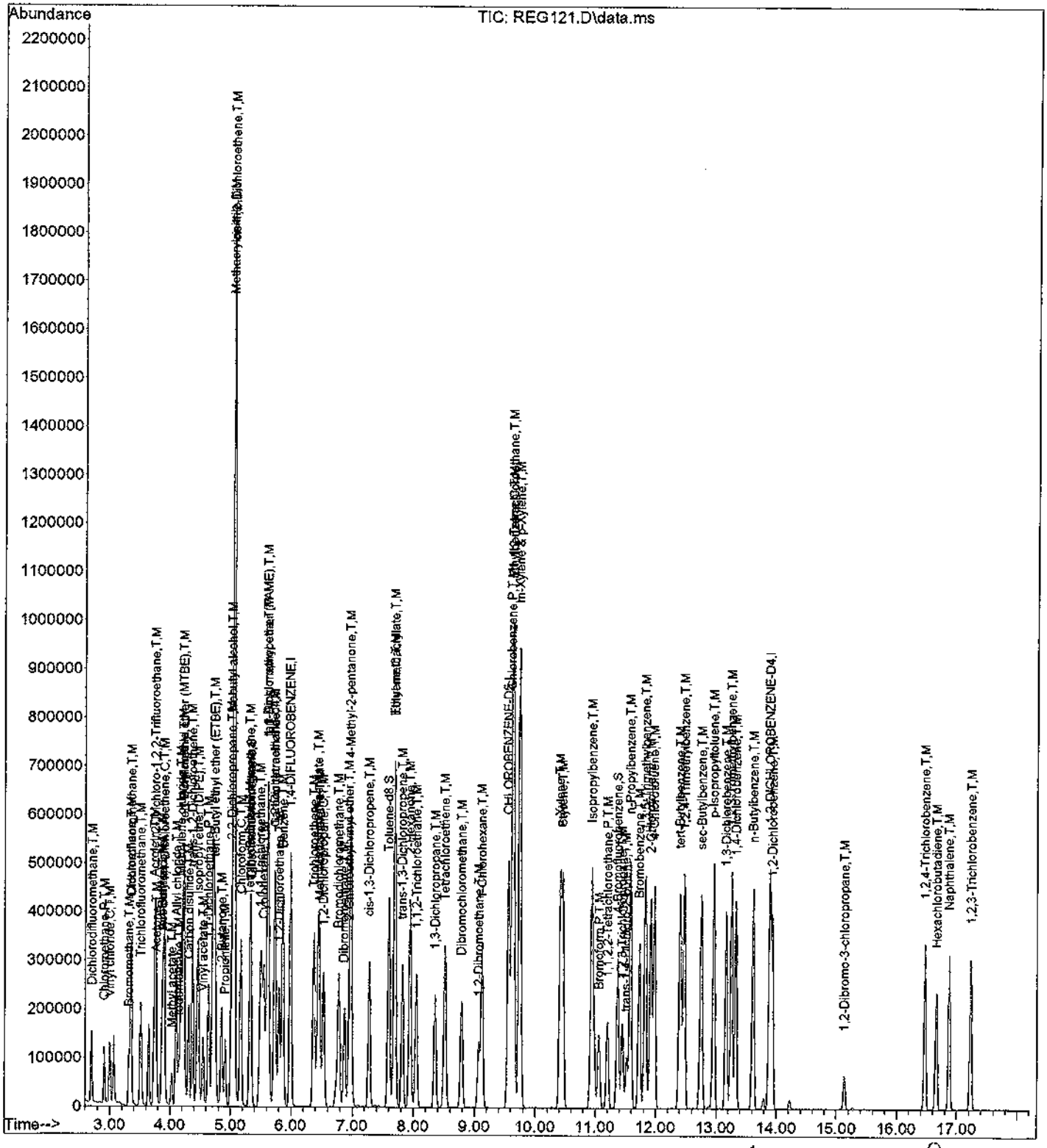
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG121.D
Acq On : 17 May 2024 13:45
Sample : VOE2E175 0.2
Misc : 5.0ppb 8260/25ppb KET-AA/125ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:53 2024
Quant Results File: VOE2E17.RES

Vial: 6
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:45:41 2024

S u 5/24/2024

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG122.D
Acq On : 17 May 2024 14:09
Sample : VOE2E176 0.4
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:56 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 483746 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 409470 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 197951 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 301711 | 10.18 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 101.80% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 377680 | 9.65 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 96.50% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 821380 | 10.10 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 101.00% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 308588 | 9.82 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 98.20% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 246373 | 8.87 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 180605 | 9.07 | ug/l | 100 |
| 4) Vinyl chloride | 2.994 | 62 | 201033 | 9.56 | ug/l | 100 |
| 5) Bromomethane | 3.313 | 94 | 118097 | 8.30 | ug/l | 100 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 478884 | 9.96 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 98570 | 9.56 | ug/l | 100 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 434256 | 9.19 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 154311 | 49.05 | ug/l | 100 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 197908 | 9.60 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 331949 | 53.64 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 735955 | 250.18 | ug/L | 100 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 429898 | 9.94 | ug/l | 100 |
| 14) Acetonitrile | 3.874 | 41 | 147981 | 101.37 | ug/L | 100 |
| 15) Allyl chloride | 4.106 | 76 | 115842 | 10.15 | ug/L | 100 |
| 16) Iodomethane | 4.150 | 142 | 208961 | 9.12 | ug/l | 100 |
| 17) Methyl acetate | 4.029 | 43 | 164848 | 10.08 | ug/L | 100 |
| 18) Methylene chloride | 4.183 | 49 | 353501 | 11.53 | ug/l | 100 |
| 19) Acrylonitrile | 4.216 | 53 | 382339 | 52.57 | ug/l | 100 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 727615 | 10.07 | ug/L | 100 |
| 21) Carbon disulfide | 4.304 | 76 | 664916 | 10.04 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 226218 | 9.81 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 731712 | 9.95 | ug/l | 100 |
| 24) Vinyl acetate | 4.546 | 43 | 449067 | 10.72 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 452304 | 9.69 | ug/l | 100 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 897009 | 10.04 | ug/l | 100 |
| 27) 2-Butanone | 4.854 | 72 | 119149 | 52.49 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 258325 | 96.59 | ug/L | 100 |
| 29) Isobutyl alcohol | 5.030 | 43 | 190070 | 201.14 | ug/L | 100 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 480537 | 10.29 | ug/l | 100 |
| 31) Methacrylonitrile | 5.052 | 52 | 430956 | 98.15 | ug/L | 100 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 250974 | 9.56 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 540252 | 9.34 | ug/l | 100 |
| 34) Bromochloromethane | 5.327 | 130 | 157824 | 10.23 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.327 | 42 | 59974 | 9.84 | ug/L | 100 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 519526 | 9.96 | ug/l | 100 |
| 38) Cyclohexane | 5.547 | 84 | 222928 | 8.38 | ug/L | 100 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 167095 | 10.48 | ug/l | 100 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 116920 | 10.24 | ug/L | 100 |
| 42) Carbon tetrachloride | 5.734 | 119 | 449910 | 10.19 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG122.D Vial: 7
Acq On : 17 May 2024 14:09 Operator: DNguye
Sample : VOE2E176 0.4 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:56 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) | 1,2-Dichloroethane | 5.800 | 62 | 453385 | 10.20 | ug/L | 100 |
| 44) | Benzene | 5.866 | 78 | 879735 | 9.94 | ug/L | 100 |
| 45) | Trichloroethene | 6.373 | 130 | 238953 | 9.78 | ug/L | 100 |
| 46) | Methyl methacrylate | 6.439 | 69 | 206743 | 9.55 | ug/L | 100 |
| 47) | Methylcyclohexane | 6.450 | 83 | 256180 | 8.81 | ug/L | 100 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 224657 | 9.94 | ug/L | 100 |
| 50) | Bromodichloromethane | 6.769 | 83 | 428587 | 10.02 | ug/L | 100 |
| 51) | Dibromomethane | 6.857 | 93 | 179645 | 9.77 | ug/L | 100 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 115157 | 10.29 | ug/L | 100 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 1291475 | 52.18 | ug/L | 100 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 397661 | 10.07 | ug/L | 100 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 289621 | 10.36 | ug/L | 100 |
| 58) | Toluene | 7.693 | 91 | 921140 | 9.92 | ug/l | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 404411 | 10.18 | ug/l | 100 |
| 60) | 2-Hexanone | 7.935 | 43 | 885849 | 52.76 | ug/l | 100 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 219004 | 9.94 | ug/l | 100 |
| 62) | 1,3-Dichloropropane | 8.354 | 76 | 321452 | 9.82 | ug/l | 100 |
| 63) | Tetrachloroethene | 8.508 | 164 | 195205 | 9.62 | ug/l | 100 |
| 64) | Dibromochloromethane | 8.783 | 129 | 322653 | 9.76 | ug/l | 100 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 242214 | 10.20 | ug/l | 100 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 305963 | 9.96 | ug/l | 100 |
| 67) | Chlorobenzene | 9.619 | 112 | 600211 | 9.79 | ug/l | 100 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 264761 | 10.14 | ug/l | 100 |
| 69) | Ethylbenzene | 9.641 | 91 | 1089978 | 9.71 | ug/l | 100 |
| 70) | m-Xylene & p-Xylene | 9.740 | 91 | 1701702 | 18.59 | ug/l | 100 |
| 71) | o-Xylene | 10.412 | 91 | 864880 | 9.98 | ug/l | 100 |
| 72) | Styrene | 10.456 | 104 | 611307 | 10.09 | ug/l | 100 |
| 73) | Isopropylbenzene | 10.940 | 105 | 992355 | 10.05 | ug/L | 100 |
| 75) | Bromoform | 11.061 | 173 | 212173 | 9.82 | ug/l | 100 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 266964 | 9.68 | ug/l | 100 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 74100 | 9.73 | ug/l | 100 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 78273 | 10.15 | ug/l | 100 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1188848 | 9.47 | ug/l | 100 |
| 81) | Bromobenzene | 11.732 | 156 | 274398 | 9.96 | ug/l | 100 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 832454 | 9.65 | ug/l | 100 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 727012 | 9.38 | ug/l | 100 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 765752 | 11.72 | ug/l | 100 |
| 85) | tert-Butylbenzene | 12.415 | 134 | 128240 | 9.60 | ug/l | 100 |
| 86) | 1,2,4-Trimethylbenzene | 12.470 | 105 | 827835 | 9.81 | ug/l | 100 |
| 87) | sec-Butylbenzene | 12.745 | 105 | 956488 | 9.78 | ug/l | 100 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 785422 | 9.57 | ug/l | 100 |
| 89) | 1,3-Dichlorobenzene | 13.163 | 146 | 431882 | 10.96 | ug/l | 100 |
| 90) | 1,2,3-Trimethylbenzene | 13.251 | 105 | 825411 | 9.87 | ug/L | 100 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 439674 | 10.74 | ug/l | 100 |
| 92) | n-Butylbenzene | 13.614 | 91 | 750645 | 9.62 | ug/l | 100 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 398438 | 9.21 | ug/l | 100 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 52427 | 9.34 | ug/l | 100 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 255192 | 9.69 | ug/l | 100 |
| 96) | Hexachlorobutadiene | 16.663 | 225 | 148449 | 9.93 | ug/l | 100 |
| 97) | Naphthalene | 16.872 | 128 | 656492 | 9.82 | ug/l | 100 |
| 98) | 1,2,3-Trichlorobenzene | 17.224 | 180 | 243924 | 9.74 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

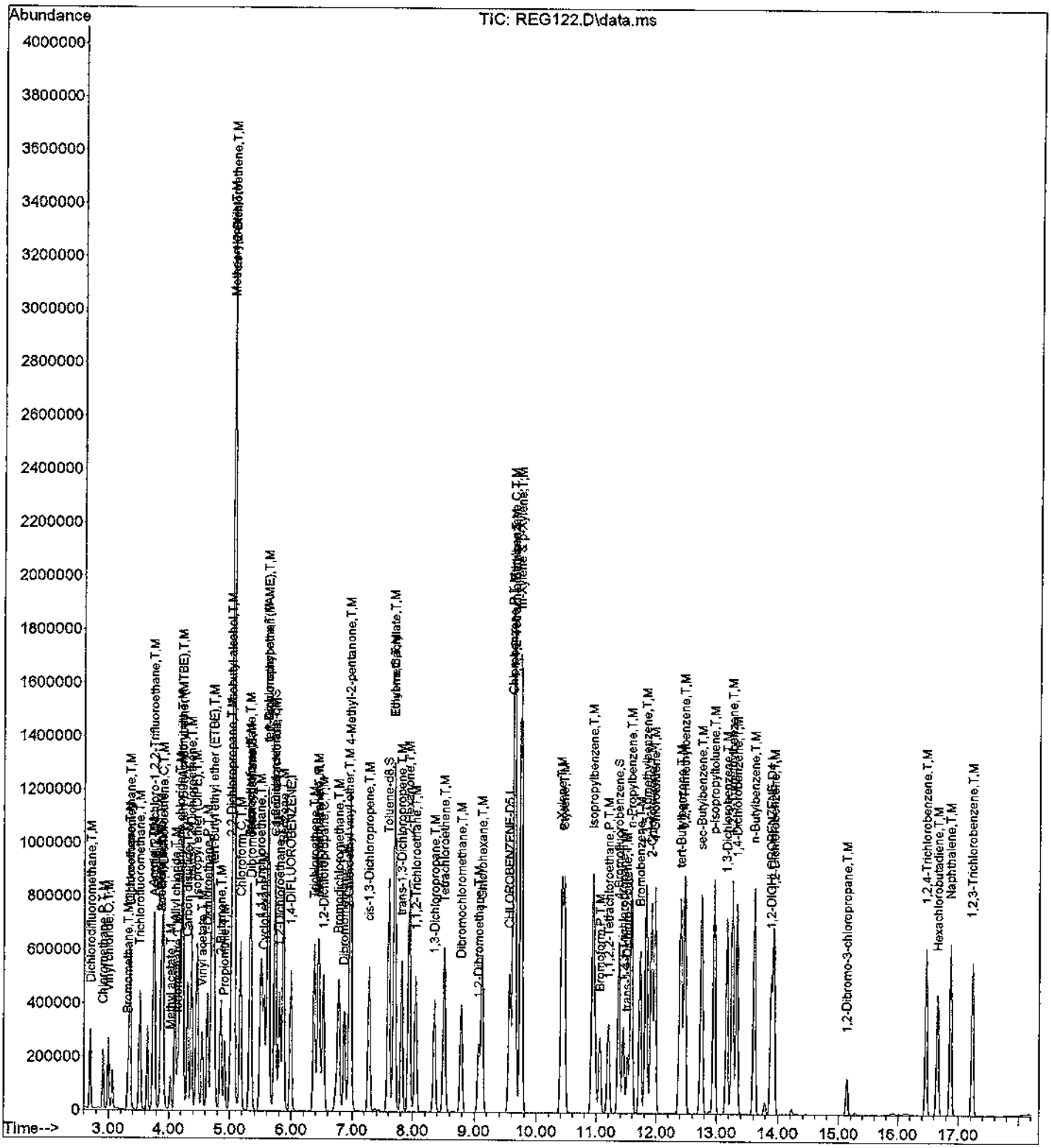
SU 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG122.D
Acq On : 17 May 2024 14:09
Sample : VOE2E176 0.4
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:56 2024
Quant Results File: VOE2E17.RES

Vial: 7
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG123.D Vial: 8
Acq On : 17 May 2024 14:33 Operator: DNguye
Sample : VOE2E177 1.2uL Inst : E2
Misc : 30ppb 8260/150ppb KET-AA/750ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:59 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 462286 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 374024 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 201423 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 815119 | 28.79 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 287.90% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 982827 | 26.27 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 262.70% | | |
| 56) Toluene-d8 | 7.594 | 98 | 2087230 | 28.08 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 280.80% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 802113 | 25.09 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 250.90% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 846669 | 31.91 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 522797 | 27.46 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 609327 | 30.31 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 369689 | 27.19 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.346 | 67 | 1420838 | 30.93 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 303543 | 30.82 | ug/l | 98 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 1432296 | 31.71 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 417245 | 138.78 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 579513 | 29.43 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 817529 | 146.08 | ug/l | 98 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 1936975 | 689.03 | ug/L | 98 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 1249367 | 30.24 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 365485 | 261.98 | ug/L | 96 |
| 15) Allyl chloride | 4.105 | 76 | 333837 | 30.59 | ug/L | 100 |
| 16) Iodomethane | 4.138 | 142 | 780631 | 34.84 | ug/l | 100 |
| 17) Methyl acetate | 4.028 | 43 | 406413 | 26.00 | ug/L | 99 |
| 18) Methylene chloride | 4.182 | 49 | 967460 | 34.54 | ug/l | 100 |
| 19) Acrylonitrile | 4.215 | 53 | 969202 | 139.45 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 2015467 | 29.18 | ug/L | 99 |
| 21) Carbon disulfide | 4.304 | 76 | 1855534 | 29.31 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 612820 | 27.80 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 2064589 | 29.37 | ug/l | 100 |
| 24) Vinyl acetate | 4.546 | 43 | 1131522 | 28.26 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 1337320 | 29.99 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 2373481 | 27.81 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 300066 | 138.32 | ug/l | 99 |
| 28) Propionitrile | 4.909 | 54 | 714086 | 279.39 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 493388 | 546.37 | ug/L | 95 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 1320182 | 29.57 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 1220341 | 290.82 | ug/L | 99 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 721585 | 28.75 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 1512101 | 27.35 | ug/l | 99 |
| 34) Bromochloromethane | 5.327 | 130 | 444977 | 30.18 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.316 | 42 | 169251 | 29.05 | ug/L | 99 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 1516650 | 30.42 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 713565 | 28.07 | ug/L | 100 |
| 39) tert-Amyl methyl ether... | 5.624 | 87 | 411481 | 27.01 | ug/l | 97 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 302266 | 27.69 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 1249927 | 29.62 | ug/L | 100 |



SU 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG123.D
Acq On : 17 May 2024 14:33
Sample : VOE2E177 1.2uL
Misc : 30ppb 8260/150ppb KET-AA/750ppb TBA
Integrator: RTE
Quant Time: May 21 20:52:59 2024
Quant Results File: VOE2E17.RES

Vial: 8
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) | 1,2-Dichloroethane | 5.800 | 62 | 1173740 | 27.62 | ug/L | 98 |
| 44) | Benzene | 5.866 | 78 | 2384286 | 28.19 | ug/L | 99 |
| 45) | Trichloroethene | 6.372 | 130 | 687887 | 29.46 | ug/L | 99 |
| 46) | Methyl methacrylate | 6.439 | 69 | 555814 | 26.87 | ug/L | 98 |
| 47) | Methylcyclohexane | 6.450 | 83 | 757727 | 27.27 | ug/L | 99 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 580328 | 26.88 | ug/L | 99 |
| 50) | Bromodichloromethane | 6.769 | 83 | 1166514 | 28.55 | ug/L | 100 |
| 51) | Dibromomethane | 6.857 | 93 | 509682 | 29.01 | ug/L | 99 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 318157 | 29.75 | ug/L | 98 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 3236906 | 136.87 | ug/L | 99 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 1085125 | 28.74 | ug/L | 99 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 725765 | 28.43 | ug/L | 99 |
| 58) | Toluene | 7.693 | 91 | 2303744 | 27.16 | ug/l | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 1087593 | 29.96 | ug/l | 96 |
| 60) | 2-Hexanone | 7.935 | 43 | 2184077 | 142.41 | ug/l | 99 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 603118 | 29.96 | ug/l | 98 |
| 62) | 1,3-Dichloropropane | 8.353 | 76 | 863785 | 28.89 | ug/l | 99 |
| 63) | Tetrachloroethene | 8.508 | 164 | 555090 | 29.93 | ug/l | 99 |
| 64) | Dibromochloromethane | 8.783 | 129 | 924244 | 30.61 | ug/l | 99 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 666966 | 30.74 | ug/l | 99 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 842844 | 30.02 | ug/l | 99 |
| 67) | Chlorobenzene | 9.619 | 112 | 1667775 | 29.77 | ug/l | 99 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 734053 | 30.79 | ug/l | 99 |
| 69) | Ethylbenzene | 9.641 | 91 | 3067459 | 29.91 | ug/l | 100 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 4750507 | 56.81 | ug/l | 100 |
| 71) | o-Xylene | 10.411 | 91 | 2219339 | 28.03 | ug/l | 100 |
| 72) | Styrene | 10.455 | 104 | 1588178 | 28.69 | ug/l | 99 |
| 73) | Isopropylbenzene | 10.940 | 105 | 2403503 | 26.65 | ug/L | 99 |
| 75) | Bromoform | 11.061 | 173 | 624115 | 28.39 | ug/l | 99 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 753832 | 26.85 | ug/l | 99 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 208161 | 26.86 | ug/l | 97 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 238944 | 30.47 | ug/l | 94 |
| 80) | n-Propylbenzene | 11.578 | 91 | 3388197 | 26.53 | ug/l | 99 |
| 81) | Bromobenzene | 11.732 | 156 | 728501 | 25.99 | ug/l | 99 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 2352083 | 26.79 | ug/l | 99 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 2207144 | 28.00 | ug/l | 95 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 1740784 | 26.74 | ug/l | 92 |
| 85) | tert-Butylbenzene | 12.403 | 134 | 339280 | 24.97 | ug/l | 96 |
| 86) | 1,2,4-Trimethylbenzene | 12.480 | 105 | 2264161 | 26.37 | ug/l | 97 |
| 87) | sec-Butylbenzene | 12.745 | 105 | 2689041 | 27.03 | ug/l | 98 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 2214069 | 26.52 | ug/l | 99 |
| 89) | 1,3-Dichlorobenzene | 13.174 | 146 | 1215294 | 31.15 | ug/l | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.251 | 105 | 2275474 | 26.74 | ug/L | 100 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 1252767 | 30.81 | ug/l | 99 |
| 92) | n-Butylbenzene | 13.614 | 91 | 2188046 | 27.56 | ug/l | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 1144996 | 26.02 | ug/l | 97 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 164843 | 28.88 | ug/l | 98 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 771713 | 29.55 | ug/l | 97 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 421350 | 27.70 | ug/l | 98 |
| 97) | Naphthalene | 16.871 | 128 | 1890327 | 27.79 | ug/l | 99 |
| 98) | 1,2,3-Trichlorobenzene | 17.224 | 180 | 740467 | 29.84 | ug/l | 99 |

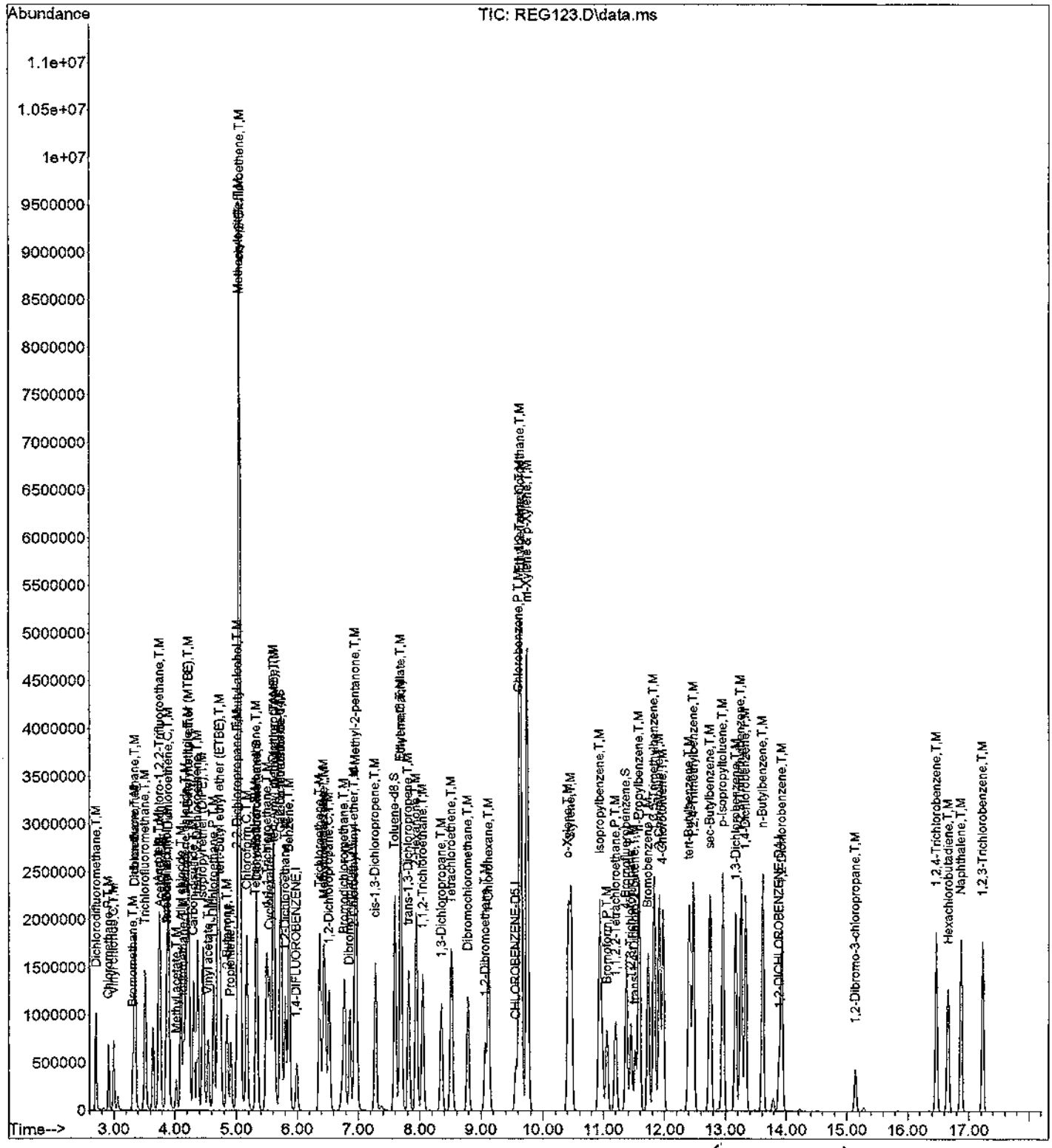
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SH
5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG123.D Vial: 8
Acq On : 17 May 2024 14:33 Operator: DNguye
Sample : VOE2E177 1.2uL Inst : E2
Misc : 30ppb 8260/150ppb KET-AA/750ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:52:59 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 14:09:59 2024 Page 3

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Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG124.D
Acq On : 17 May 2024 14:57
Sample : VOE2E178 2uL
Misc : 50ppb 8260/250pb KET-AA/1250ppb TBA
Integrator: RTE
Quant Time: May 21 20:53:02 2024
Quant Results File: VOE2E17.RES

Vial: 9
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 519193 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 435004 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 207868 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 1488511 | 46.81 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 468.10% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 1870338 | 44.51 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 445.10% | | |
| 56) Toluene-d8 | 7.594 | 98 | 4062552 | 47.00 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 470.00% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 1575222 | 47.74 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 477.40% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 1479243 | 49.64 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 955064 | 44.67 | ug/l | 100 |
| 4) Vinyl chloride | 2.983 | 62 | 1164938 | 51.59 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 722857 | 47.33 | ug/l | 98 |
| 6) Dichlorofluoromethane | 3.346 | 67 | 2413767 | 46.78 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 533177 | 48.20 | ug/l | 97 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 2564523 | 50.55 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 769072 | 227.77 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 1060995 | 47.97 | ug/l | 99 |
| 11) Acetone | 3.775 | 43 | 1539021 | 248.23 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 3674847 | 1163.95 | ug/L | 97 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 2124315 | 45.78 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 693695 | 442.74 | ug/L | 94 |
| 15) Allyl chloride | 4.105 | 76 | 579274 | 47.27 | ug/L | 99 |
| 16) Iodomethane | 4.138 | 142 | 1375743 | 54.51 | ug/l | 100 |
| 17) Methyl acetate | 4.028 | 43 | 788773 | 44.93 | ug/L | 98 |
| 18) Methylene chloride | 4.182 | 49 | 1589617 | 50.92 | ug/l | 100 |
| 19) Acrylonitrile | 4.215 | 53 | 1740099 | 222.92 | ug/l | 100 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 3575082 | 46.08 | ug/L | 99 |
| 21) Carbon disulfide | 4.303 | 76 | 3342224 | 47.00 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 1147795 | 46.36 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 3617921 | 45.83 | ug/l | 100 |
| 24) Vinyl acetate | 4.546 | 43 | 2102404 | 46.76 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 2339494 | 46.71 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 4566707 | 47.64 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 553401 | 227.15 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 1317994 | 459.16 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 988293 | 974.46 | ug/L | 99 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 2391738 | 47.71 | ug/l | 98 |
| 31) Methacrylonitrile | 5.052 | 52 | 2175906 | 461.71 | ug/L | 97 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 1319898 | 46.82 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 2702356 | 43.52 | ug/l | 100 |
| 34) Bromochloromethane | 5.327 | 130 | 769499 | 46.47 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 306572 | 46.86 | ug/L | 98 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 2648310 | 47.29 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 1410911 | 49.43 | ug/L | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 853815 | 49.91 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 592546 | 48.33 | ug/L | 100 |
| 42) Carbon tetrachloride | 5.734 | 119 | 2310426 | 48.76 | ug/L | 100 |


SA 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG124.D Vial: 9
Acq On : 17 May 2024 14:57 Operator: DNguye
Sample : VOE2E178 2uL Inst : E2
Misc : 50ppb 8260/250pb KET-AA/1250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 20:53:02 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) | 1,2-Dichloroethane | 5.800 | 62 | 2230254 | 46.73 | ug/L | 100 |
| 44) | Benzene | 5.866 | 78 | 4549753 | 47.89 | ug/L | 100 |
| 45) | Trichloroethene | 6.372 | 130 | 1248919 | 47.63 | ug/L | 98 |
| 46) | Methyl methacrylate | 6.438 | 69 | 1116578 | 48.06 | ug/L | 99 |
| 47) | Methylcyclohexane | 6.460 | 83 | 1574183 | 50.44 | ug/L | 99 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 1135307 | 46.83 | ug/L | 99 |
| 50) | Bromodichloromethane | 6.769 | 83 | 2131356 | 46.45 | ug/L | 100 |
| 51) | Dibromomethane | 6.857 | 93 | 905758 | 45.91 | ug/L | 98 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 580351 | 48.33 | ug/L | 100 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 6139474 | 231.14 | ug/L | 99 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 2011227 | 47.44 | ug/L | 100 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 1490762 | 50.22 | ug/L | 98 |
| 58) | Toluene | 7.693 | 91 | 4751397 | 48.16 | ug/l | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 2080692 | 49.29 | ug/l | 95 |
| 60) | 2-Hexanone | 7.935 | 43 | 4186045 | 234.68 | ug/l | 99 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 1074823 | 45.90 | ug/l | 99 |
| 62) | 1,3-Dichloropropane | 8.353 | 76 | 1663404 | 47.84 | ug/l | 100 |
| 63) | Tetrachloroethene | 8.507 | 164 | 1006550 | 46.67 | ug/l | 98 |
| 64) | Dibromochloromethane | 8.783 | 129 | 1614400 | 45.97 | ug/l | 99 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 1193470 | 47.30 | ug/l | 97 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 1569873 | 48.08 | ug/l | 90 |
| 67) | Chlorobenzene | 9.619 | 112 | 3021039 | 46.36 | ug/l | 100 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 1317171 | 47.50 | ug/l | 99 |
| 69) | Ethylbenzene | 9.641 | 91 | 5652766 | 47.39 | ug/l | 100 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 9107135 | 93.64 | ug/l | 99 |
| 71) | o-Xylene | 10.411 | 91 | 4475134 | 48.61 | ug/l | 100 |
| 72) | Styrene | 10.455 | 104 | 3133556 | 48.67 | ug/l | 99 |
| 73) | Isopropylbenzene | 10.940 | 105 | 4893403 | 46.64 | ug/L | 100 |
| 75) | Bromoform | 11.061 | 173 | 1096997 | 48.36 | ug/l | 99 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 1347228 | 46.50 | ug/l | 100 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 380448 | 47.56 | ug/l | 100 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 430046 | 53.13 | ug/l | 97 |
| 80) | n-Propylbenzene | 11.578 | 91 | 6203059 | 47.06 | ug/l | 99 |
| 81) | Bromobenzene | 11.732 | 156 | 1344022 | 46.46 | ug/l | 99 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 4223916 | 46.62 | ug/l | 100 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 4010267 | 49.30 | ug/l | 94 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 3491289 | 52.40 | ug/l | 94 |
| 85) | tert-Butylbenzene | 12.403 | 134 | 615516 | 43.89 | ug/l | 97 |
| 86) | 1,2,4-Trimethylbenzene | 12.480 | 105 | 4129361 | 46.60 | ug/l | 97 |
| 87) | sec-Butylbenzene | 12.755 | 105 | 4820712 | 46.95 | ug/l | 99 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 3971026 | 46.09 | ug/l | 99 |
| 89) | 1,3-Dichlorobenzene | 13.163 | 146 | 2170399 | 54.26 | ug/l | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.251 | 105 | 4082930 | 46.50 | ug/L | 99 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 2222053 | 53.26 | ug/l | 99 |
| 92) | n-Butylbenzene | 13.614 | 91 | 3858008 | 47.08 | ug/l | 100 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 2002007 | 44.09 | ug/l | 98 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 279717 | 47.48 | ug/l | 99 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 1324327 | 49.40 | ug/l | 98 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 723810 | 46.11 | ug/l | 100 |
| 97) | Naphthalene | 16.871 | 128 | 3364432 | 47.93 | ug/l | 99 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 1238496 | 48.60 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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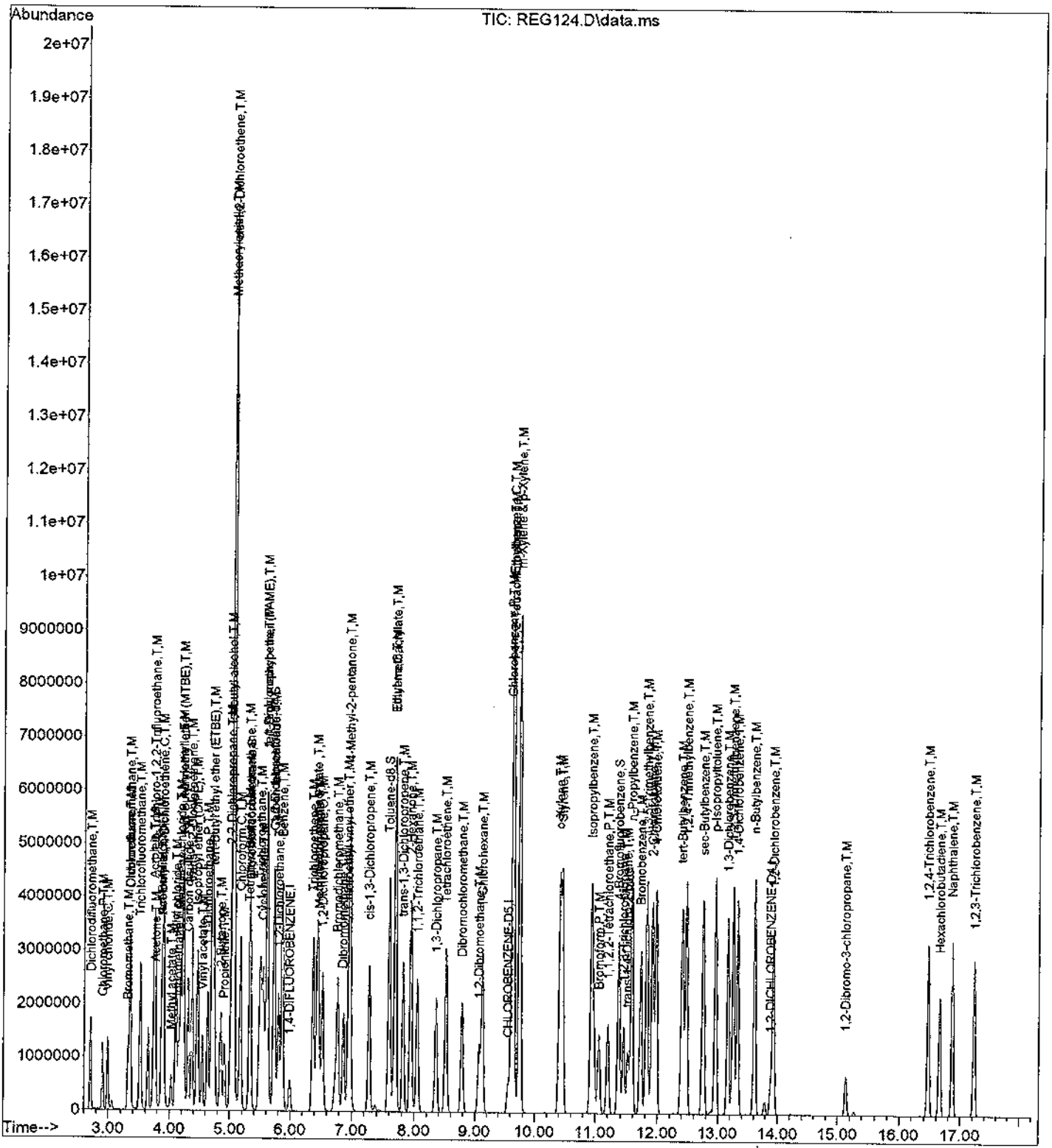
Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG124.D
Acq On : 17 May 2024 14:57
Sample : VOE2E178 2uL
Misc : 50ppb 8260/250pb KET-AA/1250ppb TBA
Integrator: RTE
Quant Time: May 21 20:53:02 2024
Quant Results File: VOE2E17.RES

Vial: 9
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG125.D Vial: 10
Acq On : 17 May 2024 15:21 Operator: DNguye
Sample : VOE2E179 4uL Inst : E2
Misc : 100ppb 8260/500ppb KET-AA/2500ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:04:40 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 530663 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 467581 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 221369 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 0.000 | 111 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 41) 1,2-Dichloroethane-d4 | 0.000 | 65 | 0d | 0.00 | ug/L | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 56) Toluene-d8 | 0.000 | 98 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 77) 4-Bromofluorobenzene | 0.000 | 95 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 3067931 | 100.74 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 2028894 | 92.84 | ug/l | 100 |
| 4) Vinyl chloride | 2.983 | 62 | 2380759 | 103.16 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 1571626 | 100.69 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.346 | 67 | 4798406 | 90.99 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 1099847 | 97.27 | ug/l | 95 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 5289775 | 102.02 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 1588198 | 460.20 | ug/l | 100 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 2101530 | 92.96 | ug/l | 100 |
| 11) Acetone | 3.775 | 43 | 3043527 | 484.95 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 7338860 | 2274.23 | ug/L | 96 |
| 13) 1,1-Dichloroethene | 3.897 | 61 | 4369062 | 92.11 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 1342024 | 838.01 | ug/L | 93 |
| 15) Allyl chloride | 4.106 | 76 | 1084703 | 86.60 | ug/L | 100 |
| 16) Iodomethane | 4.139 | 142 | 2702905 | 104.51 | ug/l | 99 |
| 17) Methyl acetate | 4.029 | 43 | 1545614 | 86.14 | ug/L | 97 |
| 18) Methylene chloride | 4.183 | 49 | 3160599 | 99.82 | ug/l | 99 |
| 19) Acrylonitrile | 4.216 | 53 | 3580875 | 448.82 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 7241359 | 91.32 | ug/L | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 2262018 | 89.39 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 7317542 | 90.69 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 4349944 | 94.65 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 4518247 | 88.27 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 8843448 | 90.25 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 1115192 | 447.84 | ug/l | 98 |
| 28) Propionitrile | 4.909 | 54 | 2553924 | 870.50 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 1797348 | 1733.89 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 4661696 | 90.97 | ug/l | 98 |
| 31) Methacrylonitrile | 5.063 | 52 | 4255107 | 883.38 | ug/L | 91 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 2606989 | 90.49 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 5369253 | 84.60 | ug/l | 99 |
| 34) Bromochloromethane | 5.327 | 130 | 1457459 | 86.12 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.316 | 42 | 618202 | 92.45 | ug/L | 98 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 5302638 | 92.64 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 2651727 | 90.88 | ug/L | 99 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 1661857 | 95.04 | ug/l | 97 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 1162092 | 92.74 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 4455455 | 91.99 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 4297408 | 88.09 | ug/L | 100 |


5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG125.D Vial: 10
Acq On : 17 May 2024 15:21 Operator: DNguye
Sample : VOE2E179 4uL Inst : E2
Misc : 100ppb 8260/500ppb KET-AA/2500ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:04:40 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 44) Benzene | 5.866 | 78 | 8937713 | 92.05 ug/L | 100 |
| 45) Trichloroethene | 6.373 | 130 | 2438563 | 90.98 ug/L | 99 |
| 46) Methyl methacrylate | 6.439 | 69 | 2241240 | 94.37 ug/L | 99 |
| 47) Methylcyclohexane | 6.461 | 83 | 3107286 | 97.41 ug/L | 99 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 2264058 | 91.36 ug/L | 99 |
| 50) Bromodichloromethane | 6.769 | 83 | 4222210 | 90.02 ug/L | 99 |
| 51) Dibromomethane | 6.857 | 93 | 1826509 | 90.58 ug/L | 99 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 1147941 | 93.52 ug/L | 100 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 12403774 | 456.89 ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 4029626 | 92.99 ug/L | 99 |
| 57) Ethyl methacrylate | 7.693 | 69 | 2968033 | 93.01 ug/L | 95 |
| 58) Toluene | 7.693 | 91 | 9406948 | 88.71 ug/l | 99 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 4103485 | 90.43 ug/l | 95 |
| 60) 2-Hexanone | 7.935 | 43 | 8232244 | 429.36 ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 2157642 | 85.73 ug/l | 98 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 3303675 | 88.39 ug/l | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 2015675 | 86.95 ug/l | 99 |
| 64) Dibromochloromethane | 8.783 | 129 | 3239932 | 85.83 ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 2441979 | 90.04 ug/l | 98 |
| 66) 1-Chlorohexane | 9.124 | 91 | 3137545 | 89.40 ug/l | 99 |
| 67) Chlorobenzene | 9.619 | 112 | 6186547 | 88.32 ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 2643624 | 88.70 ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 11573797 | 90.27 ug/l | 100 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 17534518 | 167.73 ug/l | 99 |
| 71) o-Xylene | 10.412 | 91 | 8856439 | 89.49 ug/l | 100 |
| 72) Styrene | 10.456 | 104 | 6210039 | 89.73 ug/l | 99 |
| 73) Isopropylbenzene | 10.940 | 105 | 10049530 | 89.12 ug/L | 100 |
| 75) Bromoform | 11.061 | 173 | 2156497 | 89.26 ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 2695878 | 87.38 ug/l | 100 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 761761 | 89.43 ug/l | 98 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 840320 | 97.49 ug/l | 98 |
| 80) n-Propylbenzene | 11.578 | 91 | 12355923 | 88.03 ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 2673805 | 86.79 ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 8378024 | 86.82 ug/l | 100 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 7964931 | 91.94 ug/l | 93 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 6997858 | 99.03 ug/l | 94 |
| 85) tert-Butylbenzene | 12.415 | 134 | 1260545 | 84.40 ug/l | 92 |
| 86) 1,2,4-Trimethylbenzene | 12.481 | 105 | 8236098 | 87.27 ug/l | 97 |
| 87) sec-Butylbenzene | 12.756 | 105 | 9656129 | 88.30 ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 8166087 | 89.00 ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 4224212 | 99.56 ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 8254841 | 88.27 ug/L | 100 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 4323656 | 97.65 ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 7538294 | 86.38 ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 4025253 | 83.24 ug/l | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 603619 | 96.21 ug/l | 100 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 2718505 | 95.58 ug/l | 98 |
| 96) Hexachlorobutadiene | 16.663 | 225 | 1478191 | 88.43 ug/l | 99 |
| 97) Naphthalene | 16.872 | 128 | 6891495 | 92.19 ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 2612770 | 96.66 ug/l | 100 |

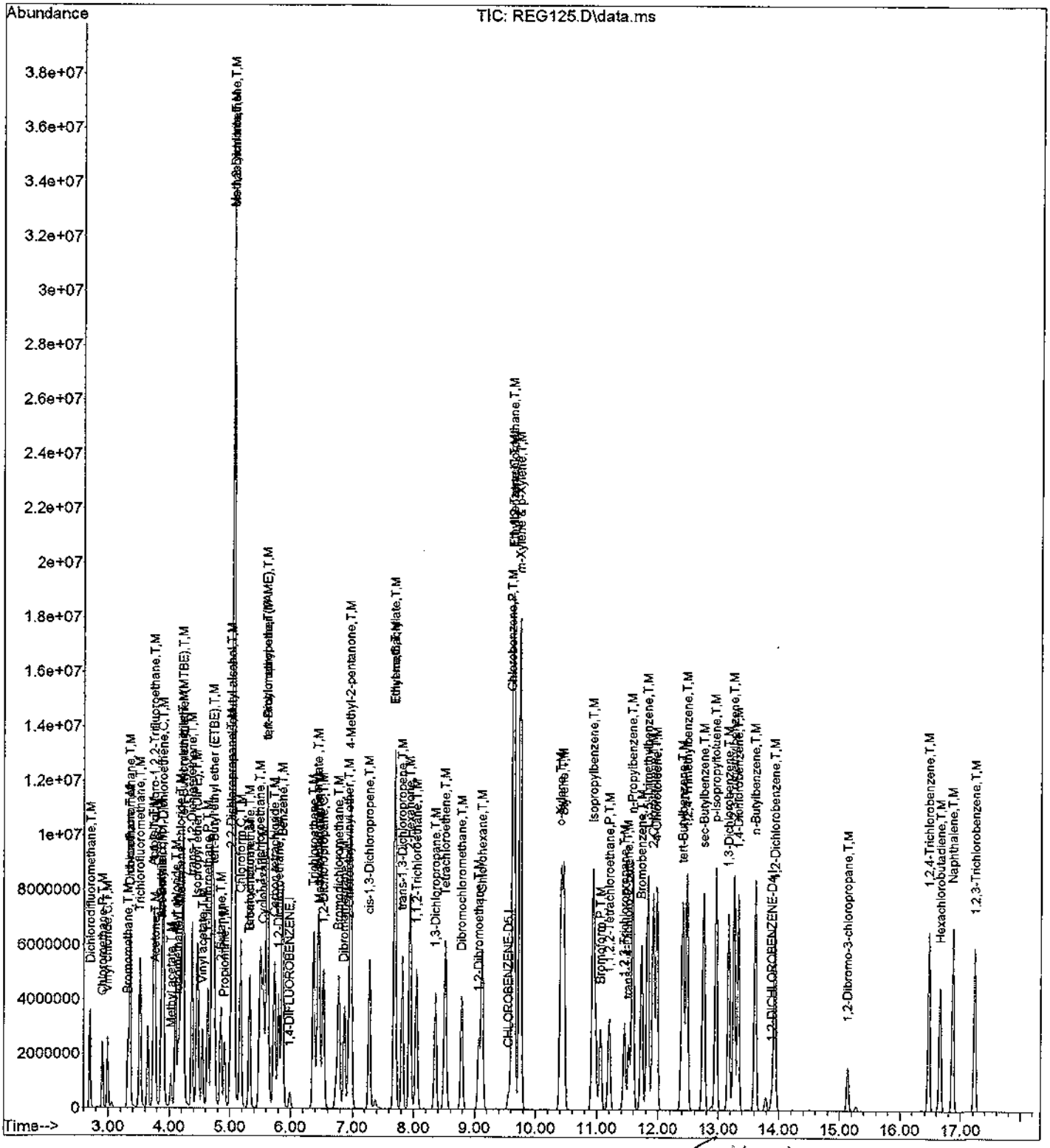
(#) = qualifier out of range (m) = manual integration (+) = signals summed

5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG125.D Vial: 10
Acq On : 17 May 2024 15:21 Operator: DNguye
Sample : VOE2E179 4uL Inst : E2
Misc : 100ppb 8260/500ppb KET-AA/2500ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:04:40 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG126.D Vial: 11
Acq On : 17 May 2024 15:44 Operator: DNguye
Sample : VOE2E1710 8uL Inst : E2
Misc : 200ppb 8260/1000ppb KET-AA/5000ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:00:50 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 568040 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 471885 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 217867 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 3002 | 0.09 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 0.90% | | |
| 41) 1,2-Dichloroethane-d4 | 0.000 | 65 | 0d | 0.00 | ug/L | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 56) Toluene-d8 | 0.000 | 98 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 77) 4-Bromofluorobenzene | 0.000 | 95 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 6316101 | 193.74 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 4516405 | 193.06 | ug/l | 99 |
| 4) Vinyl chloride | 2.983 | 62 | 4720259 | 191.07 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 3750895 | 224.49 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.346 | 67 | 9822700 | 174.00 | ug/L | 100 |
| 7) Chloroethane | 3.346 | 64 | 2195455 | 181.39 | ug/l | 94 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 10783113 | 194.28 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 3351589 | 907.26 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.742 | 151 | 4350512 | 179.79 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 6603563 | 988.07 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 15471302 | 4478.91 | ug/L | 95 |
| 13) 1,1-Dichloroethene | 3.896 | 61 | 9033271 | 177.91 | ug/l | 99 |
| 14) Acetonitrile | 3.874 | 41 | 2754507 | 1606.85 | ug/L | 93 |
| 15) Allyl chloride | 4.106 | 76 | 2199904 | 164.07 | ug/L | 99 |
| 16) Iodomethane | 4.139 | 142 | 5209397 | 187.95 | ug/l | 97 |
| 17) Methyl acetate | 4.029 | 43 | 3232214 | 168.28 | ug/L | 97 |
| 18) Methylene chloride | 4.183 | 49 | 6476225 | 191.83 | ug/l | 97 |
| 19) Acrylonitrile | 4.216 | 53 | 7708060 | 902.54 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 15360383 | 180.97 | ug/L | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 4873441 | 179.91 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 14962789 | 173.25 | ug/l | 99 |
| 24) Vinyl acetate | 4.546 | 43 | 9004493 | 183.04 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 9351400 | 170.66 | ug/l | 100 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 19320797 | 184.21 | ug/l | 99 |
| 27) 2-Butanone | 4.854 | 72 | 2394701 | 898.39 | ug/l | 98 |
| 28) Propionitrile | 4.920 | 54 | 5691397 | 1812.25 | ug/L | 97 |
| 29) Isobutyl alcohol | 5.030 | 43 | 3586105 | 3231.85 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 9444935 | 172.19 | ug/l | 99 |
| 31) Methacrylonitrile | 5.063 | 52 | 8684556 | 1684.31 | ug/L | 89 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 5762701 | 186.86 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 11032078 | 162.40 | ug/l | 98 |
| 34) Bromochloromethane | 5.327 | 130 | 2946762 | 162.66 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.316 | 42 | 1229234 | 171.73 | ug/L | 96 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 10907828 | 178.03 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 5994629 | 191.94 | ug/L | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 3477493 | 185.79 | ug/l | 98 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 2466827 | 183.91 | ug/L | 100 |
| 42) Carbon tetrachloride | 5.734 | 119 | 9523903 | 183.70 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 9046789 | 173.24 | ug/L | 99 |



5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG126.D Vial: 11
Acq On : 17 May 2024 15:44 Operator: DNguye
Sample : VOE2E1710 8uL Inst : E2
Misc : 200ppb 8260/1000ppb KET-AA/5000ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:00:50 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 44) | Benzene | 5.866 | 78 | 18878615 | 181.64 | ug/L | 99 |
| 45) | Trichloroethene | 6.373 | 130 | 5312995 | 185.18 | ug/L | 98 |
| 46) | Methyl methacrylate | 6.439 | 69 | 4709153 | 185.24 | ug/L | 97 |
| 47) | Methylcyclohexane | 6.450 | 83 | 6821475 | 199.77 | ug/L | 99 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 4750541 | 179.08 | ug/L | 98 |
| 50) | Bromodichloromethane | 6.769 | 83 | 8780457 | 174.89 | ug/L | 99 |
| 51) | Dibromomethane | 6.857 | 93 | 3575305 | 165.64 | ug/L | 98 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 2345513 | 178.52 | ug/L | 99 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 25417872 | 874.65 | ug/L | 96 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 8445639 | 182.07 | ug/L | 98 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 6144909 | 190.81 | ug/L | 93 |
| 58) | Toluene | 7.693 | 91 | 19948069 | 186.39 | ug/l | 99 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 8489181 | 185.38 | ug/l | 94 |
| 60) | 2-Hexanone | 7.946 | 43 | 17094335 | 883.44 | ug/l | 98 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 4397367 | 173.13 | ug/l | 98 |
| 62) | 1,3-Dichloropropane | 8.354 | 76 | 6618515 | 175.47 | ug/l | 100 |
| 63) | Tetrachloroethene | 8.508 | 164 | 4231743 | 180.87 | ug/l | 99 |
| 64) | Dibromochloromethane | 8.783 | 129 | 6516219 | 171.04 | ug/l | 100 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 4870080 | 177.93 | ug/l | 98 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 6393588 | 180.51 | ug/l | 100 |
| 67) | Chlorobenzene | 9.619 | 112 | 12624825 | 178.60 | ug/l | 100 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 5312112 | 176.61 | ug/l | 99 |
| 69) | Ethylbenzene | 9.641 | 91 | 23292033 | 180.01 | ug/l | 100 |
| 70) | m-Xylene & p-Xylene | 9.740 | 91 | 28701191 | 272.04 | ug/l | 84 |
| 71) | o-Xylene | 10.412 | 91 | 17586293 | 176.08 | ug/l | 99 |
| 72) | Styrene | 10.456 | 104 | 12296252 | 176.06 | ug/l | 99 |
| 73) | Isopropylbenzene | 10.940 | 105 | 19602688 | 172.25 | ug/L | 99 |
| 75) | Bromoform | 11.061 | 173 | 4187827 | 176.13 | ug/l | 99 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 5159996 | 169.93 | ug/l | 100 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 1403346 | 167.39 | ug/l | 96 |
| 79) | trans-1,4-Dichloro-2-b... | 11.523 | 53 | 1650960 | 194.61 | ug/l | 98 |
| 80) | n-Propylbenzene | 11.578 | 91 | 23810922 | 172.37 | ug/l | 99 |
| 81) | Bromobenzene | 11.732 | 156 | 5195205 | 171.35 | ug/l | 99 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 16287234 | 171.50 | ug/l | 99 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 15174863 | 177.98 | ug/l | 93 |
| 84) | 4-Chlorotoluene | 11.985 | 91 | 13838106 | 199.43 | ug/l | 95 |
| 85) | tert-Butylbenzene | 12.414 | 134 | 2339593 | 159.17 | ug/l | 91 |
| 86) | 1,2,4-Trimethylbenzene | 12.480 | 105 | 16036674 | 172.66 | ug/l | 97 |
| 87) | sec-Butylbenzene | 12.756 | 105 | 18845003 | 175.10 | ug/l | 98 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 15471204 | 171.32 | ug/l | 98 |
| 89) | 1,3-Dichlorobenzene | 13.174 | 146 | 8054938 | 193.34 | ug/l | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.262 | 105 | 15911955 | 172.89 | ug/L | 100 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 8560916 | 196.89 | ug/l | 98 |
| 92) | n-Butylbenzene | 13.614 | 91 | 15176896 | 176.71 | ug/l | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 7971920 | 167.50 | ug/l | 97 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 1180945 | 191.26 | ug/l | 99 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 5739206 | 205.48 | ug/l | 97 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 3124401 | 189.92 | ug/l | 99 |
| 97) | Naphthalene | 16.872 | 128 | 14719954 | 200.07 | ug/l | 99 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 5440683 | 204.95 | ug/l | 100 |

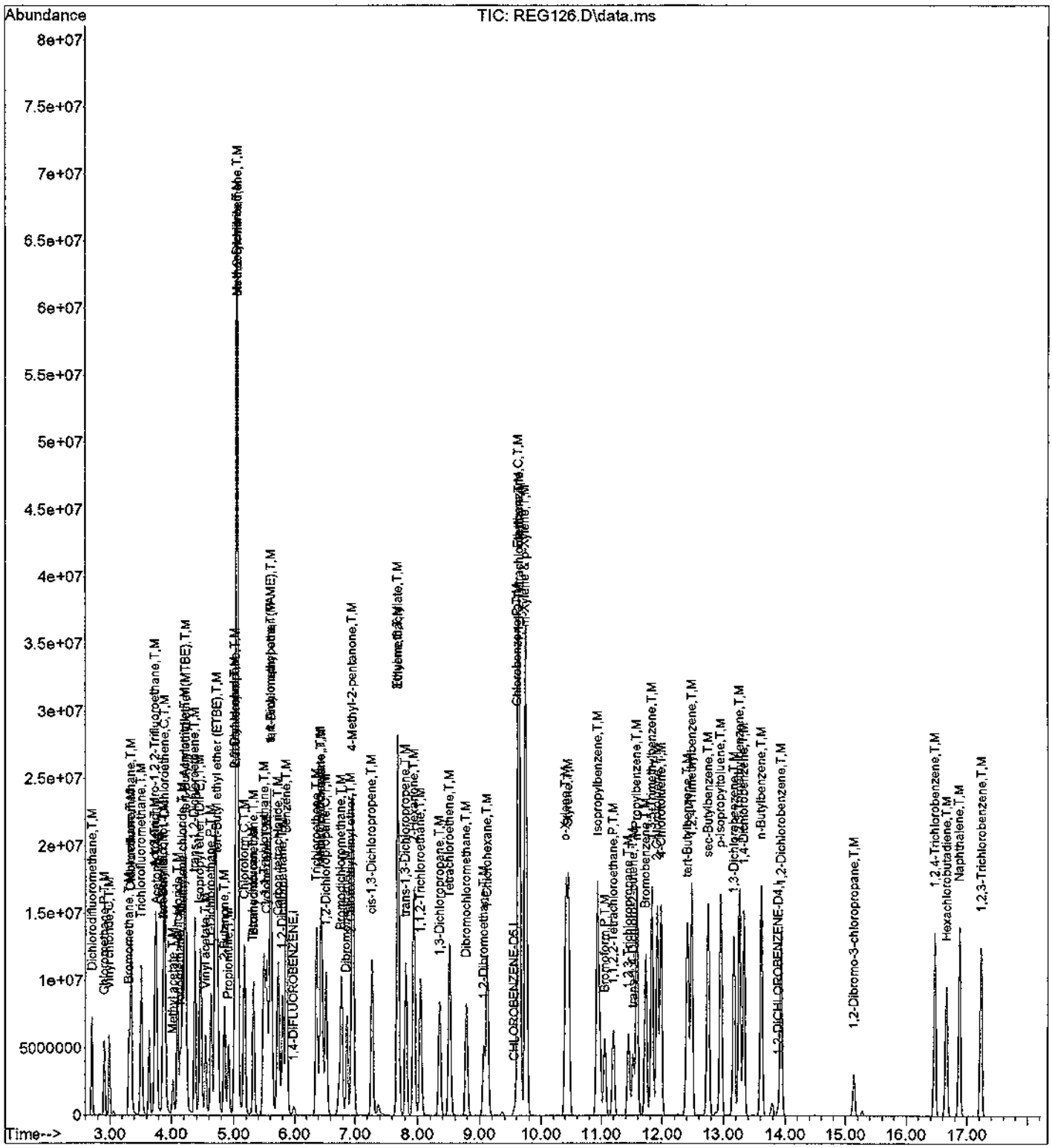
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SU 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E17\REG126.D Vial: 11
Acq On : 17 May 2024 15:44 Operator: DNguye
Sample : VOE2E1710 8uL Inst : E2
Misc : 200ppb 8260/1000ppb KET-AA/5000ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:00:50 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Thu May 23 12:47:29 2024 Page 3

# SECOND SOURCE VERIFICATION

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: REG130 BFB Injection Date: 05/18/24

Instrument ID: E2 BFB Injection Time: 09:16

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 19.254 |
| 75 | 30 - 60% of mass 95 | 50.320 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.311 |
| 173 | Less than 2% of mass 174 | 0.512(.61)1 |
| 174 | Greater than 50% of mass 95 | 84.221 |
| 175 | 5 - 9% of mass 174 | 6.661(7.91)1 |
| 176 | 95 - 101% % of mass 174 | 81.783(97.11)1 |
| 177 | 5 - 9% % of mass 176 | 6.306(7.71)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | IVOE2E1702 | REG131 | 05/18/24 | 09:57 |

5/24/24

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :E2
IC Beginning DateTime :05/17/24 12:33
Spike Amount :10 PPB
CC/CV File :REG131
IC File :REG122

Column Spec :RTX-502.2 ID :0.32MM
IC Ending DateTime :05/17/24 15:44
HPChem Method :VOE2817
Date_Time :05/18/24 09:57

| M | IDX | Parameters | CC_Con | CC%_D | CC_Resp | CCRRF | AvRRF | CC_Rtm | AvRtm | %_RSD | Co_X0 | Co_X1 | Co_X2 | Co_Cor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 10.000 | 0 | 647637 | 1 | 1 | 5.988 | 5.987 | 0 | | | | |
| | 2 | Dichlorodifluoromethane | 10.420 | 4.2 | 387316 | 0.598 | 0.574 | 2.708 | 2.708 | 8.06 | | | | |
| | 3 | Chloromethane | 10.034 | 0.3 | 267638 | 0.413 | 0.412 | 2.906 | 2.906 | 13.00 | | | | |
| | 4 | Vinyl chloride | 10.450 | 4.5 | 294360 | 0.455 | 0.435 | 2.994 | 2.990 | 7.58 | | | | |
| | 5 | Bromomethane | 10.726 | 7.3 | 204345 | 0.316 | 0.294 | 3.313 | 3.313 | 11.62 | | | | |
| | 6 | Dichlorofluoromethane | 9.831 | -1.7 | 632775 | 0.977 | 0.994 | 3.357 | 3.352 | 8.41 | | | | |
| | 7 | Chloroethane | 11.738 | 17.4 | 161985 | 0.250 | 0.213 | 3.346 | 3.346 | 8.74 | | | | |
| | 8 | Trichlorofluoromethane | 10.360 | 3.6 | 655613 | 1.012 | 0.977 | 3.511 | 3.511 | 7.24 | | | | |
| 5 | 9 | Acrolein | 53.498 | 7.0 | 225327 | 0.070 | 0.065 | 3.743 | 3.742 | 10.21 | | | | |
| | 10 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 9.863 | -1.4 | 272122 | 0.420 | 0.426 | 3.753 | 3.752 | 10.04 | | | | |
| 5 | 11 | Acetone | 55.179 | 10.4 | 456111 | 0.141 | 0.181 | 3.764 | 3.769 | 42.17 | 0.0583 | 0.1171 | | 0.9992 |
| 25 | 12 | tert-Butyl alcohol | 274.988 | 10.0 | 1082983 | 0.067 | 0.061 | 3.875 | 3.874 | 11.83 | | | | |
| | 13 | 1,1-Dichloroethene | 9.753 | -2.5 | 564613 | 0.872 | 0.894 | 3.908 | 3.902 | 8.46 | | | | |
| 10 | 14 | Acetonitrile | 109.003 | 9.0 | 213040 | 0.033 | 0.030 | 3.875 | 3.874 | 12.37 | | | | |
| | 15 | Allyl chloride | 10.843 | 8.4 | 165769 | 0.256 | 0.236 | 4.106 | 4.106 | 11.27 | | | | |
| | 16 | Iodomethane | 8.785 | -12.2 | 268999 | 0.415 | 0.429 | 4.150 | 4.143 | 22.23 | -0.0140 | 0.4887 | | 0.9969 |
| | 17 | Methyl acetate | 10.001 | 0.0 | 219009 | 0.338 | 0.338 | 4.029 | 4.029 | 12.15 | | | | |
| | 18 | Methylene chloride | 11.388 | 13.9 | 467946 | 0.723 | 0.801 | 4.183 | 4.182 | 26.33 | 0.0486 | 0.5918 | | 0.9974 |
| 5 | 19 | Acrylonitrile | 52.272 | 4.5 | 508984 | 0.157 | 0.150 | 4.216 | 4.216 | 11.69 | | | | |
| | 20 | tert-Butyl methyl ether (MTBE) | 10.647 | 6.5 | 1030417 | 1.591 | 1.494 | 4.227 | 4.227 | 7.94 | | | | |
| | 21 | Carbon disulfide | 9.831 | -1.7 | 872085 | 1.347 | 1.370 | 4.315 | 4.305 | 9.42 | | | | |
| | 22 | trans-1,2-Dichloroethene | 10.193 | 1.9 | 314802 | 0.486 | 0.477 | 4.370 | 4.370 | 10.07 | | | | |
| | 23 | Isopropyl ether (DIPE) | 10.521 | 5.2 | 1036035 | 1.600 | 1.520 | 4.469 | 4.460 | 9.47 | | | | |
| | 24 | Vinyl acetate | 11.461 | 14.6 | 642883 | 0.993 | 0.866 | 4.546 | 4.546 | 6.41 | | | | |
| | 25 | 1,1-Dichloroethane | 9.919 | -0.8 | 619716 | 0.957 | 0.965 | 4.634 | 4.634 | 10.57 | | | | |
| | 26 | tert-Butyl ethyl ether (ETBE) | 10.432 | 4.3 | 1247585 | 1.926 | 1.846 | 4.733 | 4.733 | 8.21 | | | | |
| 5 | 27 | 2-Butanone | 54.888 | 9.8 | 166808 | 0.052 | 0.047 | 4.854 | 4.854 | 12.56 | | | | |
| 10 | 28 | Propionitrile | 114.244 | 14.2 | 409063 | 0.063 | 0.055 | 4.909 | 4.910 | 11.17 | | | | |
| 20 | 29 | Isobutyl alcohol | 228.221 | 14.1 | 288723 | 0.022 | 0.020 | 5.030 | 5.030 | 12.47 | | | | |
| | 30 | 2,2-Dichloropropane | 9.835 | -1.6 | 615087 | 0.950 | 0.966 | 5.019 | 5.020 | 9.30 | | | | |
| 10 | 31 | Methacrylonitrile | 106.760 | 6.8 | 627605 | 0.097 | 0.091 | 5.052 | 5.057 | 11.02 | | | | |
| | 32 | cis-1,2-Dichloroethene | 10.190 | 1.9 | 358317 | 0.553 | 0.543 | 5.063 | 5.063 | 8.40 | | | | |
| | 33 | Chloroform | 9.159 | -8.4 | 709429 | 1.095 | 1.196 | 5.173 | 5.173 | 14.51 | | | | |
| | 34 | Bromochloromethane | 10.418 | 4.2 | 215189 | 0.332 | 0.319 | 5.327 | 5.327 | 11.29 | | | | |
| | 35 | Tetrahydrofuran | 11.049 | 10.5 | 90175 | 0.139 | 0.126 | 5.316 | 5.319 | 6.67 | | | | |
| | 36 | Dibromofluoromethane | 9.254 | -7.5 | 367086 | 0.567 | 0.612 | 5.338 | 5.338 | 6.30 | | | | |
| | 37 | 1,1,1-Trichloroethane | 9.563 | -4.4 | 668020 | 1.031 | 1.079 | 5.503 | 5.497 | 8.19 | | | | |
| | 38 | Cyclohexane | 10.101 | 1.0 | 359700 | 0.555 | 0.550 | 5.547 | 5.548 | 14.22 | | | | |
| | 39 | tert-Amyl methyl ether (TAME) | 10.845 | 8.5 | 231432 | 0.357 | 0.329 | 5.613 | 5.614 | 7.33 | | | | |
| | 40 | 1,1-Dichloropropene | 9.880 | -1.2 | 151104 | 0.233 | 0.236 | 5.613 | 5.613 | 8.29 | | | | |
| | 41 | 1,2-Dichloroethane-d4 | 8.914 | -10.9 | 467273 | 0.722 | 0.809 | 5.723 | 5.723 | 11.80 | | | | |
| | 42 | Carbon tetrachloride | 9.430 | -5.7 | 557403 | 0.861 | 0.913 | 5.734 | 5.734 | 8.01 | | | | |
| | 43 | 1,2-Dichloroethane | 9.596 | -4.0 | 571321 | 0.882 | 0.919 | 5.800 | 5.800 | 10.41 | | | | |
| | 44 | Benzene | 10.262 | 2.6 | 1216026 | 1.878 | 1.830 | 5.866 | 5.866 | 8.64 | | | | |
| | 45 | Trichloroethene | 9.910 | -0.9 | 324173 | 0.501 | 0.505 | 6.373 | 6.371 | 9.09 | | | | |
| | 46 | Methyl methacrylate | 10.822 | 8.2 | 313684 | 0.484 | 0.448 | 6.439 | 6.439 | 9.77 | | | | |
| | 47 | Methylcyclohexane | 10.456 | 4.6 | 407082 | 0.629 | 0.601 | 6.450 | 6.454 | 11.92 | | | | |
| | 48 | 1,2-Dichloropropane | 10.391 | 3.9 | 314276 | 0.485 | 0.467 | 6.527 | 6.527 | 10.74 | | | | |
| 20 | 49 | 1,4-Dioxane | | | | | | | | | | | | |
| | 50 | Bromodichloromethane | 9.851 | -1.5 | 563896 | 0.871 | 0.884 | 6.780 | 6.769 | 11.38 | | | | |
| | 51 | Dibromomethane | 9.836 | -1.6 | 242061 | 0.374 | 0.380 | 6.857 | 6.857 | 11.79 | | | | |
| | 52 | 2-Chloroethyl vinyl ether | 8.988 | -10.1 | 134655 | 0.208 | 0.231 | 6.934 | 6.934 | 6.45 | | | | |
| 5 | 53 | 4-Methyl-2-pentanone | 51.435 | 2.9 | 1704193 | 0.526 | 0.512 | 6.956 | 6.957 | 10.35 | | | | |
| | 54 | cis-1,3-Dichloropropene | 10.439 | 4.4 | 552132 | 0.853 | 0.817 | 7.275 | 7.275 | 7.57 | | | | |
| | 55 | CHLOROBENZENE-D5 | 10.000 | 0 | 555845 | 1 | 1 | 9.564 | 9.564 | 0 | | | | |
| | 56 | Toluene-d8 | 9.506 | -4.9 | 1050036 | 1.889 | 1.987 | 7.594 | 7.594 | 8.88 | | | | |
| | 57 | Ethyl methacrylate | 11.236 | 12.4 | 426233 | 0.767 | 0.682 | 7.693 | 7.693 | 5.59 | | | | |
| | 58 | Toluene | 10.086 | 0.9 | 1271585 | 2.288 | 2.268 | 7.693 | 7.693 | 9.46 | | | | |
| | 59 | trans-1,3-Dichloropropene | 10.278 | 2.8 | 554416 | 0.997 | 0.970 | 7.814 | 7.814 | 6.61 | | | | |
| 5 | 60 | 2-Hexanone | 50.761 | 1.5 | 1156980 | 0.416 | 0.410 | 7.946 | 7.938 | 11.13 | | | | |
| | 61 | 1,1,2-Trichloroethane | 10.111 | 1.1 | 302512 | 0.544 | 0.538 | 8.045 | 8.045 | 10.51 | | | | |
| | 62 | 1,3-Dichloropropane | 10.361 | 3.6 | 460356 | 0.828 | 0.799 | 8.354 | 8.354 | 9.83 | | | | |
| | 63 | Tetrachloroethene | 9.524 | -4.8 | 262477 | 0.472 | 0.496 | 8.519 | 8.509 | 12.71 | | | | |
| | 64 | Dibromochloromethane | 9.409 | -5.9 | 422250 | 0.760 | 0.807 | 8.783 | 8.783 | 13.87 | | | | |
| | 65 | 1,2-Dibromoethane | 10.137 | 1.4 | 326860 | 0.588 | 0.580 | 9.069 | 9.069 | 8.08 | | | | |
| | 66 | 1-Chlorohexane | 10.040 | 0.4 | 418878 | 0.754 | 0.751 | 9.124 | 9.124 | 10.45 | | | | |
| | 67 | Chlorobenzene | 9.723 | -2.8 | 809661 | 1.457 | 1.498 | 9.619 | 9.619 | 11.00 | | | | |
| | 68 | 1,1,1,2-Tetrachloroethane | 9.599 | -4.0 | 340100 | 0.612 | 0.637 | 9.652 | 9.646 | 9.12 | | | | |
| | 69 | Ethylbenzene | 9.758 | -2.4 | 1487392 | 2.676 | 2.742 | 9.641 | 9.641 | 10.66 | | | | |
| 2 | 70 | m-Xylene & p-Xylene | 18.880 | -5.6 | 2346333 | 2.111 | 2.236 | 9.751 | 9.750 | 9.97 | | | | |
| | 71 | o-Xylene | 10.096 | 1.0 | 1187781 | 2.137 | 2.117 | 10.412 | 10.413 | 11.21 | | | | |
| | 72 | Styrene | 10.151 | 1.5 | 835184 | 1.503 | 1.480 | 10.467 | 10.458 | 10.19 | | | | |
| | 73 | Isopropylbenzene | 9.879 | -1.2 | 1324380 | 2.383 | 2.412 | 10.940 | 10.940 | 13.33 | | | | |
| | 74 | 1,2-DICHLOROBENZENE-D4 | 10.000 | 0 | 262396 | 1 | 1 | 13.889 | 13.889 | 0 | | | | |
| | 75 | Bromoform | 9.959 | -0.4 | 285204 | 1.087 | 1.091 | 11.061 | 11.061 | 9.03 | | | | |
| | 76 | 1,1,2,2-Tetrachloroethane | 10.875 | 8.8 | 397736 | 1.516 | 1.394 | 11.204 | 11.203 | 13.93 | | | | |
| | 77 | 4-Bromofluorobenzene | 10.006 | 0.1 | 416821 | 1.589 | 1.587 | 11.369 | 11.369 | 11.73 | | | | |
| | 78 | 1,2,3-Trichloropropane | 10.854 | 8.5 | 109593 | 0.418 | 0.385 | 11.446 | 11.446 | 12.26 | | | | |
| | 79 | trans-1,4-Dichloro-2-butene | 11.666 | 16.7 | 119204 | 0.454 | 0.389 | 11.523 | 11.513 | 8.47 | | | | |
| | 80 | n-Propylbenzene | 9.908 | -0.9 | 1648572 | 6.283 | 6.341 | 11.578 | 11.578 | 14.55 | | | | |
| | 81 | Bromobenzene | 10.166 | 1.7 | 371222 | 1.415 | 1.392 | 11.732 | 11.732 | 13.87 | | | | |
| | 82 | 1,3,5-Trimethylbenzene | 9.826 | -1.7 | 1123998 | 4.284 | 4.359 | 11.831 | 11.829 | 14.43 | | | | |
| | 83 | 2-Chlorotoluene | 10.515 | 5.2 | 1079812 | 4.115 | 3.914 | 11.919 | 11.919 | 13.23 | | | | |
| | 84 | 4-Chlorotoluene | 11.112 | 11.1 | 964334 | 3.675 | 3.796 | 11.974 | 11.975 | 20.12 | 0.1440 | 3.1777 | | 0.9987 |
| | 85 | tert-Butylbenzene | 9.977 | -0.2 | 176618 | 0.673 | 0.675 | 12.415 | 12.408 | 14.63 | | | | |
| | 86 | 1,2,4-Trimethylbenzene | 10.070 | 0.7 | 1126508 | 4.293 | 4.263 | 12.481 | 12.478 | 14.07 | | | | |
| | 87 | sec-Butylbenzene | 9.921 | -0.8 | 1286003 | 4.901 | 4.940 | 12.756 | 12.749 | 14.11 | | | | |
| | 88 | p-Isopropyltoluene | 9.947 | -0.5 | 1081873 | 4.123 | 4.145 | 12.954 | 12.955 | 14.69 | | | | |
| | 89 | 1,3-Dichlorobenzene | 11.402 | 14.0 | 594859 | 2.267 | 2.303 | 13.174 | 13.165 | 19.08 | 0.0920 | 1.9075 | | 0.9986 |
| | 90 | 1,2,3-Trimethylbenzene | 10.087 | 0.9 | 1118089 | 4.261 | 4.224 | 13.262 | 13.255 | 13.33 | | | | |
| | 91 | 1,4-Dichlorobenzene | 11.077 | 10.8 | 600654 | 2.289 | 2.349 | 13.328 | 13.328 | 18.81 | 0.0831 | 1.9916 | | 0.9991 |
| | 92 | n-Butylbenzene | 9.895 | -1.0 | 1023631 | 3.901 | 3.942 | 13.614 | 13.614 | 14.93 | | | | |
| | 93 | 1,2-Dichlorobenzene | 9.725 | -2.7 | 557437 | 2.124 | 2.184 | 13.933 | 13.933 | 14.28 | | | | |
| | 94 | 1,2-Dibromo-3-chloropropane | 10.796 | 8.0 | 80292 | 0.306 | 0.283 | 15.144 | 15.134 | 8.87 | | | | |
| | 95 | 1,2,4-Trichlorobenzene | 10.262 | 2.6 | 357605 | 1.363 | 1.493 | 16.475 | 16.464 | 24.05 | 0.0497 | 1.2796 | | 0.9993 |
| | 96 | Hexachlorobutadiene | 10.669 | 6.7 | 211409 | 0.806 | 0.755 | 16.663 | 16.662 | 13.33 | | | | |
| | 97 | Naphthalene | 10.446 | 4.5 | 925673 | 3.528 | 3.377 | 16.872 | 16.872 | 12.35 | | | | |
| | 98 | 1,2,3-Trichlorobenzene | 10.036 | 0.4 | 332666 | 1.268 | 1.419 | 17.235 | 17.231 | 24.06 | 0.0472 | 1.2161 | | 0.9995 |

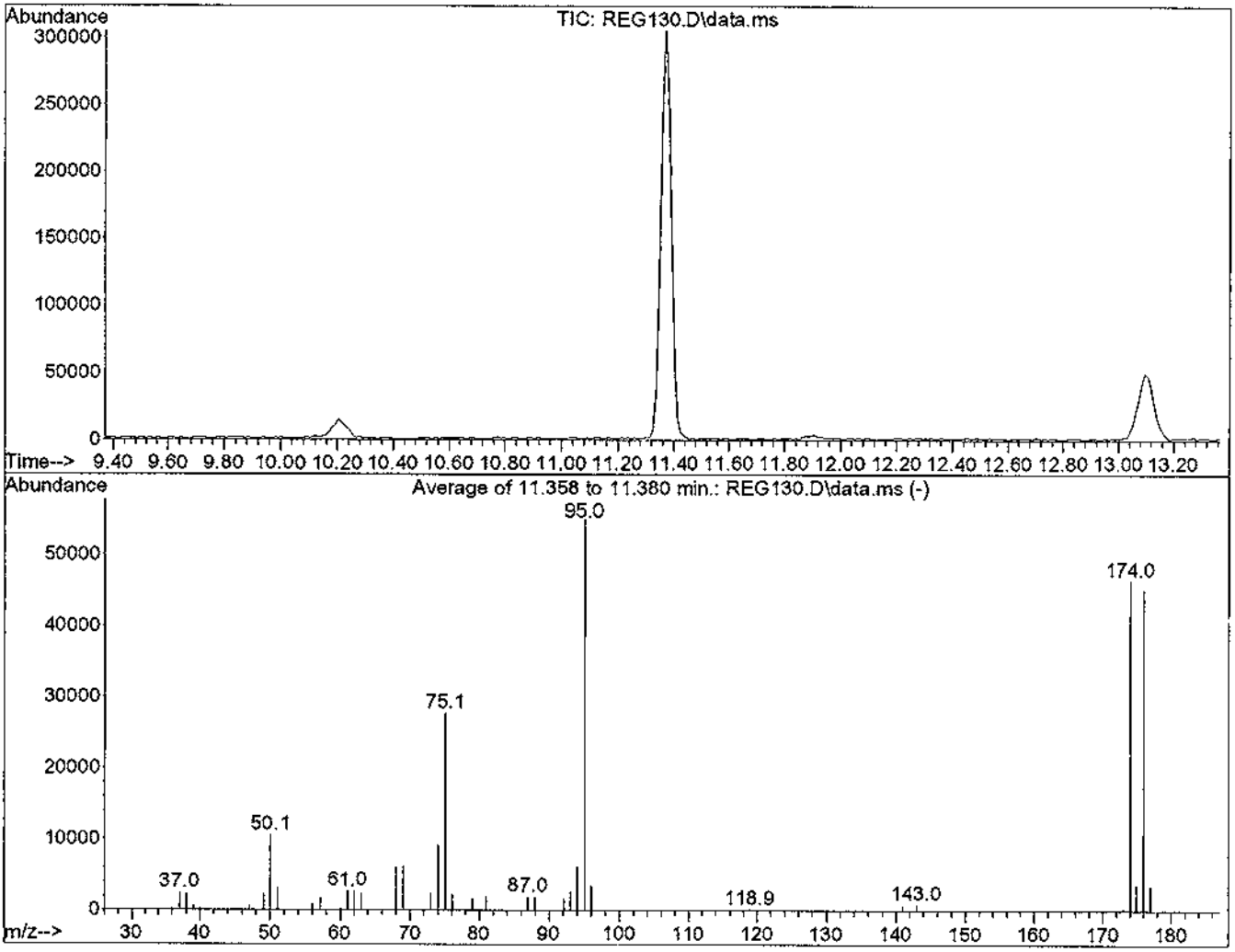
Spike Amount = Nominal Amount * M

SM 5/24/24

Data Path : D:\Data\24E18\
Data File : REG130.D
Acq On : 18 May 2024 9:16
Operator : DNguye
Sample : BFBE2E09
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




AutoFind: Scans 797, 798, 799; Background Corrected with Scan 791

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 19.3 | 10614 | PASS |
| 75 | 95 | 30 | 60 | 50.3 | 27739 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 55125 | PASS |
| 96 | 95 | 5 | 9 | 6.3 | 3479 | PASS |
| 173 | 174 | 0.00 | 2 | 0.6 | 282 | PASS |
| 174 | 95 | 50 | 100 | 84.2 | 46427 | PASS |
| 175 | 174 | 5 | 9 | 7.9 | 3672 | PASS |
| 176 | 174 | 95 | 101 | 97.1 | 45083 | PASS |
| 177 | 176 | 5 | 9 | 7.7 | 3476 | PASS |

SW 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 134 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.421 | -4.2 | 157 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 10.035 | -0.4 | 148 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.451 | -4.5 | 146 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 10.727 | -7.3 | 173 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 9.831 | 1.7 | 132 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 11.738 | -17.4 | 164 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 10.360 | -3.6 | 151 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 53.499 | -7.0 | 146 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 9.863 | 1.4 | 137 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 55.179 | -10.4 | 137 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 274.989 | -10.0 | 147 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 9.754 | 2.5 | 131 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 109.003 | -9.0 | 144 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.844 | -8.4 | 143 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 8.785 | 12.1 | 129 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 10.001 | -0.0 | 133 | 0.00 |
| 18 | T,M | Methylene chloride | 10.000 | 11.389 | -13.9 | 132 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 52.273 | -4.5 | 133 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.648 | -6.5 | 142 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.831 | 1.7 | 131 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.193 | -1.9 | 139 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 10.521 | -5.2 | 142 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 11.462 | -14.6 | 143 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.920 | 0.8 | 137 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 10.433 | -4.3 | 139 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 54.888 | -9.8 | 140 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 114.245 | -14.2 | 158 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 228.222 | -14.1 | 152 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 9.836 | 1.6 | 128 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 106.760 | -6.8 | 146 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.190 | -1.9 | 143 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.160 | 8.4 | 131 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 10.419 | -4.2 | 136 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 11.050 | -10.5 | 150 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.254 | 7.5 | 122 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 9.563 | 4.4 | 129 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 10.102 | -1.0 | 161 | 0.00 |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.845 | -8.5 | 139 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 9.881 | 1.2 | 129 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 8.915 | 10.9 | 124 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 9.430 | 5.7 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 9.596 | 4.0 | 126 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.262 | -2.6 | 138 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.910 | 0.9 | 136 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 10.823 | -8.2 | 152 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 10.457 | -4.6 | 159 | 0.00 |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.391 | -3.9 | 140 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.851 | 1.5 | 132 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 9.836 | 1.6 | 135 | 0.00 |



SA 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D  Vial: 2
Acq On : 18 May 2024 9:57  Operator: DNguye
Sample : IVOE2E1702  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 8.989 | 10.1 | 117 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 51.435 | -2.9 | 132 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.440 | -4.4 | 139 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 136 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.507 | 4.9 | 128 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.236 | -12.4 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 10.087 | -0.9 | 138 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.278 | -2.8 | 137 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 50.761 | -1.5 | 131 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 10.111 | -1.1 | 138 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.361 | -3.6 | 143 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.524 | 4.8 | 134 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.409 | 5.9 | 131 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 10.138 | -1.4 | 135 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.040 | -0.4 | 137 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.724 | 2.8 | 135 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.599 | 4.0 | 128 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.759 | 2.4 | 136 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.880 | 5.6 | 138 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 10.096 | -1.0 | 137 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.152 | -1.5 | 137 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.880 | 1.2 | 133 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 133 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 9.959 | 0.4 | 134 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.876 | -8.8 | 149 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.007 | -0.1 | 135 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.854 | -8.5 | 148 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 11.667 | -16.7 | 152 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.909 | 0.9 | 139 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 10.166 | -1.7 | 135 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.827 | 1.7 | 135 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 10.515 | -5.2 | 149 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.112 | -11.1 | 126 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.977 | 0.2 | 138 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 10.070 | -0.7 | 136 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.921 | 0.8 | 134 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.947 | 0.5 | 138 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.403 | -14.0 | 138 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.087 | -0.9 | 135 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.077 | -10.8 | 137 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.896 | 1.0 | 136 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.725 | 2.8 | 140 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 10.797 | -8.0 | 153 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 10.262 | -2.6 | 140 | 0.01 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 10.670 | -6.7 | 142 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.446 | -4.5 | 141 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.037 | -0.4 | 136 | 0.01 |



5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D  Vial: 2
Acq On : 18 May 2024 9:57  Operator: DNguye
Sample : IVOE2E1702  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

SY 5/24/24

# Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 134 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.598 | -4.2 | 157 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.413 | -0.2 | 148 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.455 | -4.6 | 146 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.316 | -7.5 | 173 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 0.977 | 1.7 | 132 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.250 | -17.4 | 164 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 1.012 | -3.6 | 151 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.070 | -7.7 | 146 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.420 | 1.4 | 137 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.141 | 22.1# | 137 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.067 | -9.8 | 147 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.872 | 2.5 | 131 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.033 | -10.0 | 144 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.256 | -8.5 | 143 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.415 | 3.3 | 129 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.338 | 0.0 | 133 | 0.00 |
| 18 | T,M | Methylene chloride | 0.801 | 0.723 | 9.7 | 132 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.157 | -4.7 | 133 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.591 | -6.5 | 142 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.347 | 1.7 | 131 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.486 | -1.9 | 139 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.600 | -5.3 | 142 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.993 | -14.7 | 143 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 0.957 | 0.8 | 137 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.926 | -4.3 | 139 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.052 | -10.6 | 140 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.063 | -14.5 | 158 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.022 | -10.0 | 152 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.950 | 1.7 | 128 | 0.00 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.097 | -6.6 | 146 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.553 | -1.8 | 143 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.095 | 8.4 | 131 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.332 | -4.1 | 136 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.139 | -10.3 | 150 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.567 | 7.4 | 122 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.031 | 4.4 | 129 | 0.01 |
| 38 | T,M | Cyclohexane | 0.550 | 0.555 | -0.9 | 161 | 0.00 |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.357 | -8.5 | 139 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.233 | 1.3 | 129 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.722 | 10.8 | 124 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 0.861 | 5.7 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 0.882 | 4.0 | 126 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.878 | -2.6 | 138 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.501 | 0.8 | 136 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.484 | -8.0 | 152 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.629 | -4.7 | 159 | 0.00 |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.485 | -3.9 | 140 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.871 | 1.5 | 132 | 0.01 |
| 51 | T,M | Dibromomethane | 0.380 | 0.374 | 1.6 | 135 | 0.00 |



SW 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.208 | 10.0 | 117 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.526 | -2.7 | 132 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.853 | -4.4 | 139 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 136 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 1.889 | 4.9 | 128 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.767 | -12.5 | 147 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.288 | -0.9 | 138 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.997 | -2.8 | 137 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.416 | -1.5 | 131 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.544 | -1.1 | 138 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.828 | -3.6 | 143 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.472 | 4.8 | 134 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.760 | 5.8 | 131 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.588 | -1.4 | 135 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.754 | -0.4 | 137 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.457 | 2.7 | 135 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.612 | 3.9 | 128 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.676 | 2.4 | 136 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.111 | 5.6 | 138 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.137 | -0.9 | 137 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.503 | -1.6 | 137 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.383 | 1.2 | 133 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 133 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 1.087 | 0.4 | 134 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.516 | -8.8 | 149 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.589 | -0.1 | 135 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.418 | -8.6 | 148 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.454 | -16.7 | 152 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.283 | 0.9 | 139 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.415 | -1.7 | 135 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.284 | 1.7 | 135 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.115 | -5.1 | 149 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.675 | 3.2 | 126 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.673 | 0.3 | 138 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.293 | -0.7 | 136 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.901 | 0.8 | 134 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.123 | 0.5 | 138 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.267 | 1.6 | 138 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.261 | -0.9 | 135 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.289 | 2.6 | 137 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.901 | 1.0 | 136 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.124 | 2.7 | 140 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.306 | -8.1 | 153 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.363 | 8.7 | 140 | 0.01 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.806 | -6.8 | 142 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 3.528 | -4.5 | 141 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.268 | 10.6 | 136 | 0.01 |

SU 5/24/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24E18\REG131.D  Vial: 2
Acq On : 18 May 2024 9:57  Operator: DNguye
Sample : IVOE2E1702  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

SW 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.988 | 114 | 647637 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 555845 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 262396 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 367086 | 9.25 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 92.50% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 467273 | 8.91 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 89.10% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1050036 | 9.51 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 95.10% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 416821 | 10.01 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.10% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 387316 | 10.42 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 267638 | 10.03 | ug/l | 100 |
| 4) Vinyl chloride | 2.994 | 62 | 294360 | 10.45 | ug/l | 100 |
| 5) Bromomethane | 3.313 | 94 | 204345 | 10.73 | ug/l | 96 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 632775 | 9.83 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 161985 | 11.74 | ug/l | 88 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 655613 | 10.36 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 225327 | 53.50 | ug/l | 98 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 272122 | 9.86 | ug/l | 99 |
| 11) Acetone | 3.764 | 43 | 456111 | 55.18 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.875 | 59 | 1082983 | 274.99 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 564613 | 9.75 | ug/l | 98 |
| 14) Acetonitrile | 3.875 | 41 | 213040 | 109.00 | ug/L | 96 |
| 15) Allyl chloride | 4.106 | 76 | 165769 | 10.84 | ug/L | 100 |
| 16) Iodomethane | 4.150 | 142 | 268999 | 8.79 | ug/l | 94 |
| 17) Methyl acetate | 4.029 | 43 | 219009 | 10.00 | ug/L | 98 |
| 18) Methylene chloride | 4.183 | 49 | 467946 | 11.39 | ug/l | 97 |
| 19) Acrylonitrile | 4.216 | 53 | 508984 | 52.27 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 1030417 | 10.65 | ug/L | 99 |
| 21) Carbon disulfide | 4.315 | 76 | 872085 | 9.83 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 314802 | 10.19 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1036035 | 10.52 | ug/l | 98 |
| 24) Vinyl acetate | 4.546 | 43 | 642883 | 11.46 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 619716 | 9.92 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1247585 | 10.43 | ug/l | 96 |
| 27) 2-Butanone | 4.854 | 72 | 166808 | 54.89 | ug/l | 95 |
| 28) Propionitrile | 4.909 | 54 | 409063 | 114.24 | ug/L | 98 |
| 29) Isobutyl alcohol | 5.030 | 43 | 288723 | 228.22 | ug/L | 98 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 615087 | 9.84 | ug/l | 98 |
| 31) Methacrylonitrile | 5.052 | 52 | 627605 | 106.76 | ug/L | 94 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 358317 | 10.19 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 709429 | 9.16 | ug/l | 99 |
| 34) Bromochloromethane | 5.327 | 130 | 215189 | 10.42 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 90175 | 11.05 | ug/L | 99 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 668020 | 9.56 | ug/l | 99 |
| 38) Cyclohexane | 5.547 | 84 | 359700 | 10.10 | ug/L | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 231432 | 10.85 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 151104 | 9.88 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 557403 | 9.43 | ug/L | 100 |


SU 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) | 1,2-Dichloroethane | 5.800 | 62 | 571321 | 9.60 | ug/L | 99 |
| 44) | Benzene | 5.866 | 78 | 1216026 | 10.26 | ug/L | 99 |
| 45) | Trichloroethene | 6.373 | 130 | 324173 | 9.91 | ug/L | 98 |
| 46) | Methyl methacrylate | 6.439 | 69 | 313684 | 10.82 | ug/L | 94 |
| 47) | Methylcyclohexane | 6.450 | 83 | 407082 | 10.46 | ug/L | 98 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 314276 | 10.39 | ug/L | 94 |
| 50) | Bromodichloromethane | 6.780 | 83 | 563896 | 9.85 | ug/L | 99 |
| 51) | Dibromomethane | 6.857 | 93 | 242061 | 9.84 | ug/L | 100 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 134655 | 8.99 | ug/L | 99 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 1704193 | 51.44 | ug/L | 98 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 552132 | 10.44 | ug/L | 98 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 426233 | 11.24 | ug/L | 93 |
| 58) | Toluene | 7.693 | 91 | 1271585 | 10.09 | ug/l | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 554416 | 10.28 | ug/l | 93 |
| 60) | 2-Hexanone | 7.946 | 43 | 1156980 | 50.76 | ug/l | 98 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 302512 | 10.11 | ug/l | 100 |
| 62) | 1,3-Dichloropropane | 8.354 | 76 | 460356 | 10.36 | ug/l | 100 |
| 63) | Tetrachloroethene | 8.519 | 164 | 262477 | 9.52 | ug/l | 98 |
| 64) | Dibromochloromethane | 8.783 | 129 | 422250 | 9.41 | ug/l | 100 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 326860 | 10.14 | ug/l | 98 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 418878 | 10.04 | ug/l | 92 |
| 67) | Chlorobenzene | 9.619 | 112 | 809661 | 9.72 | ug/l | 99 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 340100 | 9.60 | ug/l | 99 |
| 69) | Ethylbenzene | 9.641 | 91 | 1487392 | 9.76 | ug/l | 100 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 2346333 | 18.88 | ug/l | 99 |
| 71) | o-Xylene | 10.412 | 91 | 1187781 | 10.10 | ug/l | 99 |
| 72) | Styrene | 10.467 | 104 | 835184 | 10.15 | ug/l | 99 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1324380 | 9.88 | ug/L | 99 |
| 75) | Bromoform | 11.061 | 173 | 285204 | 9.96 | ug/l | 99 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 397736 | 10.88 | ug/l | 99 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 109593 | 10.85 | ug/l | 99 |
| 79) | trans-1,4-Dichloro-2-b... | 11.523 | 53 | 119204 | 11.67 | ug/l | 89 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1648572 | 9.91 | ug/l | 98 |
| 81) | Bromobenzene | 11.732 | 156 | 371222 | 10.17 | ug/l | 100 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 1123998 | 9.83 | ug/l | 99 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 1079812 | 10.52 | ug/l | 93 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 964334 | 11.11 | ug/l | 94 |
| 85) | tert-Butylbenzene | 12.415 | 134 | 176618 | 9.98 | ug/l | 95 |
| 86) | 1,2,4-Trimethylbenzene | 12.481 | 105 | 1126508 | 10.07 | ug/l | 99 |
| 87) | sec-Butylbenzene | 12.756 | 105 | 1286003 | 9.92 | ug/l | 100 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 1081873 | 9.95 | ug/l | 98 |
| 89) | 1,3-Dichlorobenzene | 13.174 | 146 | 594859 | 11.40 | ug/l | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.262 | 105 | 1118089 | 10.09 | ug/L | 98 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 600654 | 11.08 | ug/l | 100 |
| 92) | n-Butylbenzene | 13.614 | 91 | 1023631 | 9.90 | ug/l | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 557437 | 9.73 | ug/l | 98 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 80292 | 10.80 | ug/l | 97 |
| 95) | 1,2,4-Trichlorobenzene | 16.475 | 180 | 357605 | 10.26 | ug/l | 98 |
| 96) | Hexachlorobutadiene | 16.663 | 225 | 211409 | 10.67 | ug/l | 98 |
| 97) | Naphthalene | 16.872 | 128 | 925673 | 10.45 | ug/l | 99 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 332666 | 10.04 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed



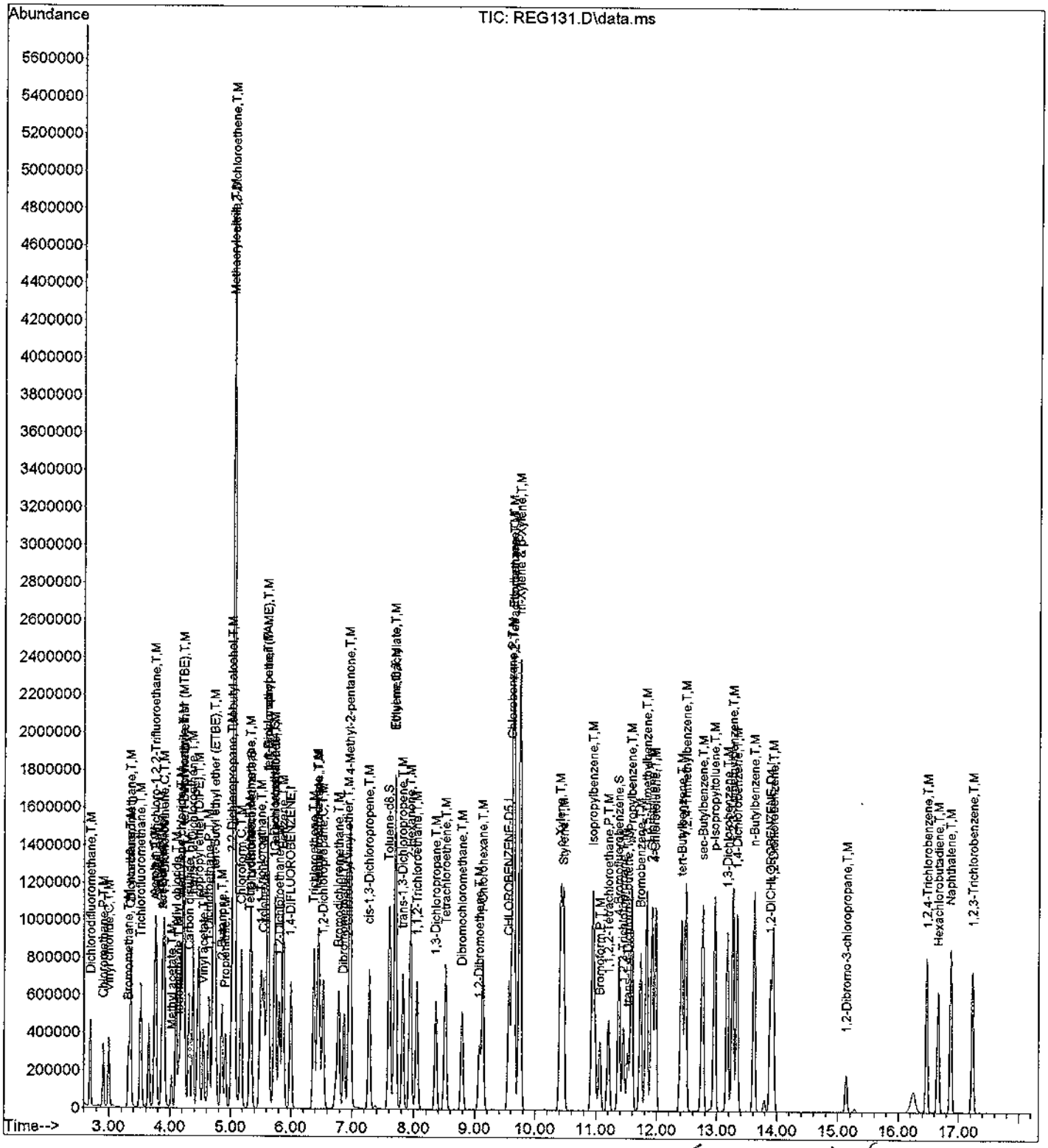
SU 5/24/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24E18\REG131.D
Acq On : 18 May 2024 9:57
Sample : IVOE2E1702
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: May 21 21:05:54 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M




VOE2E17.M Tue May 21 21:07:50 2024 Page: 3

5/24/24

# DAILY CALIBRATIONS

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F019
Lab File ID: RFG091 BFB Injection Date: 06/11/24
Instrument ID: E2 BFB Injection Time: 12:47

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 20.430 |
| 75 | 30 - 60% of mass 95 | 58.855 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 7.042 |
| 173 | Less than 2% of mass 174 | 0.000(0)1 |
| 174 | Greater than 50% of mass 95 | 86.589 |
| 175 | 5 - 9% of mass 174 | 6.114(7.06)1 |
| 176 | 95 - 101% % of mass 174 | 82.804(95.63)1 |
| 177 | 5 - 9% % of mass 176 | 6.481(7.83)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1707 | RFG092 | 06/11/24 | 13:35 |
| 2 | LCS1W | VOE2F04L | RFG093 | 06/11/24 | 14:15 |
| 3 | LCD1W | VOE2F04C | RFG094 | 06/11/24 | 14:39 |
| 4 | MBLK1W | VOE2F04B | RFG096 | 06/11/24 | 15:26 |
| 5 | T1AMF-MW058_MAY24 | 24F019-01 | RFG107 | 06/11/24 | 19:47 |
| 6 | T1AMF-MW035_MAY24 | 24F019-04 | RFG109 | 06/11/24 | 20:34 |
| 7 | T1AMF-MW035_MAY24_FD | 24F019-05 | RFG110 | 06/11/24 | 20:58 |
| 8 | T1AMF-MW064_JUN24 | 24F019-06 | RFG111 | 06/11/24 | 21:21 |
| 9 | T1AMF-MW063_JUN24 | 24F019-07 | RFG112 | 06/11/24 | 21:45 |
| 10 | T1AMF-MW062_JUN24 | 24F019-08 | RFG113 | 06/11/24 | 22:09 |
| 11 | T1AMF-MW061_JUN24 | 24F019-09 | RFG114 | 06/11/24 | 22:32 |
| 12 | T1AMF-MW066_JUN24 | 24F019-10 | RFG115 | 06/11/24 | 22:56 |
| 13 | EB-1_JUN24 | 24F019-11 | RFG116 | 06/11/24 | 23:19 |
| 14 | VSTD10 | EVOE2E1707 | RFG119 | 06/12/24 | 00:30 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F019
Date Analyzed: 05/17/24
Time Analyzed: 14:09

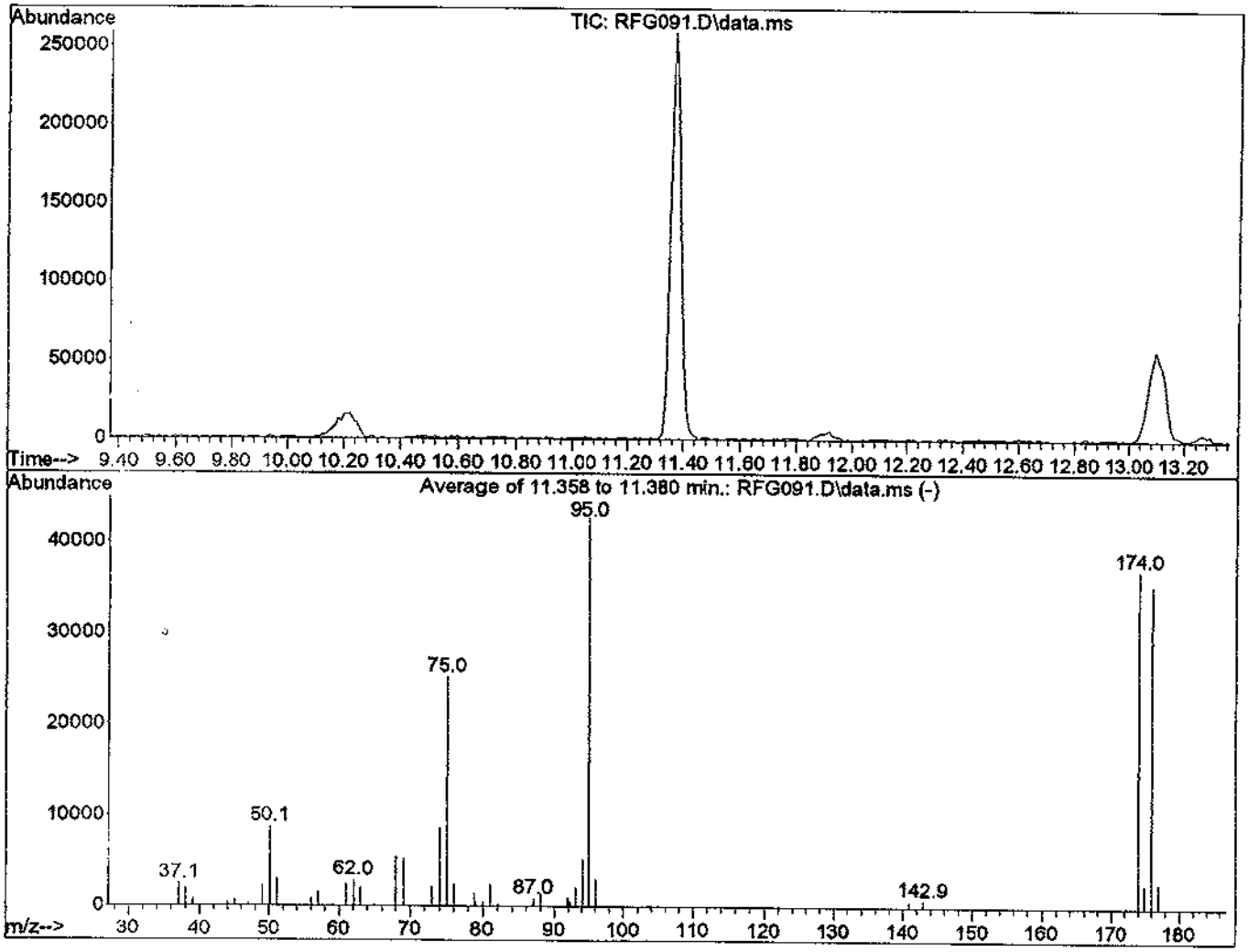
| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| | UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| | LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 670311 | 5.99 | 536256 | 9.56 | 276585 | 13.89 |
| 2 | LCS1W | 700127 | 5.99 | 552821 | 9.56 | 279028 | 13.89 |
| 3 | LCD1W | 703905 | 5.99 | 550837 | 9.56 | 285241 | 13.89 |
| 4 | MBLK1W | 600187 | 5.99 | 469288 | 9.56 | 222326 | 13.89 |
| 5 | T1AMF-MW058_MAY24 | 515153 | 5.99 | 402873 | 9.56 | 193530 | 13.89 |
| 6 | T1AMF-MW035_MAY24 | 470734 | 5.99 | 382077 | 9.56 | 183510 | 13.89 |
| 7 | T1AMF-MW035_MAY24_FD | 472590 | 5.99 | 364049 | 9.56 | 176717 | 13.89 |
| 8 | T1AMF-MW064_JUN24 | 465858 | 5.99 | 365830 | 9.56 | 173257 | 13.89 |
| 9 | T1AMF-MW063_JUN24 | 464133 | 5.99 | 353762 | 9.56 | 176858 | 13.89 |
| 10 | T1AMF-MW062_JUN24 | 449983 | 5.99 | 361999 | 9.56 | 174348 | 13.89 |
| 11 | T1AMF-MW061_JUN24 | 439672 | 5.99 | 353690 | 9.56 | 168920 | 13.89 |
| 12 | T1AMF-MW066_JUN24 | 448212 | 5.99 | 357736 | 9.56 | 173522 | 13.89 |
| 13 | EB-1_JUN24 | 455629 | 5.99 | 345067 | 9.56 | 168897 | 13.88 |
| 14 | VSTD10 | 558649 | 5.99 | 454298 | 9.56 | 253559 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Data Path : D:\Data\24F11\
Data File : RFG091.D
Acq On : 11 Jun 2024 12:47
Operator : DNguye
Sample : BFBF04
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




AutoFind: Scans 797, 798, 799; Background Corrected with Scan 791

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 20.4 | 8738 | PASS |
| 75 | 95 | 30 | 60 | 58.9 | 25173 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 42771 | PASS |
| 96 | 95 | 5 | 9 | 7.0 | 3012 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 100 | 86.6 | 37035 | PASS |
| 175 | 174 | 5 | 9 | 7.1 | 2615 | PASS |
| 176 | 174 | 95 | 101 | 95.6 | 35416 | PASS |
| 177 | 176 | 5 | 9 | 7.8 | 2772 | PASS |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 139 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.649 | -6.5 | 166 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 8.586 | 14.1 | 131 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 10.811 | -8.1 | 157 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 9.771 | 2.3 | 163 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 9.548 | 4.5 | 133 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.924 | 10.8 | 129 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.783 | 12.2 | 132 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 34.629 | 30.7# | 98 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.679 | 13.2 | 125 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 43.317 | 13.4 | 114 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 188.868 | 24.5# | 105 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 8.941 | 10.6 | 125 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 81.614 | 18.4 | 112 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 9.379 | 6.2 | 128 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 11.646 | -16.5 | 178 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 10.524 | -5.2 | 127 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 36.443 | 27.1# | 96 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 9.529 | 4.7 | 131 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 8.924 | 10.8 | 123 | 0.01 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 8.687 | 13.1 | 123 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 8.519 | 14.8 | 119 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 6.518 | 34.8# | 84 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.014 | 9.9 | 129 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 8.169 | 18.3 | 113 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 37.923 | 24.2# | 100 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 81.332 | 18.7 | 117 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 151.186 | 24.4# | 104 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.189 | -1.9 | 137 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 87.958 | 12.0 | 124 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.028 | 9.7 | 131 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.138 | 8.6 | 136 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 8.446 | 15.5 | 114 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 7.721 | 22.8# | 109 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.705 | 2.9 | 132 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 9.866 | 1.3 | 137 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 9.277 | 7.2 | 123 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 8.871 | 11.3 | 120 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.597 | -6.0 | 152 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 9.739 | 2.6 | 132 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 10.080 | -0.8 | 137 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 9.061 | 9.4 | 126 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 8.246 | 17.5 | 117 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 5.935 | 40.7# | 86 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 8.839 | 11.6 | 123 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.01 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.636 | 3.6 | 133 | 0.01 |
| 51 | T,M | Dibromomethane | 10.000 | 8.470 | 15.3 | 120 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D Vial: 2
Acq On : 11 Jun 2024 13:35 Operator: DNguye
Sample : CVOE2E1707 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 5.920 | 40.8# | 80 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 37.966 | 24.1# | 101 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 8.995 | 10.1 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 131 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.547 | -5.5 | 137 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.244 | 7.6 | 117 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 9.752 | 2.5 | 129 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.861 | 1.4 | 127 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 40.672 | 18.7 | 101 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.121 | 8.8 | 120 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 9.625 | 3.8 | 128 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.050 | 9.5 | 123 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 8.470 | 15.3 | 114 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 8.250 | 17.5 | 106 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.359 | 6.4 | 123 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.312 | 6.9 | 125 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.481 | 5.2 | 122 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.633 | 3.7 | 130 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 18.700 | 6.5 | 132 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 9.826 | 1.7 | 129 | 0.01 |
| 72 | T,M | Styrene | 10.000 | 9.591 | 4.1 | 125 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 9.667 | 3.3 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 140 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.979 | 20.2# | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.290 | 17.1 | 120 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.427 | -4.3 | 148 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 8.633 | 13.7 | 124 | 0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 8.773 | 12.3 | 121 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.032 | 9.7 | 133 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.711 | 12.9 | 122 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 8.948 | 10.5 | 130 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.622 | 3.8 | 143 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 10.110 | -1.1 | 121 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.022 | 9.8 | 131 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 8.989 | 10.1 | 128 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.033 | 9.7 | 129 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 8.762 | 12.4 | 128 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 9.940 | 0.6 | 127 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 8.965 | 10.4 | 127 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 9.670 | 3.3 | 126 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 8.962 | 10.4 | 130 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 8.707 | 12.9 | 132 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.548 | 24.5# | 113 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.068 | 9.3 | 131 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.359 | 6.4 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 8.020 | 19.8 | 114 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.765 | 12.3 | 126 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 139 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.611 | -6.4 | 166 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.354 | 14.1 | 131 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.470 | -8.0 | 157 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.287 | 2.4 | 163 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 0.949 | 4.5 | 133 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.190 | 10.8 | 129 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.858 | 12.2 | 132 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.045 | 30.8# | 98 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.370 | 13.1 | 125 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.113 | 37.6# | 114 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.046 | 24.6# | 105 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.799 | 10.6 | 125 | 0.00 |
| 14 | T,M Acetonitrile | 0.030 | 0.025 | 16.7 | 112 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.221 | 6.4 | 128 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.555 | -29.4# | 178 | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.671 | 16.2 | 127 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.110 | 26.7# | 96 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.424 | 4.7 | 131 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.222 | 10.8 | 123 | 0.01 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.414 | 13.2 | 123 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.295 | 14.8 | 119 | 0.01 |
| 24 | T,M Vinyl acetate | 0.866 | 0.564 | 34.9# | 84 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 0.870 | 9.8 | 129 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.508 | 18.3 | 113 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.036 | 23.4# | 100 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.045 | 18.2 | 117 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.015 | 25.0# | 104 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 0.984 | -1.9 | 137 | 0.00 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.080 | 12.1 | 124 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.490 | 9.8 | 131 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.093 | 8.6 | 136 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.269 | 15.7 | 114 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.097 | 23.0# | 109 | -0.01 |
| 36 | S Dibromofluoromethane | 0.612 | 0.594 | 2.9 | 132 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.064 | 1.4 | 137 | 0.00 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.306 | 7.0 | 123 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.209 | 11.4 | 120 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.858 | -6.1 | 152 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 0.889 | 2.6 | 132 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 0.927 | -0.9 | 137 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.658 | 9.4 | 126 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.416 | 17.6 | 117 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.266 | 40.6# | 86 | 0.00 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.413 | 11.6 | 123 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.01 |
| 50 | T,M Bromodichloromethane | 0.884 | 0.852 | 3.6 | 133 | 0.01 |
| 51 | T,M Dibromomethane | 0.380 | 0.322 | 15.3 | 120 | 0.01 |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.137 | 40.7# | 80 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.388 | 24.2# | 101 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.735 | 10.0 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 131 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.096 | -5.5 | 137 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.631 | 7.5 | 117 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.212 | 2.5 | 129 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.957 | 1.3 | 127 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.334 | 18.5 | 101 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.491 | 8.7 | 120 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.769 | 3.8 | 128 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.449 | 9.5 | 123 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.684 | 15.2 | 114 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.479 | 17.4 | 106 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.702 | 6.5 | 123 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.395 | 6.9 | 125 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.604 | 5.2 | 122 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.641 | 3.7 | 130 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.090 | 6.5 | 132 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.080 | 1.7 | 129 | 0.01 |
| 72 | T,M | Styrene | 1.480 | 1.420 | 4.1 | 125 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.331 | 3.4 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 140 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.871 | 20.2# | 114 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.155 | 17.1 | 120 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.655 | -4.3 | 148 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.332 | 13.8 | 124 | 0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.342 | 12.1 | 121 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.727 | 9.7 | 133 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.212 | 12.9 | 122 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.901 | 10.5 | 130 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.765 | 3.8 | 143 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.357 | 11.6 | 121 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.609 | 9.8 | 131 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.832 | 10.1 | 128 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.462 | 9.7 | 129 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.632 | 12.4 | 128 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 1.988 | 13.7 | 127 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 3.787 | 10.3 | 127 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.009 | 14.5 | 126 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.533 | 10.4 | 130 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.902 | 12.9 | 132 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.214 | 24.4# | 113 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.210 | 19.0 | 131 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.707 | 6.4 | 132 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 2.709 | 19.8 | 114 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.113 | 21.6# | 126 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG092.D Vial: 2
Acq On : 11 Jun 2024 13:35 Operator: DNguye
Sample : CVOE2E1707 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 670311 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 536256 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 276585 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 398438 | 9.71 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 97.10% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 574875 | 10.60 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.00% | | |
| 56) Toluene-d8 | 7.594 | 98 | 1123862 | 10.55 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.50% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 457799 | 10.43 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.30% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 409663 | 10.65 | ug/l | 100 |
| 3) Chloromethane | 2.906 | 50 | 237016 | 8.59 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 315166 | 10.81 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 192654 | 9.77 | ug/l | 94 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 636053 | 9.55 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 127455 | 8.92 | ug/l | 99 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 575223 | 8.78 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 150956 | 34.63 | ug/l | 97 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 247835 | 8.68 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 379001 | 43.32 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 769858 | 188.87 | ug/L | 98 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 535676 | 8.94 | ug/l | 97 |
| 14) Acetonitrile | 3.874 | 41 | 165094 | 81.61 | ug/L | 99 |
| 15) Allyl chloride | 4.105 | 76 | 148396 | 9.38 | ug/L | 97 |
| 16) Iodomethane | 4.149 | 142 | 372132 | 11.65 | ug/l | 91 |
| 18) Methylene chloride | 4.182 | 49 | 450035 | 10.52 | ug/l | 98 |
| 19) Acrylonitrile | 4.215 | 53 | 367270 | 36.44 | ug/l | 99 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 954476 | 9.53 | ug/L | 96 |
| 21) Carbon disulfide | 4.315 | 76 | 819282 | 8.92 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 277671 | 8.69 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 868254 | 8.52 | ug/l | 96 |
| 24) Vinyl acetate | 4.546 | 43 | 378357 | 6.52 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 582840 | 9.01 | ug/l | 98 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1011074 | 8.17 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 119284 | 37.92 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 301411 | 81.33 | ug/L | 97 |
| 29) Isobutyl alcohol | 5.030 | 43 | 197961 | 151.19 | ug/L | 93 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 659505 | 10.19 | ug/l | 97 |
| 31) Methacrylonitrile | 5.052 | 52 | 535175 | 87.96 | ug/L | 98 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 328565 | 9.03 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 732545 | 9.14 | ug/l | 96 |
| 34) Bromochloromethane | 5.327 | 130 | 180551 | 8.45 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.316 | 42 | 65214 | 7.72 | ug/L | 96 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 713285 | 9.87 | ug/l | 98 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 204906 | 9.28 | ug/l | 98 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 140416 | 8.87 | ug/L | 99 |
| 42) Carbon tetrachloride | 5.734 | 119 | 595828 | 9.74 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 621168 | 10.08 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 1111269 | 9.06 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG092.D
Acq On : 11 Jun 2024 13:35
Sample : CVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

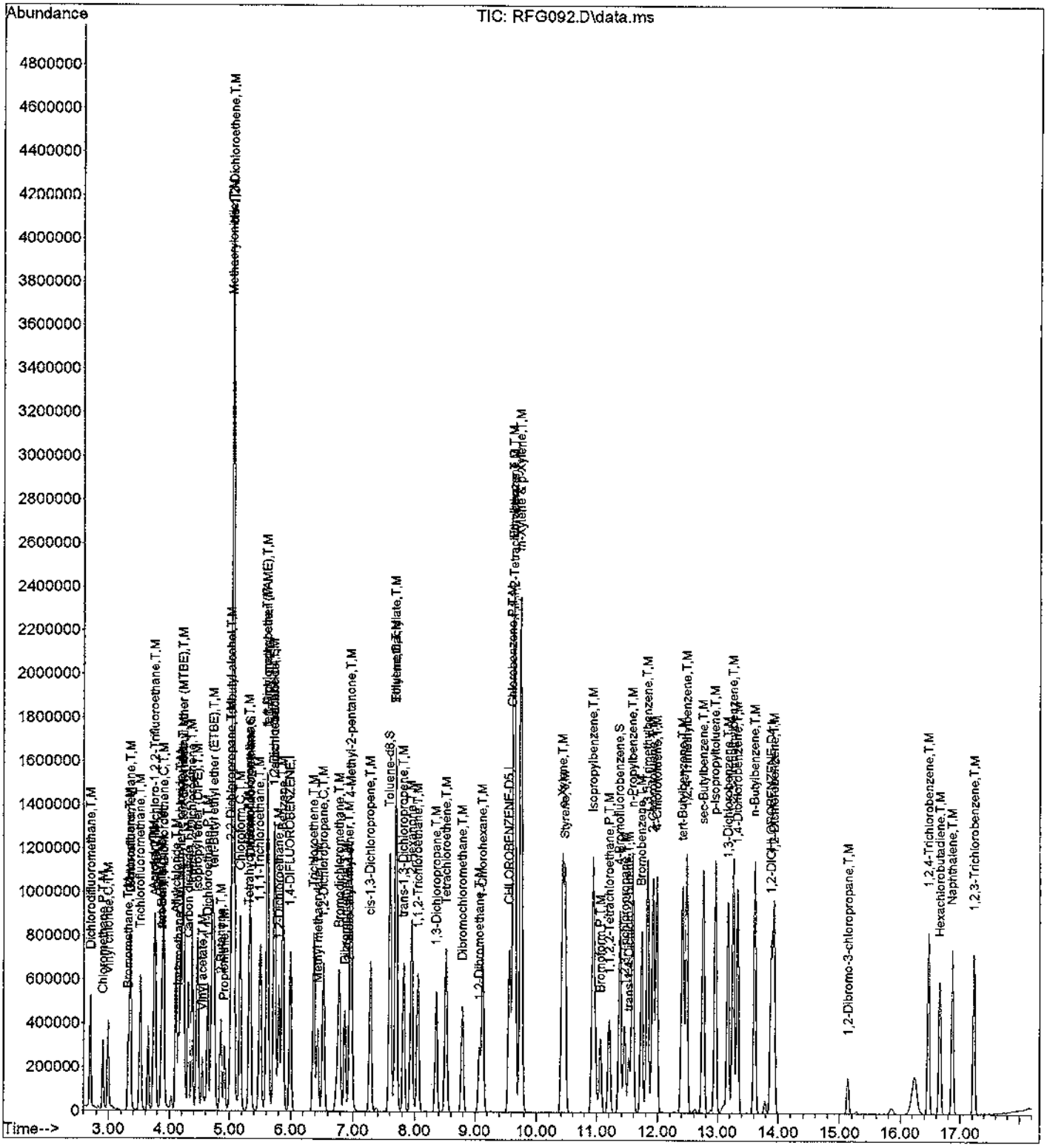
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.372 | 130 | 279167 | 8.25 | ug/L | 97 |
| 46) Methyl methacrylate | 6.439 | 69 | 178027 | 5.93 | ug/L # | 76 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 276700 | 8.84 | ug/L | 87 |
| 50) Bromodichloromethane | 6.780 | 83 | 570890 | 9.64 | ug/L | 97 |
| 51) Dibromomethane | 6.868 | 93 | 215734 | 8.47 | ug/L | 97 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 91785 | 5.92 | ug/L | 97 |
| 53) 4-Methyl-2-pentanone | 6.967 | 43 | 1301951 | 37.97 | ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 492380 | 8.99 | ug/L | 96 |
| 57) Ethyl methacrylate | 7.693 | 69 | 338297 | 9.24 | ug/L | 97 |
| 58) Toluene | 7.693 | 91 | 1185996 | 9.75 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 513164 | 9.86 | ug/l | 99 |
| 60) 2-Hexanone | 7.946 | 43 | 894344 | 40.67 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 263259 | 9.12 | ug/l | 97 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 412550 | 9.62 | ug/l | 99 |
| 63) Tetrachloroethene | 8.518 | 164 | 240605 | 9.05 | ug/l | 96 |
| 64) Dibromochloromethane | 8.783 | 129 | 366701 | 8.47 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 256623 | 8.25 | ug/l | 95 |
| 66) 1-Chlorohexane | 9.124 | 91 | 376692 | 9.36 | ug/l | 100 |
| 67) Chlorobenzene | 9.619 | 112 | 748031 | 9.31 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 324067 | 9.48 | ug/l | 100 |
| 69) Ethylbenzene | 9.641 | 91 | 1416491 | 9.63 | ug/l | 99 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 2242038 | 18.70 | ug/l | 99 |
| 71) o-Xylene | 10.422 | 91 | 1115243 | 9.83 | ug/l | 98 |
| 72) Styrene | 10.466 | 104 | 761260 | 9.59 | ug/l | 95 |
| 73) Isopropylbenzene | 10.940 | 105 | 1250251 | 9.67 | ug/L | 98 |
| 75) Bromoform | 11.061 | 173 | 240858 | 7.98 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 319581 | 8.29 | ug/l | 97 |
| 78) 1,2,3-Trichloropropane | 11.457 | 110 | 91884 | 8.63 | ug/l | 98 |
| 79) trans-1,4-Dichloro-2-b... | 11.523 | 53 | 94487 | 8.77 | ug/l | 97 |
| 80) n-Propylbenzene | 11.578 | 91 | 1583919 | 9.03 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 335303 | 8.71 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 1078870 | 8.95 | ug/l | 98 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 1041463 | 9.62 | ug/l | 90 |
| 84) 4-Chlorotoluene | 11.985 | 91 | 928419 | 10.11 | ug/l | 99 |
| 85) tert-Butylbenzene | 12.414 | 134 | 168345 | 9.02 | ug/l | 96 |
| 86) 1,2,4-Trimethylbenzene | 12.480 | 105 | 1059907 | 8.99 | ug/l | 98 |
| 87) sec-Butylbenzene | 12.756 | 105 | 1234139 | 9.03 | ug/l | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 1004481 | 8.76 | ug/l | 97 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 549879 | 9.94 | ug/l | 99 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 1047396 | 8.96 | ug/L | 99 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 555648 | 9.67 | ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 977189 | 8.96 | ug/l | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 526048 | 8.71 | ug/l | 97 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 59164 | 7.55 | ug/l | 93 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 334686 | 9.07 | ug/l | 98 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 195472 | 9.36 | ug/l | 98 |
| 97) Naphthalene | 16.871 | 128 | 749136 | 8.02 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 307886 | 8.77 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG092.D Vial: 2
Acq On : 11 Jun 2024 13:35 Operator: DNguye
Sample : CVOE2E1707 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:48:39 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



# Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D  Vial: 29
Acq On : 12 Jun 2024 00:30  Operator: DNguye
Sample : EVOE2E1707  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 10.899 | -9.0 | 142 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 10.507 | -5.1 | 134 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 14.645 | -46.4# | 177 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 5.366 | 46.3# | 75 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.635 | -6.3 | 123 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 8.983 | 10.2 | 108 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.845 | 11.5 | 111 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 27.725 | 44.5# | 65 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 9.660 | 3.4 | 116 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 43.732 | 12.5 | 96 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 220.530 | 11.8 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.041 | -0.4 | 117 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 96.026 | 4.0 | 109 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.309 | -3.1 | 117 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 6.669 | 33.3# | 83 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 11.646 | -16.5 | 117 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 37.860 | 24.3# | 83 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.448 | -4.5 | 120 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.631 | 3.7 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.302 | 7.0 | 110 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.475 | 5.3 | 110 | 0.00 |
| 24 | T,M | Vinyl acetate | 10.000 | 4.668 | 53.3# | 50 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.917 | 0.8 | 118 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.146 | 8.5 | 105 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 38.964 | 22.1# | 86 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 87.169 | 12.8 | 104 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 162.595 | 18.7 | 93 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 9.936 | 0.6 | 112 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 98.112 | 1.9 | 115 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.823 | 1.8 | 119 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.263 | -2.6 | 127 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.343 | 6.6 | 105 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 8.042 | 19.6 | 94 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.797 | 2.0 | 111 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 11.196 | -12.0 | 130 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.723 | -7.2 | 118 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 9.737 | 2.6 | 110 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.807 | -8.1 | 129 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.964 | -9.6 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.513 | -15.1 | 130 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.133 | -1.3 | 118 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.332 | 6.7 | 110 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 7.356 | 26.4# | 89 | -0.01 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.808 | -8.1 | 126 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 11.853 | -18.5 | 137 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 10.325 | -3.2 | 122 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 6.922 | 30.8# | 78 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 50.000 | 0.0 | 111 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.839 | -8.4 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 111 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 10.731 | -7.3 | 118 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 11.287 | -12.9 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 11.162 | -11.6 | 125 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 11.206 | -12.1 | 122 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 46.086 | 7.8 | 97 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.767 | 2.3 | 109 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.557 | -5.6 | 119 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.984 | 0.2 | 115 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.345 | 6.5 | 106 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.352 | 6.5 | 102 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.235 | -2.3 | 114 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 10.045 | -0.4 | 114 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.661 | -6.6 | 117 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 10.555 | -5.5 | 121 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 20.592 | -3.0 | 123 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 10.863 | -8.6 | 121 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.638 | -6.4 | 117 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 10.626 | -6.3 | 117 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 128 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.882 | 21.2# | 103 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.414 | 15.9 | 111 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 9.596 | 4.0 | 125 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.239 | 7.6 | 122 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 7.310 | 26.9# | 92 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.067 | 9.3 | 123 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.800 | 12.0 | 113 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.018 | 9.8 | 120 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.124 | 8.8 | 125 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.052 | -10.5 | 121 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.334 | 6.7 | 125 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 9.256 | 7.4 | 121 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 8.968 | 10.3 | 117 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.112 | 8.9 | 122 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 10.374 | -3.7 | 122 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 9.762 | 2.4 | 127 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.438 | -4.4 | 125 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.705 | 2.9 | 129 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.067 | 9.3 | 126 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.358 | 26.4# | 101 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 8.528 | 14.7 | 113 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 8.779 | 12.2 | 113 | -0.01 |
| 97 | T,M | Naphthalene | 10.000 | 8.048 | 19.5 | 105 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.570 | 14.3 | 113 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = ~~1~~ 0

MW 6/28/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.625 | -8.9 | 142 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.433 | -5.1 | 134 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.637 | -46.4# | 177 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.158 | 46.3# | 75 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.057 | -6.3 | 123 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.191 | 10.3 | 108 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.864 | 11.6 | 111 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.036 | 44.6# | 65 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.411 | 3.5 | 116 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.114 | 37.0# | 96 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.054 | 11.5 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.897 | -0.3 | 117 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.029 | 3.3 | 109 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.243 | -3.0 | 117 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.312 | 27.3# | 83 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.738 | 7.9 | 117 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.114 | 24.0# | 83 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.561 | -4.5 | 120 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.319 | 3.7 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.444 | 6.9 | 110 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.441 | 5.2 | 110 | 0.00 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.404 | 53.3# | 50 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 0.957 | 0.8 | 118 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.689 | 8.5 | 105 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.037 | 21.3# | 86 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.048 | 12.7 | 104 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.016 | 20.0 | 93 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.959 | 0.7 | 112 | 0.00 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.089 | 2.2 | 115 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.533 | 1.8 | 119 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.227 | -2.6 | 127 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.298 | 6.6 | 105 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.101 | 19.8 | 94 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.600 | 2.0 | 111 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.208 | -12.0 | 130 | 0.00 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.353 | -7.3 | 118 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.230 | 2.5 | 110 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.875 | -8.2 | 129 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 1.001 | -9.6 | 124 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.058 | -15.1 | 130 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.854 | -1.3 | 118 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.471 | 6.7 | 110 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.329 | 26.6# | 89 | -0.01 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.505 | -8.1 | 126 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.003 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 1.048 | -18.6 | 137 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.392 | -3.2 | 122 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.160 | 30.7# | 78 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.512 | 0.0 | 111 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.885 | -8.3 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 111 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 2.132 | -7.3 | 118 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.770 | -12.9 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.531 | -11.6 | 125 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.087 | -12.1 | 122 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.378 | 7.8 | 97 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.526 | 2.2 | 109 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.844 | -5.6 | 119 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.495 | 0.2 | 115 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.754 | 6.6 | 106 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.542 | 6.6 | 102 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.768 | -2.3 | 114 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.505 | -0.5 | 114 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.680 | -6.8 | 117 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.894 | -5.5 | 121 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.302 | -3.0 | 123 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.299 | -8.6 | 121 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.575 | -6.4 | 117 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.563 | -6.3 | 117 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 128 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.860 | 21.2# | 103 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.173 | 15.9 | 111 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.523 | 4.0 | 125 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.356 | 7.5 | 122 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.285 | 26.7# | 92 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.749 | 9.3 | 123 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.225 | 12.0 | 113 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 3.931 | 9.8 | 120 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.571 | 8.8 | 125 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.656 | 3.7 | 121 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.630 | 6.7 | 125 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 3.946 | 7.4 | 121 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.430 | 10.3 | 117 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.777 | 8.9 | 122 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.071 | 10.1 | 122 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.124 | 2.4 | 127 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.162 | 8.0 | 125 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.826 | 2.9 | 129 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.981 | 9.3 | 126 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.209 | 26.1# | 101 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.141 | 23.6# | 113 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.663 | 12.2 | 113 | -0.01 |
| 97 | T,M | Naphthalene | 3.377 | 2.718 | 19.5 | 105 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.089 | 23.3# | 113 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = ~~1~~ 0

KV 6/28/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 558649 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 454298 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 253559 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 335211 | 9.80 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 98.00% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 488608 | 10.81 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 108.10% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 968731 | 10.73 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 107.30% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 386253 | 9.60 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 96.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 349427 | 10.90 | ug/l | 97 |
| 3) Chloromethane | 2.906 | 50 | 241726 | 10.51 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 355831 | 14.65 | ug/l | 99 |
| 5) Bromomethane | 3.313 | 94 | 88173 | 5.37 | ug/l | 95 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 590451 | 10.63 | ug/L | 99 |
| 7) Chloroethane | 3.346 | 64 | 106926 | 8.98 | ug/l | 100 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 482838 | 8.85 | ug/l | 100 |
| 9) Acrolein | 3.742 | 56 | 100727 | 27.72 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 229878 | 9.66 | ug/l | 99 |
| 11) Acetone | 3.764 | 43 | 318575 | 43.73 | ug/l | 97 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 749171 | 220.53 | ug/L | 99 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 501386 | 10.04 | ug/l | 97 |
| 14) Acetonitrile | 3.874 | 41 | 161890 | 96.03 | ug/L | 92 |
| 15) Allyl chloride | 4.105 | 76 | 135942 | 10.31 | ug/L | 97 |
| 16) Iodomethane | 4.149 | 142 | 174271 | 6.67 | ug/l | 89 |
| 18) Methylene chloride | 4.182 | 49 | 412143 | 11.65 | ug/l | 97 |
| 19) Acrylonitrile | 4.215 | 53 | 317994 | 37.86 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 872149 | 10.45 | ug/L | 96 |
| 21) Carbon disulfide | 4.304 | 76 | 736880 | 9.63 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 247820 | 9.30 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 804763 | 9.47 | ug/l | 97 |
| 24) Vinyl acetate | 4.546 | 43 | 225842 | 4.67 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 534398 | 9.92 | ug/l | 99 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 943389 | 9.15 | ug/l | 89 |
| 27) 2-Butanone | 4.854 | 72 | 102142 | 38.96 | ug/l | 100 |
| 28) Propionitrile | 4.909 | 54 | 269229 | 87.17 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 177435 | 162.60 | ug/L | 90 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 535968 | 9.94 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 497516 | 98.11 | ug/L | 100 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 297945 | 9.82 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 685656 | 10.26 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 166465 | 9.34 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.316 | 42 | 56611 | 8.04 | ug/L | 96 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 674612 | 11.20 | ug/l | 100 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 197374 | 10.72 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 128447 | 9.74 | ug/L | 96 |
| 42) Carbon tetrachloride | 5.734 | 119 | 559012 | 10.96 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 591281 | 11.51 | ug/L | 97 |
| 44) Benzene | 5.866 | 78 | 1035783 | 10.13 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.372 | 130 | 263323 | 9.33 | ug/L | 94 |
| 46) Methyl methacrylate | 6.428 | 69 | 183918 | 7.36 | ug/L | 87 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 281960 | 10.81 | ug/L | 87 |
| 50) Bromodichloromethane | 6.769 | 83 | 585219 | 11.85 | ug/L | 95 |
| 51) Dibromomethane | 6.857 | 93 | 219174 | 10.32 | ug/L | 93 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 89448 | 6.92 | ug/L | 99 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1429003 | 50.00 | ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 494478 | 10.84 | ug/L | 94 |
| 57) Ethyl methacrylate | 7.693 | 69 | 349925 | 11.29 | ug/L | 97 |
| 58) Toluene | 7.693 | 91 | 1150015 | 11.16 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 494019 | 11.21 | ug/l | 94 |
| 60) 2-Hexanone | 7.935 | 43 | 858508 | 46.09 | ug/l | 99 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 238823 | 9.77 | ug/l | 97 |
| 62) 1,3-Dichloropropane | 8.353 | 76 | 383359 | 10.56 | ug/l | 100 |
| 63) Tetrachloroethene | 8.508 | 164 | 224880 | 9.98 | ug/l | 96 |
| 64) Dibromochloromethane | 8.783 | 129 | 342734 | 9.34 | ug/l | 99 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 246445 | 9.35 | ug/l | 100 |
| 66) 1-Chlorohexane | 9.124 | 91 | 348988 | 10.23 | ug/l | 99 |
| 67) Chlorobenzene | 9.619 | 112 | 683636 | 10.05 | ug/l | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 308705 | 10.66 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 1314796 | 10.55 | ug/l | 99 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 2091623 | 20.59 | ug/l | 98 |
| 71) o-Xylene | 10.411 | 91 | 1044565 | 10.86 | ug/l | 97 |
| 72) Styrene | 10.455 | 104 | 715326 | 10.64 | ug/l | 95 |
| 73) Isopropylbenzene | 10.940 | 105 | 1164206 | 10.63 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 218105 | 7.88 | ug/l | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 297360 | 8.41 | ug/l | 96 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 90145 | 9.24 | ug/l | 94 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 72176 | 7.31 | ug/l | 92 |
| 80) n-Propylbenzene | 11.578 | 91 | 1457639 | 9.07 | ug/l | 98 |
| 81) Bromobenzene | 11.732 | 156 | 310504 | 8.80 | ug/l | 95 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 996755 | 9.02 | ug/l | 97 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 905394 | 9.12 | ug/l | 90 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 927005 | 11.05 | ug/l | 98 |
| 85) tert-Butylbenzene | 12.414 | 134 | 159661 | 9.33 | ug/l | 99 |
| 86) 1,2,4-Trimethylbenzene | 12.469 | 105 | 1000574 | 9.26 | ug/l | 97 |
| 87) sec-Butylbenzene | 12.745 | 105 | 1123312 | 8.97 | ug/l | 100 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 957681 | 9.11 | ug/l | 95 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 525095 | 10.37 | ug/l | 98 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 1045617 | 9.76 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 548137 | 10.44 | ug/l | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 970067 | 9.70 | ug/l | 99 |
| 93) 1,2-Dichlorobenzene | 13.922 | 146 | 502195 | 9.07 | ug/l | 99 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 52878 | 7.36 | ug/l | 98 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 289302 | 8.53 | ug/l | 98 |
| 96) Hexachlorobutadiene | 16.651 | 225 | 168078 | 8.78 | ug/l | 98 |
| 97) Naphthalene | 16.871 | 128 | 689109 | 8.05 | ug/l | 98 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 276227 | 8.57 | ug/l | 98 |

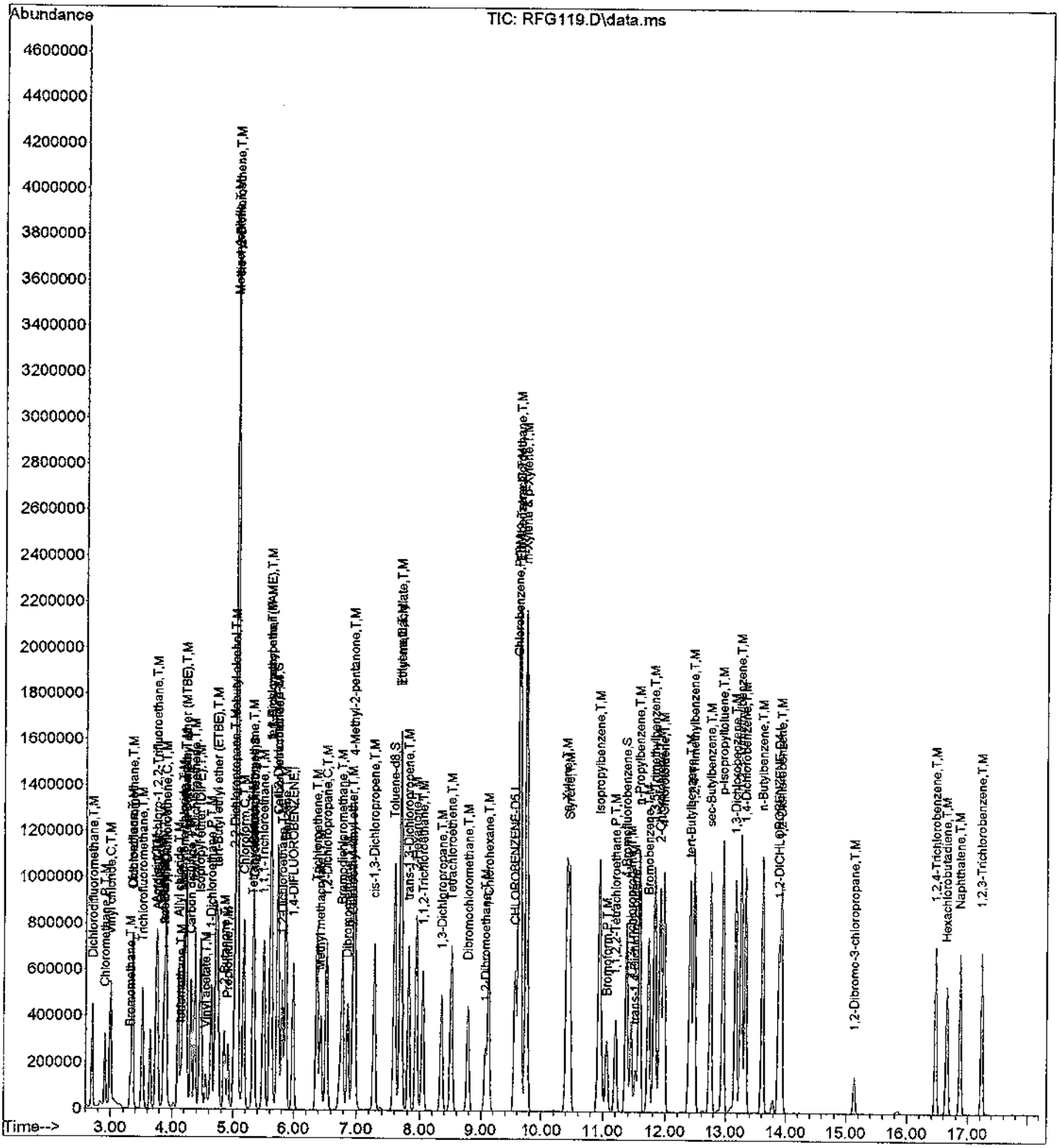
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F11\RFG119.D
Acq On : 12 Jun 2024 00:30
Sample : EVOE2E1707
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 13 16:50:31 2024
Quant Results File: VOE2E17.RES

Vial: 29
Operator: DNguye
Inst : F2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F019
Lab File ID: RFG122 BFB Injection Date: 06/13/24
Instrument ID: E2 BFB Injection Time: 08:43

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 25.266 |
| 75 | 30 - 60% of mass 95 | 55.392 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.423 |
| 173 | Less than 2% of mass 174 | 0.462(.65)1 |
| 174 | Greater than 50% of mass 95 | 71.256 |
| 175 | 5 - 9% of mass 174 | 5.840(8.2)1 |
| 176 | 95 - 101% % of mass 174 | 68.951(96.77)1 |
| 177 | 5 - 9% % of mass 176 | 5.107(7.41)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1708 | RFG123 | 06/13/24 | 09:30 |
| 2 | LCS2W | VOE2F05L | RFG124 | 06/13/24 | 10:20 |
| 3 | LCD2W | VOE2F05C | RFG125 | 06/13/24 | 10:44 |
| 4 | MBLK2W | VOE2F05B | RFG127 | 06/13/24 | 11:31 |
| 5 | TB-3_MAY24 | 24F019-13 | RFG129 | 06/13/24 | 13:06 |
| 6 | RB-1_JUN24 | 24F019-12 | RFG130 | 06/13/24 | 13:30 |
| 7 | T1AMF-MW053_MAY24 | 24F019-02N | RFG131 | 06/13/24 | 13:54 |
| 8 | T1AMF-MW051_MAY24 | 24F019-03 | RFG132 | 06/13/24 | 14:17 |
| 9 | T1AMF-MW053_MAY24_MS | 24F019-02M | RFG133 | 06/13/24 | 14:41 |
| 10 | T1AMF-MW053_MAY24_MSD | 24F019-02S | RFG134 | 06/13/24 | 15:05 |
| 11 | T1AMF-MW051_MAY24_MS | 24F019-03M | RFG135 | 06/13/24 | 15:28 |
| 12 | T1AMF-MW051_MAY24_MSD | 24F019-03S | RFG136 | 06/13/24 | 15:52 |
| 13 | VSTD10 | EVOE2E1708 | RFG149 | 06/13/24 | 21:01 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F019
Date Analyzed: 05/17/24
Time Analyzed: 14:09

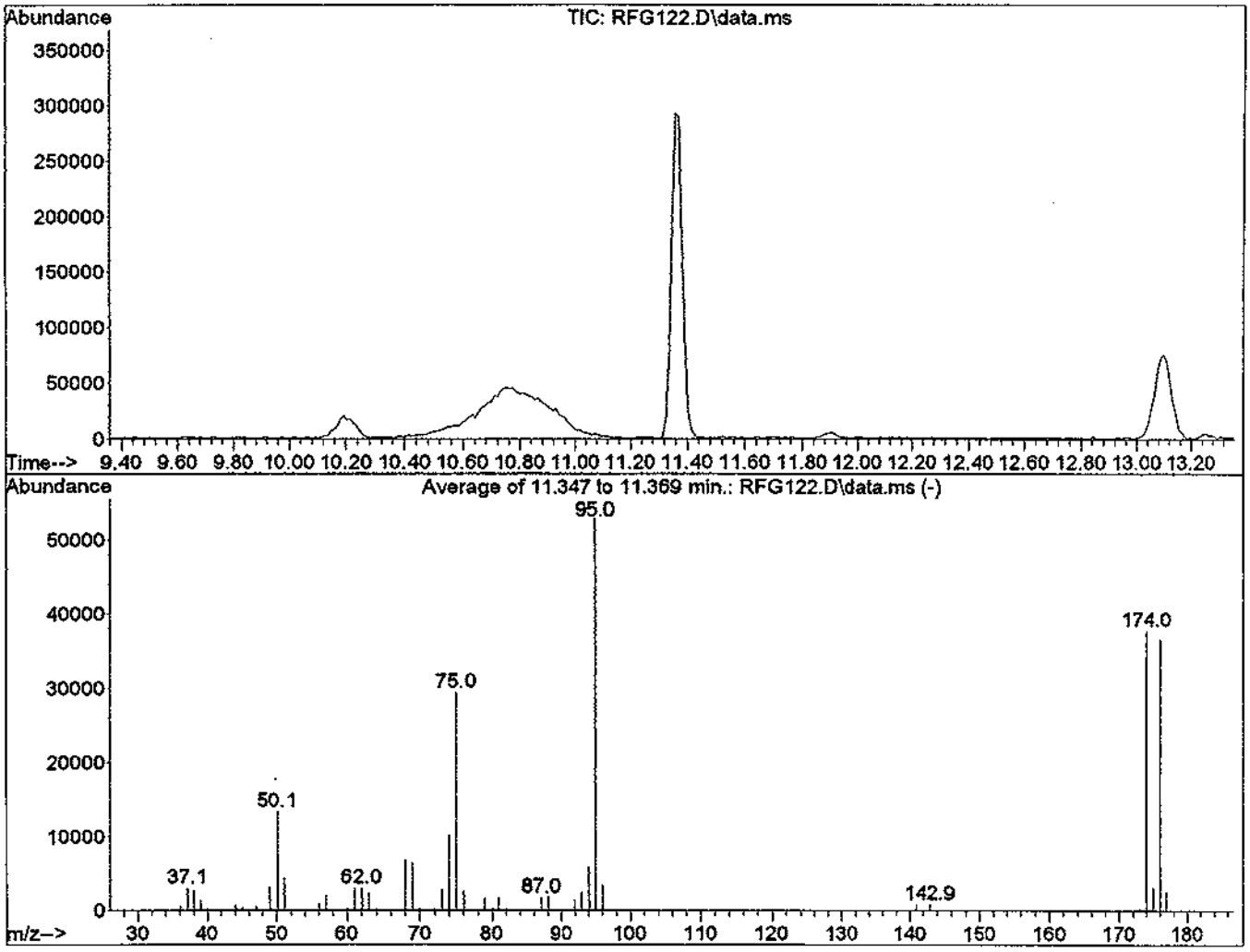
| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| | UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| | LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 557288 | 5.99 | 472243 | 9.56 | 216831 | 13.89 |
| 2 | LCS2W | 546903 | 5.99 | 471957 | 9.56 | 227711 | 13.89 |
| 3 | LCD2W | 558714 | 5.99 | 480301 | 9.56 | 220875 | 13.89 |
| 4 | MBLK2W | 516821 | 5.99 | 418923 | 9.56 | 189458 | 13.89 |
| 5 | TB-3_MAY24 | 488771 | 5.99 | 405733 | 9.56 | 180846 | 13.89 |
| 6 | RB-1_JUN24 | 471621 | 5.99 | 391806 | 9.56 | 174958 | 13.89 |
| 7 | T1AMF-MW053_MAY24 | 462358 | 5.99 | 384262 | 9.56 | 174428 | 13.89 |
| 8 | T1AMF-MW051_MAY24 | 467069 | 5.99 | 388902 | 9.56 | 169327 | 13.89 |
| 9 | T1AMF-MW053_MAY24_MS | 482397 | 5.99 | 411288 | 9.56 | 190647 | 13.89 |
| 10 | T1AMF-MW053_MAY24_MSD | 482381 | 5.99 | 410664 | 9.56 | 197209 | 13.89 |
| 11 | T1AMF-MW051_MAY24_MS | 491277 | 5.99 | 419964 | 9.56 | 199196 | 13.89 |
| 12 | T1AMF-MW051_MAY24_MSD | 499209 | 5.99 | 430525 | 9.56 | 203072 | 13.89 |
| 13 | VSTD10 | 427914 | 5.99 | 374037 | 9.56 | 186275 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Data Path : D:\Data\24F13\
Data File : RFG122.D
Acq On : 13 Jun 2024 8:43
Operator : DNguye
Sample : BFBF05
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




AutoFind: Scans 796, 797, 798; Background Corrected with Scan 790

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 25.3 | 13386 | PASS |
| 75 | 95 | 30 | 60 | 55.4 | 29347 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 52981 | PASS |
| 96 | 95 | 5 | 9 | 6.4 | 3403 | PASS |
| 173 | 174 | 0.00 | 2 | 0.6 | 245 | PASS |
| 174 | 95 | 50 | 100 | 71.3 | 37752 | PASS |
| 175 | 174 | 5 | 9 | 8.2 | 3094 | PASS |
| 176 | 174 | 95 | 101 | 96.8 | 36531 | PASS |
| 177 | 176 | 5 | 9 | 7.4 | 2706 | PASS |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG123.D
Acq On : 13 Jun 2024 9:30
Sample : CVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 115 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 11.477 | -14.8 | 149 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 10.368 | -3.7 | 132 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 11.953 | -19.5 | 144 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 9.912 | 0.9 | 138 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.946 | -9.5 | 127 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 11.200 | -12.0 | 135 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 8.865 | 11.3 | 111 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 47.829 | 4.3 | 112 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.989 | 10.1 | 108 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 62.862 | -25.7# | 133 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 246.863 | 1.3 | 114 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 11.181 | -11.8 | 130 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 110.975 | -11.0 | 126 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 11.104 | -11.0 | 126 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 7.522 | 24.8# | 94 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 14.747 | -47.5# | 145 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 60.440 | -20.9# | 132 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.984 | -9.8 | 126 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.910 | 0.9 | 114 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.802 | 2.0 | 115 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 13.125 | -31.3# | 152 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 8.844 | 11.6 | 95 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 11.491 | -14.9 | 137 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 11.146 | -11.5 | 128 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 49.616 | 0.8 | 109 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 118.944 | -18.9 | 142 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 234.405 | -17.2 | 134 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 11.132 | -11.3 | 125 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 120.851 | -20.9# | 142 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 10.267 | -2.7 | 124 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 10.033 | -0.3 | 124 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 10.100 | -1.0 | 114 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 12.099 | -21.0# | 142 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.353 | 6.5 | 106 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 10.294 | -2.9 | 119 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 12.029 | -20.3# | 132 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.739 | -7.4 | 121 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.552 | -5.5 | 126 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.224 | -2.2 | 116 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.795 | -17.9 | 133 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 10.837 | -8.4 | 126 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.918 | 0.8 | 117 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 7.219 | 27.8# | 87 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 12.036 | -20.4# | 139 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 10.302 | -3.0 | 118 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 9.244 | 7.6 | 109 | 0.00 |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG123.D
Acq On : 13 Jun 2024 9:30
Sample : CVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 11.885 | -18.8 | 133 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 60.683 | -21.4# | 134 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.807 | -8.1 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 115 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.912 | 0.9 | 113 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 10.876 | -8.8 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 10.689 | -6.9 | 124 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.587 | -5.9 | 120 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 59.103 | -18.2 | 129 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.826 | 1.7 | 114 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.699 | -7.0 | 126 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.955 | 0.4 | 119 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.230 | 7.7 | 109 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.745 | 2.6 | 110 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.447 | -4.5 | 121 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.859 | 1.4 | 116 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.031 | -0.3 | 114 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 10.513 | -5.1 | 125 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 20.590 | -2.9 | 128 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 10.729 | -7.3 | 124 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.827 | -8.3 | 124 | 0.01 |
| 73 | T,M | Isopropylbenzene | 10.000 | 11.000 | -10.0 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 110 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 8.761 | 12.4 | 98 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.121 | -1.2 | 115 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 11.107 | -11.1 | 124 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.577 | -5.8 | 119 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 11.085 | -10.9 | 120 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 10.957 | -9.6 | 127 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.957 | 0.4 | 109 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 11.347 | -13.5 | 129 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 11.768 | -17.7 | 137 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.434 | -24.3# | 116 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 10.587 | -5.9 | 121 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.577 | -15.8 | 129 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 11.099 | -11.0 | 124 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 11.095 | -11.0 | 127 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 12.097 | -21.0# | 120 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 11.667 | -16.7 | 129 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.643 | -16.4 | 118 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 10.963 | -9.6 | 125 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.273 | -2.7 | 122 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.863 | 11.4 | 104 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 10.145 | -1.4 | 115 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.351 | 6.5 | 103 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 9.990 | 0.1 | 111 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 9.786 | 2.1 | 110 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG123.D
Acq On : 13 Jun 2024 9:30
Sample : CVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = ~~1~~ 0

NV 6/28/24

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG123.D
Acq On : 13 Jun 2024 9:30
Sample : CVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 115 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.659 | -14.8 | 149 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.427 | -3.6 | 132 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.520 | -19.5 | 144 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.292 | 0.7 | 138 | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 1.088 | -9.5 | 127 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.239 | -12.2 | 135 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.866 | 11.4 | 111 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.062 | 4.6 | 112 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.383 | 10.1 | 108 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.159 | 12.2 | 133 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.060 | 1.6 | 114 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.999 | -11.7 | 130 | 0.00 |
| 14 | T,M Acetonitrile | 0.030 | 0.033 | -10.0 | 126 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.262 | -11.0 | 126 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.354 | 17.5 | 94 | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.921 | -15.0 | 145 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.182 | -21.3# | 132 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.641 | -9.8 | 126 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.357 | 0.9 | 114 | 0.00 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.467 | 2.1 | 115 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.996 | -31.3# | 152 | 0.01 |
| 24 | T,M Vinyl acetate | 0.866 | 0.766 | 11.5 | 95 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 1.108 | -14.8 | 137 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 2.058 | -11.5 | 128 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.047 | 0.0 | 109 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.066 | -20.0# | 142 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.023 | -15.0 | 134 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 1.075 | -11.3 | 125 | 0.01 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.110 | -20.9# | 142 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.557 | -2.6 | 124 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.200 | -0.3 | 124 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.322 | -0.9 | 114 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.152 | -20.6# | 142 | -0.01 |
| 36 | S Dibromofluoromethane | 0.612 | 0.573 | 6.4 | 106 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.110 | -2.9 | 119 | 0.01 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.396 | -20.4# | 132 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.254 | -7.6 | 121 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.854 | -5.6 | 126 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 0.933 | -2.2 | 116 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 1.084 | -18.0 | 133 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.983 | -8.4 | 126 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.501 | 0.8 | 117 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.323 | 27.9# | 87 | 0.00 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.562 | -20.3# | 139 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.00 |
| 50 | T,M Bromodichloromethane | 0.884 | 0.911 | -3.1 | 118 | 0.00 |
| 51 | T,M Dibromomethane | 0.380 | 0.351 | 7.6 | 109 | 0.00 |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG123.D
Acq On : 13 Jun 2024 9:30
Sample : CVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.275 | -19.0 | 133 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.621 | -21.3# | 134 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.883 | -8.1 | 124 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 115 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 1.970 | 0.9 | 113 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.742 | -8.8 | 121 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.424 | -6.9 | 124 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.027 | -5.9 | 120 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.485 | -18.3 | 129 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.529 | 1.7 | 114 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.855 | -7.0 | 126 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.494 | 0.4 | 119 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.745 | 7.7 | 109 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.565 | 2.6 | 110 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.784 | -4.4 | 121 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.477 | 1.4 | 116 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.639 | -0.3 | 114 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.883 | -5.1 | 125 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.302 | -3.0 | 128 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.271 | -7.3 | 124 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.602 | -8.2 | 124 | 0.01 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.653 | -10.0 | 126 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 110 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.956 | 12.4 | 98 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.411 | -1.2 | 115 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.763 | -11.1 | 124 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.407 | -5.7 | 119 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.432 | -11.1 | 120 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.947 | -9.6 | 127 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.386 | 0.4 | 109 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.946 | -13.5 | 129 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.606 | -17.7 | 137 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.095 | -7.9 | 116 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.714 | -5.8 | 121 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.935 | -15.8 | 129 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 5.483 | -11.0 | 124 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.599 | -11.0 | 127 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.400 | -4.2 | 120 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.928 | -16.7 | 129 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.402 | -2.3 | 118 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 4.322 | -9.6 | 125 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.244 | -2.7 | 122 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.251 | 11.3 | 104 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.348 | 9.7 | 115 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.706 | 6.5 | 103 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 3.374 | 0.1 | 111 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.237 | 12.8 | 110 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG123.D
Acq On : 13 Jun 2024 9:30
Sample : CVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = ~~1~~ 0

KV 6/28/24

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG123.D
Acq On : 13 Jun 2024 9:30
Sample : CVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 557288 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 472243 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 216831 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 319243 | 9.35 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 93.50% | | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 475932 | 10.55 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 105.50% | | | |
| 56) Toluene-d8 | 7.594 | 98 | 930129 | 9.91 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 99.10% | | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 382305 | 11.11 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 111.10% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 367084 | 11.48 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 237949 | 10.37 | ug/l | 98 |
| 4) Vinyl chloride | 2.994 | 62 | 289719 | 11.95 | ug/l | 96 |
| 5) Bromomethane | 3.313 | 94 | 162487 | 9.91 | ug/l | 96 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 606259 | 10.95 | ug/L | 97 |
| 7) Chloroethane | 3.346 | 64 | 132994 | 11.20 | ug/l | 95 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 482727 | 8.87 | ug/l | 98 |
| 9) Acrolein | 3.742 | 56 | 173345 | 47.83 | ug/l | 100 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 213407 | 8.99 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 442606 | 62.86 | ug/l | 99 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 836585 | 246.86 | ug/L | 95 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 556952 | 11.18 | ug/l | 93 |
| 14) Acetonitrile | 3.874 | 41 | 186636 | 110.97 | ug/L | 97 |
| 15) Allyl chloride | 4.106 | 76 | 146062 | 11.10 | ug/L | 99 |
| 16) Iodomethane | 4.150 | 142 | 197082 | 7.52 | ug/l | 95 |
| 18) Methylene chloride | 4.183 | 49 | 513434 | 14.75 | ug/l | 87 |
| 19) Acrylonitrile | 4.216 | 53 | 506409 | 60.44 | ug/l | 97 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 914633 | 10.98 | ug/L | 94 |
| 21) Carbon disulfide | 4.304 | 76 | 756437 | 9.91 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 260481 | 9.80 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 1112120 | 13.13 | ug/l | 95 |
| 24) Vinyl acetate | 4.546 | 43 | 426867 | 8.84 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 617714 | 11.49 | ug/l | 96 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1146982 | 11.15 | ug/l | 96 |
| 27) 2-Butanone | 4.854 | 72 | 129750 | 49.62 | ug/l | 93 |
| 28) Propionitrile | 4.909 | 54 | 366475 | 118.94 | ug/L | 96 |
| 29) Isobutyl alcohol | 5.030 | 43 | 255176 | 234.41 | ug/L | 96 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 599041 | 11.13 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 611328 | 120.85 | ug/L | 92 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 310637 | 10.27 | ug/l | 98 |
| 33) Chloroform | 5.173 | 83 | 668650 | 10.03 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 179513 | 10.10 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 84963 | 12.10 | ug/L | 84 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 618793 | 10.29 | ug/l | 96 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 220878 | 12.03 | ug/l | 99 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 141319 | 10.74 | ug/L | 94 |
| 42) Carbon tetrachloride | 5.734 | 119 | 520048 | 10.22 | ug/L | 100 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 604265 | 11.79 | ug/L | 95 |
| 44) Benzene | 5.866 | 78 | 1104975 | 10.84 | ug/L | 96 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG123.D Vial: 2
Acq On : 13 Jun 2024 9:30 Operator: DNguye
Sample : CVOE2E1708 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

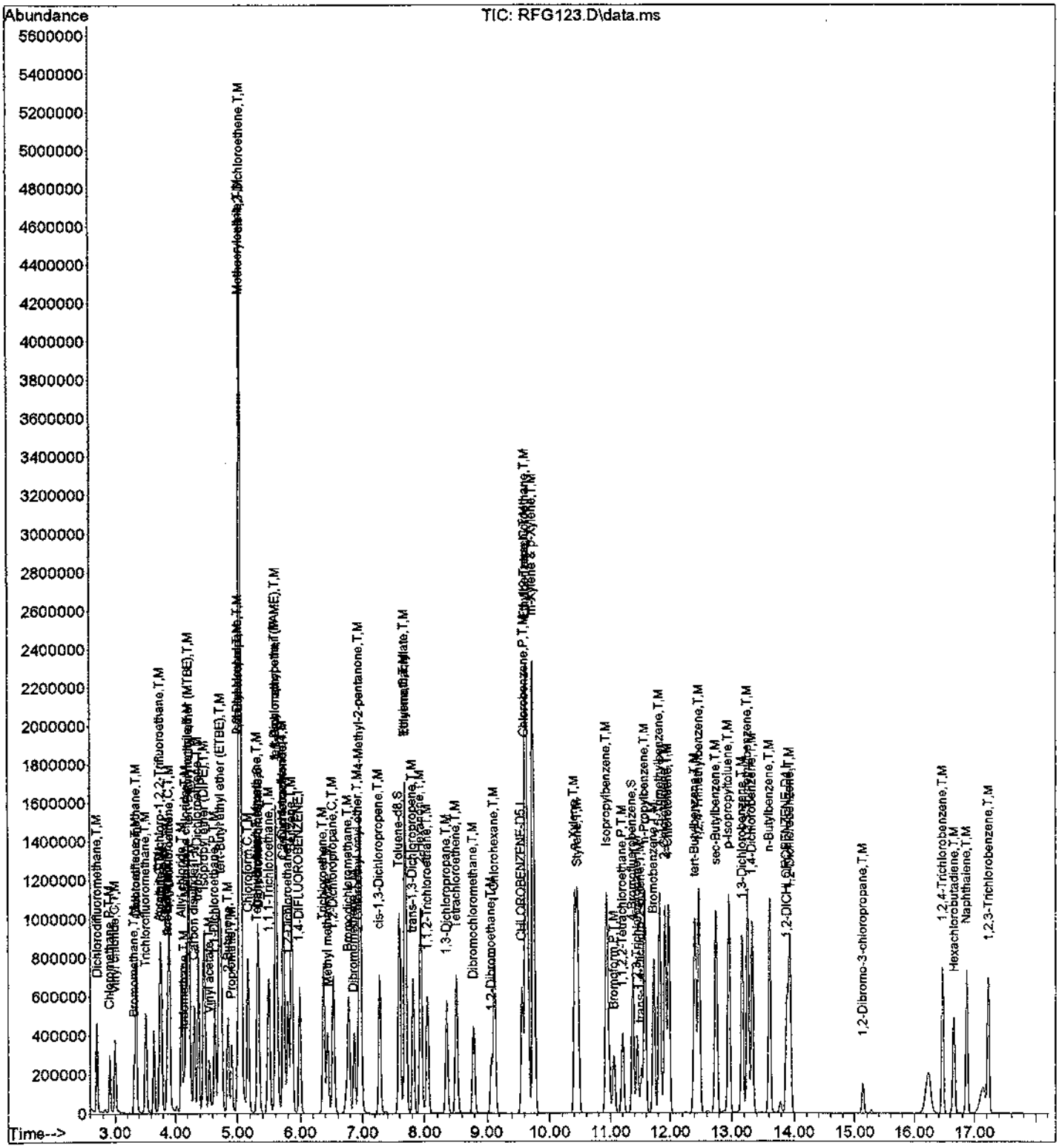
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.373 | 130 | 279158 | 9.92 | ug/L | 98 |
| 46) Methyl methacrylate | 6.439 | 69 | 180032 | 7.22 | ug/L | 96 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 313241 | 12.04 | ug/L | 94 |
| 50) Bromodichloromethane | 6.769 | 83 | 507415 | 10.30 | ug/L | 99 |
| 51) Dibromomethane | 6.857 | 93 | 195766 | 9.24 | ug/L | 97 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 153198 | 11.88 | ug/L | 98 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1730098 | 60.68 | ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 491828 | 10.81 | ug/L | 92 |
| 57) Ethyl methacrylate | 7.693 | 69 | 350519 | 10.88 | ug/L | 86 |
| 58) Toluene | 7.693 | 91 | 1144864 | 10.69 | ug/l | 100 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 485165 | 10.59 | ug/l | 89 |
| 60) 2-Hexanone | 7.935 | 43 | 1144495 | 59.10 | ug/l | 100 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 249764 | 9.83 | ug/l | 97 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 403853 | 10.70 | ug/l | 99 |
| 63) Tetrachloroethene | 8.508 | 164 | 233085 | 9.96 | ug/l | 99 |
| 64) Dibromochloromethane | 8.783 | 129 | 351912 | 9.23 | ug/l | 100 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 266948 | 9.75 | ug/l | 99 |
| 66) 1-Chlorohexane | 9.124 | 91 | 370317 | 10.45 | ug/l | 99 |
| 67) Chlorobenzene | 9.619 | 112 | 697467 | 9.86 | ug/l | 99 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 301953 | 10.03 | ug/l | 100 |
| 69) Ethylbenzene | 9.641 | 91 | 1361342 | 10.51 | ug/l | 99 |
| 70) m-Xylene & p-Xylene | 9.751 | 91 | 2173945 | 20.59 | ug/l | 99 |
| 71) o-Xylene | 10.412 | 91 | 1072356 | 10.73 | ug/l | 99 |
| 72) Styrene | 10.467 | 104 | 756728 | 10.83 | ug/l | 97 |
| 73) Isopropylbenzene | 10.940 | 105 | 1252784 | 11.00 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 207313 | 8.76 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 305851 | 10.12 | ug/l | 97 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 88248 | 10.58 | ug/l | 99 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 93592 | 11.09 | ug/l | 89 |
| 80) n-Propylbenzene | 11.578 | 91 | 1506381 | 10.96 | ug/l | 99 |
| 81) Bromobenzene | 11.732 | 156 | 300450 | 9.96 | ug/l | 100 |
| 82) 1,3,5-Trimethylbenzene | 11.831 | 105 | 1072482 | 11.35 | ug/l | 97 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 998619 | 11.77 | ug/l | 90 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 887943 | 12.43 | ug/l | 97 |
| 85) tert-Butylbenzene | 12.414 | 134 | 154878 | 10.59 | ug/l | 91 |
| 86) 1,2,4-Trimethylbenzene | 12.481 | 105 | 1070125 | 11.58 | ug/l | 96 |
| 87) sec-Butylbenzene | 12.756 | 105 | 1188789 | 11.10 | ug/l | 99 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 997203 | 11.10 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.174 | 146 | 520286 | 12.10 | ug/l | 100 |
| 90) 1,2,3-Trimethylbenzene | 13.262 | 105 | 1068638 | 11.67 | ug/L | 97 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 520773 | 11.64 | ug/l | 99 |
| 92) n-Butylbenzene | 13.614 | 91 | 937148 | 10.96 | ug/l | 100 |
| 93) 1,2-Dichlorobenzene | 13.933 | 146 | 486592 | 10.27 | ug/l | 98 |
| 94) 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 54469 | 8.86 | ug/l | 99 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 292242 | 10.14 | ug/l | 98 |
| 96) Hexachlorobutadiene | 16.662 | 225 | 153110 | 9.35 | ug/l | 99 |
| 97) Naphthalene | 16.872 | 128 | 731494 | 9.99 | ug/l | 98 |
| 98) 1,2,3-Trichlorobenzene | 17.235 | 180 | 268289 | 9.79 | ug/l | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG123.D Vial: 2
Acq On : 13 Jun 2024 9:30 Operator: DNguye
Sample : CVOE2E1708 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 16:58:14 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



# Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG149.D
Acq On : 13 Jun 2024 21:01
Sample : EVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 88 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 8.966 | 10.3 | 89 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 7.166 | 28.3# | 70 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 9.154 | 8.5 | 85 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 1.466 | 85.3# | 16 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.574 | -5.7 | 94 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 9.084 | 9.2 | 84 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 7.482 | 25.2# | 72 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 37.238 | 25.5# | 67 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.778 | 12.2 | 81 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 59.348 | -18.7 | 97 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 229.929 | 8.0 | 81 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.852 | -8.5 | 97 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 107.038 | -7.0 | 93 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 9.876 | 1.2 | 86 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 3.080 | 69.2# | 28 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 14.015 | -40.2# | 106 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 54.547 | -9.1 | 92 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.572 | -5.7 | 93 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 9.741 | 2.6 | 86 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.162 | 8.4 | 83 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 12.035 | -20.4# | 107 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 7.393 | 26.1# | 61 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 11.299 | -13.0 | 103 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 10.507 | -5.1 | 93 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 42.587 | 14.8 | 72 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 107.833 | -7.8 | 99 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 196.503 | 1.7 | 86 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.779 | -7.8 | 93 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 116.040 | -16.0 | 105 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.663 | 3.4 | 89 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.838 | 1.6 | 93 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.320 | 6.8 | 81 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 10.847 | -8.5 | 98 | 0.00 |
| 36 | S | Dibromofluoromethane | 10.000 | 9.489 | 5.1 | 82 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 10.613 | -6.1 | 94 | 0.00 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.770 | -7.7 | 91 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.022 | -0.2 | 87 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 11.122 | -11.2 | 102 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.574 | -5.7 | 92 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.820 | -18.2 | 103 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 9.914 | 0.9 | 88 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.332 | 6.7 | 84 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 6.654 | 33.5# | 62 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.735 | -7.3 | 95 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 10.332 | -3.3 | 91 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 9.289 | 7.1 | 84 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG149.D  Vial: 28
Acq On : 13 Jun 2024 21:01  Operator: DNguye
Sample : EVOE2E1708  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 10.584 | -5.8 | 91 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 56.046 | -12.1 | 95 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 9.878 | 1.2 | 87 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 91 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.610 | 3.9 | 87 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.828 | 1.7 | 87 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 9.817 | 1.8 | 90 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.518 | 4.8 | 85 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 53.663 | -7.3 | 93 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.012 | 9.9 | 83 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 9.979 | 0.2 | 93 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.055 | 9.5 | 86 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 8.642 | 13.6 | 81 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 8.861 | 11.4 | 79 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.359 | 6.4 | 86 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.128 | 8.7 | 85 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.705 | 2.9 | 87 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 9.820 | 1.8 | 92 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 19.400 | 3.0 | 95 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 9.909 | 0.9 | 91 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.059 | -0.6 | 91 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 10.275 | -2.8 | 93 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 94 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 7.265 | 27.4# | 70 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.726 | 12.7 | 85 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.362 | -3.6 | 99 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.580 | 4.2 | 93 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 5.668 | 43.3# | 53 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 9.263 | 7.4 | 92 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 8.677 | 13.2 | 82 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 9.839 | 1.6 | 96 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 9.471 | 5.3 | 95 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 11.398 | -14.0 | 92 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 9.389 | 6.1 | 92 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 9.905 | 1.0 | 95 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 9.601 | 4.0 | 92 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 9.554 | 4.5 | 94 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 10.404 | -4.0 | 90 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.014 | -0.1 | 95 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.378 | -3.8 | 91 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.144 | 8.6 | 89 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.089 | 9.1 | 93 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 7.298 | 27.0# | 73 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 8.186 | 18.1 | 80 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 7.773 | 22.3# | 74 | -0.01 |
| 97 | T,M | Naphthalene | 10.000 | 8.075 | 19.3 | 77 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 8.319 | 16.8 | 81 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG149.D  Vial: 28
Acq On : 13 Jun 2024 21:01  Operator: DNguye
Sample : EVOE2E1708  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG149.D
Acq On : 13 Jun 2024 21:01
Sample : EVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | I 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 88 | 0.00 |
| 2 | T,M Dichlorodifluoromethane | 0.574 | 0.515 | 10.3 | 89 | 0.00 |
| 3 | P,T,M Chloromethane | 0.412 | 0.295 | 28.4# | 70 | 0.00 |
| 4 | C,T,M Vinyl chloride | 0.435 | 0.398 | 8.5 | 85 | 0.00 |
| 5 | T,M Bromomethane | 0.294 | 0.043 | 85.4# | 16# | 0.00 |
| 6 | T,M Dichlorofluoromethane | 0.994 | 1.051 | -5.7 | 94 | 0.00 |
| 7 | T,M Chloroethane | 0.213 | 0.194 | 8.9 | 84 | 0.00 |
| 8 | T,M Trichlorofluoromethane | 0.977 | 0.731 | 25.2# | 72 | 0.00 |
| 9 | T,M Acrolein | 0.065 | 0.048 | 26.2# | 67 | 0.00 |
| 10 | T,M 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.374 | 12.2 | 81 | 0.00 |
| 11 | T,M Acetone | 0.181 | 0.151 | 16.6 | 97 | 0.00 |
| 12 | T,M tert-Butyl alcohol | 0.061 | 0.056 | 8.2 | 81 | 0.00 |
| 13 | C,T,M 1,1-Dichloroethene | 0.894 | 0.970 | -8.5 | 97 | 0.00 |
| 14 | T,M Acetonitrile | 0.030 | 0.032 | -6.7 | 93 | 0.00 |
| 15 | T,M Allyl chloride | 0.236 | 0.233 | 1.3 | 86 | 0.00 |
| 16 | T,M Iodomethane | 0.429 | 0.137 | 68.1# | 28# | 0.00 |
| 17 | T,M Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M Methylene chloride | 0.801 | 0.878 | -9.6 | 106 | 0.00 |
| 19 | T,M Acrylonitrile | 0.150 | 0.164 | -9.3 | 92 | 0.00 |
| 20 | T,M tert-Butyl methyl ether (MT | 1.494 | 1.580 | -5.8 | 93 | 0.00 |
| 21 | T,M Carbon disulfide | 1.370 | 1.334 | 2.6 | 86 | 0.00 |
| 22 | T,M trans-1,2-Dichloroethene | 0.477 | 0.437 | 8.4 | 83 | 0.00 |
| 23 | T,M Isopropyl ether (DIPE) | 1.520 | 1.830 | -20.4# | 107 | 0.01 |
| 24 | T,M Vinyl acetate | 0.866 | 0.640 | 26.1# | 61 | 0.00 |
| 25 | P,T,M 1,1-Dichloroethane | 0.965 | 1.090 | -13.0 | 103 | 0.00 |
| 26 | T,M tert-Butyl ethyl ether (ETB | 1.846 | 1.940 | -5.1 | 93 | 0.00 |
| 27 | T,M 2-Butanone | 0.047 | 0.040 | 14.9 | 72 | 0.00 |
| 28 | T,M Propionitrile | 0.055 | 0.060 | -9.1 | 99 | 0.00 |
| 29 | T,M Isobutyl alcohol | 0.020 | 0.019 | 5.0 | 86 | 0.00 |
| 30 | T,M 2,2-Dichloropropane | 0.966 | 1.041 | -7.8 | 93 | 0.01 |
| 31 | T,M Methacrylonitrile | 0.091 | 0.105 | -15.4 | 105 | 0.00 |
| 32 | T,M cis-1,2-Dichloroethene | 0.543 | 0.525 | 3.3 | 89 | 0.00 |
| 33 | C,T,M Chloroform | 1.196 | 1.177 | 1.6 | 93 | 0.00 |
| 34 | T,M Bromochloromethane | 0.319 | 0.297 | 6.9 | 81 | 0.00 |
| 35 | T,M Tetrahydrofuran | 0.126 | 0.137 | -8.7 | 98 | 0.00 |
| 36 | S Dibromofluoromethane | 0.612 | 0.581 | 5.1 | 82 | 0.00 |
| 37 | T,M 1,1,1-Trichloroethane | 1.079 | 1.145 | -6.1 | 94 | 0.00 |
| 38 | T,M Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M tert-Amyl methyl ether (TAM | 0.329 | 0.355 | -7.9 | 91 | 0.00 |
| 40 | T,M 1,1-Dichloropropene | 0.236 | 0.237 | -0.4 | 87 | 0.00 |
| 41 | S 1,2-Dichloroethane-d4 | 0.809 | 0.900 | -11.2 | 102 | 0.00 |
| 42 | T,M Carbon tetrachloride | 0.913 | 0.965 | -5.7 | 92 | 0.00 |
| 43 | T,M 1,2-Dichloroethane | 0.919 | 1.087 | -18.3 | 103 | 0.00 |
| 44 | T,M Benzene | 1.830 | 1.814 | 0.9 | 88 | 0.00 |
| 45 | T,M Trichloroethene | 0.505 | 0.471 | 6.7 | 84 | 0.00 |
| 46 | T,M Methyl methacrylate | 0.448 | 0.298 | 33.5# | 62 | 0.00 |
| 47 | T,M Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M 1,2-Dichloropropane | 0.467 | 0.501 | -7.3 | 95 | 0.00 |
| 49 | T,M 1,4-Dioxane | 0.000 | 0.001 | 0.0 | 0# | 0.00 |
| 50 | T,M Bromodichloromethane | 0.884 | 0.913 | -3.3 | 91 | 0.00 |
| 51 | T,M Dibromomethane | 0.380 | 0.353 | 7.1 | 84 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG149.D Vial: 28
Acq On : 13 Jun 2024 21:01 Operator: DNguye
Sample : EVOE2E1708 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.245 | -6.1 | 91 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.573 | -11.9 | 95 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.807 | 1.2 | 87 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 91 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 1.910 | 3.9 | 87 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.671 | 1.6 | 87 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.226 | 1.9 | 90 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.924 | 4.7 | 85 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.440 | -7.3 | 93 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.485 | 9.9 | 83 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.798 | 0.1 | 93 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.449 | 9.5 | 86 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.698 | 13.5 | 81 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.514 | 11.4 | 79 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.702 | 6.5 | 86 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.367 | 8.7 | 85 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.619 | 2.8 | 87 | -0.01 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.693 | 1.8 | 92 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.169 | 3.0 | 95 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.097 | 0.9 | 91 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.489 | -0.6 | 91 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.478 | -2.7 | 93 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 94 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.793 | 27.3# | 70 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.216 | 12.8 | 85 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.645 | -3.7 | 99 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.369 | 4.2 | 93 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.221 | 43.2# | 53 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 5.873 | 7.4 | 92 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.207 | 13.3 | 82 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.289 | 1.6 | 96 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 3.707 | 5.3 | 95 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 3.766 | 0.8 | 92 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.633 | 6.2 | 92 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.223 | 0.9 | 95 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 4.743 | 4.0 | 92 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 3.960 | 4.5 | 94 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.077 | 9.8 | 90 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.230 | -0.1 | 95 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.150 | 8.5 | 91 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.605 | 8.5 | 89 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 1.985 | 9.1 | 93 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.207 | 26.9# | 73 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.097 | 26.5# | 80 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.587 | 22.3# | 74 | -0.01 |
| 97 | T,M | Naphthalene | 3.377 | 2.727 | 19.2 | 77 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.059 | 25.4# | 81 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F13\RFG149.D Vial: 28
Acq On : 13 Jun 2024 21:01 Operator: DNguye
Sample : EVOE2E1708 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG149.D Vial: 28
Acq On : 13 Jun 2024 21:01 Operator: DNguye
Sample : EVOE2E1708 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 427914 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 374037 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 186275 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 248701 | 9.49 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 94.90% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 385183 | 11.12 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 111.20% | | |
| 56) Toluene-d8 | 7.594 | 98 | 714238 | 9.61 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 96.10% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 306390 | 10.36 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 103.60% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 220189 | 8.97 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 126293 | 7.17 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 170363 | 9.15 | ug/l | 70 |
| 5) Bromomethane | 3.313 | 94 | 18454 | 1.47 | ug/l | 96 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 449689 | 10.57 | ug/L | 96 |
| 7) Chloroethane | 3.346 | 64 | 82826 | 9.08 | ug/l | 91 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 312816 | 7.48 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 103628 | 37.24 | ug/l | 97 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 160009 | 8.78 | ug/l | 99 |
| 11) Acetone | 3.764 | 43 | 322251 | 59.35 | ug/l | 98 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 598309 | 229.93 | ug/L | 94 |
| 13) 1,1-Dichloroethene | 3.908 | 61 | 415062 | 10.85 | ug/l | 93 |
| 14) Acetonitrile | 3.874 | 41 | 138225 | 107.04 | ug/L | 97 |
| 15) Allyl chloride | 4.106 | 76 | 99757 | 9.88 | ug/L | 97 |
| 16) Iodomethane | 4.150 | 142 | 58435 | 3.08 | ug/l | 95 |
| 18) Methylene chloride | 4.183 | 49 | 375691 | 14.01 | ug/l | 86 |
| 19) Acrylonitrile | 4.216 | 53 | 350936 | 54.55 | ug/l | 97 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 675975 | 10.57 | ug/L | 96 |
| 21) Carbon disulfide | 4.304 | 76 | 570901 | 9.74 | ug/l | 99 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 186963 | 9.16 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 783055 | 12.04 | ug/l | 94 |
| 24) Vinyl acetate | 4.546 | 43 | 273974 | 7.39 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 466371 | 11.30 | ug/l | 96 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 830152 | 10.51 | ug/l | 95 |
| 27) 2-Butanone | 4.854 | 72 | 85515 | 42.59 | ug/l | 86 |
| 28) Propionitrile | 4.909 | 54 | 255113 | 107.83 | ug/L | 100 |
| 29) Isobutyl alcohol | 5.030 | 43 | 164255 | 196.50 | ug/L | 90 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 445407 | 10.78 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 450722 | 116.04 | ug/L | 85 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 224493 | 9.66 | ug/l | 100 |
| 33) Chloroform | 5.173 | 83 | 503473 | 9.84 | ug/l | 97 |
| 34) Bromochloromethane | 5.327 | 130 | 127195 | 9.32 | ug/l | 100 |
| 35) Tetrahydrofuran | 5.327 | 42 | 58487 | 10.85 | ug/L | 86 |
| 37) 1,1,1-Trichloroethane | 5.492 | 97 | 489825 | 10.61 | ug/l | 97 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 151847 | 10.77 | ug/l | 96 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 101272 | 10.02 | ug/L | 92 |
| 42) Carbon tetrachloride | 5.734 | 119 | 412984 | 10.57 | ug/L | 98 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 464996 | 11.82 | ug/L | 96 |
| 44) Benzene | 5.866 | 78 | 776201 | 9.91 | ug/L | 96 |

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG149.D
Acq On : 13 Jun 2024 21:01
Sample : EVOE2E1708
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

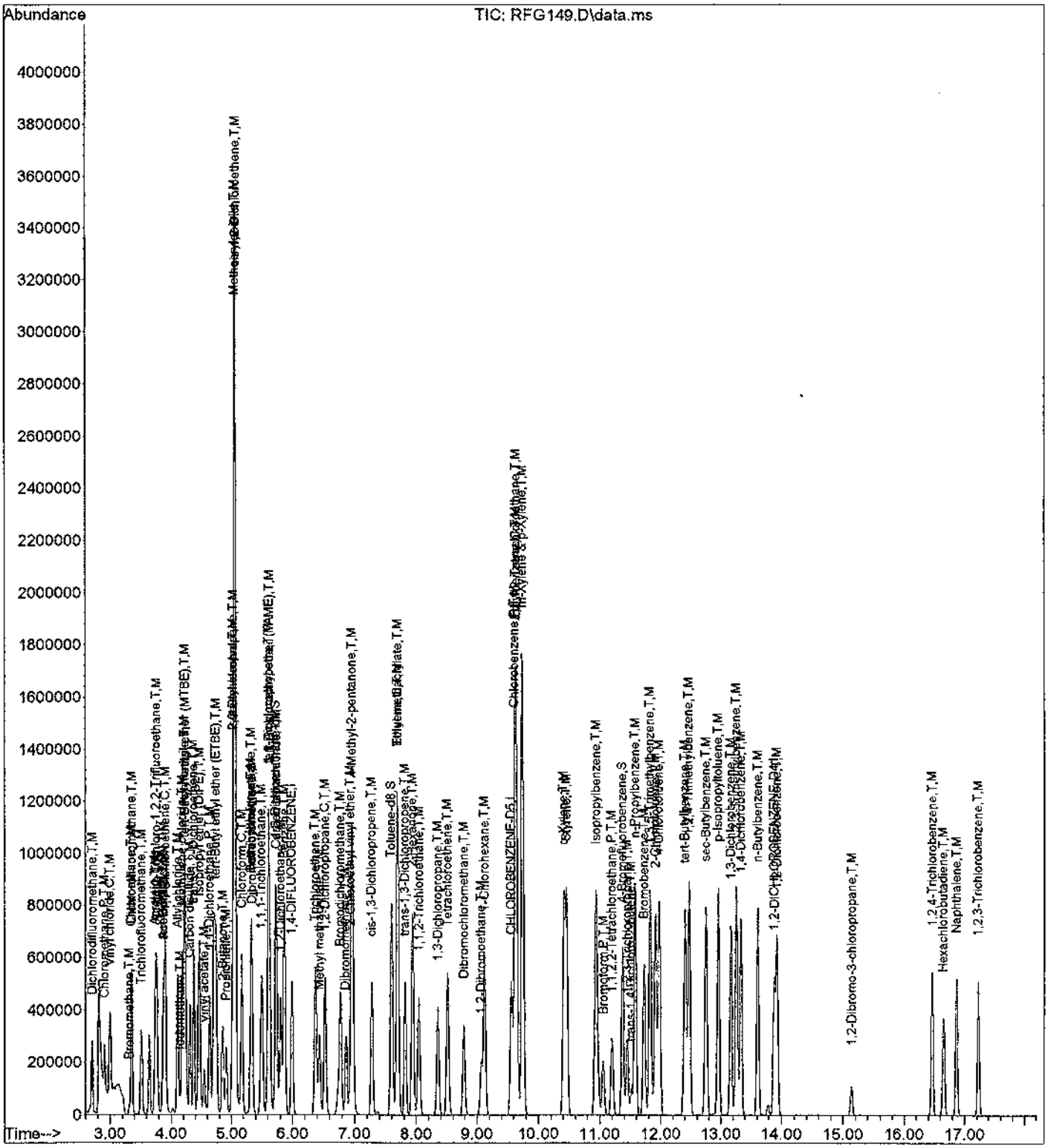
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) Trichloroethene | 6.373 | 130 | 201690 | 9.33 | ug/L | 98 |
| 46) Methyl methacrylate | 6.439 | 69 | 127431 | 6.65 | ug/L | 95 |
| 48) 1,2-Dichloropropane | 6.527 | 63 | 214511 | 10.73 | ug/L | 98 |
| 50) Bromodichloromethane | 6.769 | 83 | 390752 | 10.33 | ug/L | 99 |
| 51) Dibromomethane | 6.857 | 93 | 151050 | 9.29 | ug/L | 95 |
| 52) 2-Chloroethyl vinyl ether | 6.934 | 63 | 104756 | 10.58 | ug/L | 97 |
| 53) 4-Methyl-2-pentanone | 6.956 | 43 | 1226961 | 56.05 | ug/L | 98 |
| 54) cis-1,3-Dichloropropene | 7.275 | 75 | 345202 | 9.88 | ug/L | 89 |
| 57) Ethyl methacrylate | 7.693 | 69 | 250866 | 9.83 | ug/L | 86 |
| 58) Toluene | 7.693 | 91 | 832758 | 9.82 | ug/l | 99 |
| 59) trans-1,3-Dichloropropene | 7.814 | 75 | 345489 | 9.52 | ug/l | 87 |
| 60) 2-Hexanone | 7.935 | 43 | 823056 | 53.66 | ug/l | 97 |
| 61) 1,1,2-Trichloroethane | 8.045 | 97 | 181438 | 9.01 | ug/l | 98 |
| 62) 1,3-Dichloropropane | 8.354 | 76 | 298356 | 9.98 | ug/l | 98 |
| 63) Tetrachloroethene | 8.508 | 164 | 167928 | 9.06 | ug/l | 98 |
| 64) Dibromochloromethane | 8.783 | 129 | 260971 | 8.64 | ug/l | 99 |
| 65) 1,2-Dibromoethane | 9.069 | 107 | 192247 | 8.86 | ug/l | 97 |
| 66) 1-Chlorohexane | 9.124 | 91 | 262759 | 9.36 | ug/l | 98 |
| 67) Chlorobenzene | 9.619 | 112 | 511441 | 9.13 | ug/l | 100 |
| 68) 1,1,1,2-Tetrachloroethane | 9.641 | 131 | 231373 | 9.70 | ug/l | 99 |
| 69) Ethylbenzene | 9.641 | 91 | 1007210 | 9.82 | ug/l | 98 |
| 70) m-Xylene & p-Xylene | 9.740 | 91 | 1622340 | 19.40 | ug/l | 99 |
| 71) o-Xylene | 10.412 | 91 | 784481 | 9.91 | ug/l | 99 |
| 72) Styrene | 10.456 | 104 | 556866 | 10.06 | ug/l | 96 |
| 73) Isopropylbenzene | 10.940 | 105 | 926895 | 10.28 | ug/L | 99 |
| 75) Bromoform | 11.061 | 173 | 147703 | 7.27 | ug/l | 99 |
| 76) 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 226551 | 8.73 | ug/l | 100 |
| 78) 1,2,3-Trichloropropane | 11.446 | 110 | 68669 | 9.58 | ug/l | 91 |
| 79) trans-1,4-Dichloro-2-b... | 11.512 | 53 | 41108 | 5.67 | ug/l | 85 |
| 80) n-Propylbenzene | 11.578 | 91 | 1094059 | 9.26 | ug/l | 98 |
| 81) Bromobenzene | 11.732 | 156 | 224918 | 8.68 | ug/l | 99 |
| 82) 1,3,5-Trimethylbenzene | 11.820 | 105 | 798894 | 9.84 | ug/l | 97 |
| 83) 2-Chlorotoluene | 11.919 | 91 | 690454 | 9.47 | ug/l | 92 |
| 84) 4-Chlorotoluene | 11.974 | 91 | 701505 | 11.40 | ug/l | 96 |
| 85) tert-Butylbenzene | 12.404 | 134 | 117985 | 9.39 | ug/l | 99 |
| 86) 1,2,4-Trimethylbenzene | 12.470 | 105 | 786586 | 9.91 | ug/l | 98 |
| 87) sec-Butylbenzene | 12.745 | 105 | 883466 | 9.60 | ug/l | 98 |
| 88) p-Isopropyltoluene | 12.954 | 119 | 737703 | 9.55 | ug/l | 99 |
| 89) 1,3-Dichlorobenzene | 13.163 | 146 | 386816 | 10.40 | ug/l | 98 |
| 90) 1,2,3-Trimethylbenzene | 13.251 | 105 | 788022 | 10.01 | ug/L | 98 |
| 91) 1,4-Dichlorobenzene | 13.328 | 146 | 400492 | 10.38 | ug/l | 98 |
| 92) n-Butylbenzene | 13.614 | 91 | 671465 | 9.14 | ug/l | 100 |
| 93) 1,2-Dichlorobenzene | 13.922 | 146 | 369837 | 9.09 | ug/l | 97 |
| 94) 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 38530 | 7.30 | ug/l | 99 |
| 95) 1,2,4-Trichlorobenzene | 16.464 | 180 | 204377 | 8.19 | ug/l | 97 |
| 96) Hexachlorobutadiene | 16.651 | 225 | 109331 | 7.77 | ug/l | 99 |
| 97) Naphthalene | 16.872 | 128 | 507946 | 8.07 | ug/l | 99 |
| 98) 1,2,3-Trichlorobenzene | 17.224 | 180 | 197253 | 8.32 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F13\RFG149.D Vial: 28
Acq On : 13 Jun 2024 21:01 Operator: DNguye
Sample : EVOE2E1708 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 17:03:05 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F019
Lab File ID: RFG152 BFB Injection Date: 06/14/24
Instrument ID: E2 BFB Injection Time: 10:16

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 24.911 |
| 75 | 30 - 60% of mass 95 | 55.024 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 5.690 |
| 173 | Less than 2% of mass 174 | 0.000(0)1 |
| 174 | Greater than 50% of mass 95 | 80.432 |
| 175 | 5 - 9% of mass 174 | 5.922(7.36)1 |
| 176 | 95 - 101% % of mass 174 | 76.497(95.11)1 |
| 177 | 5 - 9% % of mass 176 | 4.861(6.35)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOE2E1709 | RFG153 | 06/14/24 | 11:54 |
| 2 | LCS3W | VOE2F06L | RFG154 | 06/14/24 | 12:35 |
| 3 | LCD3W | VOE2F06C | RFG155 | 06/14/24 | 12:58 |
| 4 | MBLK3W | VOE2F06B | RFG157 | 06/14/24 | 13:46 |
| 5 | TB-4_JUN24 | 24F019-14N | RFG158 | 06/14/24 | 14:10 |
| 6 | VSTD10 | EVOE2E1709 | RFG179 | 06/14/24 | 22:28 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: REG122
Instrument ID: E2

Project: TITAN 1-A
SDG No: 24F019
Date Analyzed: 05/17/24
Time Analyzed: 14:09

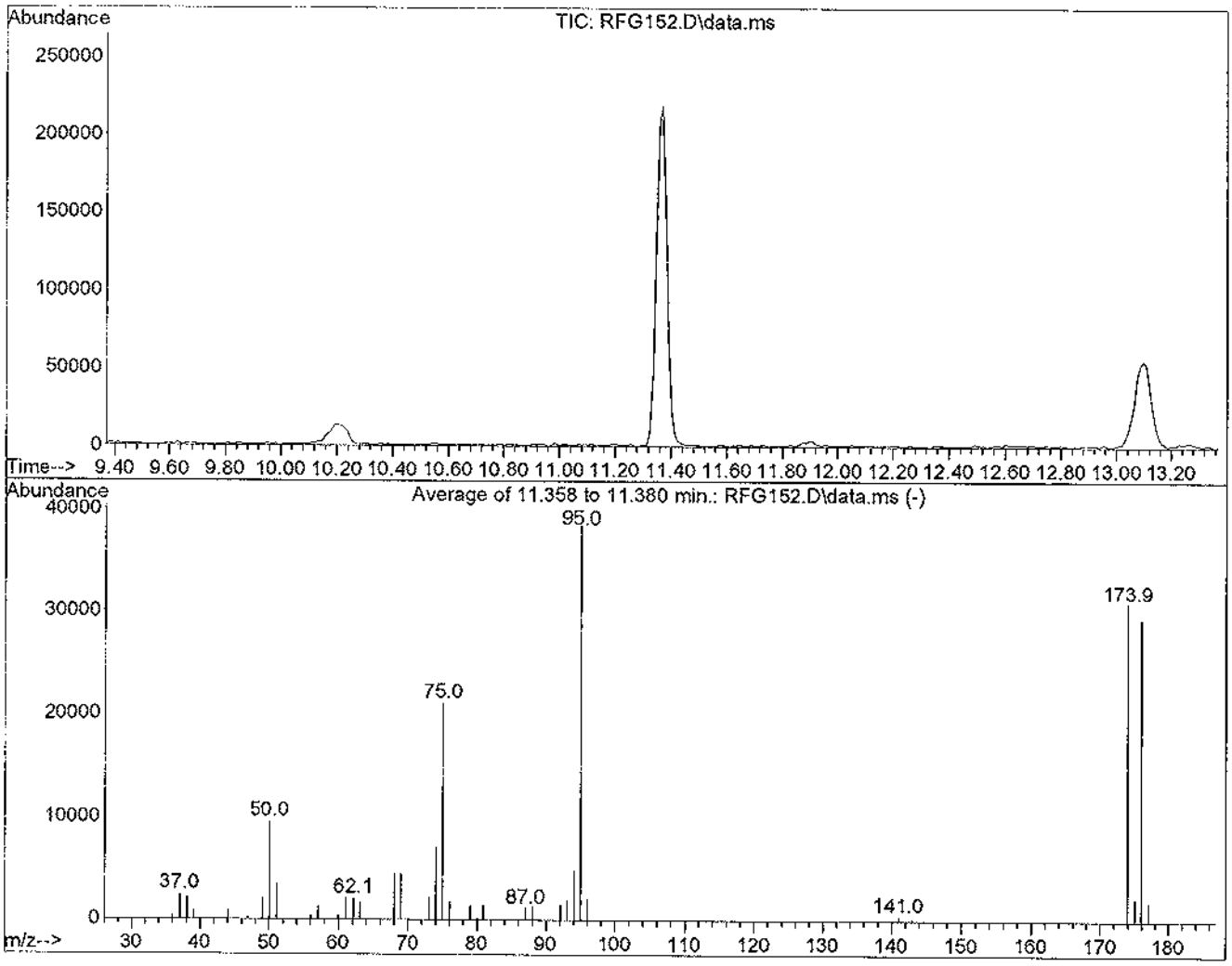
| INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 12 HOUR STD | 483746 | 5.99 | 409470 | 9.56 | 197951 | 13.89 |
| UPPER LIMIT | 967492 | 6.16 | 818940 | 9.73 | 395902 | 14.06 |
| LOWER LIMIT | 241873 | 5.82 | 204735 | 9.39 | 98976 | 13.72 |
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 VSTD10 | 531899 | 5.99 | 423005 | 9.56 | 200791 | 13.89 |
| 2 LCS3W | 533808 | 5.99 | 446338 | 9.56 | 205070 | 13.89 |
| 3 LCD3W | 528358 | 5.99 | 450867 | 9.56 | 206285 | 13.89 |
| 4 MBLK3W | 495022 | 5.99 | 408577 | 9.56 | 172895 | 13.89 |
| 5 TB-4_JUN24 | 471785 | 5.99 | 386284 | 9.56 | 171246 | 13.89 |
| 6 VSTD10 | 475094 | 5.99 | 398319 | 9.56 | 182539 | 13.89 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Data Path : D:\Data\24F14\
Data File : RFG152.D
Acq On : 14 Jun 2024 10:16
Operator : DNguye
Sample : BFBF06
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint10.p

Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Title : METHOD 8260B 10mL
Last Update : Tue May 21 20:44:17 2024




AutoFind: Scans 797, 798, 799; Background Corrected with Scan 791

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 24.9 | 9553 | PASS |
| 75 | 95 | 30 | 60 | 55.0 | 21101 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 38349 | PASS |
| 96 | 95 | 5 | 9 | 5.7 | 2182 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 100 | 80.4 | 30845 | PASS |
| 175 | 174 | 5 | 9 | 7.4 | 2271 | PASS |
| 176 | 174 | 95 | 101 | 95.1 | 29336 | PASS |
| 177 | 176 | 5 | 9 | 6.4 | 1864 | PASS |

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG153.D
Acq On : 14 Jun 2024 11:54
Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 110 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 11.233 | -12.3 | 139 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 9.254 | 7.5 | 112 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 11.357 | -13.6 | 131 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 4.560 | 54.4# | 60 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.322 | -3.2 | 114 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 10.721 | -7.2 | 123 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 9.104 | 9.0 | 109 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 47.571 | 4.9 | 107 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.772 | 12.3 | 100 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 59.782 | -19.6 | 121 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 236.493 | 5.4 | 104 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.531 | -5.3 | 116 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 108.655 | -8.7 | 118 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 9.870 | 1.3 | 107 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 4.852 | 51.5# | 57 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 13.451 | -34.5# | 127 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 58.361 | -16.7 | 122 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.371 | -3.7 | 113 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 10.142 | -1.4 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.214 | 7.9 | 103 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 12.064 | -20.6# | 133 | 0.01 |
| 24 | T,M | Vinyl acetate | 10.000 | 8.546 | 14.5 | 88 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.938 | -9.4 | 124 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 10.523 | -5.2 | 115 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 47.285 | 5.4 | 99 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 111.798 | -11.8 | 127 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 209.417 | -4.7 | 114 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 10.674 | -6.7 | 114 | 0.01 |
| 31 | T,M | Methacrylonitrile | 100.000 | 115.261 | -15.3 | 129 | 0.01 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.393 | 6.1 | 108 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.668 | 3.3 | 114 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.230 | 7.7 | 99 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 11.326 | -13.3 | 127 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 8.730 | 12.7 | 94 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 10.018 | -0.2 | 111 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 10.835 | -8.4 | 114 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 10.008 | -0.1 | 108 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.263 | -2.6 | 117 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 9.914 | 0.9 | 107 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.301 | -13.0 | 122 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 9.871 | 1.3 | 109 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.158 | 8.4 | 103 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 6.909 | 30.9# | 80 | 0.00 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.954 | -9.5 | 121 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.01 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.925 | 0.7 | 109 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 9.030 | 9.7 | 102 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG153.D
Acq On : 14 Jun 2024 11:54
Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 10.901 | -9.0 | 116 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 58.855 | -17.7 | 124 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 10.116 | -1.2 | 110 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 103 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.821 | 1.8 | 101 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 10.610 | -6.1 | 106 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 10.485 | -4.8 | 109 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.937 | -9.4 | 111 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 62.043 | -24.1# | 121 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.684 | 3.2 | 101 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.956 | -9.6 | 115 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.917 | 0.8 | 107 | 0.01 |
| 64 | T,M | Dibromochloromethane | 10.000 | 9.379 | 6.2 | 99 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.540 | 4.6 | 97 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 10.389 | -3.9 | 108 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.897 | 1.0 | 104 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.128 | -1.3 | 103 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 10.424 | -4.2 | 111 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 20.703 | -3.5 | 115 | 0.01 |
| 71 | T,M | o-Xylene | 10.000 | 10.816 | -8.2 | 112 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.847 | -8.5 | 111 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 11.136 | -11.4 | 114 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 101 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 8.632 | 13.7 | 89 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 9.880 | 1.2 | 104 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.582 | -5.8 | 109 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.520 | -5.2 | 110 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 9.976 | 0.2 | 100 | 0.01 |
| 80 | T,M | n-Propylbenzene | 10.000 | 10.489 | -4.9 | 112 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.424 | 5.8 | 96 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 11.054 | -10.5 | 116 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 11.242 | -12.4 | 122 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.217 | -22.2# | 106 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 10.345 | -3.5 | 109 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.093 | -10.9 | 115 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 10.739 | -7.4 | 111 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 10.722 | -7.2 | 114 | 0.01 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.487 | -14.9 | 106 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 11.253 | -12.5 | 116 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.407 | -14.1 | 108 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 10.442 | -4.4 | 110 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.018 | -0.2 | 110 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.767 | 12.3 | 95 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.971 | 0.3 | 104 | 0.01 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.537 | 4.6 | 97 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 9.558 | 4.4 | 99 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 9.524 | 4.8 | 99 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG153.D  Vial: 2
Acq On : 14 Jun 2024 11:54  Operator: DNguye
Sample : CVOE2E1709  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG153.D
Acq On : 14 Jun 2024 11:54
Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 110 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.645 | -12.4 | 139 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.381 | 7.5 | 112 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.494 | -13.6 | 131 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.134 | 54.4# | 60 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.026 | -3.2 | 114 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.228 | -7.0 | 123 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.890 | 8.9 | 109 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.062 | 4.6 | 107 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.374 | 12.2 | 100 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.152 | 16.0 | 121 | 0.01 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.058 | 4.9 | 104 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.941 | -5.3 | 116 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.033 | -10.0 | 118 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.233 | 1.3 | 107 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.223 | 48.0# | 57 | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.845 | -5.5 | 127 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.175 | -16.7 | 122 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.550 | -3.7 | 113 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.389 | -1.4 | 111 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.439 | 8.0 | 103 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.834 | -20.7# | 133 | 0.01 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.740 | 14.5 | 88 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 1.055 | -9.3 | 124 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.943 | -5.3 | 115 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.044 | 6.4 | 99 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.062 | -12.7 | 127 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.020 | 0.0 | 114 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 1.031 | -6.7 | 114 | 0.01 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.105 | -15.4 | 129 | 0.01 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.510 | 6.1 | 108 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.156 | 3.3 | 114 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.294 | 7.8 | 99 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.143 | -13.5 | 127 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.535 | 12.6 | 94 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.081 | -0.2 | 111 | 0.01 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.357 | -8.5 | 114 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.236 | 0.0 | 108 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.831 | -2.7 | 117 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 0.905 | 0.9 | 107 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.039 | -13.1 | 122 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.806 | 1.3 | 109 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.463 | 8.3 | 103 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.309 | 31.0# | 80 | 0.00 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.512 | -9.6 | 121 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.01 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.877 | 0.8 | 109 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.343 | 9.7 | 102 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG153.D
Acq On : 14 Jun 2024 11:54
Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.252 | -9.1 | 116 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.602 | -17.6 | 124 | 0.01 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.826 | -1.1 | 110 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 103 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 1.951 | 1.8 | 101 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.724 | -6.2 | 106 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.378 | -4.9 | 109 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 1.061 | -9.4 | 111 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.509 | -24.1# | 121 | 0.01 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.521 | 3.2 | 101 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.876 | -9.6 | 115 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.492 | 0.8 | 107 | 0.01 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.757 | 6.2 | 99 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.553 | 4.7 | 97 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.780 | -3.9 | 108 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.483 | 1.0 | 104 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.646 | -1.4 | 103 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.858 | -4.2 | 111 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.314 | -3.5 | 115 | 0.01 |
| 71 | T,M | o-Xylene | 2.117 | 2.289 | -8.1 | 112 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.605 | -8.4 | 111 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.686 | -11.4 | 114 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 101 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.942 | 13.7 | 89 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.377 | 1.2 | 104 | 0.00 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.680 | -5.9 | 109 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.405 | -5.2 | 110 | 0.00 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.388 | 0.3 | 100 | 0.01 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.650 | -4.9 | 112 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.311 | 5.8 | 96 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.819 | -10.6 | 116 | 0.00 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.399 | -12.4 | 122 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.026 | -6.1 | 106 | 0.01 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.698 | -3.4 | 109 | 0.00 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.729 | -10.9 | 115 | 0.01 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 5.305 | -7.4 | 111 | 0.01 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.444 | -7.2 | 114 | 0.01 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.283 | 0.9 | 106 | 0.01 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.754 | -12.5 | 116 | 0.01 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.355 | -0.3 | 108 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 4.117 | -4.4 | 110 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.188 | -0.2 | 110 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.248 | 12.4 | 95 | 0.01 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.326 | 11.2 | 104 | 0.01 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.720 | 4.6 | 97 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 3.228 | 4.4 | 99 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.206 | 15.0 | 99 | 0.01 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG153.D
Acq On : 14 Jun 2024 11:54
Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG153.D Vial: 2
Acq On : 14 Jun 2024 11:54 Operator: DNguye
Sample : CVOE2E1709 Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 531899 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 423005 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 200791 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 284400 | 8.73 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 87.30% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 441811 | 10.26 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.60% | | |
| 56) Toluene-d8 | 7.594 | 98 | 825489 | 9.82 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 98.20% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 337297 | 10.58 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.80% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 342903 | 11.23 | ug/l | 99 |
| 3) Chloromethane | 2.906 | 50 | 202705 | 9.25 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 262725 | 11.36 | ug/l | 98 |
| 5) Bromomethane | 3.313 | 94 | 71347 | 4.56 | ug/l | 97 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 545629 | 10.32 | ug/L | 98 |
| 7) Chloroethane | 3.346 | 64 | 121505 | 10.72 | ug/l | 100 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 473172 | 9.10 | ug/l | 99 |
| 9) Acrolein | 3.742 | 56 | 164553 | 47.57 | ug/l | 99 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 198755 | 8.77 | ug/l | 96 |
| 11) Acetone | 3.775 | 43 | 403262 | 59.78 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 764931 | 236.49 | ug/L | 95 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 500693 | 10.53 | ug/l | 93 |
| 14) Acetonitrile | 3.874 | 41 | 174410 | 108.66 | ug/L | 98 |
| 15) Allyl chloride | 4.105 | 76 | 123920 | 9.87 | ug/L | 97 |
| 16) Iodomethane | 4.149 | 142 | 118686 | 4.85 | ug/l | 99 |
| 18) Methylene chloride | 4.183 | 49 | 449236 | 13.45 | ug/l | 86 |
| 19) Acrylonitrile | 4.216 | 53 | 466715 | 58.36 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.227 | 73 | 824251 | 10.37 | ug/L | 94 |
| 21) Carbon disulfide | 4.304 | 76 | 738856 | 10.14 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 233704 | 9.21 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 4.469 | 45 | 975616 | 12.06 | ug/l | 95 |
| 24) Vinyl acetate | 4.546 | 43 | 393675 | 8.55 | ug/l | 97 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 561189 | 10.94 | ug/l | 95 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 1033531 | 10.52 | ug/l | 96 |
| 27) 2-Butanone | 4.854 | 72 | 118021 | 47.29 | ug/l | 93 |
| 28) Propionitrile | 4.909 | 54 | 328765 | 111.80 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 217587 | 209.42 | ug/L | 93 |
| 30) 2,2-Dichloropropane | 5.030 | 77 | 548219 | 10.67 | ug/l | 99 |
| 31) Methacrylonitrile | 5.063 | 52 | 556489 | 115.26 | ug/L | 89 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 271243 | 9.39 | ug/l | 98 |
| 33) Chloroform | 5.173 | 83 | 614968 | 9.67 | ug/l | 96 |
| 34) Bromochloromethane | 5.327 | 130 | 156576 | 9.23 | ug/l | 99 |
| 35) Tetrahydrofuran | 5.316 | 42 | 75915 | 11.33 | ug/L | 84 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 574758 | 10.02 | ug/l | 97 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 189891 | 10.83 | ug/l | 100 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 125702 | 10.01 | ug/L | 93 |
| 42) Carbon tetrachloride | 5.734 | 119 | 481293 | 9.91 | ug/L | 99 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 552583 | 11.30 | ug/L | 98 |
| 44) Benzene | 5.866 | 78 | 960656 | 9.87 | ug/L | 95 |

Data File : D:\Data\24F14\RFG153.D
Acq On : 14 Jun 2024 11:54
Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.373 | 130 | 246035 | 9.16 | ug/L | 99 |
| 46) | Methyl methacrylate | 6.439 | 69 | 164468 | 6.91 | ug/L | 99 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 272097 | 10.95 | ug/L | 96 |
| 50) | Bromodichloromethane | 6.769 | 83 | 466573 | 9.92 | ug/L | 100 |
| 51) | Dibromomethane | 6.868 | 93 | 182520 | 9.03 | ug/L | 94 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 134114 | 10.90 | ug/L | 97 |
| 53) | 4-Methyl-2-pentanone | 6.967 | 43 | 1601535 | 58.85 | ug/L | 98 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 439407 | 10.12 | ug/L | 91 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 306280 | 10.61 | ug/L | 81 |
| 58) | Toluene | 7.693 | 91 | 1005857 | 10.48 | ug/l | 100 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 448963 | 10.94 | ug/l | 91 |
| 60) | 2-Hexanone | 7.946 | 43 | 1076169 | 62.04 | ug/l | 98 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 220494 | 9.68 | ug/l | 97 |
| 62) | 1,3-Dichloropropane | 8.353 | 76 | 370425 | 10.96 | ug/l | 97 |
| 63) | Tetrachloroethene | 8.519 | 164 | 207982 | 9.92 | ug/l | 99 |
| 64) | Dibromochloromethane | 8.783 | 129 | 320303 | 9.38 | ug/l | 97 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 234075 | 9.54 | ug/l | 96 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 329863 | 10.39 | ug/l | 98 |
| 67) | Chlorobenzene | 9.619 | 112 | 627131 | 9.90 | ug/l | 100 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 273089 | 10.13 | ug/l | 99 |
| 69) | Ethylbenzene | 9.641 | 91 | 1209039 | 10.42 | ug/l | 99 |
| 70) | m-Xylene & p-Xylene | 9.751 | 91 | 1958010 | 20.70 | ug/l | 99 |
| 71) | o-Xylene | 10.411 | 91 | 968391 | 10.82 | ug/l | 100 |
| 72) | Styrene | 10.455 | 104 | 679093 | 10.85 | ug/l | 96 |
| 73) | Isopropylbenzene | 10.940 | 105 | 1136014 | 11.14 | ug/L | 98 |
| 75) | Bromoform | 11.061 | 173 | 189156 | 8.63 | ug/l | 100 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.204 | 83 | 276503 | 9.88 | ug/l | 100 |
| 78) | 1,2,3-Trichloropropane | 11.446 | 110 | 81282 | 10.52 | ug/l | 98 |
| 79) | trans-1,4-Dichloro-2-b... | 11.523 | 53 | 77994 | 9.98 | ug/l | 84 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1335359 | 10.49 | ug/l | 98 |
| 81) | Bromobenzene | 11.732 | 156 | 263336 | 9.42 | ug/l | 97 |
| 82) | 1,3,5-Trimethylbenzene | 11.831 | 105 | 967565 | 11.05 | ug/l | 97 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 883363 | 11.24 | ug/l | 91 |
| 84) | 4-Chlorotoluene | 11.985 | 91 | 808392 | 12.22 | ug/l | 98 |
| 85) | tert-Butylbenzene | 12.414 | 134 | 140133 | 10.34 | ug/l | 93 |
| 86) | 1,2,4-Trimethylbenzene | 12.480 | 105 | 949589 | 11.09 | ug/l | 95 |
| 87) | sec-Butylbenzene | 12.756 | 105 | 1065147 | 10.74 | ug/l | 99 |
| 88) | p-Isopropyltoluene | 12.965 | 119 | 892400 | 10.72 | ug/l | 100 |
| 89) | 1,3-Dichlorobenzene | 13.174 | 146 | 458432 | 11.49 | ug/l | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.262 | 105 | 954482 | 11.25 | ug/L | 98 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 472823 | 11.41 | ug/l | 99 |
| 92) | n-Butylbenzene | 13.614 | 91 | 826568 | 10.44 | ug/l | 99 |
| 93) | 1,2-Dichlorobenzene | 13.933 | 146 | 439426 | 10.02 | ug/l | 100 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.144 | 157 | 49891 | 8.77 | ug/l | 94 |
| 95) | 1,2,4-Trichlorobenzene | 16.475 | 180 | 266154 | 9.97 | ug/l | 97 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 144593 | 9.54 | ug/l | 97 |
| 97) | Naphthalene | 16.871 | 128 | 648116 | 9.56 | ug/l | 98 |
| 98) | 1,2,3-Trichlorobenzene | 17.235 | 180 | 242057 | 9.52 | ug/l | 97 |

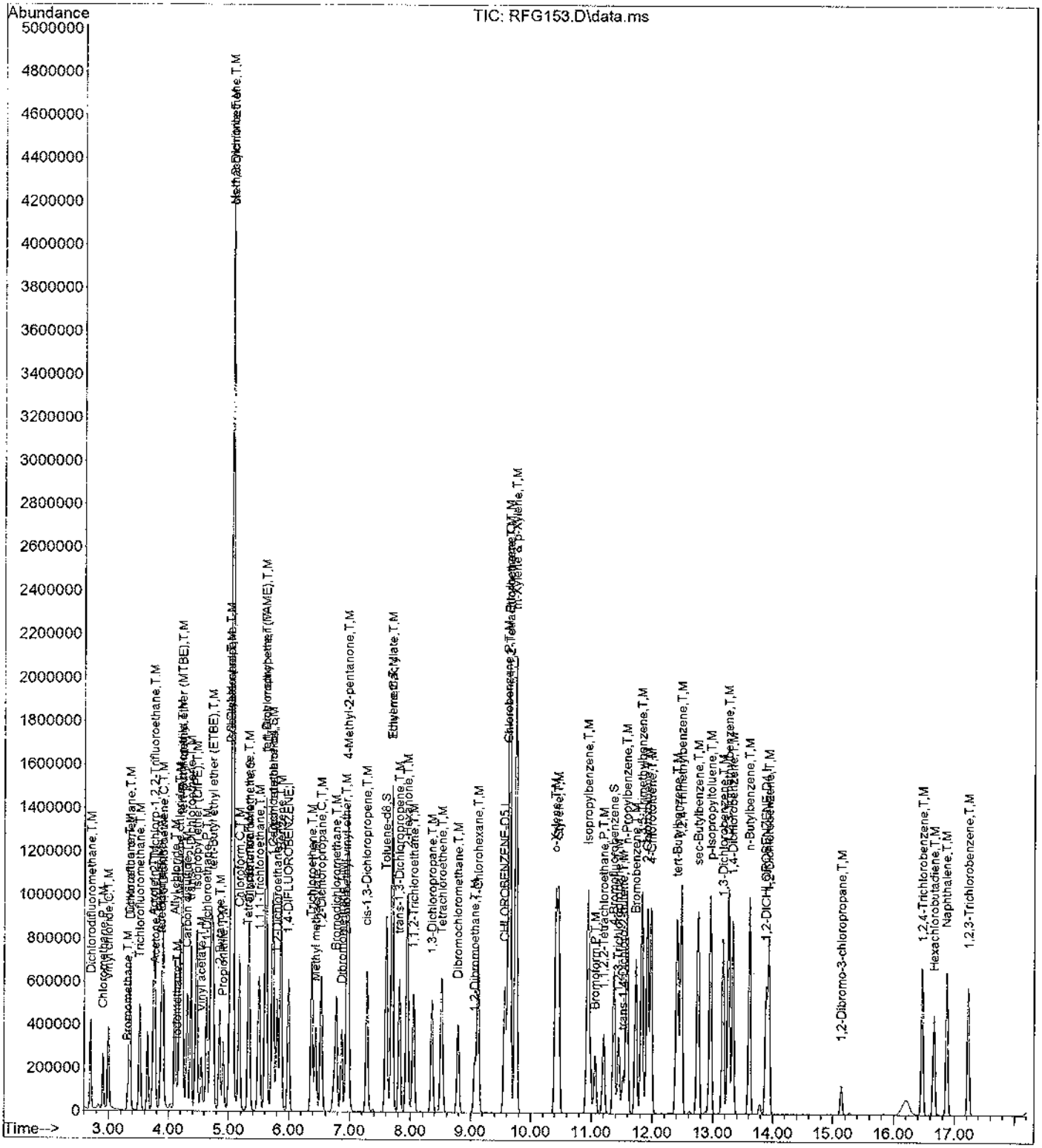
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG153.D
Acq On : 14 Jun 2024 11:54
Sample : CVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:35:47 2024
Quant Results File: VOE2E17.RES

Vial: 2
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



# Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG179.D  Vial: 28
Acq On : 14 Jun 2024 22:28  Operator: DNguye
Sample : EVOE2E1709  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 98 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 10.000 | 9.136 | 8.6 | 101 | 0.00 |
| 3 | P,T,M | Chloromethane | 10.000 | 7.381 | 26.2# | 80 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 10.000 | 9.895 | 1.1 | 102 | 0.00 |
| 5 | T,M | Bromomethane | 10.000 | 3.908 | 60.9# | 46 | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 10.000 | 10.206 | -2.1 | 101 | 0.00 |
| 7 | T,M | Chloroethane | 10.000 | 9.074 | 9.3 | 93 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 10.000 | 7.657 | 23.4# | 82 | 0.00 |
| 9 | T,M | Acrolein | 50.000 | 41.640 | 16.7 | 83 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 10.000 | 8.465 | 15.4 | 87 | 0.00 |
| 11 | T,M | Acetone | 50.000 | 60.514 | -21.0# | 110 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 250.000 | 260.566 | -4.2 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.722 | -7.2 | 106 | 0.00 |
| 14 | T,M | Acetonitrile | 100.000 | 121.509 | -21.5# | 118 | 0.00 |
| 15 | T,M | Allyl chloride | 10.000 | 10.090 | -0.9 | 98 | 0.00 |
| 16 | T,M | Iodomethane | 10.000 | 4.272 | 57.3# | 44 | 0.00 |
| 17 | T,M | Methyl acetate | 10.000 | 0.000 | 100.0# | 0 | -4.03# |
| 18 | T,M | Methylene chloride | 10.000 | 13.273 | -32.7# | 112 | 0.00 |
| 19 | T,M | Acrylonitrile | 50.000 | 60.020 | -20.0# | 112 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 10.539 | -5.4 | 103 | 0.00 |
| 21 | T,M | Carbon disulfide | 10.000 | 8.476 | 15.2 | 83 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.132 | 8.7 | 91 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 12.010 | -20.1# | 119 | 0.00 |
| 24 | T,M | Vinyl acetate | 10.000 | 7.766 | 22.3# | 71 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 10.000 | 11.115 | -11.2 | 113 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 10.388 | -3.9 | 102 | 0.00 |
| 27 | T,M | 2-Butanone | 50.000 | 48.086 | 3.8 | 90 | 0.00 |
| 28 | T,M | Propionitrile | 100.000 | 118.007 | -18.0 | 120 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 200.000 | 242.624 | -21.3# | 118 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 10.000 | 9.645 | 3.6 | 92 | 0.00 |
| 31 | T,M | Methacrylonitrile | 100.000 | 119.349 | -19.3 | 119 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.692 | 3.1 | 100 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.703 | 3.0 | 102 | 0.00 |
| 34 | T,M | Bromochloromethane | 10.000 | 9.450 | 5.5 | 91 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 10.000 | 11.555 | -15.5 | 115 | -0.01 |
| 36 | S | Dibromofluoromethane | 10.000 | 8.953 | 10.5 | 86 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 10.000 | 10.078 | -0.8 | 99 | 0.01 |
| 38 | T,M | Cyclohexane | 10.000 | 0.000 | 100.0# | 0 | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 11.185 | -11.9 | 105 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 10.000 | 9.795 | 2.1 | 94 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.658 | -6.6 | 109 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 10.000 | 10.038 | -0.4 | 97 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 11.595 | -16.0 | 112 | 0.00 |
| 44 | T,M | Benzene | 10.000 | 9.973 | 0.3 | 99 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 9.051 | 9.5 | 91 | 0.00 |
| 46 | T,M | Methyl methacrylate | 10.000 | 6.892 | 31.1# | 71 | -0.01 |
| 47 | T,M | Methylcyclohexane | 10.000 | 0.000 | 100.0# | 0 | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 10.000 | 10.732 | -7.3 | 106 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 200.000 | 0.000 | 100.0# | 0 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 10.023 | -0.2 | 98 | 0.00 |
| 51 | T,M | Dibromomethane | 10.000 | 9.223 | 7.8 | 93 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG179.D
Acq On : 14 Jun 2024 22:28
Sample : EVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 10.309 | -3.1 | 98 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 59.900 | -19.8 | 113 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 10.000 | 9.804 | 2.0 | 96 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 10.000 | 9.214 | 7.9 | 89 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 10.145 | -1.4 | 95 | 0.00 |
| 58 | C,T,M | Toluene | 10.000 | 9.962 | 0.4 | 98 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.904 | 1.0 | 95 | 0.00 |
| 60 | T,M | 2-Hexanone | 50.000 | 60.633 | -21.3# | 112 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.394 | 6.1 | 92 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.226 | -2.3 | 101 | 0.00 |
| 63 | T,M | Tetrachloroethene | 10.000 | 9.558 | 4.4 | 97 | 0.00 |
| 64 | T,M | Dibromochloromethane | 10.000 | 8.891 | 11.1 | 89 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 10.000 | 9.454 | 5.5 | 90 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 10.000 | 9.561 | 4.4 | 93 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 10.000 | 9.449 | 5.5 | 94 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.546 | 4.5 | 92 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 10.000 | 10.063 | -0.6 | 101 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 20.000 | 19.358 | 3.2 | 101 | 0.00 |
| 71 | T,M | o-Xylene | 10.000 | 10.137 | -1.4 | 99 | 0.00 |
| 72 | T,M | Styrene | 10.000 | 10.341 | -3.4 | 100 | 0.00 |
| 73 | T,M | Isopropylbenzene | 10.000 | 10.348 | -3.5 | 100 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 92 | 0.00 |
| 75 | P,T,M | Bromoform | 10.000 | 8.337 | 16.6 | 78 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.062 | -0.6 | 96 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 10.000 | 10.241 | -2.4 | 96 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 10.000 | 10.467 | -4.7 | 99 | -0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 9.525 | 4.7 | 86 | 0.00 |
| 80 | T,M | n-Propylbenzene | 10.000 | 10.277 | -2.8 | 100 | 0.00 |
| 81 | T,M | Bromobenzene | 10.000 | 9.118 | 8.8 | 84 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 10.785 | -7.9 | 103 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 10.000 | 10.246 | -2.5 | 101 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 10.000 | 12.665 | -26.6# | 99 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 10.000 | 10.240 | -2.4 | 98 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.016 | -10.2 | 104 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 10.000 | 10.488 | -4.9 | 99 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 10.000 | 10.384 | -3.8 | 100 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 10.000 | 11.492 | -14.9 | 97 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 11.009 | -10.1 | 103 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 10.000 | 11.090 | -10.9 | 95 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 9.977 | 0.2 | 96 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.784 | 2.2 | 98 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.473 | 15.3 | 84 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.297 | 7.0 | 89 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 8.332 | 16.7 | 77 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 9.131 | 8.7 | 86 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 9.049 | 9.5 | 86 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG179.D
Acq On : 14 Jun 2024 22:28
Sample : EVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG179.D  Vial: 28
Acq On : 14 Jun 2024 22:28  Operator: DNguye
Sample : EVOE2E1709  Inst : E2
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 98 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.574 | 0.524 | 8.7 | 101 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.412 | 0.304 | 26.2# | 80 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.435 | 0.430 | 1.1 | 102 | 0.00 |
| 5 | T,M | Bromomethane | 0.294 | 0.115 | 60.9# | 46# | 0.00 |
| 6 | T,M | Dichlorofluoromethane | 0.994 | 1.014 | -2.0 | 101 | 0.00 |
| 7 | T,M | Chloroethane | 0.213 | 0.193 | 9.4 | 93 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.977 | 0.748 | 23.4# | 82 | 0.00 |
| 9 | T,M | Acrolein | 0.065 | 0.054 | 16.9 | 83 | 0.00 |
| 10 | T,M | 1,1,2-Trichloro-1,2,2-Trifl | 0.426 | 0.361 | 15.3 | 87 | 0.00 |
| 11 | T,M | Acetone | 0.181 | 0.153 | 15.5 | 110 | 0.00 |
| 12 | T,M | tert-Butyl alcohol | 0.061 | 0.063 | -3.3 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.894 | 0.958 | -7.2 | 106 | 0.00 |
| 14 | T,M | Acetonitrile | 0.030 | 0.037 | -23.3# | 118 | 0.00 |
| 15 | T,M | Allyl chloride | 0.236 | 0.238 | -0.8 | 98 | 0.00 |
| 16 | T,M | Iodomethane | 0.429 | 0.195 | 54.5# | 44# | 0.00 |
| 17 | T,M | Methyl acetate | 0.338 | 0.000 | 100.0# | 0# | -4.03# |
| 18 | T,M | Methylene chloride | 0.801 | 0.834 | -4.1 | 112 | 0.00 |
| 19 | T,M | Acrylonitrile | 0.150 | 0.180 | -20.0 | 112 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 1.494 | 1.575 | -5.4 | 103 | 0.00 |
| 21 | T,M | Carbon disulfide | 1.370 | 1.161 | 15.3 | 83 | 0.00 |
| 22 | T,M | trans-1,2-Dichloroethene | 0.477 | 0.435 | 8.8 | 91 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.520 | 1.826 | -20.1# | 119 | 0.00 |
| 24 | T,M | Vinyl acetate | 0.866 | 0.673 | 22.3# | 71 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.965 | 1.072 | -11.1 | 113 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.846 | 1.918 | -3.9 | 102 | 0.00 |
| 27 | T,M | 2-Butanone | 0.047 | 0.045 | 4.3 | 90 | 0.00 |
| 28 | T,M | Propionitrile | 0.055 | 0.065 | -18.2 | 120 | 0.00 |
| 29 | T,M | Isobutyl alcohol | 0.020 | 0.024 | -20.0 | 118 | 0.00 |
| 30 | T,M | 2,2-Dichloropropane | 0.966 | 0.931 | 3.6 | 92 | 0.00 |
| 31 | T,M | Methacrylonitrile | 0.091 | 0.108 | -18.7 | 119 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.543 | 0.526 | 3.1 | 100 | 0.00 |
| 33 | C,T,M | Chloroform | 1.196 | 1.160 | 3.0 | 102 | 0.00 |
| 34 | T,M | Bromochloromethane | 0.319 | 0.301 | 5.6 | 91 | 0.00 |
| 35 | T,M | Tetrahydrofuran | 0.126 | 0.146 | -15.9 | 115 | -0.01 |
| 36 | S | Dibromofluoromethane | 0.612 | 0.548 | 10.5 | 86 | 0.00 |
| 37 | T,M | 1,1,1-Trichloroethane | 1.079 | 1.087 | -0.7 | 99 | 0.01 |
| 38 | T,M | Cyclohexane | 0.550 | 0.000 | 100.0# | 0# | -5.55# |
| 39 | T,M | tert-Amyl methyl ether (TAM | 0.329 | 0.369 | -12.2 | 105 | 0.00 |
| 40 | T,M | 1,1-Dichloropropene | 0.236 | 0.231 | 2.1 | 94 | 0.00 |
| 41 | S | 1,2-Dichloroethane-d4 | 0.809 | 0.863 | -6.7 | 109 | 0.00 |
| 42 | T,M | Carbon tetrachloride | 0.913 | 0.916 | -0.3 | 97 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.919 | 1.066 | -16.0 | 112 | 0.00 |
| 44 | T,M | Benzene | 1.830 | 1.825 | 0.3 | 99 | 0.00 |
| 45 | T,M | Trichloroethene | 0.505 | 0.457 | 9.5 | 91 | 0.00 |
| 46 | T,M | Methyl methacrylate | 0.448 | 0.308 | 31.3# | 71 | -0.01 |
| 47 | T,M | Methylcyclohexane | 0.601 | 0.000 | 100.0# | 0# | -6.45# |
| 48 | C,T,M | 1,2-Dichloropropane | 0.467 | 0.501 | -7.3 | 106 | 0.00 |
| 49 | T,M | 1,4-Dioxane | 0.000 | 0.002 | 0.0 | 0# | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.884 | 0.886 | -0.2 | 98 | 0.00 |
| 51 | T,M | Dibromomethane | 0.380 | 0.350 | 7.9 | 93 | 0.00 |

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Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 52 | T,M | 2-Chloroethyl vinyl ether | 0.231 | 0.238 | -3.0 | 98 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.512 | 0.613 | -19.7 | 113 | 0.00 |
| 54 | T,M | cis-1,3-Dichloropropene | 0.817 | 0.801 | 2.0 | 96 | 0.00 |
| 55 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 56 | S | Toluene-d8 | 1.987 | 1.831 | 7.9 | 89 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.682 | 0.692 | -1.5 | 95 | 0.00 |
| 58 | C,T,M | Toluene | 2.268 | 2.259 | 0.4 | 98 | 0.00 |
| 59 | T,M | trans-1,3-Dichloropropene | 0.970 | 0.961 | 0.9 | 95 | 0.00 |
| 60 | T,M | 2-Hexanone | 0.410 | 0.497 | -21.2# | 112 | 0.00 |
| 61 | T,M | 1,1,2-Trichloroethane | 0.538 | 0.506 | 5.9 | 92 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.799 | 0.817 | -2.3 | 101 | 0.00 |
| 63 | T,M | Tetrachloroethene | 0.496 | 0.474 | 4.4 | 97 | 0.00 |
| 64 | T,M | Dibromochloromethane | 0.807 | 0.718 | 11.0 | 89 | 0.00 |
| 65 | T,M | 1,2-Dibromoethane | 0.580 | 0.548 | 5.5 | 90 | 0.00 |
| 66 | T,M | 1-Chlorohexane | 0.751 | 0.718 | 4.4 | 93 | 0.00 |
| 67 | P,T,M | Chlorobenzene | 1.498 | 1.416 | 5.5 | 94 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.637 | 0.608 | 4.6 | 92 | 0.00 |
| 69 | C,T,M | Ethylbenzene | 2.742 | 2.759 | -0.6 | 101 | 0.00 |
| 70 | T,M | m-Xylene & p-Xylene | 2.236 | 2.164 | 3.2 | 101 | 0.00 |
| 71 | T,M | o-Xylene | 2.117 | 2.146 | -1.4 | 99 | 0.00 |
| 72 | T,M | Styrene | 1.480 | 1.531 | -3.4 | 100 | 0.00 |
| 73 | T,M | Isopropylbenzene | 2.412 | 2.496 | -3.5 | 100 | 0.00 |
| 74 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 92 | 0.00 |
| 75 | P,T,M | Bromoform | 1.091 | 0.910 | 16.6 | 78 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 1.394 | 1.402 | -0.6 | 96 | -0.01 |
| 77 | S | 4-Bromofluorobenzene | 1.587 | 1.626 | -2.5 | 96 | 0.00 |
| 78 | T,M | 1,2,3-Trichloropropane | 0.385 | 0.403 | -4.7 | 99 | -0.01 |
| 79 | T,M | trans-1,4-Dichloro-2-butene | 0.389 | 0.371 | 4.6 | 86 | 0.00 |
| 80 | T,M | n-Propylbenzene | 6.341 | 6.516 | -2.8 | 100 | 0.00 |
| 81 | T,M | Bromobenzene | 1.392 | 1.269 | 8.8 | 84 | 0.00 |
| 82 | T,M | 1,3,5-Trimethylbenzene | 4.359 | 4.701 | -7.8 | 103 | -0.01 |
| 83 | T,M | 2-Chlorotoluene | 3.914 | 4.010 | -2.5 | 101 | 0.00 |
| 84 | T,M | 4-Chlorotoluene | 3.796 | 4.169 | -9.8 | 99 | 0.00 |
| 85 | T,M | tert-Butylbenzene | 0.675 | 0.691 | -2.4 | 98 | -0.01 |
| 86 | T,M | 1,2,4-Trimethylbenzene | 4.263 | 4.696 | -10.2 | 104 | 0.00 |
| 87 | T,M | sec-Butylbenzene | 4.940 | 5.181 | -4.9 | 99 | 0.00 |
| 88 | T,M | p-Isopropyltoluene | 4.145 | 4.304 | -3.8 | 100 | 0.00 |
| 89 | T,M | 1,3-Dichlorobenzene | 2.303 | 2.284 | 0.8 | 97 | 0.00 |
| 90 | T,M | 1,2,3-Trimethylbenzene | 4.224 | 4.650 | -10.1 | 103 | 0.00 |
| 91 | T,M | 1,4-Dichlorobenzene | 2.349 | 2.292 | 2.4 | 95 | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.942 | 3.933 | 0.2 | 96 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 2.184 | 2.137 | 2.2 | 98 | -0.01 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.283 | 0.240 | 15.2 | 84 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 1.493 | 1.239 | 17.0 | 89 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.755 | 0.629 | 16.7 | 77 | 0.00 |
| 97 | T,M | Naphthalene | 3.377 | 3.084 | 8.7 | 86 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 1.419 | 1.148 | 19.1 | 86 | 0.00 |

Evaluate Continuing Calibration Report

Data File : D:\Data\24F14\RFG179.D
Acq On : 14 Jun 2024 22:28
Sample : EVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG179.D
Acq On : 14 Jun 2024 22:28
Sample : EVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
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Quant Results File: VOE2E17.RES

Vial: 28
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Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-DIFLUOROBENZENE | 5.987 | 114 | 475094 | 10.00 | ug/l | 0.00 |
| 55) CHLOROBENZENE-D5 | 9.564 | 117 | 398319 | 10.00 | ug/l | 0.00 |
| 74) 1,2-DICHLOROBENZENE-D4 | 13.889 | 152 | 182539 | 10.00 | ug/l | 0.00 |
| System Monitoring Compounds | | | | | | |
| 36) Dibromofluoromethane | 5.338 | 111 | 260527 | 8.95 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 89.50% | | |
| 41) 1,2-Dichloroethane-d4 | 5.723 | 65 | 409823 | 10.66 | ug/L | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.60% | | |
| 56) Toluene-d8 | 7.594 | 98 | 729282 | 9.21 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 92.10% | | |
| 77) 4-Bromofluorobenzene | 11.369 | 95 | 296762 | 10.24 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.40% | | |
| Target Compounds | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 2.708 | 85 | 249089 | 9.14 | ug/l | 98 |
| 3) Chloromethane | 2.906 | 50 | 144422 | 7.38 | ug/l | 99 |
| 4) Vinyl chloride | 2.994 | 62 | 204462 | 9.90 | ug/l | 97 |
| 5) Bromomethane | 3.313 | 94 | 54614 | 3.91 | ug/l | 96 |
| 6) Dichlorofluoromethane | 3.357 | 67 | 481876 | 10.21 | ug/L | 96 |
| 7) Chloroethane | 3.346 | 64 | 91855 | 9.07 | ug/l | 94 |
| 8) Trichlorofluoromethane | 3.511 | 101 | 355434 | 7.66 | ug/l | 98 |
| 9) Acrolein | 3.742 | 56 | 128657 | 41.64 | ug/l | 96 |
| 10) 1,1,2-Trichloro-1,2,2-... | 3.753 | 151 | 171319 | 8.46 | ug/l | 100 |
| 11) Acetone | 3.764 | 43 | 364267 | 60.51 | ug/l | 100 |
| 12) tert-Butyl alcohol | 3.874 | 59 | 752789 | 260.57 | ug/L | 95 |
| 13) 1,1-Dichloroethene | 3.907 | 61 | 455295 | 10.72 | ug/l | 92 |
| 14) Acetonitrile | 3.874 | 41 | 174212 | 121.51 | ug/L | 95 |
| 15) Allyl chloride | 4.105 | 76 | 113148 | 10.09 | ug/L | 99 |
| 16) Iodomethane | 4.149 | 142 | 92555 | 4.27 | ug/l | 94 |
| 18) Methylene chloride | 4.182 | 49 | 396263 | 13.27 | ug/l | 87 |
| 19) Acrylonitrile | 4.215 | 53 | 428719 | 60.02 | ug/l | 98 |
| 20) tert-Butyl methyl ethe... | 4.226 | 73 | 748140 | 10.54 | ug/L | 95 |
| 21) Carbon disulfide | 4.304 | 76 | 551559 | 8.48 | ug/l | 100 |
| 22) trans-1,2-Dichloroethene | 4.370 | 96 | 206893 | 9.13 | ug/l | 97 |
| 23) Isopropyl ether (DIPE) | 4.458 | 45 | 867557 | 12.01 | ug/l | 95 |
| 24) Vinyl acetate | 4.546 | 43 | 319540 | 7.77 | ug/l | 98 |
| 25) 1,1-Dichloroethane | 4.634 | 63 | 509359 | 11.11 | ug/l | 95 |
| 26) tert-Butyl ethyl ether... | 4.733 | 59 | 911251 | 10.39 | ug/l | 94 |
| 27) 2-Butanone | 4.854 | 72 | 107203 | 48.09 | ug/l | 93 |
| 28) Propionitrile | 4.909 | 54 | 309964 | 118.01 | ug/L | 99 |
| 29) Isobutyl alcohol | 5.030 | 43 | 225168 | 242.62 | ug/L | 100 |
| 30) 2,2-Dichloropropane | 5.019 | 77 | 442479 | 9.65 | ug/l | 99 |
| 31) Methacrylonitrile | 5.052 | 52 | 514690 | 119.35 | ug/L | 86 |
| 32) cis-1,2-Dichloroethene | 5.063 | 96 | 249996 | 9.69 | ug/l | 99 |
| 33) Chloroform | 5.173 | 83 | 551293 | 9.70 | ug/l | 96 |
| 34) Bromochloromethane | 5.327 | 130 | 143188 | 9.45 | ug/l | 98 |
| 35) Tetrahydrofuran | 5.316 | 42 | 69175 | 11.55 | ug/L | 86 |
| 37) 1,1,1-Trichloroethane | 5.503 | 97 | 516416 | 10.08 | ug/l | 97 |
| 39) tert-Amyl methyl ether... | 5.613 | 87 | 175090 | 11.18 | ug/l | 94 |
| 40) 1,1-Dichloropropene | 5.613 | 110 | 109886 | 9.79 | ug/L | 93 |
| 42) Carbon tetrachloride | 5.734 | 119 | 435272 | 10.04 | ug/L | 98 |
| 43) 1,2-Dichloroethane | 5.800 | 62 | 506401 | 11.59 | ug/L | 99 |
| 44) Benzene | 5.866 | 78 | 866917 | 9.97 | ug/L | 96 |

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Vial: 28
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Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 45) | Trichloroethene | 6.372 | 130 | 217184 | 9.05 | ug/L | 98 |
| 46) | Methyl methacrylate | 6.428 | 69 | 146531 | 6.89 | ug/L | 97 |
| 48) | 1,2-Dichloropropane | 6.527 | 63 | 238105 | 10.73 | ug/L | 100 |
| 50) | Bromodichloromethane | 6.769 | 83 | 420864 | 10.02 | ug/L | 100 |
| 51) | Dibromomethane | 6.857 | 93 | 166500 | 9.22 | ug/L | 95 |
| 52) | 2-Chloroethyl vinyl ether | 6.934 | 63 | 113289 | 10.31 | ug/L | 97 |
| 53) | 4-Methyl-2-pentanone | 6.956 | 43 | 1455906 | 59.90 | ug/L | 98 |
| 54) | cis-1,3-Dichloropropene | 7.275 | 75 | 380383 | 9.80 | ug/L | 90 |
| 57) | Ethyl methacrylate | 7.693 | 69 | 275784 | 10.15 | ug/L | 79 |
| 58) | Toluene | 7.693 | 91 | 899977 | 9.96 | ug/l | 99 |
| 59) | trans-1,3-Dichloropropene | 7.814 | 75 | 382835 | 9.90 | ug/l | 86 |
| 60) | 2-Hexanone | 7.935 | 43 | 990331 | 60.63 | ug/l | 98 |
| 61) | 1,1,2-Trichloroethane | 8.045 | 97 | 201396 | 9.39 | ug/l | 98 |
| 62) | 1,3-Dichloropropane | 8.353 | 76 | 325573 | 10.23 | ug/l | 99 |
| 63) | Tetrachloroethene | 8.507 | 164 | 188757 | 9.56 | ug/l | 97 |
| 64) | Dibromochloromethane | 8.783 | 129 | 285918 | 8.89 | ug/l | 99 |
| 65) | 1,2-Dibromoethane | 9.069 | 107 | 218420 | 9.45 | ug/l | 98 |
| 66) | 1-Chlorohexane | 9.124 | 91 | 285852 | 9.56 | ug/l | 95 |
| 67) | Chlorobenzene | 9.619 | 112 | 563828 | 9.45 | ug/l | 99 |
| 68) | 1,1,1,2-Tetrachloroethane | 9.652 | 131 | 242367 | 9.55 | ug/l | 98 |
| 69) | Ethylbenzene | 9.641 | 91 | 1099131 | 10.06 | ug/l | 100 |
| 70) | m-Xylene & p-Xylene | 9.740 | 91 | 1723985 | 19.36 | ug/l | 100 |
| 71) | o-Xylene | 10.411 | 91 | 854603 | 10.14 | ug/l | 100 |
| 72) | Styrene | 10.455 | 104 | 609638 | 10.34 | ug/l | 98 |
| 73) | Isopropylbenzene | 10.940 | 105 | 994009 | 10.35 | ug/L | 99 |
| 75) | Bromoform | 11.061 | 173 | 166086 | 8.34 | ug/l | 98 |
| 76) | 1,1,2,2-Tetrachloroethane | 11.193 | 83 | 255975 | 10.06 | ug/l | 100 |
| 78) | 1,2,3-Trichloropropane | 11.435 | 110 | 73521 | 10.47 | ug/l | 95 |
| 79) | trans-1,4-Dichloro-2-b... | 11.512 | 53 | 67701 | 9.52 | ug/l | 83 |
| 80) | n-Propylbenzene | 11.578 | 91 | 1189455 | 10.28 | ug/l | 99 |
| 81) | Bromobenzene | 11.732 | 156 | 231620 | 9.12 | ug/l | 96 |
| 82) | 1,3,5-Trimethylbenzene | 11.820 | 105 | 858181 | 10.79 | ug/l | 97 |
| 83) | 2-Chlorotoluene | 11.919 | 91 | 731972 | 10.25 | ug/l | 91 |
| 84) | 4-Chlorotoluene | 11.974 | 91 | 760938 | 12.67 | ug/l | 97 |
| 85) | tert-Butylbenzene | 12.403 | 134 | 126108 | 10.24 | ug/l | 99 |
| 86) | 1,2,4-Trimethylbenzene | 12.469 | 105 | 857293 | 11.02 | ug/l | 96 |
| 87) | sec-Butylbenzene | 12.744 | 105 | 945765 | 10.49 | ug/l | 99 |
| 88) | p-Isopropyltoluene | 12.954 | 119 | 785678 | 10.38 | ug/l | 99 |
| 89) | 1,3-Dichlorobenzene | 13.163 | 146 | 416946 | 11.49 | ug/l | 99 |
| 90) | 1,2,3-Trimethylbenzene | 13.251 | 105 | 848889 | 11.01 | ug/L | 97 |
| 91) | 1,4-Dichlorobenzene | 13.328 | 146 | 418344 | 11.09 | ug/l | 99 |
| 92) | n-Butylbenzene | 13.614 | 91 | 717983 | 9.98 | ug/l | 100 |
| 93) | 1,2-Dichlorobenzene | 13.922 | 146 | 390148 | 9.78 | ug/l | 99 |
| 94) | 1,2-Dibromo-3-chloropr... | 15.133 | 157 | 43837 | 8.47 | ug/l | 97 |
| 95) | 1,2,4-Trichlorobenzene | 16.464 | 180 | 226227 | 9.30 | ug/l | 97 |
| 96) | Hexachlorobutadiene | 16.662 | 225 | 114840 | 8.33 | ug/l | 96 |
| 97) | Naphthalene | 16.871 | 128 | 562878 | 9.13 | ug/l | 98 |
| 98) | 1,2,3-Trichlorobenzene | 17.224 | 180 | 209509 | 9.05 | ug/l | 98 |

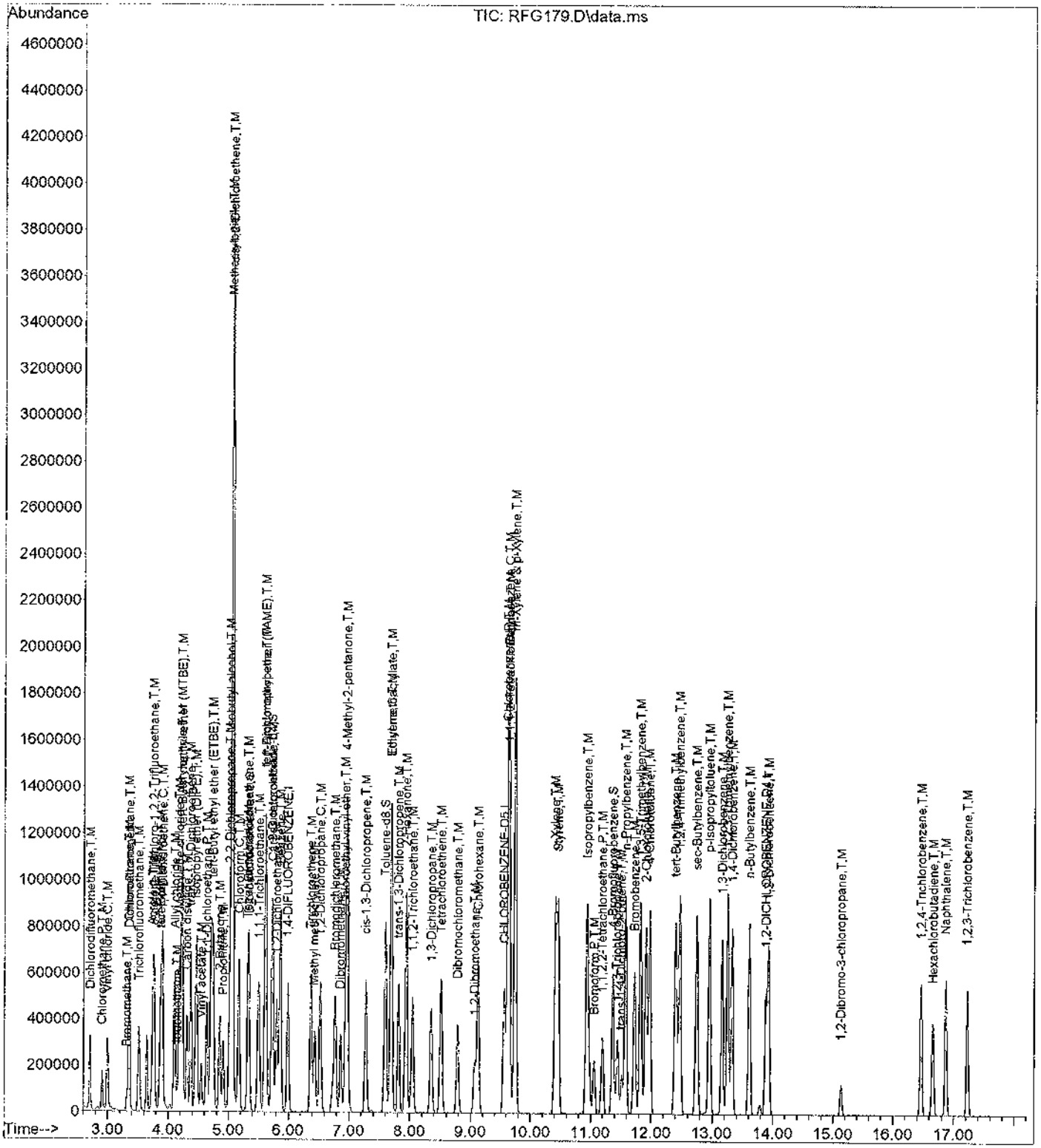
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\Data\24F14\RFG179.D
Acq On : 14 Jun 2024 22:28
Sample : EVOE2E1709
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
Integrator: RTE
Quant Time: Jun 17 19:37:26 2024
Quant Results File: VOE2E17.RES

Vial: 28
Operator: DNguye
Inst : E2
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\VOE2E17.M
Quant Title : METHOD 8260B 10mL
QLast Update : Tue May 21 20:44:17 2024
Response via : Initial Calibration
DataAcq Meth:VOE2E17.M



# ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 05/17/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge Book #: AE2-031

BATCH VOE2E17

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | VOE2E17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc. (mg/L) |
|---|---|---|---|
| DCC $CS_2$ | SV1-43-98-01 | * | 250 |
| DCC GAS | -98-03 | | 250 |
| DCC METHANOL | -97-02 | | 250/6250 |
| DCC 8260 | -97-01 | | 250 |
| BFB | -76-02 | 1 | 50 |
| IS/SURR. | -96-02 | 5 | 20 |
| | -96-03 | * | 250 |
| ICV/LCS | -71-02 | 0.4 | 250 |
| ICV/LCS | -94-01 | .4 | 250 |
| ICV/LCS | -70-01 | 2 | 250 |
| | -94-02 | 2 | 50 |
| ICV/LCS | -85-02 | 2 | 50 |
| Data File Folder | 24E17 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | | 1451-03-04-14-6 |
| Chlorine strip | | -04-13-3 |
| Methanol | | -03-25 |
| $NaHSO_4$ | | -02-25 |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments: * Varied amount

Analyzed By: DN

Date Disposed: 5/18/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24E17

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Reg116.d | 1. | BFBE2E09 | T/CHK | 17 May 2024 11:2 |
| 2 | 2 | Reg117.d | 1. | VOE2E161 0.012 WRONG SPIKE | 0.3ppb 8260/1.5pp... | 17 May 2024 12:1 |
| 3 | 3 | Reg118.d | 1. | VOE2E172 0.02 | 0.5ppb 8260/2.5pp... | 17 May 2024 12:3 |
| 4 | 4 | Reg119.d | 1. | VOE2E173 0.04 | 1.0ppb 8260/5.0pp... | 17 May 2024 12:5 |
| 5 | 5 | Reg120.d | 1. | VOE2E174 0.08 | 2.0ppb 8260/10ppb... | 17 May 2024 13:2 |
| 6 | 6 | Reg121.d | 1. | VOE2E175 0.2 | 5.0ppb 8260/25ppb... | 17 May 2024 13:4 |
| 7 | 7 | Reg122.d | 1. | VOE2E176 0.4 | 10ppb 8260/50ppb ... | 17 May 2024 14:0 |
| 8 | 8 | Reg123.d | 1. | VOE2E177 1.2uL | 30ppb 8260/150ppb... | 17 May 2024 14:3 |
| 9 | 9 | Reg124.d | 1. | VOE2E178 2uL | 50ppb 8260/250pb ... | 17 May 2024 14:5 |
| 10 | 10 | Reg125.d | 1. | VOE2E179 4uL | 100ppb 8260/500pp... | 17 May 2024 15:2 |
| 11 | 11 | Reg126.d | 1. | VOE2E1710 8uL | 200ppb 8260/1000p... | 17 May 2024 15:4 |
| 12 | 12 | Reg127.d | 1. | RINSE | | 17 May 2024 16:0 |
| 13 | 13 | Reg128.d | 1. | RINSE | | 17 May 2024 16:3 |
| 14 | 14 | Reg129.d | 1. | IVOE2E1701 %REC>20 | 10ppb 8260/50ppb ... | 17 May 2024 21:0 |

ZL 5/23/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 05/18/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH 10E2E1702

| Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | |
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ZH 5/23/24

| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | 10E2E17 |

STANDARDS

| NAME | ID | Amount (µL) | Conc (ng/mL) |
|---|---|---|---|
| DCC | | | |
| DCC | | | |
| DCC | | | |
| DCC | | | |
| BFB | SVI-43-78-02 | 1 | 50 |
| IS/SURR. | -96-02 | 5 | 20 |
| | -96-03 | 4 | 50 |
| ICV/LCS | -91-02 | 4 | 250 |
| ICV/LCS | -94-01 | 4 | 250 |
| ICV/LCS | -80-01 | 2 | 250 |
| | -94-02 | 2 | 50 |
| ICV/LCS | ↓ -85-02 | 2 | 50 |
| Date File Folder | 24E18 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | | MSV-03-04-14-6 |
| Chlorine strip | | ↓ -04-13-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water: | RW4-23-001 | |
| Sanc | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

Analyzed By: DN

Date Disposed: 5/20/24 Disposed By: DN

# Injection Log

Directory: d:\Data\24E18

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Reg130.d | 1. | BFBE2E09 | T/CHK | 18 May 2024 09:1 |
| 2 | 2 | Reg131.d | 1. | IVOE2E1702 | 10ppb 8260/50ppb ... | 18 May 2024 09:5 |

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/11/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH ____

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH <2 | Matrix W $Cl_2$ <5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | VOE2F17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc. (mg/L) |
|---|---|---|---|
| DCC | SV1-43-94-02 | .4 | |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | |
| DCC | -86-01 | 2 | 50/150 |
| BFB | -38-02 | 1 | |
| IS/SURR. | SV1-45-04-02 | 5 | 20 |
| ICV/LCS | SV1-43-79-02 | .4 | |
| ICV/LCS | -82-01 | .4 | |
| ICV/LCS | -92-01 | 2 | 50/150 |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC210330 | MLV-03-01-14-6 |
| Chlorine strip | 319117B | -B-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | DW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

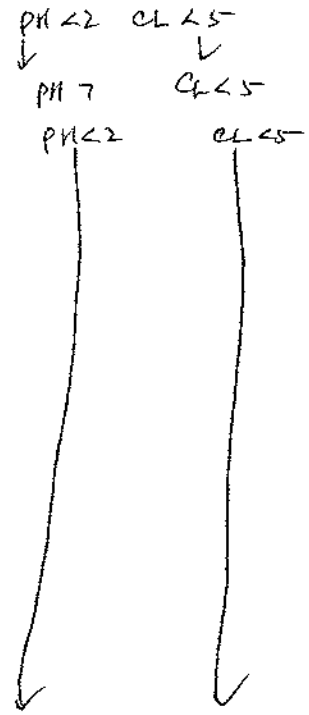
Analyzed By: DH

Date Disposed: 6/12/24 Disposed By: DH

# Injection Log

Directory: d:\Data\24F11

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg091.d | 1. | BFBF04 | T/CHK | 11 Jun 2024 12:47 |
| 2 | 2 | Rfg092.d | 1. | CVOE2E1707 | 10ppb 8260/50ppb ... | 11 Jun 2024 13:35 |
| 3 | 3 | Rfg093.d | 1. | VOE2F04L | 10ppb 8260/50ppb ... | 11 Jun 2024 14:15 |
| 4 | 4 | Rfg094.d | 1. | VOE2F04C | 10ppb 8260/50ppb ... | 11 Jun 2024 14:39 |
| 5 | 5 | Rfg095.d | 1. | RINSE | 10ppb 8260/50ppb ... | 11 Jun 2024 15:03 |
| 6 | 6 | Rfg096.d | 1. | VOE2F04B | 10.0mL | 11 Jun 2024 15:26 |
| 7 | 7 | Rfg097.d | 1. | 24F004-06N | 10.0mL | 11 Jun 2024 15:50 |
| 8 | 8 | Rfg098.d | 1. | 24F004-01N | 10.0mL | 11 Jun 2024 16:14 |
| 9 | 9 | Rfg099.d | 1. | PV-004-08-03 | 10.0mL | 11 Jun 2024 16:37 |
| 10 | 10 | Rfg100.d | 1. | 24F004-08I 10X | 1.0mL | 11 Jun 2024 17:01 |
| 11 | 11 | Rfg101.d | 1. | 24F003-14 | 10mL | 11 Jun 2024 17:25 |
| 12 | 12 | Rfg102.d | 1. | 24F003-15 | 10mL | 11 Jun 2024 17:49 |
| 13 | 13 | Rfg103.d | 1. | 24F003-16 | 10mL | 11 Jun 2024 18:13 |
| 14 | 14 | Rfg104.d | 1. | 24F003-17 | 10mL | 11 Jun 2024 18:37 |
| 15 | 15 | Rfg105.d | 1. | 24F038-01 | 10mL | 11 Jun 2024 19:00 |
| 16 | 16 | Rfg106.d | 1. | RIMSE | 1.0mL | 11 Jun 2024 19:24 |
| 17 | 17 | Rfg107.d | 1. | 24F019-01 | 10mL | 11 Jun 2024 19:47 |
| 18 | 18 | Rfg108.d | 1. | 24F019-02 | 10mL | 11 Jun 2024 20:11 |
| 19 | 19 | Rfg109.d | 1. | 24F019-04 | 10mL | 11 Jun 2024 20:34 |
| 20 | 20 | Rfg110.d | 1. | 24F019-05 | 10mL | 11 Jun 2024 20:58 |
| 21 | 21 | Rfg111.d | 1. | 24F019-06 | 10mL | 11 Jun 2024 21:21 |
| 22 | 22 | Rfg112.d | 1. | 24F019-07 | 10mL | 11 Jun 2024 21:45 |
| 23 | 23 | Rfg113.d | 1. | 24F019-08 | 10mL | 11 Jun 2024 22:09 |
| 24 | 24 | Rfg114.d | 1. | 24F019-09 | 10mL | 11 Jun 2024 22:32 |
| 25 | 25 | Rfg115.d | 1. | 24F019-10 | 10mL | 11 Jun 2024 22:56 |
| 26 | 26 | Rfg116.d | 1. | 24F019-11 | 10mL | 11 Jun 2024 23:19 |
| 27 | 27 | Rfg117.d | 1. | 24F019-02M | 10mL | 11 Jun 2024 23:42 |
| 28 | 28 | Rfg118.d | 1. | 24F019-02S | 10mL | 12 Jun 2024 00:06 |
| 29 | 29 | Rfg119.d | 1. | EVOE2E1707 | 10ppb 8260/50ppb ... | 12 Jun 2024 00:30 |
| 30 | 30 | Rfg120.d | 1. | EVOE2E17071 | 10ppb 8260/50ppb ... | 12 Jun 2024 00:53 |
| 31 | 31 | Rfg121.d | 1. | EVOE2E17072 | 10ppb 8260/50ppb ... | 12 Jun 2024 01:17 |




DI 6/18/24

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-MB260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/13/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH < 2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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| Instrument No. | E2 |
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| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | V0E2E17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc. (mg/L) |
|---|---|---|---|
| DCC | SVL-43-94-02 | .4 | |
| DCC | -98-03 | .4 | |
| DCC | -93-03 | 2 | 50/50 |
| DCC | -86-01 | 2 | |
| BFB | -38-02 | 1 | |
| IS/SURR. | SVL-45-04-02 | 5 | 20 |
| ICV/LCS | SVL-43-78-02 | .4 | |
| ICV/LCS | -82-01 | .4 | 50/50 |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | -77-01 | 2 | |
| Data File Folder | 24F13 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC20330 | MSV-03-04-14-6 |
| Chlorine strip | 3191178 | ↓ -13-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

Analyzed By: DY

Date Disposed: 6/14/24 Disposed By: DY

# Injection Log

Directory: d:\Data\24F13

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg122.d | 1. | BFBF05 | T/CHK | 13 Jun 2024 08:43 |
| 2 | 2 | Rfg123.d | 1. | CVOE2E1708 | 10ppb 8260/50ppb ... | 13 Jun 2024 09:30 |
| 3 | 3 | Rfg124.d | 1. | VOE2F05L | 10ppb 8260/50ppb ... | 13 Jun 2024 10:20 |
| 4 | 4 | Rfg125.d | 1. | VOE2F05C | 10ppb 8260/50ppb ... | 13 Jun 2024 10:44 |
| 5 | 5 | Rfg126.d | 1. | RINSE | 10mL | 13 Jun 2024 11:08 |
| 6 | 6 | Rfg127.d | 1. | VOE2F05B | 10mL | 13 Jun 2024 11:31 |
| 7 | 7 | Rfg128.d | 1. | 24F019-14 | 10mL | 13 Jun 2024 12:42 |
| 8 | 8 | Rfg129.d | 1. | 24F019-13 | 10mL | 13 Jun 2024 13:06 |
| 9 | 9 | Rfg130.d | 1. | 24F019-12 | 10mL | 13 Jun 2024 13:30 |
| 10 | 10 | Rfg131.d | 1. | 24F019-02N | 10mL | 13 Jun 2024 13:54 |
| 11 | 11 | Rfg132.d | 1. | 24F019-03 | 10mL | 13 Jun 2024 14:17 |
| 12 | 12 | Rfg133.d | 1. | 24F019-02M | 10mL | 13 Jun 2024 14:41 |
| 13 | 13 | Rfg134.d | 1. | 24F019-02S | 10mL | 13 Jun 2024 15:05 |
| 14 | 14 | Rfg135.d | 1. | 24F019-03M | 10mL | 13 Jun 2024 15:28 |
| 15 | 15 | Rfg136.d | 1. | 24F019-03S | 10mL | 13 Jun 2024 15:52 |
| 16 | 16 | Rfg137.d | 1. | 24033-01M | 10mL | 13 Jun 2024 16:16 |
| 17 | 17 | Rfg138.d | 1. | 24033-01S | 10mL | 13 Jun 2024 16:39 |
| 18 | 18 | Rfg139.d | 1. | RINSE | 10mL | 13 Jun 2024 17:03 |
| 19 | 19 | Rfg140.d | 1. | 24F033-09 | 10mL | 13 Jun 2024 17:26 |
| 20 | 20 | Rfg141.d | 1. | 24F033-01 | 10mL | 13 Jun 2024 17:51 |
| 21 | 21 | Rfg142.d | 1. | 24F033-02 | 10mL | 13 Jun 2024 18:14 |
| 22 | 22 | Rfg143.d | 1. | 24F033-03 | 10mL | 13 Jun 2024 18:38 |
| 23 | 23 | Rfg144.d | 1. | 24F033-04 | 10mL | 13 Jun 2024 19:02 |
| 24 | 24 | Rfg145.d | 1. | 24F033-05 | 10mL | 13 Jun 2024 19:25 |
| 25 | 25 | Rfg146.d | 1. | 24F033-06 | 10mL | 13 Jun 2024 19:50 |
| 26 | 26 | Rfg147.d | 1. | 24F033-07 | 10mL | 13 Jun 2024 20:14 |
| 27 | 27 | Rfg148.d | 1. | 24F033-08 | 10mL | 13 Jun 2024 20:37 |
| 28 | 28 | Rfg149.d | 1. | EVOE2E1708 | 10ppb 8260/50ppb ... | 13 Jun 2024 21:01 |
| 29 | 29 | Rfg150.d | 1. | EVOE2E17081 | 10ppb 8260/50ppb ... | 13 Jun 2024 21:25 |
| 30 | 30 | Rfg151.d | 1. | EVOE2E1782 | 10ppb 8260/50ppb ... | 13 Jun 2024 21:49 |

EMAX LABORATORIES, INC.

# ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☑ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCP5IM Rev.No. 2 ☐ EMAX-624 Rev.No. 6 ☐ EMAX-624.1 Rev.No. 1

Start Date: 6/11/24 ☐ 5-mL Purge ☑ 10-mL Purge ☐ 25-mL Purge

Book #: AE2-031

BATCH

| | Sample Prep ID | Data File Name | Lab Sample ID | Sample Amount | DF | Matrix W pH < 2 | Matrix W $Cl_2$ < 5ppm | Matrix S | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 01 | | | | | | | | | |
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| Instrument No. | E2 |
|---|---|
| INITIAL CALIBRATION REFERENCE | |
| DATE | 5/17/24 |
| ICAL ID | V0E2E17 |

STANDARDS

| NAME | ID | Amount (µl) | Conc (mg/L) |
|---|---|---|---|
| DCC | SVI-43-94-02 | 1.4 | 50/80 |
| DCC | -89-03 | .4 | |
| DCC | -93-03 | 2 | |
| DCC | -86-01 | 2 | |
| BFB | -38-02 | 1 | |
| IS/SURR. | SVI-45-04-02 | 5 | 20 |
| ICV/LCS | SVI-43-79-02 | .4 | 50/50 |
| ICV/LCS | -82-01 | .4 | |
| ICV/LCS | -92-01 | 2 | |
| ICV/LCS | 77-01 | 2 | |
| Data File Folder | 24F14 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | HC310330 | MGV-03-04-14-6 |
| Chlorine strip | 31811713 | -13-3 |
| Methanol | | |
| $NaHSO_4$ | | |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| Electronic Data Archival Location | Date |
|---|---|
| HPCHEM_VOA/TOE2 | |

Comments:

Analyzed By: DH

Date Disposed: 6/17/24 Disposed By: DH

# Injection Log

Directory: d:\Data\24F14

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | Rfg152.d | 1. | BFBF06 | T/CHK | 14 Jun 2024 10:16 |
| 2 | 2 | Rfg153.d | 1. | CVOE2E1709 | 10ppb 8260/50ppb ... | 14 Jun 2024 11:54 |
| 3 | 3 | Rfg154.d | 1. | VOE2F06L | 10ppb 8260/50ppb ... | 14 Jun 2024 12:35 |
| 4 | 4 | Rfg155.d | 1. | VOE2F06C | 10ppb 8260/50ppb ... | 14 Jun 2024 12:58 |
| 5 | 5 | Rfg156.d | 1. | RINSE | 10mL | 14 Jun 2024 13:22 |
| 6 | 6 | Rfg157.d | 1. | VOE2F06B | 10mL | 14 Jun 2024 13:46 |
| 7 | 7 | Rfg158.d | 1. | 24F019-14N | 10mL | 14 Jun 2024 14:10 |
| 8 | 8 | Rfg159.d | 1. | 24F061-01 | 10mL | 14 Jun 2024 14:34 |
| 9 | 9 | Rfg160.d | 1. | 24F061-02 | 10mL | 14 Jun 2024 14:57 |
| 10 | 10 | Rfg161.d | 1. | 24F061-03 | 10mL | 14 Jun 2024 15:21 |
| 11 | 11 | Rfg162.d | 1. | 24F061-04 | 10mL | 14 Jun 2024 15:45 |
| 12 | 12 | Rfg163.d | 1. | 24F061-05 | 10mL | 14 Jun 2024 16:09 |
| 13 | 13 | Rfg164.d | 1. | 24F061-06 | 10mL | 14 Jun 2024 16:33 |
| 14 | 14 | Rfg165.d | 1. | 24F061-07 | 10mL | 14 Jun 2024 16:57 |
| 15 | 15 | Rfg166.d | 1. | 24F049-13 | 10mL | 14 Jun 2024 17:20 |
| 16 | 16 | Rfg167.d | 1. | RINSE | 10mL | 14 Jun 2024 17:44 |
| 17 | 17 | Rfg168.d | 1. | 24F049-10 | 10mL | 14 Jun 2024 18:08 |
| 18 | 18 | Rfg169.d | 1. | 24F049-01 | 10mL | 14 Jun 2024 18:31 |
| 19 | 19 | Rfg170.d | 1. | 24F049-02 | 10mL | 14 Jun 2024 18:55 |
| 20 | 20 | Rfg171.d | 1. | 24F049-03 | 10mL | 14 Jun 2024 19:19 |
| 21 | 21 | Rfg172.d | 1. | 24F049-04 | 10mL | 14 Jun 2024 19:43 |
| 22 | 22 | Rfg173.d | 1. | 24F049-05 | 10mL | 14 Jun 2024 20:06 |
| 23 | 23 | Rfg174.d | 1. | 24F049-06 | 10mL | 14 Jun 2024 20:30 |
| 24 | 24 | Rfg175.d | 1. | 24F049-07 | 10mL | 14 Jun 2024 20:53 |
| 25 | 25 | Rfg176.d | 1. | 24F049-08 | 10mL | 14 Jun 2024 21:17 |
| 26 | 26 | Rfg177.d | 1. | 24F049-10M | 10mL | 14 Jun 2024 21:41 |
| 27 | 27 | Rfg178.d | 1. | 24F049-10S | 10mL | 14 Jun 2024 22:04 |
| 28 | 28 | Rfg179.d | 1. | EVOE2E1709 | 10ppb 8260/50ppb ... | 14 Jun 2024 22:28 |
| 29 | 29 | Rfg180.d | 1. | EVOE2E17091 | 10ppb 8260/50ppb ... | 14 Jun 2024 22:51 |
| 30 | 30 | Rfg181.d | 1. | EVOE2E17092 | 10ppb 8260/50ppb ... | 14 Jun 2024 23:15 |

# STANDARD LOGS

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-10 | CARBON DISULFIDE | 5000 ppm | 500 µL | 250ppm |
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| | | | IR | 5/16/24 |

| Standard ID | SV1-43-98-01 |
|---|---|
| Name | $CS_2$ (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-10 | CARBON DISULFIDE | 5000ppm | 500µL | 250ppm |
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| | | | IR | 5/16/24 |

| Standard ID | SV1-43-98-02 |
|---|---|
| Name | $CS_2$ (1°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-19 | VOC Gas Std. | 2000ppm | 1250 µL | 250ppm |
| ↓ -15-18 | Vinyl Acetate | 2500ppm | 1000 µL | ↓ |
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| | | | IR | 5/16/24 |

| Standard ID | SV1-43-98-03 |
|---|---|
| Name | GAS (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | IR |

Syringe ID: MSV-03-01-16
-03-03-05

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. ppm | Aliquot µL | Final Conc. ppm |
|---|---|---|---|---|
| SV1-08-12-11 | TBA | 5000 | 200 | 500 |
| 09-07 | 1,2,3-TMB | 2500 | ↓ | 250 |
| 13-20 | 0 Gas Add Std | 2000 | 250 | 250 |
| 13-08 | 2- CLEVE | ↓ | ↓ | ↓ |
| 13-18 | 1 Chlorohexane | | | |
| ↓ 11-11 | Cust. VOA Mix | | | |
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| | | | DH 5/17/24 | |

| Standard ID | SV1-43-97-01 |
|---|---|
| Name | 8260 (1) |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | DN |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. ppm | Aliquot µL | Final Conc. |
|---|---|---|---|---|
| SV1-08-14-05 | VOA Mix 1 | 5000 | 500 | 250 ppm |
| 15-12 | Acrolein & Acrylonitrile | ↓ | ↓ | ↓ |
| 11-07 | 2-butanol | 50000 | 250 | 6250 ppm |
| 12-12 | Cyclohexane | 2000 | ↓ | 250 ppm |
| 14-01 | Methyl Acetate | 2500 | 2500 | ↓ |
| ↓ 14-03 | Methyl Cyclohexane | ↓ | ↓ | |
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| | | | DH 5/17/24 | |

| Standard ID | SV1-43-97-02 |
|---|---|
| Name | Ref. AA - Used |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | DN |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-43-85-02 | 8260 (2°) | 50 ppm | 200 µL | 5.0 ppm |
| ↓ -88-02 | 624 (2°) | 250 ppm | 40 µL | ↓ |
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| | | | IR 5/16/24 | |

| Standard ID | SV1-43-97-03 |
|---|---|
| Name | SIM (2°) |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 9/22/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05
-03-03-03

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-14-05 | VOA Calibration Mix #1 | 5000ppm | 0.5mL | 250ppm |
| ↓ 38-15-04 | Acrolein + Acrylonitrile | ↓ | ↓ | ↓ |
| | | | | |
| | | | DH 2/26/24 | |

| Standard ID | SV1-43-76-01 |
|---|---|
| Name | Ket-AA (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-11-24-02 |
| Prep. Date | 2/26/24 |
| Exp. Date | 5/26/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-30-02-02 | VOA TUNING CMPD MIX | 5000ppm | 100mL | 50ppm |
| | | | | |
| | | | BL 2/26/24 | |

| Standard ID | SV1-43-76-02 |
|---|---|
| Name | BFB |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 2/26/24 |
| Exp. Date | 8/26/24 |
| Prepared By | BL |

Syringe ID: MSV-03-02-25

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-13-17 | vinyl acetate | 2000ppm | 1.25mL | 250 ppm |
| ↓ -12-05 | 8260 gases | ↓ | ↓ | ↓ |
| | | | | |
| | | | | LAP 2/27/24 |

| Standard ID | SV1-43-76-03 |
|---|---|
| Name | GAS (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-11-24-02 |
| Prep. Date | 2/26/24 |
| Exp. Date | 8/26/24 |
| Prepared By | ↑ DH |

Syringe ID: MSV-03-03-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-10 | Carbon Disulfide | 5000ppm | 250µL | 250ppm |
| | | | | LAP 3/11/24 |

| Standard ID | SV1-43-79-01 |
|---|---|
| Name | CS2 (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SVIA-011-24-01 |
| Prep. Date | 3/11/24 |
| Exp. Date | 9/11/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-02-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-08-06 | Carbon Disulfide | 5000ppm | 0.5mL | 250 ppm |
| | | | | LAP 3/11/24 |

| Standard ID | SV1-43-79-02 |
|---|---|
| Name | CS2 (2°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SVIA-011-24-01 |
| Prep. Date | 3/11/24 |
| Exp. Date | 9/11/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-19 | VOC GAS Std | 2000ppm | 1.26mL | 250ppm |
| ↓ -14-09 | Vinyl acetate | 2500ppm | 1.0mL | ↓ |
| | | | | 2L 03/12/24 |

| Standard ID | SV1-43-79-03 |
|---|---|
| Name | GAS (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 03/12/24 |
| Exp. Date | 09/12/24 |
| Prepared By | DM |

Syringe ID: MSV-01-02-20-2

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-10-08 | methyl acetate | 1000ppm | 0.5mL | 50ppm |
| ↓ -14-20 | cyclohexane | ↓ | ↓ | ↓ |
| ↓ -14-11 | methylcyclohexane | | | |
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| | | | N 2/7/24 | |

| Standard ID | SV1-43-70-01 |
|---|---|
| Name | 3add (2°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-02 |
| Prep. Date | 2/7/24 |
| Exp. Date | 8/7/24 |
| Prepared By | N |

Syringe ID: MSV-03-03-04

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-15 | methyl acetate | 2500ppm | 1.0mL | 250ppm |
| ↓ -14-03 | methylcyclohexane | ↓ | ↓ | ↓ |
| ↓ -12-12 | cyclohexane | 2000ppm | 1.25mL | ↓ |
| ↓ -08-11 | 2-butanol | 50,000ppm | ↓ | 6250ppm |
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| | | | N 2/7/24 | |

| Standard ID | SV1-43-70-02 |
|---|---|
| Name | 4add (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-02 |
| Prep. Date | 2/7/24 |
| Exp. Date | 8/7/24 |
| Prepared By | N |

Syringe ID: MSV-03-03-04

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-15 | methyl acetate | 2500ppm | 1.0mL | 250ppm |
| ↓ -14-03 | methylcyclohexane | ↓ | ↓ | ↓ |
| ↓ -12-12 | cyclohexane | 2000ppm | 1.25mL | ↓ |
| ↓ -08-11 | 2-butanol | 50,000ppm | ↓ | 6250ppm |
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| | | | N 2/7/24 | |

| Standard ID | SV1-43-70-03 |
|---|---|
| Name | 4add (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-02 |
| Prep. Date | 2/7/24 |
| Exp. Date | 8/7/24 |
| Prepared By | N |

Syringe ID: MSV-03-03-04

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-15-10 | 8260 gases | 2000 ppm | 1.25 mL | 250 ppm |
| ↓ -38-15-13 | vinyl acetate | ↓ | ↓ | ↓ |
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| | | | DH 5/8/24 | |

| Standard ID | SV1-43-94-01 |
|---|---|
| Name | GAS (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/8/24 |
| Exp. Date | 11/8/24 |
| Prepared By | LAP |

Syringe ID: MSV-02-02-11
↓ -03-02-23

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-15-09 | Ketones soln. | 2500 ppm | 1.0 mL | 250 ppm |
| SV1-38-15-14 | Acrolein & Acrylonitrile | ↓ | 1.25 mL | ↓ |
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| | | | DH 5/8/24 | |

| Standard ID | SV1-43-94-02 |
|---|---|
| Name | KET-AA (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/8/24 |
| Exp. Date | 7/31/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11
↓ ~~03-03~~ DH 5/8/24
MSV-0302-03

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-13-12 | 8260 IS Mix, 3-30 | 2500 ppm | 1.0 mL | 250 ppm |
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| | | | LAP 5/10/24 | |

| Standard ID | SV1-43-94-03 |
|---|---|
| Name | IS |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 5/10/24 |
| Exp. Date | 11/10/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

DH 5/15/24

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVL-38-13-12 ↓ 38-15-15 | 8260 IS Mix 8260A Surr Mix | 2500ppm ↓ | 200µL ↓ | 50ppm ↓ |
| | | | DH 5/13/24 | |

| Standard ID | SV1-43-96-01 |
|---|---|
| Name | IS/SS |
| Final Volume | 10mL |
| MeOH Solvent ID | SWA-011-24-01 |
| Prep. Date | 5/13/24 |
| Exp. Date | 11/12/24 |
| Prepared By | DH |

Syringe ID: MSV-03-03-11 ↓ 02-23

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVL-38-13-02 | 8260 IS | 2500ppm | 4µL | 20ppm |
| | | | DH 5/16/24 | |

| Standard ID | SV1-43-96-02 |
|---|---|
| Name | IS (CF2) |
| Final Volume | 5mL |
| MeOH Solvent ID | SVA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/5/24 |
| Prepared By | DH |

Syringe ID: MSV-03-02-21

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVL-38-10-13 | 8260A SU | 2500ppm | 1.0mL | 250ppm |
| | | | DH 5/16/24 | |

| Standard ID | SV1-43-96-03 |
|---|---|
| Name | SS |
| Final Volume | 10mL |
| MeOH Solvent ID | SUR-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | DH |

Syringe ID: MSV-03-01-14

Comments:

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

# CERTIFIED REFERENCE MATERIAL

SM-38-10-B

# Certificate of Analysis

***chromatographic plus***

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30240 **Lot No.:** A0192204

**Description :** 8260A Surrogate Mix

8260A Surrogate Mix 2,500µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** December 31, 2027 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Dibromofluoromethane | 1868-53-7 | 022013 | 99% | 2,517.6 µg/mL | +/- 141.4279 |
| 2 | 1,2-Dichloroethane-d4 | 17060-07-0 | PR-32845 | 99% | 2,507.6 µg/mL | +/- 140.8661 |
| 3 | Toluene-d8 | 2037-26-5 | I-27008 | 99% | 2,511.4 µg/mL | +/- 141.0796 |
| 4 | 1-Bromo-4-fluorobenzene (BFB) | 460-00-4 | 184975 | 99% | 2,517.8 µg/mL | +/- 141.4391 |

* Expanded Uncertainty displayed in same units as Grav. Cor

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

# Quality Confirmation Test

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

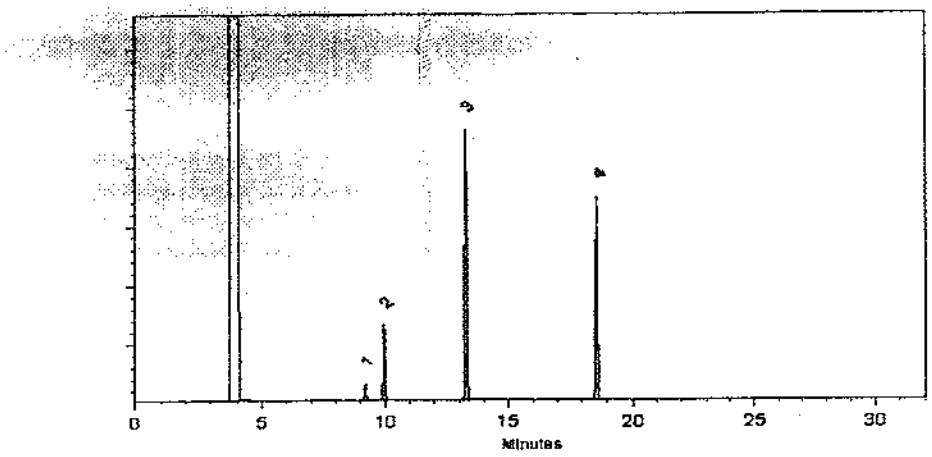
**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID

**Split Vent:**
40 ml/min

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Daniel Wasson - Operations Tech I

**Date Mixed:** 02-Dec-2022 **Balance Serial #** 1128342314

Christie Mills - Operations Tech II - ARM QC

**Date Passed:** 06-Dec-2022

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

SV1-38-13-12

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 7/13/2022
Original issue date: 7/13/2022

# Certificate of Analysis

Date Received: 10/6/23



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -122455-05 | 484785 | -18°C +/- 4°C | P/T Methanol | 12-Jul-2027 | Method 8260 Internal Standard Mix, 3-30, 2,500 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| chlorobenzene-d5 | 3114-55-4 | 99.5 | 128.120.1P | 2504 ± 130 |
| 1,2-dichlorobenzene-$d_4$ | 2199-69-1 | 99.7 | 247.29.3P | 2514 ± 130 |
| 1,4-difluorobenzene | 540-36-3 | 99.3 | 129.158.1.2P | 2523 ± 140 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

SVI-38-13-12

# Certificate of Analysis



**Catalog No.:** Z-G34-122455-05 **Lot No.:** 484785 **Expiration Date:** 7/12/2027

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 12-Jul-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Bradley Richter | Jared Ball | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist II** | **Quality Control Team Lead** |

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-01-20 | Cust. Rev. 8260 Megamix | 2000 ppm | 250 µL | 50 ppm |
| -02-03 | Oxygenated Gas Mix #1 | ↓ | ↓ | ↓ |
| -11-19 | 2-CLEVE | ↓ | ↓ | ↓ |
| -12-20 | 1-Chlorohexane | 1000 | 0.5 mL | ↓ |
| -12-06 | 1,2,3 TMB | 2500 | 200 µL | ↓ |
| -11-18 | TBA | 50000 | 50 µL | 500 ppm |
| -12-17 | Acetonitrile | 20000 | 250 µL | ↓ |
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| | | | IR | 4/12/24 |

| Standard ID | SV1-43-85-01 |
|---|---|
| Name | 8260 (2°) Soil |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 4/12/24 |
| Exp. Date | 10/12/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05 IR 4/12/24
-03-03-03

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-01-20 | Cust. Rev. 8260 Megamix | 2000 ppm | 250 µL | 50 ppm |
| -02-03 | Cal. Oxy. Gas Mix #1 | ↓ | ↓ | ↓ |
| -11-19 | 2-CLEVE | ↓ | ↓ | ↓ |
| -12-20 | 1-Chlorohexane | 1000 ppm | 0.5 mL | ↓ |
| -12-06 | 1,2,3 TMB | 2500 ppm | 200 µL | ↓ |
| -11-18 | TBA | 50000 ppm | ↓ | 1000 ppm |
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| | | | IR | 4/12/24 |

| Standard ID | SV1-43-85-02 |
|---|---|
| Name | 8260 (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 4/12/24 |
| Exp. Date | 10/12/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-11 | Cust. VOA Mix 73-6047 | 2000 ppm | 250 µL | 50 ppm |
| -13-20 | Oxy. Gas Add. | ↓ | ↓ | ↓ |
| -13-08 | 2-CLEVE | ↓ | ↓ | ↓ |
| -13-18 | 1-Chlorohexane | ↓ | ↓ | ↓ |
| -13-13 | 1,2,3 TMB | 2500 ppm | 200 µL | ↓ |
| -12-11 | TBA | 50000 ppm | ↓ | 1000 ppm |
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| Standard ID | SV1-43-85-03 |
|---|---|
| Name | 8260 (1°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 4/12/24 |
| Exp. Date | 10/12/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

*chromatographic*

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 575702 **Lot No.:** A0191824

**Description :** Custom Revised 8260 Megamix

Custom Revised 8260 Megamix 2,000 - 40,000µg/mL, P&T Methanol, 1mL/ampul

SVI-38-09-20

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** November 30, 2025 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Dichlorofluoromethane (CFC-21) | 75-43-4 | 12841600 | 99% | 2,000.0 µg/mL | +/- 69.1292 |
| 2 | Diethyl ether (ethyl ether) | 60-29-7 | SHBP5008 | 99% | 2,011.0 µg/mL | +/- 69.5094 |
| 3 | 1,1,2-Trichlorotrifluoroethane (CFC-113) | 76-13-1 | 00016133 | 99% | 2,008.0 µg/mL | +/- 69.4057 |
| 4 | 1,1-dichloroethene | 75-35-4 | SHBG8609V | 99% | 2,001.6 µg/mL | +/- 69.9029 |
| 5 | Iodomethane (methyl iodide) | 74-88-4 | RD220125 | 99% | 2,007.5 µg/mL | +/- 69.3884 |
| 6 | Allyl chloride ( 3-chloropropene ) | 107-05-1 | RP220405A | 99% | 2,011.0 µg/mL | +/- 69.5094 |
| 7 | Methylene chloride (dichloromethane) | 75-09-2 | SHBP1417 | 99% | 2,001.6 µg/mL | +/- 69.9056 |
| 8 | trans-1,2-Dichloroethene | 156-60-5 | MKBH9850V | 99% | 2,001.7 µg/mL | +/- 69.9064 |
| 9 | 1,1-Dichloroethane | 75-34-3 | 760200 | 99% | 2,001.1 µg/mL | +/- 69.8864 |
| 10 | Chloroprene (2-chloro-1,3-butadiene) | 126-99-8 | 220712JLM | 99% | 2,014.0 µg/mL | +/- 69.6131 |
| 11 | Propionitrile | 107-12-0 | BCCF4167 | 99% | 20,009.5 µg/mL | +/- 691.5748 |
| 12 | 2,2-Dichloropropane | 594-20-7 | RD220812 | 99% | 2,004.3 µg/mL | +/- 70.0110 |
| 13 | cis-1,2-Dichloroethene | 156-59-2 | MKCP7830 | 99% | 2,014.0 µg/mL | +/- 70.3516 |
| 14 | Methacrylonitrile | 126-98-7 | 1012014 | 99% | 20,031.5 µg/mL | +/- 692.3351 |
| 15 | Methyl acrylate | 96-33-3 | SHBG6616V | 99% | 2,007.0 µg/mL | +/- 69.3711 |
| 16 | Isobutanol (2-Methyl-1-propanol) | 78-83-1 | SHBP7066 | 99% | 40,013.5 µg/mL | +/- 1,382.9594 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | chloroform | 67-66-3 | SHBN8469 | 99% | 2,002.3 | µg/mL | +/- 69.9291 |
| 18 | Bromochloromethane | 74-97-5 | 00008541 | 99% | 2,011.9 | µg/mL | +/- 70.2782 |
| 19 | Tetrahydrofuran | 109-99-9 | SHBP0039 | 99% | 2,005.0 | µg/mL | +/- 69.3020 |
| 20 | 1,1,1-trichloroethane | 71-55-6 | RD220613 | 98% | 2,001.2 | µg/mL | +/- 69.8893 |
| 21 | 1,1-Dichloropropene | 563-58-6 | 220617JLM | 99% | 2,014.0 | µg/mL | +/- 70.3498 |
| 22 | carbon tetrachloride | 56-23-5 | SHBL8097 | 99% | 2,000.1 | µg/mL | +/- 69.8514 |
| 23 | 1,2-Dichloroethane | 107-06-2 | MKCN9758 | 99% | 2,001.6 | µg/mL | +/- 69.9056 |
| 24 | Benzene | 71-43-2 | MKCQ2104 | 99% | 2,010.5 | µg/mL | +/- 70.2293 |
| 25 | 2-Chloroethanol | 107-07-3 | RD220606A | 99% | 2,002.5 | µg/mL | +/- 69.2156 |
| 26 | Trichloroethene | 79-01-6 | SHBN3720 | 99% | 2,001.6 | µg/mL | +/- 69.9047 |
| 27 | 1,2-Dichloropropane | 78-87-5 | BCBR0882V | 99% | 2,001.8 | µg/mL | +/- 69.9125 |
| 28 | Methyl methacrylate | 80-62-6 | MKCQ2755 | 99% | 2,007.5 | µg/mL | +/- 69.3884 |
| 29 | bromodichloromethane | 75-27-4 | MKCF8470 | 99% | 2,001.7 | µg/mL | +/- 69.9082 |
| 30 | 1,4-Dioxane | 123-91-1 | SHBP8653 | 99% | 40,041.0 | µg/mL | +/- 1,383.9099 |
| 31 | 2-Nitropropane | 79-46-9 | BCCB9352 | 97% | 2,003.5 | µg/mL | +/- 69.2514 |
| 32 | Dibromomethane | 74-95-3 | 10233302 | 99% | 2,013.0 | µg/mL | +/- 70.3149 |
| 33 | cis-1,3-Dichloropropene | 10061-01-5 | RD220311 | 99% | 2,001.9 | µg/mL | +/- 69.9152 |
| 34 | Toluene | 108-88-3 | ED097-US | 99% | 2,011.4 | µg/mL | +/- 70.2608 |
| 35 | Ethyl methacrylate | 97-63-2 | MKCN6206 | 97% | 2,004.0 | µg/mL | +/- 69.2681 |
| 36 | trans-1,3-Dichloropropene | 10061-02-6 | RD220816 | 99% | 2,000.5 | µg/mL | +/- 69.8671 |
| 37 | 1,1,2-Trichloroethane | 79-00-5 | FGB01 | 99% | 2,001.9 | µg/mL | +/- 69.9134 |
| 38 | 1,3-Dichloropropane | 142-28-9 | BCCB9817 | 99% | 2,011.1 | µg/mL | +/- 70.2485 |
| 39 | Tetrachloroethene | 127-18-4 | SHBJ7422 | 99% | 2,001.2 | µg/mL | +/- 69.8890 |
| 40 | dibromochloromethane | 124-48-1 | MKCM8659 | 99% | 2,002.2 | µg/mL | +/- 69.9256 |
| 41 | 1,2-Dibromoethane (EDB) | 106-93-4 | BCCF5058 | 99% | 2,006.0 | µg/mL | +/- 70.0704 |
| 42 | Chlorobenzene | 108-90-7 | SHBN6640 | 99% | 2,000.1 | µg/mL | +/- 69.8506 |
| 43 | 1,1,1,2-Tetrachloroethane | 630-20-6 | GC01 | 99% | 2,009.8 | µg/mL | +/- 70.2031 |
| 44 | Ethylbenzene | 100-41-4 | 094632L21G | 99% | 2,016.4 | µg/mL | +/- 70.4337 |
| 45 | m-Xylene | 108-38-3 | SHBN6673 | 98% | 2,012.6 | µg/mL | +/- 70.3019 |
| 46 | p-Xylene | 106-42-3 | 10234437 | 99% | 2,009.1 | µg/mL | +/- 70.1787 |
| 47 | o-Xylene | 95-47-6 | SHBN5105 | 98% | 2,010.1 | µg/mL | +/- 70.2163 |
| 48 | Styrene | 100-42-5 | MKCQ3390 | 99% | 2,012.6 | µg/mL | +/- 70.3027 |
| 49 | Isopropylbenzene (cumene) | 98-82-8 | Z20D022 | 99% | 2,009.3 | µg/mL | +/- 70.1874 |
| 50 | bromoform | 75-25-2 | MKCR0680 | 99% | 2,000.8 | µg/mL | +/- 69.8750 |
| 51 | cis-1,4-Dichloro-2-butene | 1476-11-5 | RD220907 | 97% | 2,000.0 | µg/mL | +/- 69.1290 |
| 52 | 1,1,2,2-Tetrachloroethane | 79-34-5 | OXACF | 99% | 2,002.8 | µg/mL | +/- 69.9466 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 1,2,3-Trichloropropane | 96-18-4 | 332900 | 99% | 2,010.3 | µg/mL | +/- 70.2206 |
| 54 | trans-1,4-dichloro-2-butene | 110-57-6 | RD220921RSR | 94% | 1,999.9 | µg/mL | +/- 69.1240 |
| 55 | n-Propylbenzene | 103-65-1 | MKCN1126 | 99% | 2,009.1 | µg/mL | +/- 70.1804 |
| 56 | Bromobenzene | 108-86-1 | WXBC5147V | 99% | 2,012.5 | µg/mL | +/- 70.2992 |
| 57 | 1,3,5-Trimethylbenzene | 108-67-8 | BCCF4166 | 99% | 2,010.8 | µg/mL | +/- 70.2381 |
| 58 | 2-Chlorotoluene | 95-49-8 | MKCF5243 | 99% | 2,007.5 | µg/mL | +/- 70.1228 |
| 59 | 4-Chlorotoluene | 106-43-4 | MKCC8496 | 99% | 2,012.4 | µg/mL | +/- 70.2957 |
| 60 | tert-Butylbenzene | 98-06-6 | STBJ1937 | 99% | 2,009.0 | µg/mL | +/- 70.1769 |
| 61 | 1,2,4-Trimethylbenzene | 95-63-6 | WXBC9428V | 98% | 2,004.8 | µg/mL | +/- 70.0297 |
| 62 | sec-Butylbenzene | 135-98-8 | MKCP2266 | 99% | 2,009.2 | µg/mL | +/- 70.1839 |
| 63 | p-Isopropyltoluene (p-Cymene) | 99-87-6 | MKCR6143 | 99% | 2,007.6 | µg/mL | +/- 70.1280 |
| 64 | 1,3-Dichlorobenzene | 541-73-1 | BCCD5315 | 99% | 2,000.7 | µg/mL | +/- 69.8715 |
| 65 | 1,4-Dichlorobenzene | 106-46-7 | MKBS4401V | 99% | 2,002.0 | µg/mL | +/- 69.9195 |
| 66 | n-Butylbenzene | 104-51-8 | 09804AE | 99% | 2,006.9 | µg/mL | +/- 70.1036 |
| 67 | 1,2-Dichlorobenzene | 95-50-1 | SHBN3835 | 99% | 2,001.2 | µg/mL | +/- 69.8898 |
| 68 | 1,2-Dibromo-3-chloropropane | 96-12-8 | HBMVB | 97% | 2,006.3 | µg/mL | +/- 70.0843 |
| 69 | Nitrobenzene | 98-95-3 | 10224044 | 99% | 2,004.0 | µg/mL | +/- 69.2674 |
| 70 | 1,2,4-Trichlorobenzene | 120-82-1 | SHBM0526 | 99% | 2,009.7 | µg/mL | +/- 70.1996 |
| 71 | Hexachlorobutadiene | 87-68-3 | X05J | 99% | 2,007.4 | µg/mL | +/- 70.1210 |
| 72 | Naphthalene | 91-20-3 | MKCH0219 | 99% | 2,001.5 | µg/mL | +/- 69.9132 |
| 73 | 1,2,3-Trichlorobenzene | 87-61-6 | MKBX7627V | 99% | 2,015.7 | µg/mL | +/- 70.4092 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

# Quality Confirmation Test

**Column:**
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

**Carrier Gas:**
helium-constant pressure 30 psi

**Temp. Program:**
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

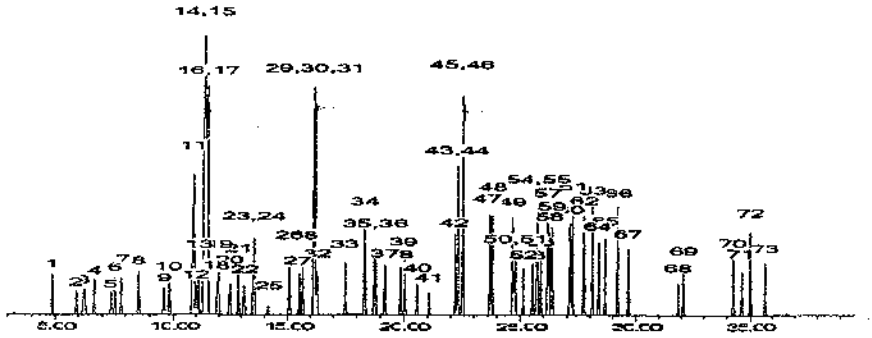
**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
MSD

**Split Vent:**
20.0 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis – Mix Technician

**Date Mixed:** 18-Nov-2022 **Balance Serial #** B251644995

Jennifer Polkino - Operations Tech III - ARM QC

**Date Passed:** 05-Dec-2022

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

SVI-38-02-03

# RESTEK® CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

## Certificate of Analysis

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30465 **Lot No.:** A0168072

**Description :** California Oxygenates Mixture #1

California Oxygenates Mixture #1 2000-10000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2026 **Storage:** 0°C or colder

**Ship:** Ambient

## CERTIFIED VALUES

| Elution Order | Compound | | Grav. Conc. (weight/volume) | | Expanded Uncertainty (95% C.L.; K=2) | | |
|---|---|---|---|---|---|---|---|
| 1 | tert-Butanol (TBA)<br>CAS # 75-65-0<br>Purity 99% | (Lot SHBL5806) | 10,038.8 | µg/mL | +/- 58.7794<br>+/- 215.0444<br>+/- 221.2897 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2 | Methyl-tert-butyl ether ( MTBE )<br>CAS # 1634-04-4<br>Purity 99% | (Lot SHBL0822) | 2,005.6 | µg/mL | +/- 11.7700<br>+/- 42.9699<br>+/- 44.2174 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 3 | Diisopropyl ether ( DIPE )<br>CAS # 108-20-3<br>Purity 99% | (Lot SHBH1927V) | 2,009.6 | µg/mL | +/- 11.7935<br>+/- 43.0556<br>+/- 44.3056 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 4 | Ethyl-tert-butyl ether (ETBE)<br>CAS # 637-92-3<br>Purity 99% | (Lot MKCM3774) | 2,006.0 | µg/mL | +/- 11.7723<br>+/- 42.9785<br>+/- 44.2263 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 5 | tert-Amyl methyl ether (TAME)<br>CAS # 994-05-8<br>Purity 99% | (Lot HMBG7745V) | 2,007.2 | µg/mL | +/- 11.7794<br>+/- 43.0042<br>+/- 44.2527 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

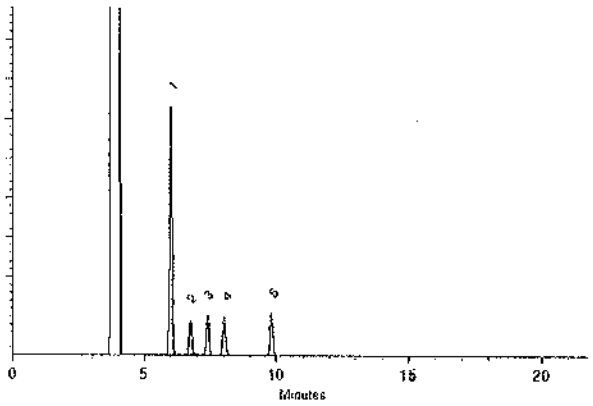
**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Miranda Kline - Operations Technician I

**Date Mixed:** 12-Jan-2021 **Balance:** B442140311

Justine Albertson - Operations Tech, ASM QC

**Date Passed:** 14-Jan-2021

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

# CERTIFICATE OF ANALYSIS

**Catalog No:** M-601C-10X
**Description:** 2-Chloroethylvinyl ether
**Lot:** 223041132
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 11, 2023
**Expiration:** Apr 11, 2026
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Freeze (<-10 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| 2-Chloroethylvinyl ether | 110-75-8 | 100.0 | 2005 | 2005 |

SVI-38-11-19

Reference Standard

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/INO-001
Rev. 7/20

SVI-38-11-19

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k$=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

RESTEK®
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# CERTIFIED REFERENCE MATERIAL

## Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

SV1-38-11-18

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30470 **Lot No.:** A0188432

**Description :** tert-Butanol Standard

tert-Butanol Std 50,000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** August 31, 2025 **Storage:** 0°C or colder

**Ship:** Ambient

## CERTIFIED VALUES

| Elution Order | Compound | Given Conc. (weight/volume) | Expanded Uncertainty (95% C.L., K=2) | | |
|---|---|---|---|---|---|
| 1 | tert-Butanol (TBA) | 50,300.0 µg/mL | +/- 294.5176 | µg/mL | Gravimetric |
| | CAS # 75-65-0 (Lot I01619K21F-1) | | +/- 1,077.4927 | µg/mL | Unstressed |
| | Purity 99% | | +/- 1,108.7850 | µg/mL | Stressed |

**Solvent:** P&T Methanol
CAS # 67-56-1
Purity 99%

SVI-38-11-18

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

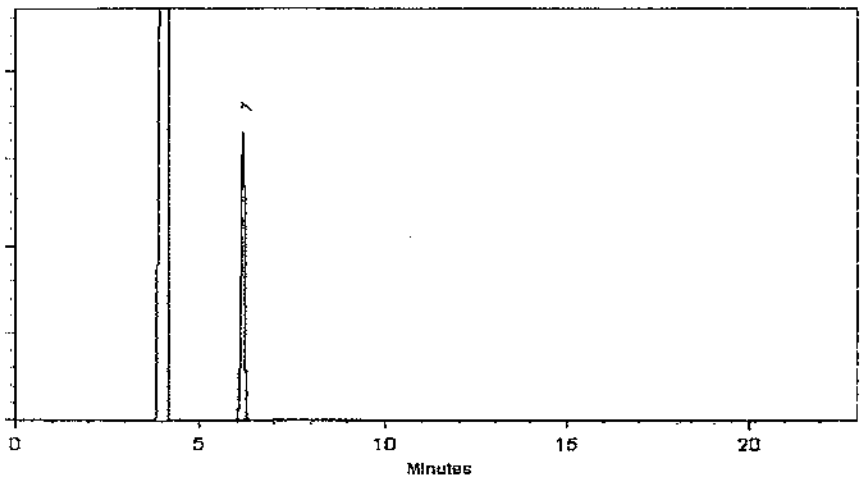
**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Malina Homan - Operations Technician I  **Date Mixed:** 11-Aug-2022  **Balance:** B251644995

Marlina Cowan – Operations Tech II ARM QC  **Date Passed:** 15-Aug-2022

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

SVL-3871-18

**General Certified Reference Material Notes**

**Expiration Notes:**

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

**Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

**Certified Uncertainty Value Notes:**

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions | Standard Conditions | Non-Standard Conditions |
|---|---|---|
| 25°C Nominal (Room Temperature) | < 60°C | ≥ 60°C up to 7 days |
| 10°C or colder (Refrigerate) | < 40°C | ≥ 40°C up to 7 days |
| 0°C or colder (Freezer)<br>-20°C or colder (Deep Freezer) | < 25°C | ≥ 25°C up to 7 days |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

**Manufacturing Notes:**

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

**Handling Notes:**

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

Ibis Scientific, 7330 Smoke Ranch Rd., Suite B, Las Vegas, NV 89128 (855)390-4202



Date manufactured: 6/24/2022
Original issue date: 6/24/2022

# Certificate of Analysis

Date Received: _____

Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| 3200-44 | 503601 | ≤ -10 °C | P/T Methanol | 23-Jun-2027 | 1,2,3-Trimethylbenzene Solution, 2500 mg/L, 1 mL |

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 1,2,3-trimethylbenzene | 526-73-8 | 92.7 | 869.8.4.1P | 2536 ± 32.33 |

SVI-38-12-06

SM-38-12-20

Agilent

Trusted Answers

**ISO 17034**

# Reference Material Certificate

## Product Information Sheet

**Product Name:** 1-Chlorohexane Standard

**Product Number:** EPA-1208-1

**Storage Conditions:** Store at Room Temperature (15° to 30°C).

**Lot Number:** 0006735507

**Lot Issue Date:** 20-Mar-2023

**Expiration Date:** 30-Apr-2026

| Chemical Name | Concentration | Uncertainty | CAS # | Analysis ID |
|---|---|---|---|---|
| 1-chlorohexane | 1000 | ± 5 µg/mL | 000544-10-5 | RM04313 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material (RM) standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above. Purity values are taken from approved vendor raw material certificates.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference (RM) standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference (RM) standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Expiration of Certification:**
The certification of this analytical reference standard (RM) is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

Agilent

Trusted Answers

SM-38-12-20

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB
ACCREDITED
REFERENCE MATERIAL PRODUCER

ISO 17034 Cert
No. AR-1936

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015 Quality Management System. Cert# 951215321



www.agilent.com/quality/
CSD-QA-015.1

ISO 17025

Agilent

Trusted Answers

ISO 17034

# Reference Material Certificate

## Product Information Sheet

| | | | |
|---|---|---|---|
| **Product Name:** | Acrolein and Acrylonitrile Standard | **Lot Number:** | 0006788822 |
| **Product Number:** | AMN-623-1 | **Lot Issue Date:** | 20-Mar-2024 |
| **Storage Conditions:** | Store Frozen (-25° to -10°C). SVI-38-15-14 | **Expiration Date:** | 31-Jul-2024 |

| Component Name | Concentration | | Uncertainty | CAS# | Analyte Lot |
|---|---|---|---|---|---|
| ~~acrolein~~ | 2009 | ± | 10 µg/mL | 000107-02-8 | RM20527 |
| acrylonitrile | 2009 | ± | 10 µg/mL | 000107-13-1 | RM20527 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Expiration of Certification:**
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.



CSD-QA-015.2

ISO 17025
Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 **www.agilent.com/quality**

Agilent

Trusted Answers

SV1-38-15-14

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB
ACCREDITED
ISO 17034
REFERENCE MATERIAL PRODUCER

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015 Quality Management System. Cert# 951215321



www.agilent.com/quality/

CSD-QA-015.2

ISO 17034
Cert No. AR-1936

ISO 17025
Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 **www.agilent.com/quality**

SVI-38-15-09

14271 Jeffrey Road
#223
Irvine, CA 92620

ibis scientific

For Chemical Emergency, Spill, Leak, Fire Exposure or Accident Call Chromanex Day or Night 800.390.4202

**Quality System Audited & Registered by TUV USA to ISO 9001:2015**

Date Received: 2/8/24

# Certificate of Analysis

Rev 0 Page

| Catalog No.: | Lot No.: | Storage: | Solvent: | Exp. Date: | Description: |
|---|---|---|---|---|---|
| G34-3200-121020 -17 | 480682 | ≤ -10 °C | P/T MeOH:Water 9:1 | 4/28/2027 | Ketones Solution, 2500 mg/L, 1 ml ISO17034 |

| Compound | CAS No | Purity (%) | Compound Lot No | Concentration, mg/L |
|---|---|---|---|---|
| acetone | 67-64-1 | 99.6 | 196.271.4P | 2498 ± 53.47 mg/L |
| 2-butanone (MEK) | 78-93-3 | 99.9 | 197.1.2P | 2498 ± 53.51 mg/L |
| 4-methyl-2-pentanone (MIBK) | 108-10-1 | 99.88 | 198.421.1.2P | 2500 ± 54.02 mg/L |
| 2-hexanone | 591-78-6 | 100 | 199.7.3P | 2501 ± 53.58 mg/L |

Certified By: Melissa Workoff

Melissa Workoff

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

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www.AccuStandard.com

# CERTIFICATE OF ANALYSIS

**Catalog No:** APP-9-211-20X
**Description:** Vinyl acetate
**Lot:** 224031313
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*

**Date Certified:** Mar 22, 2024
**Expiration:** Sep 22, 2024
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Freeze (<-10 °C)



**Signal Word: Danger**

SVI-38.15-13

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Vinyl acetate | 108-05-4 | 100.0 | 2006 | 2006 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4% and was determined in accordance with ISO 17034. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/IND-001
Rev. 7/20

SVI-38-15-10

Ibis Scientific, 7330 Smoke Ranch Rd., Suite B, Las Vegas, NV 89128 (855) 390-4202 

Date manufactured: 12/14/2023
Original issue date: 12/14/2023

# Certificate of Analysis

Date Received: 2/8/24
Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| 3200-G34 -120016-03 | 513798 | ≤ -10 °C | P/T Methanol | 12-Dec-2028 | ISO 17034 - Method 8260 Gases, 2,000 mg/L, 2 x 0.6 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC), gas chromatography/mass spectrometry (GC/MS), or High Pressure Liquid Chromatography (HPLC) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| bromomethane | 74-83-9 | 99.9 | 139.158.2.1P | 1962 ± 23 |
| chloroethane | 75-00-3 | 99.94 | 141.2.3P | 1995 ± 23 |
| chloromethane | 74-87-3 | 99.7 | 140.158.3P | 2018 ± 24 |
| dichlorodifluoromethane | 75-71-8 | 99 | 142.158.5.1P | 2026 ± 47 |
| trichlorofluoromethane | 75-69-4 | 99 | 144.1.3P | 1995 ± 38 |
| vinyl chloride | 75-01-4 | 99 | 143.158.5.3P | 1962 ± 45 |

Second Source standards are prepared according to NELAC requirements.

## Intended Use:

This certified reference material (CRM) is intended for use as a calibration standard or a quality control standard for chromatography instrumentation such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various USEPA, NIOSH, and ASTM methods.

Recommended storage container for ampouled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix
y = boiling point of the solvent

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened

# Certificate of Analysis

**Catalog No.:** 3200-G34-120016 **Lot No.:** 513798 **Expiration Date:** 12/12/2028

ampoule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricllly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements: **≤ -10 °C**
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a sealed ampoule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

This standard was prepared gravimetrically using balances that are calibrated to the requirements of ISO/IEC 17025. All balances are calibrated externally by an accredited ISO/IEC 17025 calibration laboratory using weight sets traceable to the International System of Units (SI) through the national reference standards maintained by NIST.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025 and ISO 17034.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $U=ku_c$; U=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 12-Dec-2028

| **Manufactured By:** | **Certified By:** | **Released By:** |
|---|---|---|
| Melissa Workoff | | Susan Mathews |
| Melissa Workoff<br>Production Chemist II | Dominique Lindner<br>Quality Control Chemist I | Susan Mathews<br>Quality Control Team Lead |

# Certificate of Analysis

**Catalog No.:** 3200-G34-120016 **Lot No.:** 513798 **Expiration Date:** 12/12/2028

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| Production Chemist II | Quality Control Chemist I | Quality Control Team Lead |

CPI INTERNATIONAL

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(800)878-7654 Toll Free
(707)545-7901 Fax

SVL-38-11-11

Date manufactured: 3/13/2023
Original issue date: 3/13/2023

# Certificate of Analysis

Date Received:

 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -126047-01 | 498957 | ≤ -10 °C | P/T Methanol | 13-Sep-2024 | Custom Volatiles Mix, 73-6047, Various Concentrations, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-nitropropane | 79-46-9 | 97.7 | 219.1.2P | 2003 ± 110 |
| allyl chloride | 107-05-1 | 98.9 | 227.1.2P | 2024 ± 120 |
| benzene | 71-43-2 | 99.99 | 146.1.10P | 1997 ± 110 |
| bromobenzene | 108-86-1 | 100 | 147.7.1P | 1999 ± 140 |
| bromochloromethane | 74-97-5 | 99.7 | 148.1.3P | 1998 ± 110 |
| bromodichloromethane | 75-27-4 | 99.2 | 149.1.12P | 1988 ± 110 |
| bromoform | 75-25-2 | 99.3 | 150.7.2P | 1989 ± 110 |
| n-butylbenzene | 104-51-8 | 99.2 | 151.7.3.2P | 1997 ± 110 |
| sec-butylbenzene | 135-98-8 | 99.5 | 152.1.2.1P | 1999 ± 110 |
| tert-butylbenzene | 98-06-6 | 99.9 | 153.29.1P | 1999 ± 110 |
| carbon tetrachloride | 56-23-5 | 100 | 154.9.1P | 1997 ± 110 |
| chlorobenzene | 108-90-7 | 99.9 | 155.29.1P | 2001 ± 110 |
| 2-chloroethanol | 107-07-3 | 99.5 | 217.1.3P | 2000 ± 110 |
| chloroform | 67-66-3 | 99.8 | 156.7.1P | 1998 ± 110 |
| chloroprene | 126-99-8 | 98.9 | 315.5.22P | 1982 ± 140 |
| 2-chlorotoluene | 95-49-8 | 99.5 | 157.7.1P | 1998 ± 110 |
| 4-chlorotoluene | 106-43-4 | 99.9 | 158.9.3P | 2000 ± 110 |

# Certificate of Analysis



**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

| | | | | |
|---|---|---|---|---|
| cis-1,2-dichloroethylene | 156-59-2 | 98.5 | 166.1.7.1P | 1997 ± 110 |
| dibromochloromethane | 124-48-1 | 98.6 | 159.1.8.1P | 2013 ± 110 |
| 1,2-dibromo-3-chloropropane | 96-12-8 | 98.6 | 160.7.2.3P | 2000 ± 110 |
| 1,2-dibromoethane | 106-93-4 | 99.9 | 161.9.1P | 2008 ± 110 |
| dibromomethane | 74-95-3 | 99.8 | 162.1.2P | 1996 ± 120 |
| 1,2-dichlorobenzene | 95-50-1 | 99.5 | 43.1.2P | 1999 ± 110 |
| 1,3-dichlorobenzene | 541-73-1 | 99.5 | 44.1.3P | 2001 ± 110 |
| 1,4-dichlorobenzene | 106-46-7 | 99.9 | 45.29.1P | 2000 ± 110 |
| cis-1,4-dichloro-2-butene | 1476-11-5 | 98 | 209.1.5P | 2004 ± 110 |
| trans-1,4-dichloro-2-butene | 110-57-6 | 93.5 | 201.1.17.1P | 1991 ± 110 |
| 1,1-dichloroethane | 75-34-3 | 98.1 | 163.247.1.2P | 1992 ± 110 |
| 1,2-dichloroethane | 107-06-2 | 99.9 | 164.158.1P | 2001 ± 110 |
| 1,1-dichloroethylene | 75-35-4 | 99.98 | 165.1.4P | 1999 ± 110 |
| trans-1,2-dichloroethylene | 156-60-5 | 99.7 | 167.1.7P | 1999 ± 110 |
| dichlorofluoromethane (Freon 21) | 75-43-4 | 98 | 986.5.4.2P | 1960 ± 140 |
| 1,2-dichloropropane | 78-87-5 | 99.7 | 168.8.1.1P | 2001 ± 120 |
| 1,3-dichloropropane | 142-28-9 | 100 | 169.7.3P | 1971 ± 140 |
| 2,2-dichloropropane | 594-20-7 | 98.1 | 170.7.4P | 2002 ± 110 |
| 1,1-dichloropropylene | 563-58-6 | 99 | 171.158.2.4P | 2001 ± 120 |
| cis-1,3-dichloropropylene | 10061-01-5 | 99.5 | 172.7.6.1P | 2010 ± 110 |
| trans-1,3-dichloropropylene | 10061-02-6 | 98.8 | 173.7.4.12P | 1991 ± 110 |
| 1,4-dioxane | 123-91-1 | 99.93 | 223.1.4P | 40750 ± 2100 |
| ethyl ether | 60-29-7 | 99.8 | 226.9.1P | 2000 ± 110 |
| ethyl methacrylate | 97-63-2 | 99.5 | 216.7.1P | 2004 ± 110 |
| ethylbenzene | 100-41-4 | 100 | 174.7.1P | 1998 ± 110 |

**Manufactured By:**

Sanquetta Coakley
**Production Chemist I**

**Certified By:**

Dominique Lindner
**Quality Control Chemist I**

**Released By:**

Susan Mathews
**Quality Control Team Lead**

# Certificate of Analysis

**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

| | | | | |
|---|---|---|---|---|
| hexachlorobutadiene | 87-68-3 | 98 | 47.158.3P | 2000 ± 120 |
| iodomethane | 74-88-4 | 99.9 | 203.29.2P | 2000 ± 110 |
| isobutyl alcohol | 78-83-1 | 99.8 | 220.7.3P | 39990 ± 2100 |
| isopropylbenzene | 98-82-8 | 99.9 | 176.9.3P | 2004 ± 110 |
| 4-isopropyltoluene | 99-87-6 | 99.9 | 177.9.3P | 1988 ± 110 |
| methyl acrylonitrile | 126-98-7 | 98 | 212.286.1.2P | 19960 ± 1300 |
| methyl methacrylate | 80-62-6 | 100 | 231.7.4P | 2043 ± 110 |
| methyl acrylate | 96-33-3 | 98.5 | 349.7.1P | 1999 ± 110 |
| methylene chloride | 75-09-2 | 99.9 | 178.24.4P | 1999 ± 110 |
| naphthalene | 91-20-3 | 99.8 | 26.9.1P | 2020 ± 110 |
| nitrobenzene | 98-95-3 | 100 | 94.7.1P | 2002 ± 110 |
| propionitrile | 107-12-0 | 99.7 | 218.7.2.1P | 19950 ± 1000 |
| n-propylbenzene | 103-65-1 | 99.7 | 179.7.2.2P | 1998 ± 110 |
| styrene | 100-42-5 | 99.5 | 180.9.4P | 1999 ± 110 |
| 1,1,1,2-tetrachloroethane | 630-20-6 | 99.8 | 181.7.2.9P | 2003 ± 110 |
| 1,1,2,2-tetrachloroethane | 79-34-5 | 99.4 | 182.8.2P | 2000 ± 120 |
| tetrachloroethylene | 127-18-4 | 100 | 183.1.2VP | 2004 ± 110 |
| tetrahydrofuran (THF) | 109-99-9 | 100 | 299.7.1P | 1996 ± 110 |
| toluene | 108-88-3 | 100 | 184.48.1P | 2000 ± 110 |
| 1,2,3-trichlorobenzene | 87-61-6 | 99.8 | 185.1.2P | 1999 ± 110 |
| 1,2,4-trichlorobenzene | 120-82-1 | 99.6 | 54.29.1P | 1987 ± 110 |
| 1,1,1-trichloroethane | 71-55-6 | 99 | 187.1.1P | 1998 ± 120 |
| 1,1,2-trichloroethane | 79-00-5 | 99.6 | 195.7.1.6P | 1997 ± 110 |
| trichloroethylene | 79-01-6 | 100 | 188.29.2P | 1998 ± 110 |
| 1,2,3-trichloropropane | 96-18-4 | 99.5 | 189.1.3P | 1998 ± 110 |

**Manufactured By:**

Sanquetta Coakley
**Production Chemist I**

**Certified By:**

Dominique Lindner
**Quality Control Chemist I**

**Released By:**

Susan Mathews
**Quality Control Team Lead**

# Certificate of Analysis

**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

| | | | | |
|---|---|---|---|---|
| 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113) | 76-13-1 | 99 | 270.158.3.1P | 2002 ± 120 |
| 1,2,4-trimethylbenzene | 95-63-6 | 98.7 | 190.7.1P | 1999 ± 110 |
| 1,3,5-trimethylbenzene | 108-67-8 | 99.5 | 191.7.1P | 2001 ± 110 |
| m-xylene | 108-38-3 | 99.7 | 193.7.1.2P | 1999 ± 110 |
| o-xylene | 95-47-6 | 99 | 192.29.3P | 1998 ± 120 |
| p-xylene | 106-42-3 | 99.9 | 194.7.1P | 1999 ± 110 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)

y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Sanquetta Coakley | Dominique Lindner | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

# Certificate of Analysis

**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 13-Sep-2024

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Sanquetta Coakley | Dominique Lindner | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

5580 Skylane Blvd
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(707)545-7901 Fax

GM - 38-12-11

Date manufactured: 11/16/2022
Original issue date: 11/16/2022

# Certificate of Analysis

Date Received:
Page 1 of 2 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020511-06 | 492310 | ≤ -10 °C | P/T Methanol | 15-Nov-2027 | t-Butyl Alcohol Solution, 50,000 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| tert-butyl alcohol | 75-65-0 | 100 | 511.7.2P | 50110 ± 2600 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

# Certificate of Analysis

**Catalog No.:** Z-G34-020511-06 **Lot No.:** 492310 **Expiration Date:** 11/15/2027

(95% confidence) values listed are determined gravimetricllly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 15-Nov-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist I** | **Quality Control Team Lead** |

SVI-38-B-08

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 8/24/2022
Original issue date: 8/24/2022

# Certificate of Analysis

Date Received: 10/6/23
 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020145-02 | 492308 | ≤ -10 °C | P/T Methanol | 23-Aug-2027 | 2-Chloroethyl Vinyl Ether Solution, 2,000 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-chloroethylvinyl ether | 110-75-8 | 99.8 | 145.1.5P | 2010 ± 110 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

SN-39-13-08

# Certificate of Analysis



**Catalog No.:** Z-G34-020145-02 **Lot No.:** 492308 **Expiration Date:** 8/23/2027

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 23-Aug-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Sanquetta Coakley | Dominique Lindner | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

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SVI-38-09-07

Date manufactured: 6/24/2022
Original issue date: 6/24/2022

# Certificate of Analysis

Date Received:

 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020869-08 | 484154 | ≤ -10 °C | P/T Methanol | 23-Jun-2027 | 1,2,3-Trimethylbenzene Solution, 2,500 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 1,2,3-trimethylbenzene | 526-73-8 | 92.7 | 869.8.4.1P | 2536 ± 140 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVr38-09-05

# Certificate of Analysis



**Catalog No.:** Z-G34-020869-08 **Lot No.:** 484154 **Expiration Date:** 6/23/2027

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 23-Jun-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Brian Stokes | J Ball | Susan Mathews |
| Brian Stokes | Jared Ball | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

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# CERTIFIED REFERENCE MATERIAL

## Certificate of Analysis

SV1-30-02-02

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30003 **Lot No.:** A0150458

**Description :** VOA Tuning Compound Mix

VOA Tuning Compound Mix 5,000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2024 **Storage:** 0°C or colder

**CERTIFIED VALUES**

| Elution Order | Compound | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) | | |
|---|---|---|---|---|---|
| 1 | 1-Bromo-4-fluorobenzene (BFB) | 5,030.0 µg/mL | +/- 29.5189 | µg/mL | Gravimetric |
| | CAS # 460-00-4 (Lot 20401KO) | | +/- 282.0557 | µg/mL | Unstressed |
| | Purity 99% | | +/- 288.6541 | µg/mL | Stressed |

**Solvent:** P&T Methanol
CAS # 67-56-1
Purity 99%

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

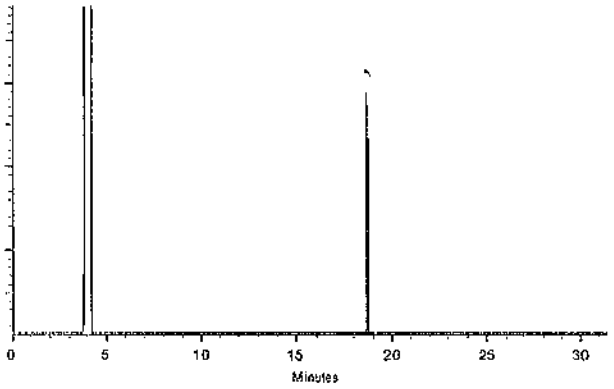
**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Walker Workman - Operations Technician I

Date Mixed: 27-Jun-2019 Balance: 1128342314

Justine Albertson - Operations Tech-GHFM GC

Date Passed: 01-Jul-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

**General Certified Reference Material Notes**

**Expiration Notes:**

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

**Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

**Certified Uncertainty Value Notes:**

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

*k* is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions | Standard Conditions | Non-Standard Conditions |
|---|---|---|
| 25°C Nominal (Room Temperature) | < 60°C | ≥ 60°C up to 7 days |
| 10°C or colder (Refrigerate) | < 40°C | ≥ 40°C up to 7 days |
| 0°C or colder (Freezer) | < 25°C | ≥ 25°C up to 7 days |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

**Manufacturing Notes:**

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

**Handling Notes:**

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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Date manufactured: 3/10/2023
Original issue date: 3/10/2023

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020200-04 | 498954 | ≤ -10 °C | P/T Methanol | 8-Mar-2028 | Carbon Disulfide Solution, 5,000 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| carbon disulfide | 75-15-0 | 99.9 | 200.24.1VP | 5075 ± 260 |

*Not a certified value

SVL-38-11-10

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVI-38110

# Certificate of Analysis



**Catalog No.:** Z-G34-020200-04 **Lot No.:** 498954 **Expiration Date:** 3/8/2028

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 8-Mar-2028

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist I** | **Quality Control Team Lead** |

SVI-38-12-19

Agilent

Trusted Answers

**ISO 17034**

# Reference Material Certificate

## Product Information Sheet

**Product Name:** VOC Gas Standard

**Product Number:** DWM-544-1

**Storage Conditions:** Store Frozen (-25° to -10°C).

**Lot Number:** 0006744131

**Lot Issue Date:** 23-May-2023

**Expiration Date:** 30-Jun-2026

| Component Name | Concentration | | Uncertainty | CAS# | Analyte Cat# |
|---|---|---|---|---|---|
| bromomethane | 2009 | ± | 10 µg/mL | 000074-83-9 | RM00064 |
| chloroethane | 2008 | ± | 10 µg/mL | 000075-00-3 | RM00065 |
| chloromethane | 2006 | ± | 10 µg/mL | 000074-87-3 | RM12571 |
| dichlorodifluoromethane | 2010 | ± | 10 µg/mL | 000075-71-8 | RM05289 |
| trichlorofluoromethane | 2009 | ± | 10 µg/mL | 000075-69-4 | RM00017 |
| vinyl chloride | 2009 | ± | 10 µg/mL | 000075-01-4 | RM05458 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.





ISO 17025
Cert No. AT-1937

SVI-38-12-19

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**Expiration of Certification:**
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

ISO 17034
Cert No. AR-1936

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015 Quality Management System. Cert# 951215321



www.agilent.com/quality/
CSD-QA-015.2

ISO 17025
Cert No. AT-1937

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SVI-38-15-18

Date manufactured: 11/16/2022
Original issue date: 11/16/2022

# Certificate of Analysis

Date Received:

 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020232-10 | 492307 | ≤ -10 °C | P/T Methanol | 20-Nov-2025 | Vinyl Acetate Solution, 2,500 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| vinyl acetate | 108-05-4 | 99.9 | 232.7.1P | 2496 ± 160 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVI-38.15-18

# Certificate of Analysis



**Catalog No.:** Z-G34-020232-10 **Lot No.:** 492307 **Expiration Date:** 11/20/2025

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 20-Nov-2025

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (Certificate number 3031.02) accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist II** | **Quality Control Team Lead** |

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SVI-30-13-20

# CERTIFICATE OF ANALYSIS

**Catalog No:** OGAD-001
**Description:** Oxygenate Gasoline Additive Standard
**Lot:** 222081419
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 29, 2022
**Expiration:** Aug 29, 2025
**Sample Size:** 1 mL
**Components:** 5
**Storage Condition:** Refrig (0-5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity % (GC/MS) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| MtBE | 1634-04-4 | 99.8 | 2001 | 1997 |
| EtBE | 637-92-3 | 99.9 | 2004 | 2002 |
| Isopropyl ether | 108-20-3 | 100.0 | 2010 | 2010 |
| TAME | 994-05-8 | 99.0 | 2000 | 1980 |
| t-Butanol | 75-65-0 | 99.6 | 10005 | 9965 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/IND-001
Rev. 7/20

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

SVI - 38-13-18

# CERTIFICATE OF ANALYSIS

**Catalog No:** M-8010R-1-04-10X
**Description:** 1-Chlorohexane
**Lot:** 223031117
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Mar 8, 2023
**Expiration:** Mar 8, 2033
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| 1-Chlorohexane | 544-10-5 | 98.0 | 2024 | 1984 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/IND-001
Rev. 7/20

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ~~ISO 9001:2015 – Quality Management System – Requirements~~ Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

SVI-38-08-06

Agilent

# Certificate of Analysis

**Product Name:** Carbon Disulfide Standard

**Product Number:** EPA-1012-1 **Lot Issue Date:** 21-Sep-2020

**Lot Number:** 0006557585 **Expiration Date:** 30-Sep-2024

**Description:**
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

| Analyte | CAS# | Analyte Lot | Concentration ± Uncertainty |
|---|---|---|---|
| carbon disulfide | 000075-15-0 | RM08158 | 5023 ± 25 µg/mL |

**Matrix:** methanol (methyl alcohol)

**Storage Conditions:** Store Frozen (-25° to -10°C).

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Intended Use:**
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Hazards:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

**Expiration of Certification:**
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034 Cert
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026
Page: 1 of 1
www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED TESTING LABORATORY
ISO 17025 Cert
No. AT-1937

spex certiprep
ACCREDITED
Reference Materials Producer
Cert #2495.01

# SPEXertificate®
## Certificate of Reference Material

ACCREDITED
Chemical Testing
Cert #2495.02

**Catalog Number:** S-3893 **Lot No.** ND210224010

**Description:** Methyl acetate

**Matrix:** Methanol (Purge & Trap Grade)

**Ship Date:** January 5, 2023
**Expiration Date:** January 4, 2026

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

### Certified Compounds:

| Compound | CAS # | Labeled | Purity | Certified† | Uncertainty |
|---|---|---|---|---|---|
| Methyl acetate | 79-20-9 | 1000 µg/mL | 99.5% | 1015 µg/mL | ± 36 µg/mL |

SVI-38-10-08

* - Isomer ratios (when applicable) are an uncertified parameter.

### Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: January 5, 2023

Certifying Officer: Shannon Mace

Shannon Macieira, Operations Manager


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# *Report of Certification*

SVI-38-10-08

**Catalog Number:** S-3893 **Lot No.** ND210224010

**Description:** Methyl acetate

**Matrix:** Methanol (Purge & Trap Grade)

**Ship Date:** January 5, 2023

**Expiration Date:** January 4, 2026

**This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by DQS), ISO/IEC 17025 (accredited by A2LA) and ISO 17034 (accredited by A2LA) quality system consistent with the following standards:**

- ISO 9001: Quality management systems - Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 31: Reference Materials - Contents of certificates, labels, and accompanying documentation
- ISO Guide 30: Reference Materials - Selected terms and definitions
- ISO Guide 35: Reference Materials - General and Statistical principles for certification
- Guide to the Expression of Uncertainty in Measurement
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement
- NIST Technical Note 1297

## Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product in ambient conditions (18°C to 27°C). Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the SHIPPED DATE using our stability data and is applicable only if the product is stored under the laboratory specified conditions.

## Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

## Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

## Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

## Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025, ISO 17034, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

## Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- $u_c$ = combined standard uncertainty obtained by combining the individual compound standard uncertainty components $u_i$ where $u_c=\sqrt{\sum u_i^2}$

## Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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www.spexcertiprep.com • E-mail: crmsales@spexcsp.com
Phone: 1-732-549-7144 • Fax 1-732-603-9647

SV1-38-14-11

# SPEXertificate®

## Certificate of Reference Material

**Catalog Number:** S-2470 **Lot No.** NSI231116202
**Description:** Methylcyclohexane
**Matrix:** P&T Methanol
**Manufactured Date:** 11/16/2023
**Expiration Date:** 11/30/2026

This **SPEXOrganics®** Certified Reference Material, CRM, was manufactured by NSI Lab Solutions (www.nsilabsolutions.com) and is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

**Certified Compounds:**

| Compound | CAS # | Labeled (ug/mL) | Purity | Certified† (ug/mL) | | Uncertainty (ug/mL) |
|---|---|---|---|---|---|---|
| Methylcyclohexane | 108-87-2 | 1000 | 98.0% | 1000 | ± | 7.05 |

SV1-38-14-11

* - Isomer ratios (when applicable) are an uncertified parameter.

**Final Solution Verification:**

Final solution integrity verified Volumetrically and Analytically. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration is based on gravimetric or volumetric measurements. All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO/IEC 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request. All glassware used in the manufacturing of this standard is Class A. Volumetric pipettors are calibrated every four months by an ISO/IEC 17025 accredited calibration laboratory.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 11/16/2023 Certifying Officer: Kenneth Grzybowski

# Report of Certification

**This Certified Reference Material (CRM) has been produced by NSI Lab Solutions (www.nsilabsolutions.com) and certified under an ISO 9001 (certified by DQS) and ISO 17025 (accredited by ANAB AT-1690), and ISO 17034 (accredited by ANAB AR-1571) quality system consistent with the following standards:**

- ISO 9001: Quality management systems - Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 30: Reference Materials - Selected terms and definitions
- ISO Guide 31: Reference Materials - Contents of certificates and tables
- ISO Guide 35: Refernece Materials - General and Statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement, 2008
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement - Third Edition
- NIST Technical Note 1297

### Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product at 15°C to 30°C. Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is stored under the laboratory specified

### Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

### Material Source:

All analytes and matrix materials are obtained and verified by NSI from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

### Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

### Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025 and ISO 17034. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedures. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

### Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = kuc$ where k=2 is the coverage factor at the 95% confidence level
- uc = combined standard uncertainty obtained by combining the individual compound standard uncertainty components ui, where $uc=\sqrt{\sum u^2}$

### Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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SVI-38-14-20

# SPEXertificate®

## Certificate of Reference Material

**Catalog Number:** S-1015 **Lot No.** NSI231122602
**Description:** Cyclohexane
**Matrix:** Methanol (Purge & Trap Grade) **Manufactured Date:** 11/22/2023
**Expiration Date:** 11/30/2026

This **SPEXOrganics®** Certified Reference Material, CRM, was manufactured by NSI Lab Solutions (www.nsilabsolutions.com) and is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

**Certified Compounds:**

| Compound | CAS # | Labeled (ug/mL) | Purity | Certified† (ug/mL) | | Uncertainty (ug/mL) |
|---|---|---|---|---|---|---|
| Cyclohexane | 110-82-7 | 1000 | 100.0% | 999 | ± | 7.05 |

* - Isomer ratios (when applicable) are an uncertified parameter.

**Final Solution Verification:**

Final solution integrity verified Volumetrically and Analytically. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration is based on gravimetric or volumetric measurements. All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO/IEC 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request. All glassware used in the manufacturing of this standard is Class A. Volumetric pipettors are calibrated every four months by an ISO/IEC 17025 accredited calibration laboratory.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 11/22/2023 Certifying Officer: Kenneth Grzybowski

# Report of Certification

**This Certified Reference Material (CRM) has been produced by NSI Lab Solutions (www.nsilabsolutions.com) and certified under an ISO 9001 (certified by DQS) and ISO 17025 (accredited by ANAB AT-1690), and ISO 17034 (accredited by ANAB AR-1571) quality system consistent with the following standards:**

- ISO 9001: Quality management systems - Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 30: Reference Materials - Selected terms and definitions
- ISO Guide 31: Reference Materials - Contents of certificates and labtes
- ISO Guide 35: Refernece Materials - General and Statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement, 2008
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement - Third Edition
- NIST Technical Note 1297

### Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product at 15°C to 30°C. Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is stored under the laboratory specified

### Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µl. with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

### Material Source:

All analytes and matrix materials are obtained and verified by NSI from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

### Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

### Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025 and ISO 17034. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedures. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

### Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = kuc$ where k=2 is the coverage factor at the 95% confidence level
- uc = combined standard uncertainty obtained by combining the individual compound standard uncertainty components ui, where $uc=\sqrt{\sum ui^2}$

### Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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SV1-38-14-05

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CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

*chromatographic plus*

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30006 **Lot No.:** A0198760

**Description :** VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2026 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Acetone | 67-64-1 | 27D1062005 | 99% | 5,000.2 µg/mL | +/- 172.7826 |
| 2 | 2-Butanone (MEK) | 78-93-3 | SHBL5543 | 99% | 5,006.0 µg/mL | +/- 172.9842 |
| 3 | 4-Methyl-2-pentanone (MIBK) | 108-10-1 | SHBN3601 | 99% | 5,009.5 µg/mL | +/- 173.1052 |
| 4 | 2-Hexanone | 591-78-6 | MKCQ6663 | 99% | 5,009.3 µg/mL | +/- 173.0994 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** P&T Methanol/Water (90:10)
**CAS #** 67-56-1/7732-18-5
**Purity** 99%

# Quality Confirmation Test

**Column:**
105m x 0.53mm x 3.0µm
Rtx 502.2 (cat.#10910)

**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

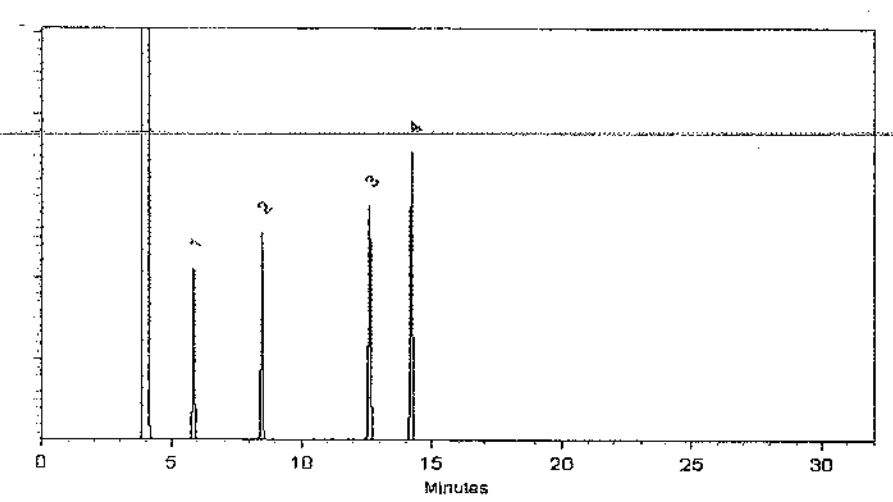
**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID

**Split Vent:**
40 ml/min

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Laith Clemente - Operations Technician I  **Date Mixed:** 07-Jun-2023  **Balance Serial #** B707717271

Martina Cowan – Operations Tech II ARM QC  **Date Passed:** 12-Jun-2023

**Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397**

125 Market Street
New Haven, CT 06513
USA

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# CERTIFICATE OF ANALYSIS SVI-38-14-03

**Catalog No:** TK-102-09S-12.5X
**Description:** Methylcyclohexane
**Lot:** 222031009
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Mar 8, 2022
**Expiration:** Mar 8, 2032
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity % (GC/FID) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Methylcyclohexane | 108-87-2 | 100.0 | 2507 | 2507 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No: 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/INO-001
Rev. 7/20

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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USA

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# CERTIFICATE OF ANALYSIS

SM-38-14-01

**Catalog No:** S-6524-0.25X
**Description:** Methyl acetate
**Lot:** 223081092
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 7, 2023
**Expiration:** Aug 7, 2033
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Methyl acetate | 79-20-9 | 100.0 | 2506 | 2506 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_c = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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# CERTIFICATE OF ANALYSIS

**Catalog No:** M-603-M-5X
**Description:** Acrolein & Acrylonitrile
**Lot:** 224031415
**Solvent:** Methanol (90%)
Water (10%)
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word:** Danger

**Date Certified:** Mar 26, 2024
**Expiration:** Jul 26, 2024
**Sample Size:** 1 mL
**Components:** 2
**Storage Condition:** Freeze (<-10 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

SV1-38-15-12

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Acrolein | 107-02-8 | 90.5 | 5530* | 5005 |
| Acrylonitrile | 107-13-1 | 99.8 | 5060 | 5050 |

Copy

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1338) and ISO 17034 (AR-1463)

* Weight compensated to 100% purity.

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4% and was determined in accordance with ISO 17034. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST; Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

125 Market Street
New Haven, CT 06513
USA

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# CERTIFICATE OF ANALYSIS

SVI-38-12-12

**Catalog No:** TK-102-08S-10X
**Description:** Cyclohexane
**Lot:** 221101280
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Oct 19, 2021
**Expiration:** Oct 19, 2031
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity % (GC/MS) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Cyclohexane | 110-82-7 | 100.0 | 2008 | 2008 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/INO-001
Rev 7/20

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_s = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 10/4/2022
Original issue date: 10/4/2022

# Certificate of Analysis

Date Received:

 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020354-09 | 489953 | ≤ -10 °C | P/T Methanol | 3-Oct-2027 | 2-Butanol Solution, 50000 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-butanol | 78-92-2 | 99.8 | 354.7.1P | 50000 ± 2600 |

SV1-38-11-07

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVF3811-07

# Certificate of Analysis



**Catalog No.:** Z-G34-020354-09 **Lot No.:** 489953 **Expiration Date:** 10/3/2027

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 3-Oct-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Jared Ball | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist I** | **Quality Control Team Lead** |

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 07-26-2024
EMAX Batch No.: 24F034

Attn: Mark Rigby

Parsons
75 W Towne Ridge Pkway # 200
Sandy UT 84070

Subject: Laboratory Report
Project: TITAN 1-A

---

Enclosed is the Laboratory report for samples received on 06/07/24.
The data reported relate only to samples listed below :

| Sample ID | Control # | Col Date | Matrix | Analysis |
|---|---|---|---|---|
| IDW-WATER_JUN24 | F034-01 | 06/06/24 | WATER | VOLATILE ORGANICS BY GC/MS |
| | | | | METALS CAM |
| | | | | MERCURY |
| | | | | CANCELLED |
| IDW-SOIL_JUN24 | F034-02 | 06/06/24 | SOIL | VOLATILE ORGANICS BY GC/MS |
| | | | | METALS CAM |
| | | | | MERCURY |
| | | | | HOLD |
| IDW-SOIL_JUN24MS | F034-02M | 06/06/24 | SOIL | CANCELLED |
| IDW-SOIL_JUN24MSD | F034-02S | 06/06/24 | SOIL | CANCELLED |

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912023-25
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

Revised

# CHAIN OF CUSTODY

EMAX

3051 Fujita St., Torrance, CA 90505
Tel #: 310-618-8889 FAX#: 310-618-8818
Email: info@emaxlabs.com

PO NUMBER: 0015461

EMAX CONTROL NO. 24F034

PROJECT CODE:

CLIENT: Parsons

PROJECT: Titan 1-A MW and SV monitoring

COORDINATOR: Carrie Ross@Parsons.us

TEL.: 303-949-4292 FAX EMAIL: Carrie.Ross@parsons.us

SEND REPORT TO: mark.wels@parsons.com; mark.wels@parsons.com; sandra.delapaz@parsons.us; Beth.Driskill@parsons.us

COMPANY

ADDRESS

EMAX PM

SAMPLE STORAGE

MATRIX CODE: DW=Drinking Water; GW=Ground Water; WW=Waste Water; SS=Solid Waste/Sludge; SO=Soil; WP=Wipe; SW=Swab; AQ=Air; OW=LAB DI WATER

PRESERVATIVE CODE: HC=HCl; HN=HNO3; HS=H2SO4; SH=NaOH; ST=Na2S2O3; ZA=Zinc Acetate; SH=NaOH

ANALYSIS REQUIRED: VOCs via SW8260 (TCLP/STLC analysis list); Title 22 metals via SW6010/7471; TCLP VOCs via SW1311/8260 HOLD; TCLP metals via SW1311/6010/7471 HOLD; STLC metals via SW/WET/6010/7471 HOLD

TAT: ☐ Rush__24__hrs ☐ Rush__48_hrs ☐ Rush_72_hrs ☐ 7 days ☐ 14 days ☐ 21 days

| LAB | SAMPLE ID: CLIENT | SAMPLING: LOCATION | DATE | TIME | MATRIX CODE: NO. | SIZE | TYPE | MATRIX CODE | QC | PRESERVATIVE CODE | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | IDW-Water_JUN24 | Titan 1-A | 6/6/2024 | 1140 | 8 | | | GW | | X X X X X | |
| 2 | IDW-Soil_JUN24 | Titan 1-A | 6/6/2024 | 1120 | 12 | | | SS | | X X X X X | |
| 3 | | | | | | | | | | | |
| 4 | | | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |

Instructions: Please have the analytical results sent to
Mark.wels@parsons.com;
carrie.ross@parsons.us;
sandra.delapaz@parsons.us; Beth.Driskill@parsons.us

Cooler # 1 Temp. (°C) 4.8 Sample #s

SAMPLER

COURIER/AIRBILL

| RELINQUISHED BY | Date | Time | RECEIVED BY |
|---|---|---|---|
| Arnold Poots | 6/6/24 | | |
| | 06/07/24 | 1000 | |

NOTICE: Turnaround time (TAT) for samples shall begin only on the next business day after 3:00pm. TAT shall start at 0800 for the next business day. The client is responsible for all costs associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 metals/inorganics shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

Project J09CA1108-01

# CHAIN OF CUSTODY

| | | | |
|---|---|---|---|
| Laboratories, Inc. | 3051 Fujita St., Torrance, CA 90505<br>Tel #: 310-618-8889 FAX#: 310-618-0818<br>Email: info@emaxlabs.com | **PO NUMBER: 0015461** | **EMAX CONTROL NO.** 24F034 |
| | | SAMPLE STORAGE | **PROJECT CODE:** |

CLIENT: Parsons

PROJECT: Titan 1-A IDW and SV Installation

COORDINATOR: Carrie Ross@Parsons.us

TEL: 303-764-8252 FAX: EMAIL: CarrieRoss@parsons.us

SEND REPORT TO: carrie.ross@parsons.com; mark.rigby@parsons.com; sandra.delasfuentes@parsons.us

COMPANY

ADDRESS

EMAX PM

| MATRIX CODE | PRESERVATIVE CODE |
|---|---|
| DW=Drinking Water | IC = Ice |
| GW=Ground Water | HC = HCl |
| WW=Waste Water | HN=HNO3 |
| SO=Solid Waste SL=Sludge | SH=NaOH |
| SS=Soil Sediment | ST=Na2S2O3 |
| WP=Wipes PP=Pure Product | ZA=Zinc Acetate |
| AR=Air | H2=H2SO4 |
| D=LAB DI WATER | |

| SAMPLE ID | | SAMPLING | | | MATRIX CODE | | | MATRIX CODE | QC | ANALYSIS REQUIRED | | | | | | | | | PRESERVATIVE CODE | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LAB | CLIENT | LOCATION | DATE | TIME | NO. | SIZE | TYPE | | | VOCs via SW8260 | Title 22 metals via SW6010/7471 | TCLP VOCs via SW1311/8260 | TCLP metals via SW1311/6010/7471 | STLC metals via SW WET/6010/7471 | | | | | | |
| 1 | IDW-Water_JUN24 | Titan 1-A | 6/6/2024 | 1140 | 8 | | | GW | | X | X | X | X | X | | | | | | |
| 2 | IDW-Soil_JUN24 | Titan 1-A | 6/6/2024 | 1120 | 12 | | | SS | | X | X | X | X | X | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |

| TAT |
|---|
| ☐ Rush __24__ hrs. |
| ☐ Rush __48_hrs |
| ☐ Rush_72_hrs |
| ☐ 7 days |
| ☐ 14 days |
| ☐ 21 days |

Instructions: Please have the analytical results sent to

Mark.rigby@parsons.com

carrie.ross@parsons.us

sandra.delasfuentes@parsons.us; Beth.Driskill@parsons.us

SAMPLER

COURIER/AIRBILL

| Cooler # | Temp. (°C) | Sample #s |
|---|---|---|
| 1 | 4.8 | |

| RELINQUISHED BY | Date | Time | RECEIVED BY |
|---|---|---|---|
| Arnold Kotts | 6/6/24 | | |
| | 06/07/24 | 1000 | |

NOTICE: Turnaround time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report, unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

Project JC9CA3108-01

EMAX LABORATORIES, INC.

REFERENCE: EMAX-SM02 Rev. 12

# SAMPLE RECEIPT FORM 1

| Type of Delivery | Airbill / Tracking Number | ECN 24F034 |
|---|---|---|
| ☑ Fedex ☐ UPS ☐ GSO ☐ Others | 275612265 2730 | Recipient Joceline Solis-Ramos |
| ☐ EMAX Courier ☐ Client Delivery | | Date 06/07/24 Time 1000 |

## COC INSPECTION

| | | | | | |
|---|---|---|---|---|---|
| ☑ Client Name | ☑ Client PM/FC | ☐ Sampler Name | ☑ Sampling Date/Time | ☑ Sample ID | ☑ Matrix |
| ☐ Address | ☑ Tel # / Fax # | ☐ Courier Signature | ☑ Analysis Required | ☐ Preservative (if any) | ☐ TAT |
| Safety Issues (if any) | ☐ High concentrations expected | ☐ From Superfund Site | ☐ Rad screening required | | |

Note: _____

## PACKAGING INSPECTION

| | | | | | |
|---|---|---|---|---|---|
| Container | ☑ Cooler | ☐ Box | ☐ Other | | |
| Condition | ☑ Custody Seal | ☐ Intact | ☐ Damaged | | |
| Packaging | ☑ Bubble Pack | ☐ Styrofoam | ☐ Popcorn | ☐ Sufficient | ☐ _____ |
| Temperatures (Cool, ≤6 °C but not frozen) | ☑ Cooler 1 4.6 °C | ☐ Cooler 2 _____ °C | ☐ Cooler 3 _____ °C | ☐ Cooler 4 _____ °C | ☐ Cooler 5 _____ °C |
| | ☐ Cooler 6 _____ °C | ☐ Cooler 7 _____ °C | ☐ Cooler 8 _____ °C | ☐ Cooler 9 _____ °C | ☐ Cooler 10 _____ °C |
| *Thermometer:* | *A - S/N* 210766272 | *B - S/N* 230044860 | *C - S/N* 230044897 | (D) *S/N* 230044867 | |

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note: _____

## DISCREPANCIES

| LabSampleID | LabSampleContainerID | Code | ClientSample Label ID / Information | Corrective Action |
|---|---|---|---|---|
| 1 | 4-6 | D5 | received HCl vials for TCLP VOCs | R9 |
| 1 | 8 | D5 | received $HNO_3$ container for TCLP/STLC metals | R6 |
| 2 | 17 | D10 | | R1 |
| 1,2 | 1-20 | D1 | | R1 |
| 2 | 9-17 | D22 | | R9 |
| 1,2 | | D15 | for VOCs | R9 |
| 2 | 10-13 | D23 | | R9 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: Received MS/MSD for sample 2 but not indicated on COC. PF 6/7/24

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☑ NO ~~Sample 2 containers # 12-14 (60ml) vials have less liquid in them compared to containers # 9-11.~~ JCR 06/07

LEGEND:

| Code | Description- Sample Management |
|---|---|
| D1 | Analysis is not indicated in label |
| D2 | Analysis mismatch COC vs label |
| D3 | Sample ID mismatch COC vs label |
| D4 | Sample ID is not indicated in _____ |
| D5 | Container (improper) [leaking] [broken] |
| D6 | Date/Time is not indicated in _____ |
| D7 | Date/Time mismatch COC vs label |
| D8 | Sample listed in COC is not received |
| D9 | Sample received is not listed in COC |
| D10 | No initial/date on corrections in COC (labe) |
| D11 | Container count mismatch COC vs received |
| D12 | Container size mismatch COC vs received |

| Code | Description-Sample Management |
|---|---|
| D13 | Out of Holding Time |
| D14 | Bubble is >6mm |
| D15 | No trip blank in cooler |
| D16 | Preservation not indicated in _____ |
| D17 | Preservation mismatch COC vs label |
| D18 | Insufficient chemical preservative |
| D19 | Insufficient Sample |
| D20 | No filtration info for dissolved analysis |
| D21 | No sample for moisture determination |
| D22 | label adhered to terracore vials |
| D23 | Seems excess Dri-Soki |
| D24 | May have been absorbed |

☐ Continue to next page.

| Code | Description-Sample Management |
|---|---|
| R1 | Proceed as indicated in ☐ COC ☐ Label |
| R2 | Refer to attached instruction |
| R3 | Cancel the analysis |
| R4 | Use vial with smallest bubble first |
| R5 | Log-in with latest sampling date and time+1 min |
| R6 | Adjust pH as necessary |
| R7 | Filter and preserved as necessary |
| R8 | Informed Client |
| R9 | |
| R10 | |
| R11 | |
| R12 | |

REVIEWS:

Sample Labeling: Joceline Solis-Ramos — Date 06/07/24 6/7/24

SRF — Date 6/7/24

PM DF — Date 6/7/24

## Dilukshi Fernando

**From:** Beth.Driskill@parsons.us
**Sent:** Tuesday, June 11, 2024 12:42 PM
**To:** Dilukshi Fernando
**Cc:** Richard Beauvil; Arnoldo.Pimentel@parsons.com; Mark.Rigby@parsons.com
**Subject:** RE: Titan 1-A IDW samples
**Attachments:** 24F034- revised COC.pdf

I apologize for the delay, I needed clarification before making revisions.

Attached is the revised COC. To summarize, we need total VOC (TCLP/STLC list of analytes) and total metals (Title 22) analyzed on the IDW water and soil sample.
For soil, we put the TCLP and STLC analyses on hold pending the totals results.

Thanks,
Beth

**From:** Dilukshi Fernando <DFernando@emaxlabs.com>
**Sent:** Tuesday, June 11, 2024 11:48 AM
**To:** Driskill, Beth [US-US] <Beth.Driskill@parsons.us>; Pimentel, Arnoldo [US-US] <Arnoldo.Pimentel@parsons.com>; Rigby, Mark [US-US] <Mark.Rigby@parsons.com>
**Cc:** Richard Beauvil <RBeauvil@emaxlabs.com>
**Subject:** [EXTERNAL] RE: Titan 1-A IDW samples

Hello Beth,

We are waiting for the revised COC. Could you please send the revised COC when you get the chance?

Thank you!

Dilukshi Fernando
Project Coordinator
3051 Fujita Street
Torrance, CA 90505
Tel: 310-618-8889 X132
dfernando@emaxlabs.com

**From:** Beth.Driskill@parsons.us <Beth.Driskill@parsons.us>
**Sent:** Monday, June 10, 2024 1:21 PM
**To:** Dilukshi Fernando <DFernando@emaxlabs.com>; Arnoldo.Pimentel@parsons.com; Mark.Rigby@parsons.com
**Cc:** Richard Beauvil <RBeauvil@emaxlabs.com>
**Subject:** RE: Titan 1-A IDW samples

Hi Dilukshi. Apologies for the delayed response. The IDW water samples need to be analyzed as totals but the target analyte list should reflect that of TCLP/STLC analyte list. We will need to send you a revised COC.

Mark- Please confirm what I've noted above is correct.

Thanks,
Beth

**From:** Dilukshi Fernando <DFernando@emaxlabs.com>
**Sent:** Monday, June 10, 2024 2:32 PM
**To:** Driskill, Beth [US-US] <Beth.Driskill@parsons.us>; Pimentel, Arnoldo [US-US] <Arnoldo.Pimentel@parsons.com>
**Cc:** Richard Beauvil <RBeauvil@emaxlabs.com>
**Subject:** [EXTERNAL] RE: Titan 1-A IDW samples

Hello Arnoldo,

I am following up on the email below. Please advise on how you would like for us to proceed.

Thank you!

Dilukshi Fernando
Project Coordinator
3051 Fujita Street
Torrance, CA 90505
Tel: 310-618-8889 X132
dfernando@emaxlabs.com

**From:** Dilukshi Fernando
**Sent:** Friday, June 07, 2024 12:57 PM
**To:** Arnoldo.Pimentel@parsons.com; Richard Beauvil <RBeauvil@emaxlabs.com>; Caspar Pang <CPang@emaxlabs.com>
**Cc:** Carrie.Ross@parsons.us; Mark.Rigby@parsons.com; Beth.Driskill@parsons.us
**Subject:** RE: Titan 1-A IDW samples

Hello Arnold,

The following discrepancies were noted for SDG 24F034.

1. We received sample #1 (IDW-Water_JUN24) preserved with HCl vials for TCLP VOCs and preserved with HNO3 containers for TCLP/STLC. For the requested analyses, the samples should have been unpreserved. Please advise on how you would like for us to proceed.

I have attached the COC and SRFs herewith for your reference.

Thank you!

Dilukshi Fernando
Project Coordinator
3051 Fujita Street
Torrance, CA 90505
Tel: 310-618-8889 X132
dfernando@emaxlabs.com

**From:** Arnoldo.Pimentel@parsons.com <Arnoldo.Pimentel@parsons.com>
**Sent:** Thursday, June 06, 2024 10:41 PM
**To:** Richard Beauvil <RBeauvil@emaxlabs.com>; Caspar Pang <CPang@emaxlabs.com>; Dilukshi Fernando <DFernando@emaxlabs.com>
**Cc:** Carrie.Ross@parsons.us; Mark.Rigby@parsons.com; Beth.Driskill@parsons.us
**Subject:** Titan 1-A IDW samples

Hi Team,

Please find attached the COC for IDW samples shipped today.

FedEx Tracking #: 275612952738

Thanks,

**Arnold Pimentel**
*Senior Geologist*
100 Pringle Avenue, Ste 525, Walnut Creek, CA 94596
Arnoldo.pimentel@parsons.com
Mobile: 626.710.7746
Parsons / LinkedIn [linkedin.com] / Twitter [twitter.com] / Facebook [facebook.com] / Instagram [instagram.com]

PARSONS

[parsonscsgpublic.s3.amazonaws.com]

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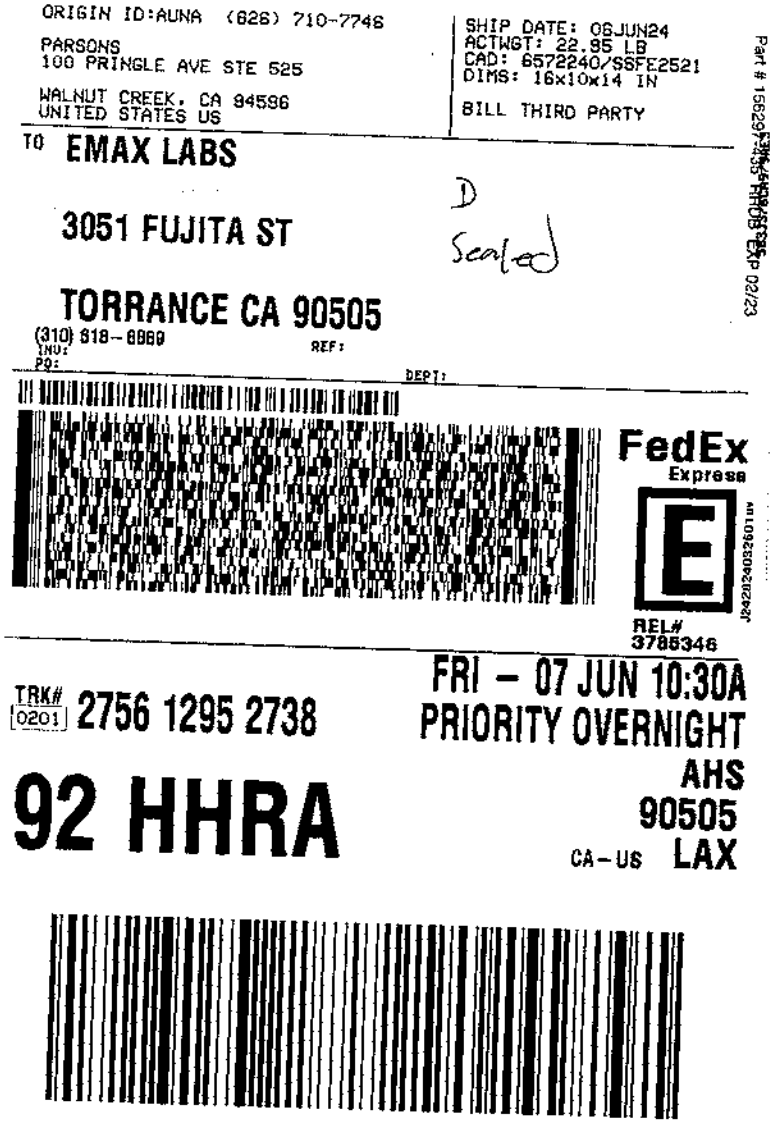

ORIGIN ID:AUNA (626) 710-7746

PARSONS
100 PRINGLE AVE STE 525

WALNUT CREEK, CA 94596
UNITED STATES US

SHIP DATE: 06JUN24
ACTWGT: 22.95 LB
CAD: 6572240/SSFE2521
DIMS: 16x10x14 IN

BILL THIRD PARTY

Part # 156297-435 RRDB EXP 02/23

TO **EMAX LABS**

**3051 FUJITA ST**

**TORRANCE CA 90505**

(310) 618-6869
INV:
PO:
REF:
DEPT:

D
Sealed

**FedEx**
Express

E

REL#
3785346

J242024032601uv

TRK# 0201 **2756 1295 2738**

**FRI - 07 JUN 10:30A**
**PRIORITY OVERNIGHT**

**92 HHRA**

**AHS**
**90505**
CA-US **LAX**

## REPORTING CONVENTIONS

### DATA QUALIFIERS:

| Lab Qualifier | AFCEE Qualifier | Description |
|---|---|---|
| J | F | Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL. |
| N | | Indicates presumptive evidence of a compound. |
| B | B | Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level. |
| E | J | Indicates that the result is above the maximum calibration range or estimated value. |
| * | * | Out of QC limit. |

**Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.**

### ACRONYMS AND ABBREVIATIONS:

| | |
|---|---|
| CRDL | Contract Required Detection Limit |
| RL | Reporting Limit |
| MRL | Method Reporting Limit |
| MDL | Method Detection Limit |
| DL | Detection Limit |
| LOD | Limit of Detection |
| LOQ | Limit of Quantitation |
| DO | Diluted out |

### DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

# SUMMARY PACKAGE VOLATILE ORGANICS (WATER)

CASE NARRATIVE

Client : PARSONS

Project: TITAN I-A

SDG : 24F034

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

One(1) water sample was received on 06/07/24 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030C/8260C and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There were two(2)CCVs (Data file IDs: RFR060, and RFR072) associated with this SDG. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VQF3F04B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. VQF3F04X/VQF3F04C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F034
Instrument ID : F3

WATER

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| LCD1W | V0F3F04C | 1 | NA | 06/20/2413:17 | 06/20/2413:17 | RFR362 | RFR007 | V0F3F04 | LCS Duplicate |
| MBLK1W | V0F3F04B | 1 | NA | 06/20/2414:23 | 06/20/2414:23 | RFR364 | RFR007 | V0F3F04 | Method Blank |
| LCS1W | V0F3F04X | 1 | NA | 06/20/2414:56 | 06/20/2414:56 | RFR365 | RFR007 | V0F3F04 | Lab Control Sample (LCS) |
| IDW-WATER_JL424 | 24F034-01 | 1 | NA | 06/20/2418:14 | 06/20/2418:14 | RFR371 | RFR007 | V0F3F04 | Field Sample |

FN - Filename
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/06/24 11:40 |
| Project | : TITAN 1-A | Date Received: | 06/07/24 |
| Batch No. | : 24F034 | Date Extracted: | 06/20/24 18:14 |
| Sample ID | : IDW-WATER_JUN24 | Date Analyzed: | 06/20/24 18:14 |
| Lab Samp ID: | 24F034-01 | Dilution Factor: | 1 |
| Lab File ID: | RFR071 | Matrix: | WATER |
| Ext Btch ID: | VOF3F04 | % Moisture: | NA |
| Calib. Ref.: | RFR007 | Instrument ID: | F3 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | 0.23J | 1.0 | 0.10 | 0.20 |
| 1,2-Dichloroethane | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| 2-Butanone | ND | 20 | 5.0 | 10 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| Carbon Tetrachloride | ND | 1.0 | 0.10 | 0.20 |
| Chlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Chloroform | ND | 1.0 | 0.10 | 0.20 |
| Tetrachloroethene | ND | 1.0 | 0.15 | 0.30 |
| Trichloroethene | 1.0 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |
| Hexachlorobutadiene | ND | 1.0 | 0.15 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 9.80 | 10.0 | 98 | 85-114 |
| Toluene-d8 | 10.8 | 10.0 | 108 | 89-112 |
| Dibromofluoromethane | 10.2 | 10.0 | 102 | 80-119 |

Notes:
Sample Amount : 25ml Final Volume : 25ml
Prepared by : LPriet Analyzed by : LPriet
Detection limits are reported relative to sample result significant figures.

# QC SUMMARIES

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/20/24 14:23 |
| Project | : TITAN 1-A | Date Received: | 06/20/24 |
| Batch No. | : 24F034 | Date Extracted: | 06/20/24 14:23 |
| Sample ID | : MBLK1W | Date Analyzed: | 06/20/24 14:23 |
| Lab Samp ID: | VOF3F04B | Dilution Factor: | 1 |
| Lab File ID: | RFR064 | Matrix: | WATER |
| Ext Btch ID: | VOF3F04 | % Moisture: | NA |
| Calib. Ref.: | RFR007 | Instrument ID: | F3 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,2-Dichloroethane | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| 2-Butanone | ND | 20 | 5.0 | 10 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| Carbon Tetrachloride | ND | 1.0 | 0.10 | 0.20 |
| Chlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Chloroform | ND | 1.0 | 0.10 | 0.20 |
| Tetrachloroethene | ND | 1.0 | 0.15 | 0.30 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |
| Hexachlorobutadiene | ND | 1.0 | 0.15 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 9.99 | 10.0 | 100 | 81-118 |
| 4-Bromofluorobenzene | 9.10 | 10.0 | 91 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.96 | 10.0 | 100 | 80-119 |

Notes:
Sample Amount : 25ml Final Volume : 25ml
Prepared by : LPriet Analyzed by : LPriet
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK1W | LCS1W | LCD1W |
| LAB SAMPLE ID | : VOF3F04B | VOF3F04X | VOF3F04C |
| LAB FILE ID | : RFR064 | RFR065 | RFR062 |
| DATE PREPARED | : 06/20/24 14:23 | 06/20/24 14:56 | 06/20/24 13:17 |
| DATE ANALYZED | : 06/20/24 14:23 | 06/20/24 14:56 | 06/20/24 13:17 |
| PREP BATCH | : VOF3F04 | VOF3F04 | VOF3F04 |
| CALIBRATION REF: | RFR007 | RFR007 | RFR007 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 9.58 | 96 | 10.0 | 8.94 | 89 | 7 | 71-131 | 20 |
| 1,2-Dichloroethane | ND | 10.0 | 9.66 | 97 | 10.0 | 9.31 | 93 | 4 | 73-128 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 9.85 | 99 | 10.0 | 9.68 | 97 | 2 | 79-118 | 20 |
| 2-Butanone | ND | 50.0 | 44.3 | 89 | 50.0 | 41.9 | 84 | 6 | 56-143 | 20 |
| Benzene | ND | 10.0 | 9.33 | 93 | 10.0 | 9.16 | 92 | 2 | 79-120 | 20 |
| Carbon Tetrachloride | ND | 10.0 | 9.89 | 99 | 10.0 | 9.08 | 91 | 9 | 72-136 | 20 |
| Chlorobenzene | ND | 10.0 | 10.5 | 105 | 10.0 | 9.78 | 98 | 7 | 82-118 | 20 |
| Chloroform | ND | 10.0 | 9.31 | 93 | 10.0 | 8.52 | 85 | 9 | 79-124 | 20 |
| Tetrachloroethene | ND | 10.0 | 9.84 | 98 | 10.0 | 9.70 | 97 | 1 | 74-129 | 20 |
| Trichloroethene | ND | 10.0 | 9.75 | 98 | 10.0 | 9.64 | 96 | 1 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 8.48 | 85 | 10.0 | 7.80 | 78 | 8 | 58-137 | 20 |
| Hexachlorobutadiene | ND | 10.0 | 8.73 | 87 | 10.0 | 9.19 | 92 | 5 | 66-134 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.3 | 103 | 10.0 | 9.69 | 97 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 8.80 | 88 | 10.0 | 9.03 | 90 | 85-114 |
| Toluene-d8 | 10.0 | 10.4 | 104 | 10.0 | 10.4 | 104 | 89-112 |
| Dibromofluoromethane | 10.0 | 10.2 | 102 | 10.0 | 10.0 | 100 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

# INITIAL CALIBRATIONS

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: RFR001 BFB Injection Date: 06/17/24

Instrument ID: P3 BFB Injection Time: 15:54

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 31.276 |
| 75 | 30 - 60% of mass 95 | 52.562 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.273 |
| 173 | Less than 2% of mass 174 | 0.350(.49)1 |
| 174 | Greater than 50% of mass 95 | 72.063 |
| 175 | 5 - 9% of mass 174 | 4.455(6.18)1 |
| 176 | 95 - 101% % of mass 174 | 70.143(97.34)1 |
| 177 | 5 - 9% % of mass 176 | 4.142(5.91)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD0.3 | VOF3F171 | RFR002 | 06/17/24 | 16:35 |
| 2 | VSTD0.5 | VOF3F172 | RFR003 | 06/17/24 | 17:08 |
| 3 | VSTD1 | VOF3F173 | RFR004 | 06/17/24 | 17:40 |
| 4 | VSTD2 | VOF3F174 | RFR005 | 06/17/24 | 18:13 |
| 5 | VSTD5 | VOF3F175 | RFR006 | 06/17/24 | 18:46 |
| 6 | VSTD10 | VOF3F176 | RFR007 | 06/17/24 | 19:19 |
| 7 | VSTD20 | VOF3F177 | RFR008 | 06/17/24 | 19:52 |
| 8 | VSTD30 | VOF3F178 | RFR009 | 06/17/24 | 20:25 |
| 9 | VSTD50 | VOF3F179 | RFR010 | 06/17/24 | 20:58 |
| 10 | VSTD100 | VOF3F1710 | RFR011 | 06/17/24 | 21:31 |
| 11 | VSTD10 | IVO01E1101 | RFR014 | 06/17/24 | 23:09 |

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :F3
Beginning DateTime :06/17/24 16:35
Spike Units :PPB
IC File :RFR007

Column Spec :ZB-624 ID :0.25MM
Ending DateTime :06/17/24 21:31
HPChem Method :VOF3P17

| | | .3 | .5 | 1 | 2 | 5 | 10 | 20 | 30 | 50 | 100 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 16:35 | 17:08 | 17:40 | 18:13 | 18:46 | 19:19 | 19:52 | 20:25 | 20:58 | 21:31 | | | |
| M | IDX | Parameters | RFR002 | RFR003 | RFR004 | RFR005 | RFR006 | RFR007 | RFR008 | RFR009 | RFR010 | RFR011 | Av_RRF | %_RSD | Av_Rt_M |
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 15.5980 |
| | 2 | Chlorotrifluoroethylene | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 3 | Dichlorodifluoromethane | | 0.604 | 0.519 | 0.517 | 0.474 | 0.480 | 0.465 | 0.417 | 0.392 | 0.409 | 0.475 | 13.95 | 3.9734 |
| | 4 | Chloromethane | | 0.896 | 0.795 | 0.820 | 0.786 | 0.750 | 0.743 | 0.620 | 0.575 | | 0.748 | 14.03 | 4.4582 |
| | 5 | 2-Chloro-1,1,1-trifluoroethane | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 6 | Vinyl chloride | 0.818 | 0.760 | 0.647 | 0.655 | 0.648 | 0.615 | 0.578 | | | | 0.674 | 12.47 | 4.6870 |
| | 7 | Bromomethane | | 0.401 | 0.379 | 0.356 | 0.309 | 0.295 | 0.303 | 0.275 | 0.276 | | 0.324 | 14.81 | 5.6166 |
| | 8 | Chloroethane | | 0.437 | 0.350 | 0.363 | 0.341 | 0.321 | 0.330 | 0.283 | 0.279 | 0.299 | 0.334 | 14.57 | 5.7616 |
| | 9 | Dichlorofluoromethane | 0.917 | 0.933 | 0.882 | 0.897 | 0.846 | 0.840 | 0.815 | 0.774 | 0.720 | 0.705 | 0.833 | 9.54 | 5.8230 |
| | 10 | Trichlorofluoromethane | 0.696 | 0.630 | 0.537 | 0.593 | 0.532 | 0.530 | 0.543 | 0.493 | 0.481 | 0.544 | 0.558 | 11.63 | 6.3111 |
| 5 | 11 | Acrolein | | 0.028 | 0.034 | 0.025 | 0.025 | 0.024 | 0.023 | 0.024 | 0.022 | 0.024 | 0.026 | 14.42 | 7.2465 |
| | 12 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.240 | 0.233 | 0.230 | 0.243 | 0.223 | 0.222 | 0.231 | 0.242 | 0.246 | 0.259 | 0.237 | 4.79 | 7.3133 |
| | 13 | 1,1-Dichloroethene | 0.971 | 0.987 | 0.911 | 0.905 | 0.861 | 0.885 | 0.843 | 0.799 | 0.723 | 0.723 | 0.861 | 10.61 | 7.7491 |
| 5 | 14 | Acetone | 0.147 | 0.100 | 0.077 | 0.075 | 0.060 | 0.058 | 0.053 | 0.054 | 0.046 | 0.050 | 0.072 | 42.89 | 7.3888 |
| | 15 | Iodomethane | 0.543 | 0.508 | 0.466 | 0.486 | 0.472 | 0.490 | 0.498 | 0.510 | 0.512 | 0.528 | 0.501 | 4.79 | 8.5799 |
| | 16 | Methyl acetate | | | 0.170 | 0.177 | 0.166 | 0.170 | 0.159 | 0.161 | | | 0.167 | 3.90 | 8.5649 |
| | 17 | Carbon disulfide | 1.564 | 1.524 | 1.343 | 1.337 | 1.283 | 1.126 | 1.247 | 1.229 | | | 1.332 | 11.11 | 9.1244 |
| | 18 | Methylene chloride | | | 0.661 | 0.639 | 0.591 | 0.559 | 0.537 | 0.499 | 0.456 | 0.470 | 0.551 | 13.73 | 9.0155 |
| 25 | 19 | tert-Butyl alcohol | 0.017 | 0.011 | 0.011 | 0.011 | 0.013 | 0.013 | 0.013 | 0.014 | 0.013 | 0.014 | 0.013 | 14.17 | 7.8973 |
| | 20 | tert-Butyl methyl ether (MTBE) | 0.769 | 0.628 | 0.644 | 0.581 | 0.605 | 0.587 | 0.586 | 0.619 | 0.561 | 0.597 | 0.618 | 9.48 | 9.4464 |
| | 21 | trans-1,2-Dichloroethene | 0.525 | 0.494 | 0.449 | 0.418 | 0.411 | 0.407 | 0.401 | 0.400 | 0.388 | 0.388 | 0.428 | 10.99 | 9.9056 |
| 5 | 22 | Acrylonitrile | 0.074 | 0.067 | 0.070 | 0.068 | 0.065 | 0.064 | 0.062 | 0.064 | 0.058 | 0.063 | 0.066 | 6.94 | 9.3780 |
| | 23 | Isopropyl ether (DIPE) | 2.066 | 1.920 | 1.911 | 1.897 | 1.838 | 1.805 | 1.727 | 1.621 | 1.441 | 1.361 | 1.759 | 12.72 | 10.8622 |
| | 24 | 1,1-Dichloroethane | 0.958 | 0.933 | 0.944 | 0.913 | 0.866 | 0.891 | 0.844 | 0.805 | 0.749 | 0.722 | 0.863 | 9.51 | 11.2751 |
| | 25 | Vinyl acetate | | | 0.495 | 0.484 | 0.513 | 0.483 | 0.482 | 0.438 | 0.404 | 0.402 | 0.463 | 9.17 | 11.2564 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 1.194 | 1.141 | 1.116 | 1.055 | 1.047 | 1.072 | 1.012 | 1.016 | 0.894 | 0.914 | 1.046 | 8.96 | 12.1431 |
| | 27 | 2,2-Dichloropropane | 0.427 | 0.407 | 0.347 | 0.346 | 0.330 | 0.338 | 0.314 | 0.309 | 0.287 | 0.278 | 0.338 | 14.08 | 12.8600 |
| | 28 | cis-1,2-Dichloroethene | 0.438 | 0.408 | 0.350 | 0.363 | 0.348 | 0.344 | 0.326 | 0.337 | 0.319 | 0.320 | 0.355 | 10.88 | 12.9808 |
| 5 | 29 | 2-Butanone | 0.106 | 0.092 | 0.089 | 0.094 | 0.091 | 0.089 | 0.079 | 0.083 | 0.072 | 0.076 | 0.087 | 11.29 | 12.4935 |
| 25 | 30 | 2-Butanol | | | 0.014 | 0.014 | 0.014 | 0.014 | 0.013 | 0.014 | | | 0.014 | 3.78 | 11.9368 |
| | 31 | Bromochloromethane | 0.172 | 0.143 | 0.153 | 0.150 | 0.154 | 0.156 | 0.154 | 0.158 | 0.157 | 0.166 | 0.156 | 4.99 | 13.7398 |
| | 32 | Tetrahydrofuran | | | 0.057 | 0.057 | 0.054 | 0.056 | 0.050 | 0.049 | 0.044 | 0.049 | 0.052 | 9.17 | 13.8097 |
| | 33 | Chloroform | 0.896 | 0.845 | 0.744 | 0.706 | 0.704 | 0.688 | 0.679 | 0.629 | 0.613 | 0.573 | 0.708 | 14.17 | 13.3484 |
| | 34 | Dibromofluoromethane | | 0.343 | 0.308 | 0.310 | 0.310 | 0.316 | 0.300 | 0.296 | | | 0.312 | 4.96 | 13.8455 |
| | 35 | 1,1,1-Trichloroethane | 0.553 | 0.530 | 0.515 | 0.501 | 0.466 | 0.490 | 0.478 | 0.469 | 0.446 | 0.433 | 0.488 | 7.67 | 14.2348 |
| | 36 | Cyclohexane | 0.766 | 0.679 | 0.550 | 0.616 | 0.551 | 0.561 | 0.539 | 0.530 | | | 0.599 | 13.97 | 14.2700 |
| | 37 | 1,1-Dichloropropene | 0.188 | 0.186 | 0.168 | 0.175 | 0.173 | 0.174 | 0.173 | 0.173 | 0.166 | 0.177 | 0.175 | 3.97 | 14.5620 |
| | 38 | Carbon tetrachloride | 0.376 | 0.429 | 0.411 | 0.391 | 0.380 | 0.397 | 0.402 | 0.404 | 0.385 | 0.384 | 0.396 | 4.10 | 14.7610 |
| 5 | 39 | tert-Amyl alcohol | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 40 | 1,2-Dichloroethane-d4 | | 0.353 | 0.306 | 0.281 | 0.307 | 0.296 | 0.275 | 0.266 | | | 0.298 | 9.66 | 14.8767 |
| | 41 | 2,2,4-Trimethylpentane | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 42 | Benzene | 1.770 | 1.768 | 1.576 | 1.604 | 1.554 | 1.527 | 1.500 | 1.336 | 1.184 | | 1.535 | 12.19 | 15.0990 |
| | 43 | 1,2-Dichloroethane | 0.429 | 0.419 | 0.409 | 0.401 | 0.399 | 0.380 | 0.367 | 0.335 | 0.313 | 0.308 | 0.376 | 11.62 | 15.0636 |
| | 44 | tert-Amyl methyl ether (TAME) | 0.773 | 0.692 | 0.656 | 0.591 | 0.620 | 0.621 | 0.626 | 0.645 | 0.586 | 0.592 | 0.640 | 8.92 | 14.7774 |
| | 45 | Trichloroethene | 0.372 | 0.373 | 0.347 | 0.332 | 0.337 | 0.360 | 0.349 | 0.345 | 0.333 | 0.335 | 0.348 | 4.41 | 16.1949 |
| | 46 | Methylcyclohexane | 0.822 | 0.766 | 0.651 | 0.685 | 0.611 | 0.624 | 0.599 | 0.583 | | | 0.668 | 12.80 | 16.2947 |
| | 47 | 1,2-Dichloropropane | 0.433 | 0.404 | 0.413 | 0.379 | 0.395 | 0.386 | 0.383 | 0.364 | 0.324 | 0.338 | 0.382 | 8.66 | 16.4991 |
| 20 | 48 | 1,4-Dioxane | | | | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 8.35 | 16.9042 |
| | 49 | Dibromomethane | 0.131 | 0.132 | 0.129 | 0.119 | 0.130 | 0.125 | 0.131 | 0.125 | 0.120 | 0.126 | 0.127 | 3.51 | 16.9941 |
| | 50 | Bromodichloromethane | 0.567 | 0.517 | 0.447 | 0.416 | 0.435 | 0.415 | 0.422 | 0.403 | 0.369 | 0.368 | 0.436 | 14.28 | 16.8938 |
| | 51 | 2-Chloroethyl vinyl ether | | 0.054 | 0.041 | 0.049 | 0.050 | 0.051 | 0.051 | 0.055 | 0.053 | 0.061 | 0.052 | 10.70 | 17.3247 |
| | 52 | cis-1,3-Dichloropropene | 0.515 | 0.499 | 0.456 | 0.454 | 0.472 | 0.479 | 0.483 | 0.459 | 0.419 | 0.415 | 0.465 | 6.84 | 17.7193 |
| 5 | 53 | 4-Methyl-2-pentanone | | 0.219 | 0.196 | 0.197 | 0.191 | 0.185 | 0.174 | 0.179 | 0.149 | 0.137 | 0.181 | 13.81 | 17.3686 |
| | 54 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 20.1860 |
| | 55 | Toluene-d8 | | 1.779 | 1.366 | 1.498 | 1.426 | 1.624 | 1.404 | 1.281 | | | 1.483 | 11.42 | 18.0881 |
| | 56 | Toluene | 2.100 | 2.159 | 1.930 | 1.946 | 1.743 | 1.976 | 1.697 | 1.591 | 1.384 | | 1.836 | 13.71 | 18.2125 |
| | 57 | Ethyl methacrylate | 0.309 | 0.305 | 0.266 | 0.278 | 0.255 | 0.289 | 0.274 | 0.310 | 0.283 | 0.292 | 0.286 | 6.45 | 18.3771 |
| | 58 | trans-1,3-Dichloropropene | 0.502 | 0.473 | 0.449 | 0.412 | 0.433 | 0.495 | 0.453 | 0.448 | 0.441 | 0.409 | 0.451 | 6.88 | 18.4429 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 59 | 1,1,2-Trichloroethane | 0.250 | 0.251 | 0.232 | 0.227 | 0.217 | 0.222 | 0.216 | 0.218 | 0.211 | 0.218 | 0.226 | 6.24 | 18.6764 |
| | 60 | Tetrachloroethene | 0.400 | 0.457 | 0.386 | 0.391 | 0.358 | 0.413 | 0.380 | 0.390 | 0.391 | 0.366 | 0.393 | 6.99 | 19.1352 |
| 5 | 61 | 2-Hexanone | ------ | 0.182 | 0.154 | 0.162 | 0.145 | 0.153 | 0.137 | 0.142 | 0.132 | 0.121 | 0.147 | 12.18 | 18.6403 |
| | 62 | 1,3-Dichloropropane | 0.546 | 0.492 | 0.480 | 0.446 | 0.412 | 0.444 | 0.409 | 0.403 | 0.389 | 0.373 | 0.439 | 12.20 | 19.0201 |
| | 63 | Dibromochloromethane | 0.324 | 0.330 | 0.285 | 0.279 | 0.260 | 0.295 | 0.274 | 0.291 | 0.283 | 0.283 | 0.290 | 7.40 | 19.4312 |
| | 64 | 1,2-Dibromoethane | 0.230 | 0.217 | 0.225 | 0.196 | 0.187 | 0.210 | 0.195 | 0.205 | 0.192 | 0.197 | 0.205 | 7.18 | 19.7091 |
| | 65 | 1-Chlorohexane | 0.775 | 0.688 | 0.648 | 0.698 | 0.671 | 0.797 | 0.716 | 0.733 | 0.659 | 0.594 | 0.698 | 8.66 | 19.8094 |
| | 66 | Chlorobenzene | 1.088 | 1.027 | 0.945 | 0.974 | 0.948 | 1.032 | 0.967 | 0.951 | 0.878 | 0.712 | 0.952 | 10.77 | 20.2353 |
| | 67 | Ethylbenzene | 1.900 | 2.002 | 1.910 | 1.906 | 1.850 | 2.035 | 1.863 | 1.704 | 1.373 | ------ | 1.838 | 10.78 | 20.2680 |
| | 68 | 1,1,1,2-Tetrachloroethane | ------ | 0.378 | 0.343 | 0.340 | 0.312 | 0.365 | 0.345 | 0.356 | 0.338 | 0.335 | 0.346 | 5.47 | 20.2682 |
| 2 | 69 | m-Xylene & p-Xylene | 1.428 | 1.469 | 1.337 | 1.429 | 1.321 | 1.449 | 1.263 | 1.016 | ------ | ------ | 1.339 | 11.13 | 20.3523 |
| | 70 | o-Xylene | 1.459 | 1.459 | 1.284 | 1.359 | 1.344 | 1.554 | 1.327 | 1.255 | 1.125 | ------ | 1.352 | 9.43 | 20.9276 |
| | 71 | Styrene | 0.943 | 0.950 | 0.840 | 0.887 | 0.826 | 1.041 | 0.963 | 0.908 | 0.851 | 0.717 | 0.892 | 10.08 | 20.9753 |
| | 72 | Isopropylbenzene | 1.606 | 1.566 | 1.494 | 1.553 | 1.556 | 1.728 | 1.615 | 1.503 | 1.277 | ------ | 1.544 | 7.88 | 21.3680 |
| | 73 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 23.8711 |
| | 74 | Bromoform | 0.366 | 0.353 | 0.383 | 0.395 | 0.378 | 0.416 | 0.431 | 0.444 | 0.406 | 0.456 | 0.403 | 8.43 | 21.4867 |
| | 75 | 4-Bromofluorobenzene | ------ | 1.760 | 1.539 | 1.617 | 1.518 | 1.634 | 1.653 | 1.446 | ------ | ------ | 1.595 | 6.45 | 21.7293 |
| | 76 | 1,1,2,2-Tetrachloroethane | 0.935 | 0.812 | 0.951 | 0.882 | 0.758 | 0.786 | 0.793 | 0.763 | 0.678 | 0.735 | 0.809 | 10.86 | 21.6002 |
| | 77 | trans-1,4-Dichloro-2-butene | ------ | ------ | 0.455 | 0.370 | 0.335 | 0.358 | 0.320 | 0.322 | 0.285 | 0.339 | 0.348 | 14.42 | 21.4029 |
| | 78 | n-Propylbenzene | 7.055 | 7.012 | 6.508 | 6.942 | 6.993 | 7.350 | 6.949 | 6.008 | 4.721 | ------ | 6.615 | 12.21 | 21.8796 |
| | 79 | 1,2,3-Trichloropropane | ------ | ------ | 0.236 | 0.168 | 0.180 | 0.181 | 0.162 | 0.164 | 0.150 | 0.162 | 0.175 | 15.18 | 21.7831 |
| | 80 | Bromobenzene | 1.344 | 1.169 | 1.131 | 1.072 | 1.062 | 1.159 | 1.156 | 1.151 | 1.064 | 1.105 | 1.141 | 7.22 | 22.0294 |
| | 81 | 1,3,5-Trimethylbenzene | 4.303 | 4.264 | 3.990 | 4.207 | 4.161 | 4.536 | 4.378 | 4.046 | 3.533 | 2.688 | 4.010 | 13.41 | 22.0688 |
| | 82 | 2-Chlorotoluene | ------ | 4.262 | 4.152 | 4.167 | 4.159 | 4.195 | 4.366 | 3.776 | 3.289 | 2.633 | 3.889 | 14.74 | 22.1758 |
| | 83 | 4-Chlorotoluene | 3.679 | 3.474 | 3.937 | 3.642 | 3.578 | 3.742 | 3.664 | 3.277 | 3.062 | 2.403 | 3.446 | 12.80 | 22.2250 |
| | 84 | tert-Butylbenzene | 0.988 | 0.967 | 0.890 | 1.017 | 0.880 | 0.963 | 1.012 | 0.969 | 0.975 | 0.986 | 0.965 | 4.74 | 22.5539 |
| | 85 | 1,2,4-Trimethylbenzene | 3.648 | 3.613 | 3.497 | 3.627 | 3.722 | 3.746 | 4.041 | 3.731 | 3.362 | 2.552 | 3.554 | 11.08 | 22.6049 |
| | 86 | sec-Butylbenzene | 5.711 | 5.376 | 5.320 | 5.550 | 5.280 | 5.834 | 5.838 | 5.199 | 4.464 | ------ | 5.397 | 7.85 | 22.8333 |
| | 87 | p-Isopropyltoluene | 4.111 | 3.487 | 3.352 | 3.685 | 3.865 | 4.179 | 4.337 | 4.216 | 3.648 | 2.819 | 3.770 | 12.49 | 22.9979 |
| | 88 | 1,3-Dichlorobenzene | 2.257 | 2.025 | 1.865 | 1.972 | 1.901 | 2.039 | 2.040 | 2.056 | 1.892 | 1.799 | 1.985 | 6.54 | 23.2298 |
| | 89 | 1,2,3-Trimethylbenzene | 4.090 | 3.574 | 3.601 | 3.620 | 3.465 | 3.671 | 3.648 | 3.578 | 3.151 | 2.646 | 3.504 | 10.80 | 23.2791 |
| | 90 | 1,4-Dichlorobenzene | 2.079 | 1.871 | 1.673 | 1.772 | 1.750 | 1.804 | 2.022 | 1.971 | 1.815 | 1.686 | 1.844 | 7.54 | 23.3729 |
| | 91 | Benzyl Chloride | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 92 | n-Butylbenzene | 4.419 | 3.530 | 3.365 | 3.553 | 3.491 | 3.993 | 4.178 | 3.885 | 3.319 | 2.744 | 3.648 | 13.25 | 23.5587 |
| | 93 | 1,2-Dichlorobenzene | 1.764 | 1.807 | 1.704 | 1.648 | 1.497 | 1.614 | 1.589 | 1.629 | 1.576 | 1.480 | 1.631 | 6.48 | 23.9188 |
| | 94 | 1,2-Dibromo-3-chloropropane | ------ | ------ | 0.101 | 0.078 | 0.076 | 0.080 | 0.083 | 0.089 | 0.076 | 0.089 | 0.084 | 10.32 | 25.0391 |
| | 95 | 1,2,4-Trichlorobenzene | 0.946 | 0.633 | 0.658 | 0.632 | 0.628 | 0.701 | 0.756 | 0.783 | 0.741 | 0.827 | 0.730 | 14.07 | 26.4184 |
| | 96 | Hexachlorobutadiene | 0.630 | 0.549 | 0.268 | 0.532 | 0.516 | 0.586 | 0.625 | 0.592 | 0.580 | 0.616 | 0.549 | 19.30 | 26.5861 |
| | 97 | Naphthalene | ------ | 1.153 | 1.011 | 0.882 | 0.818 | 0.934 | 0.930 | 0.992 | 0.914 | 1.058 | 0.966 | 10.38 | 26.8953 |
| | 98 | 1,2,3-Trichlorobenzene | ------ | 0.471 | 0.549 | 0.509 | 0.492 | 0.527 | 0.552 | 0.572 | 0.524 | 0.615 | 0.535 | 8.15 | 27.2790 |

Spike Amount = Nominal Amount * M

Ave_%RSD : 10.4 Max_%RSD : 42.9

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15

Resp_Ratio = x0 + x1 * Amt_Ratio

| IDX | Parameter | x0 | x1 | CCF |
|---|---|---|---|---|
| 14 | Acetone | 0.01528 | 0.04980 | 0.9980 |
| 79 | 1,2,3-Trichloropropane | 0.00693 | 0.15883 | 0.9989 |
| 96 | Hexachlorobutadiene | -0.00735 | 0.60270 | 0.9988 |

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :F3
Beginning DateTime :06/17/24 16:35
Spike Units :PPB
IC File :RFR007

Column Spec :ZB-624 ID :0.25MM
Ending DateTime :06/17/24 21:31
HPChem Method :VOF3P17

| M | IDX | Parameters | .3 | .5 | 1 | 2 | 5 | 10 | 20 | 30 | 50 | 100 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 16:35 | 17:08 | 17:40 | 18:13 | 18:46 | 19:19 | 19:52 | 20:25 | 20:58 | 21:31 | | |
| | | | RFR002 | RFR003 | RFR004 | RFR005 | RFR006 | RFR007 | RFR008 | RFR009 | RFR010 | RFR011 | AvDRec | %_RSD | Av_Rt_M |
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 15.5980 |
| | 2 | Chlorotrifluoroethylene | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 3 | Dichlorodifluoromethane | | 127 | 109 | 109 | 100 | 101 | 98 | 88 | 83 | 86 | 10.2 | 13.95 | 3.9734 |
| | 4 | Chloromethane | | 120 | 106 | 110 | 105 | 100 | 99 | 83 | 77 | | 10.2 | 14.03 | 4.4582 |
| | 5 | 2-Chloro-1,1,1-trifluoroethane | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 6 | Vinyl chloride | 121 | 113 | 96 | 97 | 96 | 91 | 86 | | | | 9.7 | 12.47 | 4.6870 |
| | 7 | Bromomethane | | 124 | 117 | 110 | 95 | 91 | 94 | 85 | 85 | | 12.6 | 14.81 | 5.6166 |
| | 8 | Chloroethane | | 131 | 105 | 109 | 102 | 96 | 99 | 85 | 84 | 90 | 10.4 | 14.57 | 5.7616 |
| | 9 | Dichlorofluoromethane | 110 | 112 | 106 | 108 | 102 | 101 | 98 | 93 | 86 | 85 | 7.6 | 9.54 | 5.8230 |
| | 10 | Trichlorofluoromethane | 125 | 113 | 96 | 106 | 95 | 95 | 97 | 88 | 86 | 97 | 8.8 | 11.63 | 6.3111 |
| S | 11 | Acrolein | | 108 | 131 | 96 | 96 | 92 | 88 | 92 | 85 | 92 | 10.7 | 14.42 | 7.2465 |
| | 12 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 101 | 98 | 97 | 103 | 94 | 94 | 97 | 102 | 104 | 109 | 3.8 | 4.79 | 7.3133 |
| | 13 | 1,1-Dichloroethene | 113 | 115 | 106 | 105 | 100 | 103 | 98 | 93 | 84 | 84 | 8.2 | 10.61 | 7.7491 |
| S | 14 | Acetone | 90 | 78 | 94 | 120 | 108 | 110 | 103 | 107 | 91 | 100 | 30.8 | 42.89 | 7.3888 |
| | 15 | Iodomethane | 108 | 101 | 93 | 97 | 94 | 98 | 99 | 102 | 102 | 105 | 3.8 | 4.79 | 8.5799 |
| | 16 | Methyl acetate | | | 102 | 106 | 99 | 102 | 95 | 96 | | | 3.1 | 3.90 | 8.5649 |
| | 17 | Carbon disulfide | 117 | 114 | 101 | 100 | 96 | 85 | 94 | 92 | | | 8.3 | 11.11 | 9.1244 |
| | 18 | Methylene chloride | | | 120 | 116 | 107 | 101 | 97 | 91 | 83 | 85 | 11.1 | 13.73 | 9.0155 |
| 25 | 19 | tert-Butyl alcohol | 131 | 85 | 85 | 85 | 100 | 100 | 100 | 108 | 100 | 108 | 9.2 | 14.17 | 7.8973 |
| | 20 | tert-Butyl methyl ether (MTBE) | 124 | 102 | 104 | 94 | 98 | 95 | 95 | 100 | 91 | 97 | 6.1 | 9.48 | 9.4464 |
| | 21 | trans-1,2-Dichloroethene | 123 | 115 | 105 | 98 | 96 | 95 | 94 | 93 | 91 | 91 | 8.6 | 10.99 | 9.9056 |
| S | 22 | Acrylonitrile | 112 | 102 | 106 | 103 | 98 | 97 | 94 | 97 | 88 | 95 | 5.3 | 6.94 | 9.3780 |
| | 23 | Isopropyl ether (DIPE) | 117 | 109 | 109 | 108 | 104 | 103 | 98 | 92 | 82 | 77 | 10.1 | 12.72 | 10.8622 |
| | 24 | 1,1-Dichloroethane | 111 | 108 | 109 | 106 | 100 | 103 | 98 | 93 | 87 | 84 | 7.6 | 9.51 | 11.2751 |
| | 25 | Vinyl acetate | | | 107 | 105 | 111 | 104 | 104 | 95 | 87 | 87 | 7.7 | 9.17 | 11.2564 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 114 | 109 | 107 | 101 | 100 | 102 | 97 | 97 | 85 | 87 | 6.7 | 8.96 | 12.1431 |
| | 27 | 2,2-Dichloropropane | 126 | 120 | 103 | 102 | 98 | 100 | 93 | 91 | 85 | 82 | 10.3 | 14.08 | 12.8600 |
| | 28 | cis-1,2-Dichloroethene | 123 | 115 | 99 | 102 | 98 | 97 | 92 | 95 | 90 | 90 | 8 | 10.88 | 12.9808 |
| S | 29 | 2-Butanone | 122 | 106 | 102 | 108 | 105 | 102 | 91 | 95 | 83 | 87 | 8.9 | 11.29 | 12.4935 |
| 25 | 30 | 2-Butanol | | | 100 | 100 | 100 | 100 | 93 | 100 | | | 1.2 | 3.78 | 11.9368 |
| | 31 | Bromochloromethane | 110 | 92 | 98 | 96 | 99 | 100 | 99 | 101 | 101 | 106 | 3.5 | 4.99 | 13.7398 |
| | 32 | Tetrahydrofuran | | | 110 | 110 | 104 | 108 | 96 | 94 | 85 | 94 | 7.7 | 9.17 | 13.8097 |
| | 33 | Chloroform | 127 | 119 | 105 | 100 | 99 | 97 | 96 | 89 | 87 | 81 | 10.2 | 14.17 | 13.3484 |
| | 34 | Dibromofluoromethane | | 110 | 99 | 99 | 99 | 101 | 96 | 95 | | | 3.3 | 4.96 | 13.8455 |
| | 35 | 1,1,1-Trichloroethane | 113 | 109 | 106 | 103 | 95 | 100 | 98 | 96 | 91 | 89 | 6.1 | 7.67 | 14.2348 |
| | 36 | Cyclohexane | 128 | 113 | 92 | 103 | 92 | 94 | 90 | 88 | | | 11 | 13.97 | 14.2700 |
| | 37 | 1,1-Dichloropropene | 107 | 106 | 96 | 100 | 99 | 99 | 99 | 99 | 95 | 101 | 2.8 | 3.97 | 14.5620 |
| | 38 | Carbon tetrachloride | 95 | 108 | 104 | 99 | 96 | 100 | 102 | 102 | 97 | 97 | 3.2 | 4.10 | 14.7610 |
| S | 39 | tert-Amyl alcohol | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 40 | 1,2-Dichloroethane-d4 | | 118 | 103 | 94 | 103 | 99 | 92 | 89 | | | 7 | 9.66 | 14.8767 |
| | 41 | 2,2,4-Trimethylpentane | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 42 | Benzene | 115 | 115 | 103 | 104 | 101 | 99 | 98 | 87 | 77 | | 8.6 | 12.19 | 15.0990 |
| | 43 | 1,2-Dichloroethane | 114 | 111 | 109 | 107 | 106 | 101 | 98 | 89 | 83 | 82 | 9.6 | 11.62 | 15.0636 |
| | 44 | tert-Amyl methyl ether (TAME) | 121 | 108 | 102 | 92 | 97 | 97 | 98 | 101 | 92 | 92 | 6.4 | 8.92 | 14.7774 |
| | 45 | Trichloroethene | 107 | 107 | 100 | 95 | 97 | 103 | 100 | 99 | 96 | 96 | 3.5 | 4.41 | 16.1949 |
| | 46 | Methylcyclohexane | 123 | 115 | 97 | 103 | 91 | 93 | 90 | 87 | | | 10.1 | 12.80 | 16.2947 |
| | 47 | 1,2-Dichloropropane | 113 | 106 | 108 | 99 | 103 | 101 | 100 | 95 | 85 | 88 | 6.4 | 8.66 | 16.4991 |
| 20 | 48 | 1,4-Dioxane | | | | 91 | 101 | 99 | 92 | 107 | 96 | 114 | 0 | 8.35 | 16.9042 |
| | 49 | Dibromomethane | 103 | 104 | 102 | 94 | 102 | 98 | 103 | 98 | 94 | 99 | 3 | 3.51 | 16.9941 |
| | 50 | Bromodichloromethane | 130 | 119 | 103 | 95 | 100 | 95 | 97 | 92 | 85 | 84 | 10.3 | 14.28 | 16.8938 |
| | 51 | 2-Chloroethyl vinyl ether | | 104 | 79 | 94 | 96 | 98 | 98 | 106 | 102 | 117 | 7.1 | 10.70 | 17.3247 |
| | 52 | cis-1,3-Dichloropropene | 111 | 107 | 98 | 98 | 102 | 103 | 104 | 99 | 90 | 89 | 5.3 | 6.84 | 17.7193 |
| S | 53 | 4-Methyl-2-pentanone | | 121 | 108 | 109 | 106 | 102 | 96 | 99 | 82 | 76 | 10.3 | 13.81 | 17.3686 |
| | 54 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 20.1860 |
| | 55 | Toluene-d8 | | 120 | 92 | 101 | 96 | 110 | 95 | 86 | | | 8.7 | 11.42 | 18.0881 |
| | 56 | Toluene | 114 | 118 | 105 | 106 | 95 | 108 | 92 | 87 | 75 | | 11.3 | 13.71 | 18.2125 |
| | 57 | Ethyl methacrylate | 108 | 107 | 93 | 97 | 89 | 101 | 96 | 108 | 99 | 102 | 5.2 | 6.45 | 18.3771 |
| | 58 | trans-1,3-Dichloropropene | 111 | 105 | 100 | 91 | 96 | 110 | 100 | 99 | 98 | 91 | 5.2 | 6.88 | 18.4429 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 59 | 1,1,2-Trichloroethane | 111 | 111 | 103 | 100 | 96 | 98 | 96 | 96 | 93 | 96 | 4.9 | 6.24 | 18.6764 |
| | 60 | Tetrachloroethene | 102 | 116 | 98 | 99 | 91 | 105 | 97 | 99 | 99 | 93 | 4.6 | 6.99 | 19.1352 |
| 5 | 61 | 2-Hexanone | | 124 | 105 | 110 | 99 | 104 | 93 | 97 | 90 | 82 | 9.1 | 12.18 | 18.6403 |
| | 62 | 1,3-Dichloropropane | 124 | 112 | 109 | 102 | 94 | 101 | 93 | 92 | 89 | 85 | 9.6 | 12.20 | 19.0201 |
| | 63 | Dibromochloromethane | 112 | 114 | 98 | 96 | 90 | 102 | 94 | 100 | 98 | 98 | 5.4 | 7.40 | 19.4312 |
| | 64 | 1,2-Dibromoethane | 112 | 106 | 110 | 96 | 91 | 102 | 95 | 100 | 94 | 96 | 5.9 | 7.18 | 19.7091 |
| | 65 | 1-Chlorohexane | 111 | 99 | 93 | 100 | 96 | 114 | 103 | 105 | 94 | 85 | 6.6 | 8.66 | 19.8094 |
| | 66 | Chlorobenzene | 114 | 108 | 99 | 102 | 100 | 108 | 102 | 100 | 92 | 75 | 6.9 | 10.77 | 20.2353 |
| | 67 | Ethylbenzene | 103 | 109 | 104 | 104 | 101 | 111 | 101 | 93 | 75 | | 7.2 | 10.78 | 20.2680 |
| | 68 | 1,1,1,2-Tetrachloroethane | | 109 | 99 | 98 | 90 | 105 | 100 | 103 | 98 | 97 | 4 | 5.47 | 20.2682 |
| 2 | 69 | m-Xylene & p-Xylene | 107 | 110 | 100 | 107 | 99 | 108 | 94 | 76 | | | 7.8 | 11.13 | 20.3523 |
| | 70 | o-Xylene | 108 | 108 | 95 | 101 | 99 | 115 | 98 | 93 | 83 | | 7 | 9.43 | 20.9276 |
| | 71 | Styrene | 106 | 107 | 94 | 99 | 93 | 117 | 108 | 102 | 95 | 80 | 7.7 | 10.08 | 20.9753 |
| | 72 | Isopropylbenzene | 104 | 101 | 97 | 101 | 101 | 112 | 105 | 97 | 83 | | 5.2 | 7.88 | 21.3680 |
| | 73 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 23.8711 |
| | 74 | Bromoform | 91 | 88 | 95 | 98 | 94 | 103 | 107 | 110 | 101 | 113 | 6.9 | 8.43 | 21.4867 |
| | 75 | 4-Bromofluorobenzene | | 110 | 96 | 101 | 95 | 102 | 104 | 91 | | | 5.1 | 6.45 | 21.7293 |
| | 76 | 1,1,2,2-Tetrachloroethane | 116 | 100 | 118 | 109 | 94 | 97 | 98 | 94 | 84 | 91 | 8.5 | 10.86 | 21.6002 |
| | 77 | trans-1,4-Dichloro-2-butene | | | 131 | 106 | 96 | 103 | 92 | 93 | 82 | 97 | 10 | 14.42 | 21.4029 |
| | 78 | n-Propylbenzene | 107 | 106 | 98 | 105 | 106 | 111 | 105 | 91 | 71 | | 8.8 | 12.21 | 21.8796 |
| | 79 | 1,2,3-Trichloropropane | | | 105 | 84 | 105 | 110 | 100 | 102 | 94 | 102 | 10.1 | 15.18 | 21.7831 |
| | 80 | Bromobenzene | 118 | 102 | 99 | 94 | 93 | 102 | 101 | 101 | 93 | 97 | 4.8 | 7.22 | 22.0294 |
| | 81 | 1,3,5-Trimethylbenzene | 107 | 106 | 100 | 105 | 104 | 113 | 109 | 101 | 88 | 67 | 9.1 | 13.41 | 22.0688 |
| | 82 | 2-Chlorotoluene | | 110 | 107 | 107 | 107 | 108 | 112 | 97 | 85 | 68 | 11.2 | 14.74 | 22.1758 |
| | 83 | 4-Chlorotoluene | 107 | 101 | 114 | 106 | 104 | 109 | 106 | 95 | 89 | 70 | 9.3 | 12.80 | 22.2250 |
| | 84 | tert-Butylbenzene | 102 | 100 | 92 | 105 | 91 | 100 | 105 | 100 | 101 | 102 | 3.3 | 4.74 | 22.5539 |
| | 85 | 1,2,4-Trimethylbenzene | 103 | 102 | 98 | 102 | 105 | 105 | 114 | 105 | 95 | 72 | 7 | 11.08 | 22.6049 |
| | 86 | sec-Butylbenzene | 106 | 100 | 99 | 103 | 98 | 108 | 108 | 96 | 83 | | 5.5 | 7.85 | 22.8333 |
| | 87 | p-Isopropyltoluene | 109 | 92 | 89 | 98 | 103 | 111 | 115 | 112 | 97 | 75 | 9.9 | 12.49 | 22.9979 |
| | 88 | 1,3-Dichlorobenzene | 114 | 102 | 94 | 99 | 96 | 103 | 103 | 104 | 95 | 91 | 5 | 6.54 | 23.2298 |
| | 89 | 1,2,3-Trimethylbenzene | 117 | 102 | 103 | 103 | 99 | 105 | 104 | 102 | 90 | 76 | 7.1 | 10.80 | 23.2791 |
| | 90 | 1,4-Dichlorobenzene | 113 | 101 | 91 | 96 | 95 | 98 | 110 | 107 | 98 | 91 | 6.1 | 7.54 | 23.3729 |
| | 91 | Benzyl Chloride | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 92 | n-Butylbenzene | 121 | 97 | 92 | 97 | 96 | 109 | 115 | 106 | 91 | 75 | 10.3 | 13.25 | 23.5587 |
| | 93 | 1,2-Dichlorobenzene | 108 | 111 | 104 | 101 | 92 | 99 | 97 | 100 | 97 | 91 | 4.9 | 6.48 | 23.9188 |
| | 94 | 1,2-Dibromo-3-chloropropane | | | 120 | 93 | 90 | 95 | 99 | 106 | 90 | 106 | 8 | 10.32 | 25.0391 |
| | 95 | 1,2,4-Trichlorobenzene | 130 | 87 | 90 | 87 | 86 | 96 | 104 | 107 | 102 | 113 | 11 | 14.07 | 26.4184 |
| | 96 | Hexachlorobutadiene | 147 | 116 | 57 | 95 | 88 | 98 | 104 | 99 | 97 | 102 | 12.1 | 19.30 | 26.5861 |
| | 97 | Naphthalene | | 119 | 105 | 91 | 85 | 97 | 96 | 103 | 95 | 110 | 8.1 | 10.38 | 26.8953 |
| | 98 | 1,2,3-Trichlorobenzene | | 88 | 103 | 95 | 92 | 99 | 103 | 107 | 98 | 115 | 6.2 | 8.15 | 27.2790 |

# Compound List Report F3

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
Total Cpnds : 98

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 114 | 15.60 | 1.000 | A | 1 | A | B |
| 2 | T | Chlorotrifluoroethylene | 116 | 4.06 | 0.260 | A | 1 | A | B |
| 3 | T | Dichlorodifluoromethane | 85 | 3.96 | 0.254 | A | 1 | A | B |
| 4 | T | Chloromethane | 50 | 4.46 | 0.286 | A | 1 | A | B |
| 5 | T | 2-Chloro-1,1,1-trifluoroethane | 118 | 4.65 | 0.298 | A | 2 | A | B |
| 6 | T | Vinyl chloride | 62 | 4.69 | 0.301 | A | 1 | A | B |
| 7 | T | Bromomethane | 94 | 5.62 | 0.360 | A | 1 | A | B |
| 8 | T | Chloroethane | 64 | 5.77 | 0.370 | A | 1 | A | B |
| 9 | T | Dichlorofluoromethane | 67 | 5.83 | 0.373 | A | 1 | A | B |
| 10 | T | Trichlorofluoromethane | 101 | 6.32 | 0.405 | A | 1 | A | B |
| 11 | T | Acrolein | 56 | 7.25 | 0.465 | A | 1 | A | B |
| 12 | T | 1,1,2-Trichloro-1,2,2-trifluor | 151 | 7.31 | 0.468 | A | 1 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 7.74 | 0.496 | A | 2 | A | B |
| 14 | T | Acetone | 43 | 7.39 | 0.474 | L | 1 | A | B |
| 15 | T | Iodomethane | 142 | 8.58 | 0.550 | A | 1 | A | B |
| 16 | T | Methyl acetate | 43 | 8.55 | 0.548 | A | 1 | A | B |
| 17 | T | Carbon disulfide | 76 | 9.11 | 0.584 | A | 1 | A | B |
| 18 | T | Methylene chloride | 49 | 9.02 | 0.578 | A | 2 | A | B |
| 19 | T | tert-Butyl alcohol | 59 | 7.89 | 0.506 | A | 1 | A | B |
| 20 | T | tert-Butyl methyl ether (MTBE) | 73 | 9.44 | 0.605 | A | 1 | A | B |
| 21 | T | trans-1,2-Dichloroethene | 96 | 9.90 | 0.635 | A | 1 | A | B |
| 22 | T | Acrylonitrile | 53 | 9.38 | 0.601 | A | 2 | A | B |
| 23 | T | Isopropyl ether (DIPE) | 45 | 10.87 | 0.697 | A | 1 | A | B |
| 24 | T | 1,1-Dichloroethane | 63 | 11.27 | 0.722 | A | 2 | A | B |
| 25 | T | Vinyl acetate | 43 | 11.25 | 0.721 | A | 1 | A | B |
| 26 | T | tert-Butyl ethyl ether (ETBE) | 59 | 12.13 | 0.778 | A | 1 | A | B |
| 27 | T | 2,2-Dichloropropane | 77 | 12.86 | 0.824 | A | 2 | A | B |
| 28 | T | cis-1,2-Dichloroethene | 96 | 12.98 | 0.832 | A | 1 | A | B |
| 29 | T | 2-Butanone | 43 | 12.50 | 0.801 | A | 1 | A | B |
| 30 | T | 2-Butanol | 45 | 11.93 | 0.765 | A | 1 | A | B |
| 31 | T | Bromochloromethane | 130 | 13.74 | 0.881 | A | 1 | A | B |
| 32 | T | Tetrahydrofuran | 42 | 13.81 | 0.885 | A | 2 | A | B |
| 33 | T | Chloroform | 83 | 13.35 | 0.856 | A | 2 | A | B |
| 34 | S | Dibromofluoromethane | 111 | 13.85 | 0.888 | A | 1 | A | B |
| 35 | T | 1,1,1-Trichloroethane | 97 | 14.23 | 0.912 | A | 2 | A | B |
| 36 | T | Cyclohexane | 84 | 14.27 | 0.915 | A | 1 | A | B |
| 37 | T | 1,1-Dichloropropene | 110 | 14.56 | 0.934 | A | 1 | A | B |
| 38 | T | Carbon tetrachloride | 117 | 14.76 | 0.946 | A | 1 | A | B |
| 39 | T | tert-Amyl alcohol | 59 | 14.55 | 0.932 | A | 1 | A | B |
| 40 | S | 1,2-Dichloroethane-d4 | 65 | 14.87 | 0.954 | A | 1 | A | B |
| 41 | T | 2,2,4-Trimethylpentane | 57 | 14.25 | 0.914 | A | 1 | A | B |
| 42 | T | Benzene | 78 | 15.09 | 0.967 | A | 2 | A | B |
| 43 | T | 1,2-Dichloroethane | 62 | 15.06 | 0.965 | A | 1 | A | B |
| 44 | T | tert-Amyl methyl ether (TAME) | 73 | 14.78 | 0.947 | A | 1 | A | B |
| 45 | T | Trichloroethene | 130 | 16.19 | 1.038 | A | 3 | A | B |
| 46 | T | Methylcyclohexane | 83 | 16.31 | 1.045 | A | 2 | A | B |
| 47 | T | 1,2-Dichloropropane | 63 | 16.50 | 1.058 | A | 1 | A | B |
| 48 | T | 1,4-Dioxane | 88 | 16.90 | 1.083 | A | 1 | A | B |
| 49 | T | Dibromomethane | 93 | 17.00 | 1.090 | A | 2 | A | B |
| 50 | T | Bromodichloromethane | 83 | 16.90 | 1.083 | A | 1 | A | B |
| 51 | T | 2-Chloroethyl vinyl ether | 63 | 17.32 | 1.111 | A | 1 | A | B |
| 52 | T | cis-1,3-Dichloropropene | 75 | 17.72 | 1.136 | A | 2 | A | B |
| 53 | T | 4-Methyl-2-pentanone | 43 | 17.37 | 1.114 | A | 3 | A | B |
| 54 | I | CHLOROBENZENE-D5 | 117 | 20.19 | 1.000 | A | 2 | A | B |
| 55 | S | Toluene-d8 | 98 | 18.08 | 0.896 | A | 1 | A | B |
| 56 | T | Toluene | 91 | 18.21 | 0.902 | A | 1 | A | B |
| 57 | T | Ethyl methacrylate | 69 | 18.38 | 0.910 | A | 1 | A | B |
| 58 | T | trans-1,3-Dichloropropene | 75 | 18.44 | 0.914 | A | 1 | A | B |
| 59 | T | 1,1,2-Trichloroethane | 97 | 18.67 | 0.925 | A | 2 | A | B |
| 60 | T | Tetrachloroethene | 164 | 19.13 | 0.948 | A | 3 | A | B |
| 61 | T | 2-Hexanone | 43 | 18.64 | 0.923 | A | 1 | A | B |
| 62 | T | 1,3-Dichloropropane | 76 | 19.02 | 0.942 | A | 1 | A | B |
| 63 | T | Dibromochloromethane | 129 | 19.43 | 0.963 | A | 2 | A | B |
| 64 | T | 1,2-Dibromoethane | 107 | 19.71 | 0.976 | A | 1 | A | B |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 65 | T | 1-Chlorohexane | 91 | 19.81 | 0.981 | A | 1 | A | B |
| 66 | P,M | Chlorobenzene | 112 | 20.24 | 1.002 | A | 1 | A | B |
| 67 | T | Ethylbenzene | 91 | 20.27 | 1.004 | A | 1 | A | B |
| 68 | T | 1,1,1,2-Tetrachloroethane | 131 | 20.27 | 1.004 | A | 1 | A | B |
| 69 | T | m-Xylene & p-Xylene | 91 | 20.35 | 1.008 | A | 1 | A | B |
| 70 | T | o-Xylene | 91 | 20.93 | 1.037 | A | 1 | A | B |
| 71 | T | Styrene | 104 | 20.98 | 1.039 | A | 2 | A | B |
| 72 | T | Isopropylbenzene | 105 | 21.37 | 1.059 | A | 3 | A | B |
| 73 | I | 1,2-DICHLOROBENZENE-D4 | 152 | 23.87 | 1.000 | A | 1 | A | B |
| 74 | T | Bromoform | 173 | 21.48 | 0.900 | A | 2 | A | B |
| 75 | S | 4-Bromofluorobenzene | 95 | 21.73 | 0.910 | A | 2 | A | B |
| 76 | T | 1,1,2,2-Tetrachloroethane | 83 | 21.60 | 0.905 | A | 1 | A | B |
| 77 | T | trans-1,4-Dichloro-2-butene | 53 | 21.40 | 0.897 | A | 1 | A | B |
| 78 | T | n-Propylbenzene | 91 | 21.88 | 0.917 | A | 2 | A | B |
| 79 | T | 1,2,3-Trichloropropane | 110 | 21.78 | 0.912 | L | 1 | A | B |
| 80 | T | Bromobenzene | 156 | 22.03 | 0.923 | A | 1 | A | B |
| 81 | T | 1,3,5-Trimethylbenzene | 105 | 22.06 | 0.924 | A | 2 | A | B |
| 82 | T | 2-Chlorotoluene | 91 | 22.18 | 0.929 | A | 1 | A | B |
| 83 | T | 4-Chlorotoluene | 91 | 22.22 | 0.931 | A | 1 | A | B |
| 84 | T | tert-Butylbenzene | 134 | 22.55 | 0.945 | A | 1 | A | B |
| 85 | T | 1,2,4-Trimethylbenzene | 105 | 22.60 | 0.947 | A | 1 | A | B |
| 86 | T | sec-Butylbenzene | 105 | 22.83 | 0.957 | A | 1 | A | B |
| 87 | T | p-Isopropyltoluene | 119 | 23.00 | 0.963 | A | 2 | A | B |
| 88 | T | 1,3-Dichlorobenzene | 146 | 23.23 | 0.973 | A | 2 | A | B |
| 89 | T | 1,2,3-Trimethylbenzene | 105 | 23.28 | 0.975 | A | 2 | A | B |
| 90 | T | 1,4-Dichlorobenzene | 146 | 23.38 | 0.979 | A | 2 | A | B |
| 91 | T | Benzyl Chloride | 91 | 20.93 | 0.877 | A | 3 | A | B |
| 92 | T | n-Butylbenzene | 91 | 23.56 | 0.987 | A | 2 | A | B |
| 93 | T | 1,2-Dichlorobenzene | 146 | 23.92 | 1.002 | A | 1 | A | B |
| 94 | T | 1,2-Dibromo-3-chloropropane | 157 | 25.04 | 1.049 | A | 1 | A | B |
| 95 | T | 1,2,4-Trichlorobenzene | 180 | 26.42 | 1.107 | A | 2 | A | B |
| 96 | T | Hexachlorobutadiene | 225 | 26.58 | 1.114 | L | 2 | A | B |
| 97 | T | Naphthalene | 128 | 26.90 | 1.127 | A | 1 | A | B |
| 98 | T | 1,2,3-Trichlorobenzene | 180 | 27.27 | 1.143 | A | 2 | A | B |

Qal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VOF3F17.M Wed Jun 19 15:45:28 2024

# SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :F3
IC_Beginning DateTime :06/17/24 16:35
Spike Amount :10 PPB
CC/CV File :RFR014
IC File :RFR007

Column Spec :ZB-624 ID :0.25MM
IC_Ending DateTime :06/17/24 21:31
HPChem Method :VOF3F17
Date_Time :06/17/24 23:09

| M | IDX | Parameters | CC_Con | CC%_D | CC_Resp | CCRRF | AvRRF | CC_Rtm | AvRtm | %_RSD | Co_X0 | Co_X1 | Co_X2 | Co_Cor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 10.000 | 0 | 3056009 | 1 | 1 | 15.598 | 15.598 | 0 | | | | |
| | 2 | Chlorotrifluoroethylene | | | | | | | | | | | | |
| | 3 | Dichlorodifluoromethane | 10.235 | 2.3 | 1486167 | 0.486 | 0.475 | 3.988 | 3.973 | 13.95 | | | | |
| | 4 | Chloromethane | 9.637 | -3.6 | 2202626 | 0.721 | 0.748 | 4.452 | 4.458 | 14.03 | | | | |
| | 5 | 2-Chloro-1,1,1-trifluoroethane | | | | | | | | | | | | |
| | 6 | Vinyl chloride | 9.300 | -7.0 | 1916968 | 0.627 | 0.674 | 4.685 | 4.687 | 12.47 | | | | |
| | 7 | Bromomethane | 9.737 | -2.6 | 965037 | 0.316 | 0.324 | 5.615 | 5.617 | 14.81 | | | | |
| | 8 | Chloroethane | 10.119 | 1.2 | 1031417 | 0.338 | 0.334 | 5.789 | 5.762 | 14.57 | | | | |
| | 9 | Dichlorofluoromethane | 9.953 | -0.5 | 2533813 | 0.829 | 0.833 | 5.847 | 5.823 | 9.54 | | | | |
| | 10 | Trichlorofluoromethane | 10.453 | 4.5 | 1782664 | 0.583 | 0.558 | 6.312 | 6.311 | 11.63 | | | | |
| S | 11 | Acrolein | 42.208 | -15.6 | 330431 | 0.022 | 0.026 | 7.241 | 7.247 | 14.42 | | | | |
| | 12 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 10.201 | 2.0 | 738662 | 0.242 | 0.237 | 7.328 | 7.313 | 4.79 | | | | |
| | 13 | 1,1-Dichloroethene | 9.732 | -2.7 | 2560495 | 0.838 | 0.861 | 7.764 | 7.749 | 10.61 | | | | |
| S | 14 | Acetone | 47.118 | -5.8 | 763826 | 0.050 | 0.072 | 7.387 | 7.389 | 42.89 | 0.0153 | 0.0498 | | 0.9980 |
| | 15 | Iodomethane | 10.188 | 1.9 | 1560696 | 0.511 | 0.501 | 8.578 | 8.580 | 4.79 | | | | |
| | 16 | Methyl acetate | 8.486 | -15.1 | 434014 | 0.142 | 0.167 | 8.578 | 8.565 | 3.90 | | | | |
| | 17 | Carbon disulfide | 9.484 | -5.2 | 3859627 | 1.263 | 1.332 | 9.130 | 9.124 | 11.11 | | | | |
| | 18 | Methylene chloride | 9.538 | -4.6 | 1607138 | 0.526 | 0.551 | 9.014 | 9.016 | 13.73 | | | | |
| 2S | 19 | tert-Butyl alcohol | 219.816 | -12.1 | 865295 | 0.011 | 0.013 | 7.880 | 7.897 | 14.17 | | | | |
| | 20 | tert-Butyl methyl ether (MTBE) | 9.128 | -8.7 | 1724083 | 0.564 | 0.618 | 9.437 | 9.446 | 9.48 | | | | |
| | 21 | trans-1,2-Dichloroethene | 10.112 | 1.1 | 1322747 | 0.433 | 0.428 | 9.920 | 9.906 | 10.99 | | | | |
| S | 22 | Acrylonitrile | 43.390 | -13.2 | 869555 | 0.057 | 0.066 | 9.376 | 9.378 | 6.94 | | | | |
| | 23 | Isopropyl ether (DIPE) | 9.154 | -8.5 | 4920270 | 1.610 | 1.759 | 10.847 | 10.862 | 12.72 | | | | |
| | 24 | 1,1-Dichloroethane | 9.562 | -4.4 | 2520661 | 0.825 | 0.863 | 11.269 | 11.275 | 9.51 | | | | |
| | 25 | Vinyl acetate | 8.008 | -19.9 | 1132098 | 0.370 | 0.463 | 11.249 | 11.256 | 9.17 | | | | |
| | 26 | tert-Butyl ethyl ether (ETBE) | 9.587 | -4.1 | 3065148 | 1.003 | 1.046 | 12.135 | 12.143 | 8.96 | | | | |
| | 27 | 2,2-Dichloropropane | 9.179 | -8.2 | 949054 | 0.311 | 0.338 | 12.861 | 12.860 | 14.08 | | | | |
| | 28 | cis-1,2-Dichloroethene | 9.647 | -3.5 | 1047680 | 0.343 | 0.355 | 12.981 | 12.981 | 10.88 | | | | |
| S | 29 | 2-Butanone | 41.750 | -16.5 | 1110922 | 0.073 | 0.087 | 12.478 | 12.493 | 11.29 | | | | |
| 2S | 30 | 2-Butanol | 203.377 | -18.6 | 862494 | 0.011 | 0.014 | 11.934 | 11.937 | 3.78 | | | | |
| | 31 | Bromochloromethane | 10.338 | 3.4 | 493844 | 0.162 | 0.156 | 13.740 | 13.740 | 4.99 | | | | |
| | 32 | Tetrahydrofuran | 9.096 | -9.0 | 144114 | 0.047 | 0.052 | 13.806 | 13.810 | 9.17 | | | | |
| | 33 | Chloroform | 9.028 | -9.7 | 1952883 | 0.639 | 0.708 | 13.345 | 13.348 | 14.17 | | | | |
| | 34 | Dibromofluoromethane | 9.638 | -3.6 | 918685 | 0.301 | 0.312 | 13.839 | 13.845 | 4.96 | | | | |
| | 35 | 1,1,1-Trichloroethane | 10.239 | 2.4 | 1527501 | 0.500 | 0.488 | 14.233 | 14.235 | 7.67 | | | | |
| | 36 | Cyclohexane | 9.086 | -9.1 | 1663374 | 0.544 | 0.599 | 14.266 | 14.270 | 13.97 | | | | |
| | 37 | 1,1-Dichloropropene | 10.135 | 1.4 | 542736 | 0.178 | 0.175 | 14.562 | 14.562 | 3.97 | | | | |
| | 38 | Carbon tetrachloride | 10.427 | 4.3 | 1261211 | 0.413 | 0.396 | 14.759 | 14.761 | 4.10 | | | | |
| S | 39 | tert-Amyl alcohol | | | | | | | | | | | | |
| | 40 | 1,2-Dichloroethane-d4 | 8.775 | -12.3 | 798552 | 0.261 | 0.298 | 14.875 | 14.877 | 9.66 | | | | |
| | 41 | 2,2,4-Trimethylpentane | | | | | | | | | | | | |
| | 42 | Benzene | 9.733 | -2.7 | 4567547 | 1.495 | 1.535 | 15.088 | 15.099 | 12.19 | | | | |
| | 43 | 1,2-Dichloroethane | 9.457 | -5.4 | 1086288 | 0.355 | 0.376 | 15.056 | 15.064 | 11.62 | | | | |
| | 44 | tert-Amyl methyl ether (TAME) | 9.548 | -4.5 | 1867930 | 0.611 | 0.640 | 14.776 | 14.777 | 8.92 | | | | |
| | 45 | Trichloroethene | 10.719 | 7.2 | 1141502 | 0.374 | 0.348 | 16.190 | 16.195 | 4.41 | | | | |
| | 46 | Methylcyclohexane | 9.136 | -8.6 | 1864202 | 0.610 | 0.668 | 16.289 | 16.295 | 12.80 | | | | |
| | 47 | 1,2-Dichloropropane | 9.577 | -4.2 | 1117844 | 0.366 | 0.382 | 16.503 | 16.499 | 8.66 | | | | |
| 2O | 48 | 1,4-Dioxane | 185.323 | -7.3 | 53951 | 0.001 | 0.001 | 16.914 | 16.904 | 8.35 | | | | |
| | 49 | Dibromomethane | 9.482 | -5.2 | 367341 | 0.120 | 0.127 | 16.996 | 16.994 | 3.51 | | | | |
| | 50 | Bromodichloromethane | 9.000 | -10.0 | 1199178 | 0.392 | 0.436 | 16.897 | 16.894 | 14.28 | | | | |
| | 51 | 2-Chloroethyl vinyl ether | 8.905 | -11.0 | 140812 | 0.046 | 0.052 | 17.325 | 17.325 | 10.70 | | | | |
| | 52 | cis-1,3-Dichloropropene | 9.673 | -3.3 | 1374766 | 0.450 | 0.465 | 17.719 | 17.719 | 6.84 | | | | |
| S | 53 | 4-Methyl-2-pentanone | 45.404 | -9.2 | 2509785 | 0.164 | 0.181 | 17.374 | 17.369 | 13.81 | | | | |
| | 54 | CHLOROBENZENE-D5 | 10.000 | 0 | 2004158 | 1 | 1 | 20.186 | 20.186 | 0 | | | | |
| | 55 | Toluene-d8 | 10.623 | 6.2 | 3156545 | 1.575 | 1.483 | 18.081 | 18.088 | 11.42 | | | | |
| | 56 | Toluene | 10.628 | 6.3 | 3911347 | 1.952 | 1.836 | 18.213 | 18.212 | 13.71 | | | | |
| | 57 | Ethyl methacrylate | 9.322 | -6.8 | 534427 | 0.267 | 0.286 | 18.377 | 18.377 | 6.45 | | | | |
| | 58 | trans-1,3-Dichloropropene | 10.356 | 3.6 | 936838 | 0.467 | 0.451 | 18.443 | 18.443 | 6.88 | | | | |
| | 59 | 1,1,2-Trichloroethane | 9.987 | -0.1 | 453111 | 0.226 | 0.226 | 18.673 | 18.676 | 6.24 | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 60 | Tetrachloroethene | 10.909 | 9.1 | 859815 | 0.429 | 0.393 | 19.134 | 19.135 | 6.99 | | | |
| 5 | 61 | 2-Hexanone | 47.048 | -5.9 | 1390344 | 0.139 | 0.147 | 18.640 | 18.640 | 12.18 | | | |
| | 62 | 1,3-Dichloropropane | 9.983 | -0.2 | 879202 | 0.439 | 0.439 | 19.019 | 19.020 | 12.20 | | | |
| | 63 | Dibromochloromethane | 10.248 | 2.5 | 596433 | 0.298 | 0.290 | 19.430 | 19.431 | 7.40 | | | |
| | 64 | 1,2-Dibromoethane | 10.249 | 2.5 | 421796 | 0.210 | 0.205 | 19.709 | 19.709 | 7.18 | | | |
| | 65 | 1-Chlorohexane | 10.779 | 7.8 | 1507555 | 0.752 | 0.698 | 19.808 | 19.809 | 8.66 | | | |
| | 66 | Chlorobenzene | 11.080 | 10.8 | 2114590 | 1.055 | 0.952 | 20.236 | 20.235 | 10.77 | | | |
| | 67 | Ethylbenzene | 11.106 | 11.1 | 4091479 | 2.041 | 1.838 | 20.268 | 20.268 | 10.78 | | | |
| | 68 | 1,1,1,2-Tetrachloroethane | 10.661 | 6.6 | 738693 | 0.369 | 0.346 | 20.268 | 20.268 | 5.47 | | | |
| 2 | 69 | m-Xylene & p-Xylene | 22.445 | 12.2 | 6023717 | 1.503 | 1.339 | 20.351 | 20.352 | 11.13 | | | |
| | 70 | o-Xylene | 10.666 | 6.7 | 2889837 | 1.442 | 1.352 | 20.926 | 20.928 | 9.43 | | | |
| | 71 | Styrene | 10.553 | 5.5 | 1887409 | 0.942 | 0.892 | 20.976 | 20.975 | 10.08 | | | |
| | 72 | Isopropylbenzene | 11.517 | 15.2 | 3564698 | 1.779 | 1.544 | 21.370 | 21.368 | 7.88 | | | |
| | 73 | 1,2-DICHLOROBENZENE-D4 | 10.000 | 0 | 579354 | 1 | 1 | 23.870 | 23.871 | 0 | | | |
| | 74 | Bromoform | 10.378 | 3.8 | 242281 | 0.418 | 0.403 | 21.485 | 21.487 | 8.43 | | | |
| | 75 | 4-Bromofluorobenzene | 9.613 | -3.9 | 888658 | 1.534 | 1.595 | 21.732 | 21.729 | 6.45 | | | |
| | 76 | 1,1,2,2-Tetrachloroethane | 8.832 | -11.7 | 414246 | 0.715 | 0.809 | 21.600 | 21.600 | 10.86 | | | |
| | 77 | trans-1,4-Dichloro-2-butene | 9.127 | -8.7 | 184079 | 0.318 | 0.348 | 21.403 | 21.403 | 14.42 | | | |
| | 78 | n-Propylbenzene | 10.490 | 4.9 | 4020495 | 6.940 | 6.615 | 21.880 | 21.880 | 12.21 | | | |
| | 79 | 1,2,3-Trichloropropane | 9.738 | -2.6 | 93626 | 0.162 | 0.175 | 21.781 | 21.783 | 15.18 | 0.0069 | 0.1588 | 0.9989 |
| | 80 | Bromobenzene | 10.805 | 8.1 | 714439 | 1.233 | 1.141 | 22.028 | 22.029 | 7.22 | | | |
| | 81 | 1,3,5-Trimethylbenzene | 11.893 | 18.9 | 2763277 | 4.770 | 4.010 | 22.061 | 22.069 | 13.41 | | | |
| | 82 | 2-Chlorotoluene | 11.269 | 12.7 | 2539073 | 4.383 | 3.889 | 22.176 | 22.176 | 14.74 | | | |
| | 83 | 4-Chlorotoluene | 10.996 | 10.0 | 2195355 | 3.789 | 3.446 | 22.225 | 22.225 | 12.80 | | | |
| | 84 | tert-Butylbenzene | 10.405 | 4.0 | 581597 | 1.004 | 0.965 | 22.554 | 22.554 | 4.74 | | | |
| | 85 | 1,2,4-Trimethylbenzene | 11.681 | 16.8 | 2405146 | 4.151 | 3.554 | 22.604 | 22.605 | 11.08 | | | |
| | 86 | sec-Butylbenzene | 11.328 | 13.3 | 3542273 | 6.114 | 5.397 | 22.834 | 22.833 | 7.85 | | | |
| | 87 | p-Isopropyltoluene | 11.292 | 12.9 | 2466458 | 4.257 | 3.770 | 22.998 | 22.998 | 12.49 | | | |
| | 88 | 1,3-Dichlorobenzene | 10.544 | 5.4 | 1212499 | 2.093 | 1.985 | 23.228 | 23.230 | 6.54 | | | |
| | 89 | 1,2,3-Trimethylbenzene | 11.020 | 10.2 | 2237443 | 3.862 | 3.504 | 23.278 | 23.279 | 10.80 | | | |
| | 90 | 1,4-Dichlorobenzene | 10.267 | 2.7 | 1097112 | 1.894 | 1.844 | 23.360 | 23.373 | 7.54 | | | |
| | 91 | Benzyl Chloride | | | | | | | | | | | |
| | 92 | n-Butylbenzene | 10.764 | 7.6 | 2274979 | 3.927 | 3.648 | 23.557 | 23.559 | 13.25 | | | |
| | 93 | 1,2-Dichlorobenzene | 10.193 | 1.9 | 963171 | 1.662 | 1.631 | 23.919 | 23.919 | 6.48 | | | |
| | 94 | 1,2-Dibromo-3-chloropropane | 8.940 | -10.6 | 43543 | 0.075 | 0.084 | 25.037 | 25.039 | 10.32 | | | |
| | 95 | 1,2,4-Trichlorobenzene | 9.827 | -1.7 | 415885 | 0.718 | 0.730 | 26.419 | 26.418 | 14.07 | | | |
| | 96 | Hexachlorobutadiene | 9.124 | -8.8 | 314350 | 0.543 | 0.549 | 26.583 | 26.586 | 19.30 | -0.0074 | 0.6027 | 0.9988 |
| | 97 | Naphthalene | 10.018 | 0.2 | 560700 | 0.968 | 0.966 | 26.895 | 26.895 | 10.38 | | | |
| | 98 | 1,2,3-Trichlorobenzene | 10.436 | 4.4 | 323292 | 0.558 | 0.535 | 27.274 | 27.279 | 8.15 | | | |

Spike Amount = Nominal Amount * M

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR014.D
Acq On : 17 Jun 2024 11:09 pm
Sample : IVOF3F1701
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
MS Integration Params: RTE.P

Vial: 14
Operator: LPriet
Inst : F3
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 94 | 0.00 |
| 2 | T,M | Chlorotrifluoroethylene | 10.000 | 0.000 | 100.0# | 0 | -4.06# |
| 3 | T,M | Dichlorodifluoromethane | 10.000 | 10.235 | -2.3 | 95 | 0.02 |
| 4 | P,T,M | Chloromethane | 10.000 | 9.638 | 3.6 | 90 | 0.00 |
| 5 | T,M | 2-Chloro-1,1,1-trifluoroeth | 10.000 | 0.000 | 100.0# | 0 | -4.65# |
| 6 | C,T,M | Vinyl chloride | 10.000 | 9.301 | 7.0 | 96 | 0.00 |
| 7 | T,M | Bromomethane | 10.000 | 9.737 | 2.6 | 100 | 0.00 |
| 8 | T,M | Chloroethane | 10.000 | 10.119 | -1.2 | 99 | 0.02 |
| 9 | T,M | Dichlorofluoromethane | 10.000 | 9.954 | 0.5 | 93 | 0.02 |
| 10 | T,M | Trichlorofluoromethane | 10.000 | 10.454 | -4.5 | 103 | 0.00 |
| 11 | T,M | Acrolein | 50.000 | 42.208 | 15.6 | 83 | 0.00 |
| 12 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 10.000 | 10.201 | -2.0 | 102 | 0.02 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 9.732 | 2.7 | 89 | 0.02 |
| 14 | T,M | Acetone | 50.000 | 47.118 | 5.8 | 81 | 0.00 |
| 15 | T,M | Iodomethane | 10.000 | 10.188 | -1.9 | 98 | 0.00 |
| 16 | T,M | Methyl acetate | 10.000 | 8.487 | 15.1 | 79 | 0.02 |
| 17 | T,M | Carbon disulfide | 10.000 | 9.485 | 5.2 | 105 | 0.02 |
| 18 | T,M | Methylene chloride | 10.000 | 9.538 | 4.6 | 88 | 0.00 |
| 19 | T,M | tert-Butyl alcohol | 250.000 | 219.816 | 12.1 | 85 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 9.128 | 8.7 | 90 | 0.00 |
| 21 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.113 | -1.1 | 100 | 0.02 |
| 22 | T,M | Acrylonitrile | 50.000 | 43.391 | 13.2 | 84 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.154 | 8.5 | 84 | -0.02 |
| 24 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.563 | 4.4 | 87 | 0.00 |
| 25 | T,M | Vinyl acetate | 10.000 | 8.008 | 19.9 | 72 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.587 | 4.1 | 88 | 0.00 |
| 27 | T,M | 2,2-Dichloropropane | 10.000 | 9.180 | 8.2 | 86 | 0.00 |
| 28 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.647 | 3.5 | 94 | 0.00 |
| 29 | T,M | 2-Butanone | 50.000 | 41.751 | 16.5 | 77 | -0.02 |
| 30 | T,M | 2-Butanol | 250.000 | 203.378 | 18.6 | 77 | 0.00 |
| 31 | T,M | Bromochloromethane | 10.000 | 10.338 | -3.4 | 98 | 0.00 |
| 32 | T,M | Tetrahydrofuran | 10.000 | 9.096 | 9.0 | 79 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.029 | 9.7 | 87 | 0.00 |
| 34 | S | Dibromofluoromethane | 10.000 | 9.639 | 3.6 | 89 | -0.02 |
| 35 | T,M | 1,1,1-Trichloroethane | 10.000 | 10.239 | -2.4 | 96 | 0.00 |
| 36 | T,M | Cyclohexane | 10.000 | 9.086 | 9.1 | 91 | 0.00 |
| 37 | T,M | 1,1-Dichloropropene | 10.000 | 10.136 | -1.4 | 96 | 0.00 |
| 38 | T,M | Carbon tetrachloride | 10.000 | 10.427 | -4.3 | 98 | 0.00 |
| 39 | T,M | tert-Amyl alcohol | 50.000 | 0.000 | 100.0# | 0 | 0.02 |
| 40 | S | 1,2-Dichloroethane-d4 | 10.000 | 8.776 | 12.2 | 83 | 0.00 |
| 41 | T,M | 2,2,4-Trimethylpentane | 10.000 | 0.000 | 100.0# | 0 | 0.00 |
| 42 | T,M | Benzene | 10.000 | 9.734 | 2.7 | 92 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 9.457 | 5.4 | 88 | 0.00 |
| 44 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 9.549 | 4.5 | 93 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 10.720 | -7.2 | 97 | 0.00 |
| 46 | T,M | Methylcyclohexane | 10.000 | 9.136 | 8.6 | 92 | -0.02 |
| 47 | C,T,M | 1,2-Dichloropropane | 10.000 | 9.578 | 4.2 | 89 | 0.00 |
| 48 | T,M | 1,4-Dioxane | 200.000 | 185.323 | 7.3 | 88 | 0.02 |
| 49 | T,M | Dibromomethane | 10.000 | 9.482 | 5.2 | 90 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.000 | 10.0 | 89 | 0.00 |
| 51 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 8.905 | 11.0 | 85 | 0.00 |
| 52 | T,M | cis-1,3-Dichloropropene | 10.000 | 9.673 | 3.3 | 88 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 45.404 | 9.2 | 83 | 0.00 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR014.D
Acq On : 17 Jun 2024 11:09 pm
Sample : IVOF3F1701
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
MS Integration Params: RTE.P

Vial: 14
Operator: LPriet
Inst : F3
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 54 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 94 | 0.00 |
| 55 | S | Toluene-d8 | 10.000 | 10.623 | -6.2 | 91 | 0.00 |
| 56 | C,T,M | Toluene | 10.000 | 10.628 | -6.3 | 92 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.322 | 6.8 | 87 | 0.00 |
| 58 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.356 | -3.6 | 88 | 0.00 |
| 59 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.988 | 0.1 | 95 | 0.00 |
| 60 | T,M | Tetrachloroethene | 10.000 | 10.909 | -9.1 | 97 | 0.00 |
| 61 | T,M | 2-Hexanone | 50.000 | 47.048 | 5.9 | 85 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 9.984 | 0.2 | 92 | 0.00 |
| 63 | T,M | Dibromochloromethane | 10.000 | 10.248 | -2.5 | 94 | 0.00 |
| 64 | T,M | 1,2-Dibromoethane | 10.000 | 10.250 | -2.5 | 94 | 0.00 |
| 65 | T,M | 1-Chlorohexane | 10.000 | 10.780 | -7.8 | 88 | 0.00 |
| 66 | P,M | Chlorobenzene | 10.000 | 11.081 | -10.8 | 96 | 0.00 |
| 67 | C,T,M | Ethylbenzene | 10.000 | 11.106 | -11.1 | 94 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.661 | -6.6 | 94 | 0.00 |
| 69 | T,M | m-Xylene & p-Xylene | 20.000 | 22.446 | -12.2 | 97 | 0.00 |
| 70 | T,M | o-Xylene | 10.000 | 10.666 | -6.7 | 87 | 0.00 |
| 71 | T,M | Styrene | 10.000 | 10.553 | -5.5 | 85 | 0.00 |
| 72 | T,M | Isopropylbenzene | 10.000 | 11.517 | -15.2 | 96 | 0.00 |
| 73 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 95 | 0.00 |
| 74 | P,T,M | Bromoform | 10.000 | 10.379 | -3.8 | 95 | 0.00 |
| 75 | S | 4-Bromofluorobenzene | 10.000 | 9.614 | 3.9 | 89 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.833 | 11.7 | 86 | 0.00 |
| 77 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 9.128 | 8.7 | 84 | 0.00 |
| 78 | T,M | n-Propylbenzene | 10.000 | 10.490 | -4.9 | 89 | 0.00 |
| 79 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.738 | 2.6 | 85 | 0.00 |
| 80 | T,M | Bromobenzene | 10.000 | 10.806 | -8.1 | 101 | 0.00 |
| 81 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 11.893 | -18.9 | 99 | 0.00 |
| 82 | T,M | 2-Chlorotoluene | 10.000 | 11.270 | -12.7 | 99 | 0.00 |
| 83 | T,M | 4-Chlorotoluene | 10.000 | 10.997 | -10.0 | 96 | 0.00 |
| 84 | T,M | tert-Butylbenzene | 10.000 | 10.405 | -4.0 | 99 | 0.00 |
| 85 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.681 | -16.8 | 105 | 0.00 |
| 86 | T,M | sec-Butylbenzene | 10.000 | 11.329 | -13.3 | 99 | 0.00 |
| 87 | T,M | p-Isopropyltoluene | 10.000 | 11.293 | -12.9 | 96 | 0.00 |
| 88 | T,M | 1,3-Dichlorobenzene | 10.000 | 10.545 | -5.4 | 97 | 0.00 |
| 89 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 11.021 | -10.2 | 99 | 0.00 |
| 90 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.268 | -2.7 | 99 | -0.02 |
| 91 | T,M | Benzyl Chloride | -1.000 | 0.000 | 0.0 | 0 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 10.765 | -7.7 | 93 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.194 | -1.9 | 97 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.940 | 10.6 | 89 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.828 | 1.7 | 97 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.125 | 8.8 | 88 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.019 | -0.2 | 98 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.436 | -4.4 | 100 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# DAILY CALIBRATIONS

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F034
Lab File ID: RFR059 BFB Injection Date: 06/20/24
Instrument ID: F3 BFB Injection Time: 11:14

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 30.645 |
| 75 | 30 - 60% of mass 95 | 48.163 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 5.906 |
| 173 | Less than 2% of mass 174 | 0.655(.98)1 |
| 174 | Greater than 50% of mass 95 | 66.906 |
| 175 | 5 - 9% of mass 174 | 5.549(8.29)1 |
| 176 | 95 - 101% % of mass 174 | 63.616(95.08)1 |
| 177 | 5 - 9% % of mass 176 | 3.945(6.2)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CV0F3F1703 | RFR060 | 06/20/24 | 11:52 |
| 2 | LCD1W | V0F3F04C | RFR062 | 06/20/24 | 13:17 |
| 3 | MBLK1W | V0F3F04B | RFR064 | 06/20/24 | 14:23 |
| 4 | LCS1W | V0F3F04X | RFR065 | 06/20/24 | 14:56 |
| 5 | IDW-WATER_JUN24 | 24F034-01 | RFR071 | 06/20/24 | 18:14 |
| 6 | VSTD10 | EV0F3F1703 | RFR072 | 06/20/24 | 18:53 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: RFR007
Instrument ID: F3

Project: TITAN 1-A
SDG No: 24F034
Date Analyzed: 06/17/24
Time Analyzed: 19:19

| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 3250044 | 15.60 | 2141369 | 20.19 | 612864 | 23.87 |
| | UPPER LIMIT | 6500088 | 15.77 | 4282738 | 20.36 | 1225728 | 24.04 |
| | LOWER LIMIT | 1625022 | 15.43 | 1070685 | 20.02 | 306432 | 23.70 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 3174558 | 15.58 | 2106303 | 20.17 | 572013 | 23.87 |
| 2 | LCD1W | 3228516 | 15.58 | 2139311 | 20.17 | 588978 | 23.87 |
| 3 | MBLK1W | 3159956 | 15.58 | 1934356 | 20.17 | 499486 | 23.87 |
| 4 | LCS1W | 3049163 | 15.58 | 2016431 | 20.17 | 593739 | 23.87 |
| 5 | IDW-WATER_JUN24 | 2821227 | 15.58 | 1783157 | 20.19 | 446124 | 23.87 |
| 6 | VSTD10 | 3083263 | 15.60 | 2122708 | 20.19 | 557755 | 23.87 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR060.D  Vial: 2
Acq On : 20 Jun 2024 11:52 am  Operator: LPriet
Sample : CVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 98 | -0.02 |
| 2 | T,M | Chlorotrifluoroethylene | 10.000 | 0.000 | 100.0# | 0 | -4.06# |
| 3 | T,M | Dichlorodifluoromethane | 10.000 | 9.585 | 4.1 | 93 | 0.00 |
| 4 | P,T,M | Chloromethane | 10.000 | 9.540 | 4.6 | 93 | 0.00 |
| 5 | T,M | 2-Chloro-1,1,1-trifluoroeth | 10.000 | 0.000 | 100.0# | 0 | -4.65# |
| 6 | C,T,M | Vinyl chloride | 10.000 | 8.839 | 11.6 | 95 | 0.00 |
| 7 | T,M | Bromomethane | 10.000 | 9.164 | 8.4 | 98 | 0.00 |
| 8 | T,M | Chloroethane | 10.000 | 9.683 | 3.2 | 98 | 0.00 |
| 9 | T,M | Dichlorofluoromethane | 10.000 | 10.119 | -1.2 | 98 | 0.00 |
| 10 | T,M | Trichlorofluoromethane | 10.000 | 9.770 | 2.3 | 100 | -0.04 |
| 11 | T,M | Acrolein | 50.000 | 41.927 | 16.1 | 86 | 0.00 |
| 12 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 10.000 | 9.776 | 2.2 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.261 | -2.6 | 97 | 0.00 |
| 14 | T,M | Acetone | 50.000 | 50.758 | -1.5 | 91 | -0.03 |
| 15 | T,M | Iodomethane | 10.000 | 9.891 | 1.1 | 99 | 0.00 |
| 16 | T,M | Methyl acetate | 10.000 | 8.763 | 12.4 | 84 | 0.00 |
| 17 | T,M | Carbon disulfide | 10.000 | 8.632 | 13.7 | 100 | 0.00 |
| 18 | T,M | Methylene chloride | 10.000 | 10.846 | -8.5 | 105 | 0.00 |
| 19 | T,M | tert-Butyl alcohol | 250.000 | 233.578 | 6.6 | 94 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 8.935 | 10.6 | 92 | 0.00 |
| 21 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.569 | 4.3 | 98 | 0.00 |
| 22 | T,M | Acrylonitrile | 50.000 | 46.007 | 8.0 | 92 | -0.02 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.780 | 2.2 | 93 | -0.02 |
| 24 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.383 | -3.8 | 98 | 0.00 |
| 25 | T,M | Vinyl acetate | 10.000 | 10.078 | -0.8 | 94 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.069 | 9.3 | 86 | 0.00 |
| 27 | T,M | 2,2-Dichloropropane | 10.000 | 10.264 | -2.6 | 100 | -0.02 |
| 28 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.981 | 0.2 | 101 | -0.02 |
| 29 | T,M | 2-Butanone | 50.000 | 45.090 | 9.8 | 86 | -0.02 |
| 30 | T,M | 2-Butanol | 250.000 | 220.833 | 11.7 | 87 | -0.02 |
| 31 | T,M | Bromochloromethane | 10.000 | 9.578 | 4.2 | 94 | -0.02 |
| 32 | T,M | Tetrahydrofuran | 10.000 | 9.174 | 8.3 | 83 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.936 | 0.6 | 100 | 0.00 |
| 34 | S | Dibromofluoromethane | 10.000 | 9.522 | 4.8 | 92 | -0.02 |
| 35 | T,M | 1,1,1-Trichloroethane | 10.000 | 10.308 | -3.1 | 100 | -0.02 |
| 36 | T,M | Cyclohexane | 10.000 | 9.016 | 9.8 | 94 | -0.02 |
| 37 | T,M | 1,1-Dichloropropene | 10.000 | 10.153 | -1.5 | 100 | -0.02 |
| 38 | T,M | Carbon tetrachloride | 10.000 | 10.270 | -2.7 | 100 | -0.02 |
| 39 | T,M | tert-Amyl alcohol | 50.000 | 0.000 | 100.0# | 0 | 0.00 |
| 40 | S | 1,2-Dichloroethane-d4 | 10.000 | 9.905 | 1.0 | 97 | 0.00 |
| 41 | T,M | 2,2,4-Trimethylpentane | 10.000 | 0.000 | 100.0# | 0 | 0.00 |
| 42 | T,M | Benzene | 10.000 | 9.883 | 1.2 | 97 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 10.078 | -0.8 | 97 | 0.00 |
| 44 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 8.825 | 11.8 | 89 | -0.02 |
| 45 | T,M | Trichloroethene | 10.000 | 9.983 | 0.2 | 94 | 0.00 |
| 46 | T,M | Methylcyclohexane | 10.000 | 8.891 | 11.1 | 93 | -0.02 |
| 47 | C,T,M | 1,2-Dichloropropane | 10.000 | 9.873 | 1.3 | 95 | -0.02 |
| 48 | T,M | 1,4-Dioxane | 200.000 | 208.183 | -4.1 | 102 | 0.00 |
| 49 | T,M | Dibromomethane | 10.000 | 9.979 | 0.2 | 99 | -0.02 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.577 | 4.2 | 98 | -0.02 |
| 51 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 7.984 | 20.2# | 79 | 0.00 |
| 52 | T,M | cis-1,3-Dichloropropene | 10.000 | 9.816 | 1.8 | 93 | -0.02 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 45.057 | 9.9 | 86 | -0.02 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR060.D
Acq On : 20 Jun 2024 11:52 am
Sample : CVOF3F1703
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
MS Integration Params: RTE.P

Vial: 2
Operator: LPriet
Inst : F3
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 54 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 98 | -0.02 |
| 55 | S | Toluene-d8 | 10.000 | 10.267 | -2.7 | 92 | 0.00 |
| 56 | C,T,M | Toluene | 10.000 | 10.641 | -6.4 | 97 | -0.02 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.523 | 4.8 | 93 | -0.02 |
| 58 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.113 | -1.1 | 91 | -0.02 |
| 59 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.933 | 0.7 | 99 | 0.00 |
| 60 | T,M | Tetrachloroethene | 10.000 | 10.173 | -1.7 | 95 | 0.00 |
| 61 | T,M | 2-Hexanone | 50.000 | 47.824 | 4.4 | 91 | -0.02 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.003 | -0.0 | 97 | 0.00 |
| 63 | T,M | Dibromochloromethane | 10.000 | 9.886 | 1.1 | 96 | 0.00 |
| 64 | T,M | 1,2-Dibromoethane | 10.000 | 10.123 | -1.2 | 97 | -0.02 |
| 65 | T,M | 1-Chlorohexane | 10.000 | 10.885 | -8.8 | 94 | 0.00 |
| 66 | P,M | Chlorobenzene | 10.000 | 10.534 | -5.3 | 96 | 0.00 |
| 67 | C,T,M | Ethylbenzene | 10.000 | 10.781 | -7.8 | 96 | -0.02 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.224 | -2.2 | 95 | 0.00 |
| 69 | T,M | m-Xylene & p-Xylene | 20.000 | 20.792 | -4.0 | 95 | 0.00 |
| 70 | T,M | o-Xylene | 10.000 | 10.918 | -9.2 | 93 | 0.00 |
| 71 | T,M | Styrene | 10.000 | 10.700 | -7.0 | 90 | -0.02 |
| 72 | T,M | Isopropylbenzene | 10.000 | 10.854 | -8.5 | 95 | -0.02 |
| 73 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 93 | 0.00 |
| 74 | P,T,M | Bromoform | 10.000 | 10.716 | -7.2 | 97 | 0.00 |
| 75 | S | 4-Bromofluorobenzene | 10.000 | 9.611 | 3.9 | 88 | -0.02 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.302 | -3.0 | 99 | -0.02 |
| 77 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 10.310 | -3.1 | 94 | 0.00 |
| 78 | T,M | n-Propylbenzene | 10.000 | 11.201 | -12.0 | 94 | 0.00 |
| 79 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.969 | 0.3 | 85 | 0.00 |
| 80 | T,M | Bromobenzene | 10.000 | 11.616 | -16.2 | 107 | 0.00 |
| 81 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 11.915 | -19.1 | 98 | 0.00 |
| 82 | T,M | 2-Chlorotoluene | 10.000 | 13.330 | -33.3# | 115 | -0.02 |
| 83 | T,M | 4-Chlorotoluene | 10.000 | 9.421 | 5.8 | 81 | -0.02 |
| 84 | T,M | tert-Butylbenzene | 10.000 | 10.639 | -6.4 | 99 | -0.02 |
| 85 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.935 | -19.4 | 106 | 0.00 |
| 86 | T,M | sec-Butylbenzene | 10.000 | 11.365 | -13.7 | 98 | 0.00 |
| 87 | T,M | p-Isopropyltoluene | 10.000 | 11.649 | -16.5 | 98 | -0.02 |
| 88 | T,M | 1,3-Dichlorobenzene | 10.000 | 10.076 | -0.8 | 92 | 0.00 |
| 89 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.856 | -8.6 | 97 | 0.00 |
| 90 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.483 | -4.8 | 100 | -0.02 |
| 91 | T,M | Benzyl Chloride | -1.000 | 0.000 | 0.0 | 0 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 10.702 | -7.0 | 91 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.259 | -2.6 | 97 | -0.02 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 9.424 | 5.8 | 92 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.687 | 3.1 | 94 | -0.02 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 10.874 | -8.7 | 103 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.445 | -4.5 | 101 | -0.02 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.545 | -5.4 | 100 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR060.D  Vial: 2
Acq On : 20 Jun 2024 11:52 am  Operator: LPriet
Sample : CVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 98 | -0.02 |
| 2 | T,M | Chlorotrifluoroethylene | 0.000 | 0.000 | 0.0 | 0# | -4.06# |
| 3 | T,M | Dichlorodifluoromethane | 0.475 | 0.455 | 4.2 | 93 | 0.00 |
| 4 | P,T,M | Chloromethane | 0.748 | 0.713 | 4.7 | 93 | 0.00 |
| 5 | T,M | 2-Chloro-1,1,1-trifluoroeth | 0.000 | 0.000 | 0.0 | 0# | -4.65# |
| 6 | C,T,M | Vinyl chloride | 0.674 | 0.596 | 11.6 | 95 | 0.00 |
| 7 | T,M | Bromomethane | 0.324 | 0.297 | 8.3 | 98 | 0.00 |
| 8 | T,M | Chloroethane | 0.334 | 0.323 | 3.3 | 98 | 0.00 |
| 9 | T,M | Dichlorofluoromethane | 0.833 | 0.843 | -1.2 | 98 | 0.00 |
| 10 | T,M | Trichlorofluoromethane | 0.558 | 0.545 | 2.3 | 100 | -0.04 |
| 11 | T,M | Acrolein | 0.026 | 0.021 | 19.2 | 86 | 0.00 |
| 12 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 0.237 | 0.232 | 2.1 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.861 | 0.883 | -2.6 | 97 | 0.00 |
| 14 | T,M | Acetone | 0.072 | 0.054 | 25.0# | 91 | -0.03 |
| 15 | T,M | Iodomethane | 0.501 | 0.496 | 1.0 | 99 | 0.00 |
| 16 | T,M | Methyl acetate | 0.167 | 0.147 | 12.0 | 84 | 0.00 |
| 17 | T,M | Carbon disulfide | 1.332 | 1.149 | 13.7 | 100 | 0.00 |
| 18 | T,M | Methylene chloride | 0.551 | 0.598 | -8.5 | 105 | 0.00 |
| 19 | T,M | tert-Butyl alcohol | 0.013 | 0.012 | 7.7 | 94 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 0.618 | 0.552 | 10.7 | 92 | 0.00 |
| 21 | T,M | trans-1,2-Dichloroethene | 0.428 | 0.410 | 4.2 | 98 | 0.00 |
| 22 | T,M | Acrylonitrile | 0.066 | 0.060 | 9.1 | 92 | -0.02 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.759 | 1.720 | 2.2 | 93 | -0.02 |
| 24 | P,T,M | 1,1-Dichloroethane | 0.863 | 0.896 | -3.8 | 98 | 0.00 |
| 25 | T,M | Vinyl acetate | 0.463 | 0.466 | -0.6 | 94 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.046 | 0.949 | 9.3 | 86 | 0.00 |
| 27 | T,M | 2,2-Dichloropropane | 0.338 | 0.347 | -2.7 | 100 | -0.02 |
| 28 | T,M | cis-1,2-Dichloroethene | 0.355 | 0.355 | 0.0 | 101 | -0.02 |
| 29 | T,M | 2-Butanone | 0.087 | 0.079 | 9.2 | 86 | -0.02 |
| 30 | T,M | 2-Butanol | 0.014 | 0.012 | 14.3 | 87 | -0.02 |
| 31 | T,M | Bromochloromethane | 0.156 | 0.150 | 3.8 | 94 | -0.02 |
| 32 | T,M | Tetrahydrofuran | 0.052 | 0.048 | 7.7 | 83 | 0.00 |
| 33 | C,T,M | Chloroform | 0.708 | 0.703 | 0.7 | 100 | 0.00 |
| 34 | S | Dibromofluoromethane | 0.312 | 0.297 | 4.8 | 92 | -0.02 |
| 35 | T,M | 1,1,1-Trichloroethane | 0.488 | 0.503 | -3.1 | 100 | -0.02 |
| 36 | T,M | Cyclohexane | 0.599 | 0.540 | 9.8 | 94 | -0.02 |
| 37 | T,M | 1,1-Dichloropropene | 0.175 | 0.178 | -1.7 | 100 | -0.02 |
| 38 | T,M | Carbon tetrachloride | 0.396 | 0.406 | -2.5 | 100 | -0.02 |
| 39 | T,M | tert-Amyl alcohol | 0.000 | 0.001 | 0.0 | 0# | 0.00 |
| 40 | S | 1,2-Dichloroethane-d4 | 0.298 | 0.295 | 1.0 | 97 | 0.00 |
| 41 | T,M | 2,2,4-Trimethylpentane | 0.000 | 0.037 | 0.0 | 0# | 0.00 |
| 42 | T,M | Benzene | 1.535 | 1.517 | 1.2 | 97 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.376 | 0.379 | -0.8 | 97 | 0.00 |
| 44 | T,M | tert-Amyl methyl ether (TAM | 0.640 | 0.565 | 11.7 | 89 | -0.02 |
| 45 | T,M | Trichloroethene | 0.348 | 0.348 | 0.0 | 94 | 0.00 |
| 46 | T,M | Methylcyclohexane | 0.668 | 0.594 | 11.1 | 93 | -0.02 |
| 47 | C,T,M | 1,2-Dichloropropane | 0.382 | 0.377 | 1.3 | 95 | -0.02 |
| 48 | T,M | 1,4-Dioxane | 0.001 | 0.001 | 0.0 | 102 | 0.00 |
| 49 | T,M | Dibromomethane | 0.127 | 0.127 | 0.0 | 99 | -0.02 |
| 50 | T,M | Bromodichloromethane | 0.436 | 0.418 | 4.1 | 98 | -0.02 |
| 51 | T,M | 2-Chloroethyl vinyl ether | 0.052 | 0.041 | 21.2# | 79 | 0.00 |
| 52 | T,M | cis-1,3-Dichloropropene | 0.465 | 0.457 | 1.7 | 93 | -0.02 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.181 | 0.163 | 9.9 | 86 | -0.02 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR060.D
Acq On : 20 Jun 2024 11:52 am
Sample : CVOF3F1703
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
MS Integration Params: RTE.P

Vial: 2
Operator: LPriet
Inst : F3
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 54 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 98 | -0.02 |
| 55 | S | Toluene-d8 | 1.483 | 1.522 | -2.6 | 92 | 0.00 |
| 56 | C,T,M | Toluene | 1.836 | 1.954 | -6.4 | 97 | -0.02 |
| 57 | T,M | Ethyl methacrylate | 0.286 | 0.272 | 4.9 | 93 | -0.02 |
| 58 | T,M | trans-1,3-Dichloropropene | 0.451 | 0.456 | -1.1 | 91 | -0.02 |
| 59 | T,M | 1,1,2-Trichloroethane | 0.226 | 0.225 | 0.4 | 99 | 0.00 |
| 60 | T,M | Tetrachloroethene | 0.393 | 0.400 | -1.8 | 95 | 0.00 |
| 61 | T,M | 2-Hexanone | 0.147 | 0.141 | 4.1 | 91 | -0.02 |
| 62 | T,M | 1,3-Dichloropropane | 0.439 | 0.440 | -0.2 | 97 | 0.00 |
| 63 | T,M | Dibromochloromethane | 0.290 | 0.287 | 1.0 | 96 | 0.00 |
| 64 | T,M | 1,2-Dibromoethane | 0.205 | 0.208 | -1.5 | 97 | -0.02 |
| 65 | T,M | 1-Chlorohexane | 0.698 | 0.760 | -8.9 | 94 | 0.00 |
| 66 | P,M | Chlorobenzene | 0.952 | 1.003 | -5.4 | 96 | 0.00 |
| 67 | C,T,M | Ethylbenzene | 1.838 | 1.982 | -7.8 | 96 | -0.02 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.346 | 0.353 | -2.0 | 95 | 0.00 |
| 69 | T,M | m-Xylene & p-Xylene | 1.339 | 1.392 | -4.0 | 95 | 0.00 |
| 70 | T,M | o-Xylene | 1.352 | 1.476 | -9.2 | 93 | 0.00 |
| 71 | T,M | Styrene | 0.892 | 0.955 | -7.1 | 90 | -0.02 |
| 72 | T,M | Isopropylbenzene | 1.544 | 1.676 | -8.5 | 95 | -0.02 |
| 73 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 93 | 0.00 |
| 74 | P,T,M | Bromoform | 0.403 | 0.432 | -7.2 | 97 | 0.00 |
| 75 | S | 4-Bromofluorobenzene | 1.595 | 1.533 | 3.9 | 88 | -0.02 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 0.809 | 0.834 | -3.1 | 99 | -0.02 |
| 77 | T,M | trans-1,4-Dichloro-2-butene | 0.348 | 0.359 | -3.2 | 94 | 0.00 |
| 78 | T,M | n-Propylbenzene | 6.615 | 7.410 | -12.0 | 94 | 0.00 |
| 79 | T,M | 1,2,3-Trichloropropane | 0.175 | 0.165 | 5.7 | 85 | 0.00 |
| 80 | T,M | Bromobenzene | 1.141 | 1.326 | -16.2 | 107 | 0.00 |
| 81 | T,M | 1,3,5-Trimethylbenzene | 4.010 | 4.778 | -19.2 | 98 | 0.00 |
| 82 | T,M | 2-Chlorotoluene | 3.889 | 5.184 | -33.3# | 115 | -0.02 |
| 83 | T,M | 4-Chlorotoluene | 3.446 | 3.246 | 5.8 | 81 | -0.02 |
| 84 | T,M | tert-Butylbenzene | 0.965 | 1.026 | -6.3 | 99 | -0.02 |
| 85 | T,M | 1,2,4-Trimethylbenzene | 3.554 | 4.242 | -19.4 | 106 | 0.00 |
| 86 | T,M | sec-Butylbenzene | 5.397 | 6.134 | -13.7 | 98 | 0.00 |
| 87 | T,M | p-Isopropyltoluene | 3.770 | 4.391 | -16.5 | 98 | -0.02 |
| 88 | T,M | 1,3-Dichlorobenzene | 1.985 | 2.000 | -0.8 | 92 | 0.00 |
| 89 | T,M | 1,2,3-Trimethylbenzene | 3.504 | 3.804 | -8.6 | 97 | 0.00 |
| 90 | T,M | 1,4-Dichlorobenzene | 1.844 | 1.933 | -4.8 | 100 | -0.02 |
| 91 | T,M | Benzyl Chloride | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.648 | 3.904 | -7.0 | 91 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 1.631 | 1.673 | -2.6 | 97 | -0.02 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.084 | 0.079 | 6.0 | 92 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 0.730 | 0.708 | 3.0 | 94 | -0.02 |
| 96 | T,M | Hexachlorobutadiene | 0.549 | 0.648 | -18.0 | 103 | 0.00 |
| 97 | T,M | Naphthalene | 0.966 | 1.009 | -4.5 | 101 | -0.02 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 0.535 | 0.564 | -5.4 | 100 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR072.D  Vial: 14
Acq On : 20 Jun 2024 6:53 pm  Operator: LPriet
Sample : EVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 95 | 0.00 |
| 2 | T,M | Chlorotrifluoroethylene | 10.000 | 0.000 | 100.0# | 0 | -4.06# |
| 3 | T,M | Dichlorodifluoromethane | 10.000 | 8.972 | 10.3 | 84 | 0.00 |
| 4 | P,T,M | Chloromethane | 10.000 | 9.120 | 8.8 | 86 | 0.00 |
| 5 | T,M | 2-Chloro-1,1,1-trifluoroeth | 10.000 | 0.000 | 100.0# | 0 | -4.65# |
| 6 | C,T,M | Vinyl chloride | 10.000 | 8.190 | 18.1 | 85 | 0.00 |
| 7 | T,M | Bromomethane | 10.000 | 7.932 | 20.7# | 83 | 0.00 |
| 8 | T,M | Chloroethane | 10.000 | 9.006 | 9.9 | 89 | 0.00 |
| 9 | T,M | Dichlorofluoromethane | 10.000 | 9.233 | 7.7 | 87 | 0.00 |
| 10 | T,M | Trichlorofluoromethane | 10.000 | 8.791 | 12.1 | 88 | -0.04 |
| 11 | T,M | Acrolein | 50.000 | 42.297 | 15.4 | 84 | 0.00 |
| 12 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 10.000 | 8.925 | 10.7 | 90 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 9.323 | 6.8 | 86 | 0.00 |
| 14 | T,M | Acetone | 50.000 | 50.202 | -0.4 | 87 | 0.00 |
| 15 | T,M | Iodomethane | 10.000 | 8.719 | 12.8 | 85 | 0.00 |
| 16 | T,M | Methyl acetate | 10.000 | 9.730 | 2.7 | 91 | 0.00 |
| 17 | T,M | Carbon disulfide | 10.000 | 9.190 | 8.1 | 103 | 0.02 |
| 18 | T,M | Methylene chloride | 10.000 | 9.585 | 4.1 | 90 | 0.00 |
| 19 | T,M | tert-Butyl alcohol | 250.000 | 222.885 | 10.8 | 87 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 8.205 | 17.9 | 82 | 0.00 |
| 21 | T,M | trans-1,2-Dichloroethene | 10.000 | 8.495 | 15.1 | 85 | 0.00 |
| 22 | T,M | Acrylonitrile | 50.000 | 45.768 | 8.5 | 89 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.468 | 5.3 | 88 | -0.02 |
| 24 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.292 | 7.1 | 85 | 0.00 |
| 25 | T,M | Vinyl acetate | 10.000 | 9.042 | 9.6 | 82 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 8.195 | 18.0 | 76 | 0.00 |
| 27 | T,M | 2,2-Dichloropropane | 10.000 | 8.795 | 12.1 | 84 | 0.00 |
| 28 | T,M | cis-1,2-Dichloroethene | 10.000 | 8.866 | 11.3 | 87 | 0.00 |
| 29 | T,M | 2-Butanone | 50.000 | 46.859 | 6.3 | 87 | -0.02 |
| 30 | T,M | 2-Butanol | 250.000 | 231.093 | 7.6 | 88 | -0.02 |
| 31 | T,M | Bromochloromethane | 10.000 | 8.821 | 11.8 | 84 | 0.00 |
| 32 | T,M | Tetrahydrofuran | 10.000 | 9.324 | 6.8 | 82 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 8.397 | 16.0 | 82 | 0.00 |
| 34 | S | Dibromofluoromethane | 10.000 | 9.858 | 1.4 | 92 | -0.02 |
| 35 | T,M | 1,1,1-Trichloroethane | 10.000 | 8.971 | 10.3 | 85 | 0.00 |
| 36 | T,M | Cyclohexane | 10.000 | 8.883 | 11.2 | 90 | 0.00 |
| 37 | T,M | 1,1-Dichloropropene | 10.000 | 9.167 | 8.3 | 88 | 0.00 |
| 38 | T,M | Carbon tetrachloride | 10.000 | 8.966 | 10.3 | 85 | 0.00 |
| 39 | T,M | tert-Amyl alcohol | 50.000 | 0.000 | 100.0# | 0 | 0.00 |
| 40 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.088 | -0.9 | 96 | 0.00 |
| 41 | T,M | 2,2,4-Trimethylpentane | 10.000 | 0.000 | 100.0# | 0 | 0.02 |
| 42 | T,M | Benzene | 10.000 | 8.922 | 10.8 | 85 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 9.490 | 5.1 | 89 | 0.00 |
| 44 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 8.174 | 18.3 | 80 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 8.861 | 11.4 | 81 | 0.00 |
| 46 | T,M | Methylcyclohexane | 10.000 | 8.805 | 12.0 | 89 | -0.02 |
| 47 | C,T,M | 1,2-Dichloropropane | 10.000 | 9.112 | 8.9 | 86 | -0.02 |
| 48 | T,M | 1,4-Dioxane | 200.000 | 176.171 | 11.9 | 84 | 0.00 |
| 49 | T,M | Dibromomethane | 10.000 | 8.411 | 15.9 | 81 | -0.02 |
| 50 | T,M | Bromodichloromethane | 10.000 | 8.494 | 15.1 | 85 | -0.02 |
| 51 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 7.237 | 27.6# | 70 | 0.00 |
| 52 | T,M | cis-1,3-Dichloropropene | 10.000 | 9.216 | 7.8 | 85 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 46.879 | 6.2 | 87 | -0.02 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR072.D  Vial: 14
Acq On : 20 Jun 2024 6:53 pm  Operator: LPriet
Sample : EVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 54 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 99 | 0.00 |
| 55 | S | Toluene-d8 | 10.000 | 10.072 | -0.7 | 91 | 0.00 |
| 56 | C,T,M | Toluene | 10.000 | 9.322 | 6.8 | 86 | -0.02 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 8.554 | 14.5 | 84 | 0.00 |
| 58 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.278 | 7.2 | 84 | 0.00 |
| 59 | T,M | 1,1,2-Trichloroethane | 10.000 | 8.494 | 15.1 | 86 | 0.00 |
| 60 | T,M | Tetrachloroethene | 10.000 | 8.343 | 16.6 | 79 | 0.00 |
| 61 | T,M | 2-Hexanone | 50.000 | 48.776 | 2.4 | 93 | -0.02 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 8.921 | 10.8 | 87 | 0.00 |
| 63 | T,M | Dibromochloromethane | 10.000 | 8.610 | 13.9 | 84 | 0.00 |
| 64 | T,M | 1,2-Dibromoethane | 10.000 | 8.725 | 12.8 | 84 | -0.02 |
| 65 | T,M | 1-Chlorohexane | 10.000 | 9.088 | 9.1 | 79 | 0.00 |
| 66 | P,M | Chlorobenzene | 10.000 | 9.471 | 5.3 | 87 | 0.00 |
| 67 | C,T,M | Ethylbenzene | 10.000 | 9.990 | 0.1 | 89 | -0.02 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.210 | 7.9 | 86 | 0.00 |
| 69 | T,M | m-Xylene & p-Xylene | 20.000 | 19.041 | 4.8 | 87 | 0.00 |
| 70 | T,M | o-Xylene | 10.000 | 9.335 | 6.6 | 80 | 0.00 |
| 71 | T,M | Styrene | 10.000 | 9.086 | 9.1 | 77 | -0.02 |
| 72 | T,M | Isopropylbenzene | 10.000 | 9.919 | 0.8 | 88 | -0.02 |
| 73 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 91 | 0.00 |
| 74 | P,T,M | Bromoform | 10.000 | 9.308 | 6.9 | 82 | 0.00 |
| 75 | S | 4-Bromofluorobenzene | 10.000 | 9.331 | 6.7 | 83 | -0.02 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.932 | 10.7 | 84 | -0.02 |
| 77 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 9.510 | 4.9 | 84 | 0.00 |
| 78 | T,M | n-Propylbenzene | 10.000 | 9.877 | 1.2 | 81 | 0.00 |
| 79 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.630 | 3.7 | 80 | 0.00 |
| 80 | T,M | Bromobenzene | 10.000 | 9.261 | 7.4 | 83 | 0.00 |
| 81 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 10.575 | -5.7 | 85 | 0.00 |
| 82 | T,M | 2-Chlorotoluene | 10.000 | 11.519 | -15.2 | 97 | 0.00 |
| 83 | T,M | 4-Chlorotoluene | 10.000 | 9.549 | 4.5 | 80 | -0.02 |
| 84 | T,M | tert-Butylbenzene | 10.000 | 9.449 | 5.5 | 86 | 0.00 |
| 85 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 10.827 | -8.3 | 93 | 0.00 |
| 86 | T,M | sec-Butylbenzene | 10.000 | 10.831 | -8.3 | 91 | 0.00 |
| 87 | T,M | p-Isopropyltoluene | 10.000 | 10.031 | -0.3 | 82 | 0.00 |
| 88 | T,M | 1,3-Dichlorobenzene | 10.000 | 9.881 | 1.2 | 88 | 0.00 |
| 89 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.338 | -3.4 | 90 | 0.00 |
| 90 | T,M | 1,4-Dichlorobenzene | 10.000 | 9.328 | 6.7 | 87 | -0.02 |
| 91 | T,M | Benzyl Chloride | -1.000 | 0.000 | 0.0 | 0 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 10.113 | -1.1 | 84 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.052 | 9.5 | 83 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.816 | 11.8 | 84 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.097 | 9.0 | 86 | -0.02 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.036 | 9.6 | 83 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 9.093 | 9.1 | 86 | -0.02 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 9.066 | 9.3 | 84 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR072.D  Vial: 14
Acq On : 20 Jun 2024 6:53 pm  Operator: LPriet
Sample : EVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 95 | 0.00 |
| 2 | T,M | Chlorotrifluoroethylene | 0.000 | 0.000 | 0.0 | 0# | -4.06# |
| 3 | T,M | Dichlorodifluoromethane | 0.475 | 0.426 | 10.3 | 84 | 0.00 |
| 4 | P,T,M | Chloromethane | 0.748 | 0.682 | 8.8 | 86 | 0.00 |
| 5 | T,M | 2-Chloro-1,1,1-trifluoroeth | 0.000 | 0.000 | 0.0 | 0# | -4.65# |
| 6 | C,T,M | Vinyl chloride | 0.674 | 0.552 | 18.1 | 85 | 0.00 |
| 7 | T,M | Bromomethane | 0.324 | 0.257 | 20.7# | 83 | 0.00 |
| 8 | T,M | Chloroethane | 0.334 | 0.300 | 10.2 | 89 | 0.00 |
| 9 | T,M | Dichlorofluoromethane | 0.833 | 0.769 | 7.7 | 87 | 0.00 |
| 10 | T,M | Trichlorofluoromethane | 0.558 | 0.491 | 12.0 | 88 | -0.04 |
| 11 | T,M | Acrolein | 0.026 | 0.022 | 15.4 | 84 | 0.00 |
| 12 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 0.237 | 0.211 | 11.0 | 90 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.861 | 0.803 | 6.7 | 86 | 0.00 |
| 14 | T,M | Acetone | 0.072 | 0.053 | 26.4# | 87 | 0.00 |
| 15 | T,M | Iodomethane | 0.501 | 0.437 | 12.8 | 85 | 0.00 |
| 16 | T,M | Methyl acetate | 0.167 | 0.163 | 2.4 | 91 | 0.00 |
| 17 | T,M | Carbon disulfide | 1.332 | 1.224 | 8.1 | 103 | 0.02 |
| 18 | T,M | Methylene chloride | 0.551 | 0.528 | 4.2 | 90 | 0.00 |
| 19 | T,M | tert-Butyl alcohol | 0.013 | 0.011 | 15.4 | 87 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 0.618 | 0.507 | 18.0 | 82 | 0.00 |
| 21 | T,M | trans-1,2-Dichloroethene | 0.428 | 0.364 | 15.0 | 85 | 0.00 |
| 22 | T,M | Acrylonitrile | 0.066 | 0.060 | 9.1 | 89 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.759 | 1.665 | 5.3 | 88 | -0.02 |
| 24 | P,T,M | 1,1-Dichloroethane | 0.863 | 0.801 | 7.2 | 85 | 0.00 |
| 25 | T,M | Vinyl acetate | 0.463 | 0.418 | 9.7 | 82 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.046 | 0.857 | 18.1 | 76 | 0.00 |
| 27 | T,M | 2,2-Dichloropropane | 0.338 | 0.298 | 11.8 | 84 | 0.00 |
| 28 | T,M | cis-1,2-Dichloroethene | 0.355 | 0.315 | 11.3 | 87 | 0.00 |
| 29 | T,M | 2-Butanone | 0.087 | 0.082 | 5.7 | 87 | -0.02 |
| 30 | T,M | 2-Butanol | 0.014 | 0.013 | 7.1 | 88 | -0.02 |
| 31 | T,M | Bromochloromethane | 0.156 | 0.138 | 11.5 | 84 | 0.00 |
| 32 | T,M | Tetrahydrofuran | 0.052 | 0.048 | 7.7 | 82 | 0.00 |
| 33 | C,T,M | Chloroform | 0.708 | 0.594 | 16.1 | 82 | 0.00 |
| 34 | S | Dibromofluoromethane | 0.312 | 0.307 | 1.6 | 92 | -0.02 |
| 35 | T,M | 1,1,1-Trichloroethane | 0.488 | 0.438 | 10.2 | 85 | 0.00 |
| 36 | T,M | Cyclohexane | 0.599 | 0.532 | 11.2 | 90 | 0.00 |
| 37 | T,M | 1,1-Dichloropropene | 0.175 | 0.161 | 8.0 | 88 | 0.00 |
| 38 | T,M | Carbon tetrachloride | 0.396 | 0.355 | 10.4 | 85 | 0.00 |
| 39 | T,M | tert-Amyl alcohol | 0.000 | 0.001 | 0.0 | 0# | 0.00 |
| 40 | S | 1,2-Dichloroethane-d4 | 0.298 | 0.300 | -0.7 | 96 | 0.00 |
| 41 | T,M | 2,2,4-Trimethylpentane | 0.000 | 0.039 | 0.0 | 0# | 0.02 |
| 42 | T,M | Benzene | 1.535 | 1.370 | 10.7 | 85 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.376 | 0.357 | 5.1 | 89 | 0.00 |
| 44 | T,M | tert-Amyl methyl ether (TAM | 0.640 | 0.523 | 18.3 | 80 | 0.00 |
| 45 | T,M | Trichloroethene | 0.348 | 0.309 | 11.2 | 81 | 0.00 |
| 46 | T,M | Methylcyclohexane | 0.668 | 0.588 | 12.0 | 89 | -0.02 |
| 47 | C,T,M | 1,2-Dichloropropane | 0.382 | 0.348 | 8.9 | 86 | -0.02 |
| 48 | T,M | 1,4-Dioxane | 0.001 | 0.001 | 0.0 | 84 | 0.00 |
| 49 | T,M | Dibromomethane | 0.127 | 0.107 | 15.7 | 81 | -0.02 |
| 50 | T,M | Bromodichloromethane | 0.436 | 0.370 | 15.1 | 85 | -0.02 |
| 51 | T,M | 2-Chloroethyl vinyl ether | 0.052 | 0.037 | 28.8# | 70 | 0.00 |
| 52 | T,M | cis-1,3-Dichloropropene | 0.465 | 0.429 | 7.7 | 85 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.181 | 0.170 | 6.1 | 87 | -0.02 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR072.D  Vial: 14
Acq On : 20 Jun 2024 6:53 pm  Operator: LPriet
Sample : EVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 54 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 99 | 0.00 |
| 55 | S | Toluene-d8 | 1.483 | 1.493 | -0.7 | 91 | 0.00 |
| 56 | C,T,M | Toluene | 1.836 | 1.712 | 6.8 | 86 | -0.02 |
| 57 | T,M | Ethyl methacrylate | 0.286 | 0.245 | 14.3 | 84 | 0.00 |
| 58 | T,M | trans-1,3-Dichloropropene | 0.451 | 0.419 | 7.1 | 84 | 0.00 |
| 59 | T,M | 1,1,2-Trichloroethane | 0.226 | 0.192 | 15.0 | 86 | 0.00 |
| 60 | T,M | Tetrachloroethene | 0.393 | 0.328 | 16.5 | 79 | 0.00 |
| 61 | T,M | 2-Hexanone | 0.147 | 0.144 | 2.0 | 93 | -0.02 |
| 62 | T,M | 1,3-Dichloropropane | 0.439 | 0.392 | 10.7 | 87 | 0.00 |
| 63 | T,M | Dibromochloromethane | 0.290 | 0.250 | 13.8 | 84 | 0.00 |
| 64 | T,M | 1,2-Dibromoethane | 0.205 | 0.179 | 12.7 | 84 | -0.02 |
| 65 | T,M | 1-Chlorohexane | 0.698 | 0.634 | 9.2 | 79 | 0.00 |
| 66 | P,M | Chlorobenzene | 0.952 | 0.902 | 5.3 | 87 | 0.00 |
| 67 | C,T,M | Ethylbenzene | 1.838 | 1.836 | 0.1 | 89 | -0.02 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.346 | 0.318 | 8.1 | 86 | 0.00 |
| 69 | T,M | m-Xylene & p-Xylene | 1.339 | 1.275 | 4.8 | 87 | 0.00 |
| 70 | T,M | o-Xylene | 1.352 | 1.262 | 6.7 | 80 | 0.00 |
| 71 | T,M | Styrene | 0.892 | 0.811 | 9.1 | 77 | -0.02 |
| 72 | T,M | Isopropylbenzene | 1.544 | 1.532 | 0.8 | 88 | -0.02 |
| 73 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 91 | 0.00 |
| 74 | P,T,M | Bromoform | 0.403 | 0.375 | 6.9 | 82 | 0.00 |
| 75 | S | 4-Bromofluorobenzene | 1.595 | 1.489 | 6.6 | 83 | -0.02 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 0.809 | 0.723 | 10.6 | 84 | -0.02 |
| 77 | T,M | trans-1,4-Dichloro-2-butene | 0.348 | 0.331 | 4.9 | 84 | 0.00 |
| 78 | T,M | n-Propylbenzene | 6.615 | 6.534 | 1.2 | 81 | 0.00 |
| 79 | T,M | 1,2,3-Trichloropropane | 0.175 | 0.160 | 8.6 | 80 | 0.00 |
| 80 | T,M | Bromobenzene | 1.141 | 1.057 | 7.4 | 83 | 0.00 |
| 81 | T,M | 1,3,5-Trimethylbenzene | 4.010 | 4.241 | -5.8 | 85 | 0.00 |
| 82 | T,M | 2-Chlorotoluene | 3.889 | 4.480 | -15.2 | 97 | 0.00 |
| 83 | T,M | 4-Chlorotoluene | 3.446 | 3.291 | 4.5 | 80 | -0.02 |
| 84 | T,M | tert-Butylbenzene | 0.965 | 0.912 | 5.5 | 86 | 0.00 |
| 85 | T,M | 1,2,4-Trimethylbenzene | 3.554 | 3.848 | -8.3 | 93 | 0.00 |
| 86 | T,M | sec-Butylbenzene | 5.397 | 5.846 | -8.3 | 91 | 0.00 |
| 87 | T,M | p-Isopropyltoluene | 3.770 | 3.781 | -0.3 | 82 | 0.00 |
| 88 | T,M | 1,3-Dichlorobenzene | 1.985 | 1.961 | 1.2 | 88 | 0.00 |
| 89 | T,M | 1,2,3-Trimethylbenzene | 3.504 | 3.623 | -3.4 | 90 | 0.00 |
| 90 | T,M | 1,4-Dichlorobenzene | 1.844 | 1.720 | 6.7 | 87 | -0.02 |
| 91 | T,M | Benzyl Chloride | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.648 | 3.689 | -1.1 | 84 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 1.631 | 1.476 | 9.5 | 83 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.084 | 0.074 | 11.9 | 84 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 0.730 | 0.664 | 9.0 | 86 | -0.02 |
| 96 | T,M | Hexachlorobutadiene | 0.549 | 0.537 | 2.2 | 83 | 0.00 |
| 97 | T,M | Naphthalene | 0.966 | 0.878 | 9.1 | 86 | -0.02 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 0.535 | 0.485 | 9.3 | 84 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

# ANALYTICAL LOGS

**Note:** For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

**Comments:**

| | |
|---|---|
| **Book #:** | AF3-030 |
| **Instrument No.:** | F3 |
| **Analytical Sequence:** | 24F17 |
| **Method File:** | VOF3F17 |
| **Analytical Batch:** | VOF3F176 |

| SOP # |
|---|
| ☑ EMAX-8260 Rev. No. 10 |
| ☐ EMAX-8260C Rev. No. 1 |
| ☐ EMAX-8260SIM Rev. No. 1 |
| ☐ EMAX-M8260SIM Rev. No. 0 |
| ☐ EMAX-TCPSIM Rev. No. 2 |
| ☐ EMAX-624 Rev. No. 6 |
| ☐ EMAX-624.1 Rev. No. 1 |
| |
| **PURGE AMOUNT** |
| ☐ 5-mL Purge |
| ☐ 10-mL Purge |
| ☑ 25-mL Purge |
| **SAMPLE MATRIX** |
| ☐ Soil (refer to sample weight log) |
| ☐ Water |
| ☐ pH <2. Outliers indicated on analytical sequence. |
| ☐ $Cl_2$ <5ppm. Outliers indicated on analytical sequence. |
| ☑ pH <2 and Cl2 are not applicable. |

| INITIAL CALIBRATION REFERENCE | | | |
|---|---|---|---|
| DATE | 6/17/24 | | |
| ICAL ID | VOF3 F17 | | |
| **STANDARDS** | | | |
| NAME | ID | Amount (µl) | Conc. (mg/L) |
| DCC CS2 GAS | SV1-45-93-02 / -45-05-02 | * | 250 / 250 |
| DCC 4ADD | -43-95-02 | | 250 |
| DCC 8260 | -45-01-03 | | 50 |
| DCC KET | -45-04-03 | | 250 |
| BFB | -45-01-02 | 1 | 50 |
| IS/SURR. IS / SS | -43-95-01 | 1 / * | 250 / 250 |
| ICV/LCS CS2 GAS | -43-55-02 / -43-70-03 | 1 / 1 | 250 / 250 |
| ICV/LCS 3ADD | -43-69-03 | 5 | 50 |
| ICV/LCS 8260 | -43-77-01 | 5 | LAP 6/14/24 250 |
| ICV/LCS 2-BUT KET | -43-48-03 / -43-94-02 | 12.5 / 5 | 500 / 250 |
| Data File Folder | | | |
| | LOT # | Syringe Lot # | |
| pH strip | N/A | MSV-03-04-12-4 | |
| Chlorine strip | ↓ | -04-12-6 | |
| Methanol | | -03-26 | |
| $NaHSO_4$ | | -02-24 | |
| Reagent Water | RW4-23-001 | | |
| Sand | | | |

| ELECTRONIC DATA ARCHIVAL | |
|---|---|
| Location | Date |
| HPCHEM_VOA/TOF3 | |

Analyzed By: LAP
Date: 6/17/24
Disposed By: LAP
Date Disposed: 6/18/24

# Injection Log

Directory: C:\HPCHEM\1\DATA\24F17

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | RFR001.D | 1. | BFBF3F01 | T/CHK | 17 Jun 2024 15:5 |
| 2 | 2 | RFR002.D | 1. | VOF3F171 0.03/0.15 | 0.3ppb 8260/1.5ppb KET-AA/7.5ppb TBA | 17 Jun 2024 16:3 |
| 3 | 3 | RFR003.D | 1. | VOF3F172 0.05/0.25 | 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA | 17 Jun 2024 17:0 |
| 4 | 4 | RFR004.D | 1. | VOF3F173 0.1/0.5 | 1ppb 8260/5ppb KET-AA/25ppb TBA | 17 Jun 2024 17:4 |
| 5 | 5 | RFR005.D | 1. | VOF3F174 0.2/1.0 | 2ppb 8260/10ppb KET-AA/50ppb TBA | 17 Jun 2024 18:1 |
| 6 | 6 | RFR006.D | 1. | VOF3F175 0.5/2.5 | 5ppb 8260/25ppb KET-AA/125ppb TBA | 17 Jun 2024 18:4 |
| 7 | 7 | RFR007.D | 1. | VOF3F176 1.0/5.0 | 10ppb 8260/50ppb KET-AA/250ppb TBA | 17 Jun 2024 19:1 |
| 8 | 8 | RFR008.D | 1. | VOF3F177 2.0/10 | 20ppb 8260/100ppb KET-AA/500ppb TBA | 17 Jun 2024 19:52 |
| 9 | 9 | RFR009.D | 1. | VOF3F178 3.0/15 | 30ppb 8260/150ppb KET-AA/750ppb TBA | 17 Jun 2024 20:25 |
| 10 | 10 | RFR010.D | 1. | VOF3F179 5.0/25 | 50ppb 8260/250ppb KET-AA/1250ppb TBA | 17 Jun 2024 20:58 |
| 11 | 11 | RFR011.D | 1. | VOF3F1710 10/50 | 100ppb 8260/500ppb KET-AA/2500ppb TBA | 17 Jun 2024 21:31 |
| 12 | 12 | RFR012.D | 1. | RINSE | | 17 Jun 2024 22:03 |
| 13 | 13 | RFR013.D | 1. | RINSE | | 17 Jun 2024 22:36 |
| 14 | 14 | RFR014.D | 1. | IVOF3F1701 | 10ppb 8260/50ppb KET-AA/250ppb TBA | 17 Jun 2024 23:09 |
| 15 | 15 | RFR015.D | 1. | RINSE | | 17 Jun 2024 23:42 |
| 16 | 16 | RFR016.D | 1. | LOD1 0.02/0.10 | 0.2ppb 8260/4.0ppb KET-AA/5.0ppb TBA | 18 Jun 2024 00:15 |
| 17 | 17 | RFR017.D | 1. | LOD2 0.03/0.15 | 0.3ppb 8260/5.0ppb KET-AA/7.5ppb TBA | 18 Jun 2024 00:47 |
| 18 | 18 | RFR018.D | 1. | LOD3 | 0.4ppb 8260/4.0ppb KET-AA/10ppb TBA | 18 Jun 2024 01:20 |
| 19 | 19 | RFR019.D | 1. | LOQ | 80ppb 1,4-Dioxane | 18 Jun 2024 01:53 |

# Injection Log

Directory: C:\HPCHEM\1\DATA\24F20

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | RFR059.D | 1. | BFBF3F04 ✓ | T/CHK | 20 Jun 2024 11:14 |
| 2 | 2 | RFR060.D | 1. | CVOF3F1~~4~~7 03 ✓ 2-chlorotoluene %RR | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 11:52 |
| 3 | 3 | RFR061.D | 1. | VOF3F04L | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 12:44 |
| 4 | 4 | RFR062.D | 1. | VOF3F04C ✓ | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 13:17 |
| 5 | 5 | RFR063.D | 1. | RINSE | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 13:50 |
| 6 | 6 | RFR064.D | 1. | VOF3F04B ✓ | 25mL | 20 Jun 2024 14:23 |
| 7 | 7 | RFR065.D | 1. | VOF3F04X ✓ | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 14:56 |
| 8 | 8 | RFR066.D | 1. | RINSE | | 20 Jun 2024 15:29 |
| 9 | 9 | RFR067.D | 1. | 24F036-11 ✓ | 25mL | 20 Jun 2024 16:03 |
| 10 | 10 | RFR068.D | 1. | 24F036-07 ✓ | 25mL | 20 Jun 2024 16:35 |
| 11 | 11 | RFR069.D | 1. | 24F036-10 ✓ | 25mL | 20 Jun 2024 17:08 |
| 12 | 12 | RFR070.D | 1. | 24F036-08 ✓ | 25mL | 20 Jun 2024 17:41 |
| 13 | 13 | RFR071.D | 1. | 24F034-01 ✓ | 25mL | 20 Jun 2024 18:14 |
| 14 | 14 | RFR072.D | 1. | RINSE ✓ | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 18:53 |
| 15 | 15 | RFR073.D | 1. | RINSE | | 20 Jun 2024 19:26 |
| 16 | 16 | RFR074.D | 1. | 24F064-08 No closing RR | 25mL | 20 Jun 2024 19:59 |
| 17 | 17 | RFR075.D | 1. | 24F064-09 | 25mL | 20 Jun 2024 20:32 |
| 18 | 18 | RFR076.D | 1. | 24F064-05 | 25mL | 20 Jun 2024 21:05 |
| 19 | 19 | RFR077.D | 1. | 24F064-07 | 25mL | 20 Jun 2024 21:38 |
| 20 | 20 | RFR078.D | 1. | 24F064-04 | 25mL | 20 Jun 2024 22:11 |
| 21 | 21 | RFR079.D | 1. | 24F064-10 | 25mL | 20 Jun 2024 22:43 |
| 22 | 22 | RFR080.D | 1. | 24F064-06 | 25mL | 20 Jun 2024 23:16 |
| 23 | | RFR081.D | 1. | | | |

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #: AF3-030
Instrument No.: F3
Analytical Sequence: 24F20
Method File: ~~V001E~~ V0F3F17
Analytical Batch: CV0F3F1703

| INITIAL CALIBRATION REFERENCE | | | |
|---|---|---|---|
| DATE | 6/17/24 | | |
| ICAL ID | VOF3 F17 | | |
| **STANDARDS** | | | |
| NAME | ID | Amount (µl) | Conc. (mg/L) |
| DCC CS2 QAS | SV1-43-93-02 | 1 | |
| | -45-05-02 | 1 | |
| DCC 4ADD | -43-95-02 | 1 | |
| DCC 8260 | -45-01-03 | 5 | |
| DCC KET | -45-04-03 | 5 | |
| BFB | -45-01-02 | 1 | |
| IS/SURR. | -43-96-01 | 5 | 50/250 |
| ICV/LCS CS2 QAS | -43-55-02 | 1 | |
| | -43-76-03 | 1 | |
| ICV/LCS 3ADD | -43-69-03 | 5 | |
| ICV/LCS 8260 | -43-77-01 | 5 | |
| ICV/LCS KET | -43-94-02 | 5 | |
| Data File Folder | 24F20 | | |
| | LOT # | Syringe Lot # | |
| pH strip | | MSV-03-04-12-4 | |
| Chlorine strip | | ↓ -6 | |
| Methanol | | | |
| $NaHSO_4$ | | | |
| Reagent Water | RW4-23-001 | | |
| Sand | | | |

| SOP # |
|---|
| ☑ EMAX-8260 Rev. No. 10 |
| ☐ EMAX-8260C Rev. No. 1 |
| ☐ EMAX-8260SIM Rev. No. 1 |
| ☐ EMAX-M8260SIM Rev. No. 0 |
| ☐ EMAX-TCPSIM Rev. No. 2 |
| ☐ EMAX-624 Rev. No. 6 |
| ☐ EMAX-624.1 Rev. No. 1 |
| **PURGE AMOUNT** |
| ☐ 5-mL Purge |
| ☐ 10-mL Purge |
| ☑ 25-mL Purge |
| **SAMPLE MATRIX** |
| ☐ Soil (refer to sample weight log) |
| ☑ Water |
| ☑ pH <2. Outliers indicated on analytical sequence. |
| ☑ $Cl_2$ <5ppm. Outliers indicated on analytical sequence. |
| ☐ pH <2 and Cl2 are not applicable. |

| ELECTRONIC DATA ARCHIVAL | |
|---|---|
| Location | Date |
| HPCHEM_VOA/TOF3 | |

Analyzed By: LAP
Date: 6/20/24
Disposed By: LAP
Date Disposed: 6/21/24

# Injection Log

Directory: C:\HPCHEM\1\DATA\24F20

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | RFR059.D | 1. | BFBF3F04 | T/CHK | 20 Jun 2024 11:14 |
| 2 | 2 | RFR060.D | 1. | CVOF3F1703 | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 11:52 |
| 3 | 3 | RFR061.D | 1. | VOF3F04L | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 12:44 |
| 4 | 4 | RFR062.D | 1. | VOF3F04C | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 13:17 |
| 5 | 5 | RFR063.D | 1. | RINSE | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 13:50 |
| 6 | 6 | RFR064.D | 1. | VOF3F04B | 25mL | 20 Jun 2024 14:23 |
| 7 | 7 | RFR065.D | 1. | VOF3F04X | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 14:56 |
| 8 | 8 | RFR066.D | 1. | RINSE | | 20 Jun 2024 15:29 |
| 9 | 9 | RFR067.D | 1. | 24F036-11 | 25mL | 20 Jun 2024 16:03 |
| 10 | 10 | RFR068.D | 1. | 24F036-07 | 25mL | 20 Jun 2024 16:35 |
| 11 | 11 | RFR069.D | 1. | 24F036-10 | 25mL | 20 Jun 2024 17:08 |
| 12 | 12 | RFR070.D | 1. | 24F036-08 | 25mL | 20 Jun 2024 17:41 |
| 13 | 13 | RFR071.D | 1. | 24F034-01 | 25mL | 20 Jun 2024 18:14 |
| 14 | 14 | RFR072.D | 1. | EVOF3F1703 | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 18:53 |
| 15 | 15 | RFR073.D | 1. | RINSE | | 20 Jun 2024 19:26 |
| 16 | 16 | RFR074.D | 1. | 24F064-08 | 25mL | 20 Jun 2024 19:59 |
| 17 | 17 | RFR075.D | 1. | 24F064-09 | 25mL | 20 Jun 2024 20:32 |
| 18 | 18 | RFR076.D | 1. | 24F064-05 | 25mL | 20 Jun 2024 21:05 |
| 19 | 19 | RFR077.D | 1. | 24F064-07 | 25mL | 20 Jun 2024 21:38 |
| 20 | 20 | RFR078.D | 1. | 24F064-04 | 25mL | 20 Jun 2024 22:11 |
| 21 | 21 | RFR079.D | 1. | 24F064-10 | 25mL | 20 Jun 2024 22:43 |
| 22 | 22 | RFR080.D | 1. | 24F064-06 | 25mL | 20 Jun 2024 23:16 |
| 23 | | RFR081.D | 1. | | | |

# SUMMARY PACKAGE
# VOLATILE ORGANICS
# (SOIL)

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F034

METHOD SW5035A/8260B
VOLATILE ORGANICS BY GC/MS

One(1) soil sample was received on 06/07/24 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5035A/8260B and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There were two(2) CCVs (Data File IDs: RFP096 and RFP102) associated with this SDG. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VS02F05B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. VS02F05L/VS02F05C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met. The internal standard 1,2-Dichlorobenzene-d4 was outside of QC Limit, and all associated target analytes were not found in 24F034-02.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F034
Instrument ID : 02

SOIL

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| LCS1S | VS02F05L | 1 | NA | 06/10/2411:21 | 06/10/2411:21 | RFP097 | RAP137 | VS02F05 | Lab Control Sample (LCS) |
| LCD1S | VS02F05C | 1 | NA | 06/10/2411:45 | 06/10/2411:45 | RFP098 | RAP137 | VS02F05 | LCS Duplicate |
| MBLK1S | VS02F05B | 1 | NA | 06/10/2412:34 | 06/10/2412:34 | RFP100 | RAP137 | VS02F05 | Method Blank |
| IDW-SOIL_JUN24 | 24F034-02 | 1 | 10.5 | 06/10/2412:58 | 06/10/2412:58 | RFP101 | RAP137 | VS02F05 | Field Sample |

FN - Filename
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/06/24 11:20 |
| Project | : TITAN 1-A | Date Received: | 06/07/24 |
| Batch No. | : 24F034 | Date Extracted: | 06/10/24 12:58 |
| Sample ID | : IDW-SOIL_JUN24 | Date Analyzed: | 06/10/24 12:58 |
| Lab Samp ID: | 24F034-02 | Dilution Factor: | 1 |
| Lab File ID: | RFP101 | Matrix: | SOIL |
| Ext Btch ID: | VS02F05 | % Moisture: | 10.5 |
| Calib. Ref.: | RAP137 | Instrument ID: | 02 |

| PARAMETER(S) | RESULTS (ug/kg) | LOQ (ug/kg) | DL (ug/kg) | LOD (ug/kg) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 3.0 | 0.30 | 0.59 |
| 1,2-Dichloroethane | ND | 3.0 | 0.30 | 0.59 |
| 1,4-Dichlorobenzene | ND | 3.0 | 0.30 | 0.59 |
| 2-Butanone | ND | 12 | 3.0 | 5.9 |
| Benzene | ND | 3.0 | 0.30 | 0.59 |
| Carbon Tetrachloride | ND | 3.0 | 0.30 | 0.59 |
| Chlorobenzene | ND | 3.0 | 0.30 | 0.59 |
| Chloroform | ND | 3.0 | 0.30 | 0.59 |
| Tetrachloroethene | ND | 3.0 | 0.30 | 0.59 |
| Trichloroethene | ND | 3.0 | 0.30 | 0.59 |
| Vinyl Chloride | ND | 3.0 | 0.59 | 1.2 |
| Hexachlorobutadiene | ND | 3.0 | 0.59 | 1.2 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 29.2 | 29.7 | 99 | 71-136 |
| 4-Bromofluorobenzene | 35.4 | 29.7 | 119 | 79-119 |
| Toluene-d8 | 32.0 | 29.7 | 108 | 85-116 |
| Dibromofluoromethane | 27.0 | 29.7 | 91 | 78-119 |

Notes:
Sample Amount : 9.417g Final Volume : 5ml
Prepared by : IRagas Analyzed by : IRagas
Detection limits are reported relative to sample result significant figures.

# QC SUMMARIES

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/10/24 12:34 |
| Project | : TITAN 1-A | Date Received: | 06/10/24 |
| Batch No. | : 24F034 | Date Extracted: | 06/10/24 12:34 |
| Sample ID | : MBLK1S | Date Analyzed: | 06/10/24 12:34 |
| Lab Samp ID: | VS02F05B | Dilution Factor: | 1 |
| Lab File ID: | RFP100 | Matrix: | SOIL |
| Ext Btch ID: | VS02F05 | % Moisture: | NA |
| Calib. Ref.: | RAP137 | Instrument ID: | 02 |

| PARAMETER(S) | RESULTS (ug/kg) | LOQ (ug/kg) | DL (ug/kg) | LOD (ug/kg) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 5.0 | 0.50 | 1.0 |
| 1,2-Dichloroethane | ND | 5.0 | 0.50 | 1.0 |
| 1,4-Dichlorobenzene | ND | 5.0 | 0.50 | 1.0 |
| 2-Butanone | ND | 20 | 5.0 | 10 |
| Benzene | ND | 5.0 | 0.50 | 1.0 |
| Carbon Tetrachloride | ND | 5.0 | 0.50 | 1.0 |
| Chlorobenzene | ND | 5.0 | 0.50 | 1.0 |
| Chloroform | ND | 5.0 | 0.50 | 1.0 |
| Tetrachloroethene | ND | 5.0 | 0.50 | 1.0 |
| Trichloroethene | ND | 5.0 | 0.50 | 1.0 |
| Vinyl Chloride | ND | 5.0 | 1.0 | 2.0 |
| Hexachlorobutadiene | ND | 5.0 | 1.0 | 2.0 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 49.6 | 50.0 | 99 | 71-136 |
| 4-Bromofluorobenzene | 42.6 | 50.0 | 85 | 79-119 |
| Toluene-d8 | 47.2 | 50.0 | 94 | 85-116 |
| Dibromofluoromethane | 45.6 | 50.0 | 91 | 78-119 |

Notes:
Sample Amount : 5g Final Volume : 5ml
Prepared by : IRagas Analyzed by : IRagas
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : SW5035A/8260C

| | | | |
|---|---|---|---|
| MATRIX | : SOIL | | % MOISTURE:NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : MBLK1S | LCS1S | LCD1S |
| LAB SAMPLE ID | : VS02F05B | VS02F05L | VS02F05C |
| LAB FILE ID | : RFP100 | RFP097 | RFP098 |
| DATE PREPARED | : 06/10/24 12:34 | 06/10/24 11:21 | 06/10/24 11:45 |
| DATE ANALYZED | : 06/10/24 12:34 | 06/10/24 11:21 | 06/10/24 11:45 |
| PREP BATCH | : VS02F05 | VS02F05 | VS02F05 |
| CALIBRATION REF | : RAP137 | RAP137 | RAP137 |

ACCESSION:

| PARAMETERS | MBResult (ug/kg) | SpikeAmt (ug/kg) | LCSResult (ug/kg) | LCSRec (%) | SpikeAmt (ug/kg) | LCDResult (ug/kg) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 50.0 | 44.9 | 90 | 50.0 | 44.6 | 89 | 1 | 70-131 | 20 |
| 1,2-Dichloroethane | ND | 50.0 | 50.3 | 101 | 50.0 | 50.3 | 101 | 0 | 73-128 | 20 |
| 1,4-Dichlorobenzene | ND | 50.0 | 48.6 | 97 | 50.0 | 48.2 | 96 | 1 | 75-120 | 20 |
| 2-Butanone | ND | 250 | 244 | 98 | 250 | 229 | 92 | 6 | 51-148 | 20 |
| Benzene | ND | 50.0 | 48.3 | 97 | 50.0 | 48.3 | 97 | 0 | 77-121 | 20 |
| Carbon Tetrachloride | ND | 50.0 | 45.0 | 90 | 50.0 | 44.0 | 88 | 2 | 70-135 | 20 |
| Chlorobenzene | ND | 50.0 | 48.9 | 98 | 50.0 | 49.0 | 98 | 0 | 79-120 | 20 |
| Chloroform | ND | 50.0 | 49.2 | 98 | 50.0 | 48.8 | 98 | 1 | 78-123 | 20 |
| Tetrachloroethene | ND | 50.0 | 41.6 | 83 | 50.0 | 41.5 | 83 | 0 | 73-128 | 20 |
| Trichloroethene | ND | 50.0 | 44.1 | 88 | 50.0 | 44.4 | 89 | 1 | 77-123 | 20 |
| Vinyl Chloride | ND | 50.0 | 52.3 | 105 | 50.0 | 53.8 | 108 | 3 | 56-135 | 20 |
| Hexachlorobutadiene | ND | 50.0 | 49.4 | 99 | 50.0 | 47.0 | 94 | 5 | 61-135 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/kg) | LCSResult (ug/kg) | LCSRec (%) | SpikeAmt (ug/kg) | LCDResult (ug/kg) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 50.0 | 48.8 | 98 | 50.0 | 48.7 | 97 | 71-136 |
| 4-Bromofluorobenzene | 50.0 | 43.9 | 88 | 50.0 | 43.2 | 86 | 79-119 |
| Toluene-d8 | 50.0 | 47.2 | 94 | 50.0 | 47.6 | 95 | 85-116 |
| Dibromofluoromethane | 50.0 | 45.9 | 92 | 50.0 | 45.6 | 91 | 78-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

# INITIAL CALIBRATION(S)

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL
Lab Code : EMAX SDG No : ICAL
Lab File ID: RAP131 BFB Injection Date: 01/31/24
Instrument ID: 02 BFB Injection Time: 13:23

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 16.147 |
| 75 | 30 - 60% of mass 95 | 42.283 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 5.704 |
| 173 | Less than 2% of mass 174 | 0.000(0)1 |
| 174 | Greater than 50% of mass 95 | 80.139 |
| 175 | 5 - 9% of mass 174 | 5.417(6.76)1 |
| 176 | 95 - 101% % of mass 174 | 78.659(98.15)1 |
| 177 | 5 - 9% % of mass 176 | 4.668(5.93)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD001 | V002A311 | RAP132 | 01/31/24 | 13:50 |
| 2 | VSTD002 | V002A312 | RAP133 | 01/31/24 | 14:28 |
| 3 | VSTD005 | V002A313 | RAP134 | 01/31/24 | 14:53 |
| 4 | VSTD010 | V002A314 | RAP135 | 01/31/24 | 15:17 |
| 5 | VSTD020 | V002A315 | RAP136 | 01/31/24 | 15:42 |
| 6 | VSTD050 | V002A316 | RAP137 | 01/31/24 | 16:06 |
| 7 | VSTD100 | V002A317 | RAP138 | 01/31/24 | 16:31 |
| 8 | VSTD200 | V002A318 | RAP139 | 01/31/24 | 16:55 |
| 9 | VSTD300 | V002A319 | RAP140 | 01/31/24 | 17:20 |
| 10 | VSTD500 | V002A3110 | RAP141 | 01/31/24 | 17:44 |
| 11 | VSTD050 | IV002A311 | RAP144 | 01/31/24 | 18:58 |

3/20/24

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :02
Beginning DateTime :01/31/24 13:50
Spike Units :PPB
IC File :RAP137

Column Spec :RTX502,2 ID :0.25MM
Ending DateTime :01/31/24 17:44
HPChem Method :VO02A31

| M | IDX | Parameters | 1<br>13:50<br>RAP132 | 2<br>14:28<br>RAP133 | 5<br>14:53<br>RAP134 | 10<br>15:17<br>RAP135 | 20<br>15:42<br>RAP136 | 50<br>16:06<br>RAP137 | 100<br>16:31<br>RAP138 | 200<br>16:55<br>RAP139 | 300<br>17:20<br>RAP140 | 500<br>17:44<br>RAP141 | Av_RRF | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 7.6504 |
| | 2 | Dichlorodifluoromethane | 0.213 | 0.224 | 0.233 | 0.266 | 0.279 | 0.281 | 0.276 | 0.273 | 0.268 | 0.265 | 0.258 | 9.62 | 1.7457 |
| | 3 | Chloromethane | 0.327 | 0.344 | 0.323 | 0.377 | 0.388 | 0.389 | 0.372 | 0.364 | 0.363 | 0.349 | 0.360 | 6.51 | 2.0005 |
| | 4 | Vinyl chloride | ------ | 0.273 | 0.293 | 0.335 | 0.339 | 0.329 | 0.303 | 0.266 | ------ | ------ | 0.305 | 9.79 | 2.1123 |
| | 5 | Bromomethane | 0.245 | 0.211 | 0.210 | 0.222 | 0.229 | 0.234 | 0.229 | 0.226 | 0.227 | 0.225 | 0.226 | 4.52 | 2.6051 |
| | 6 | Chloroethane | ------ | 0.165 | 0.168 | 0.202 | 0.211 | 0.216 | 0.213 | 0.207 | 0.213 | 0.205 | 0.200 | 9.82 | 2.6924 |
| | 7 | Dichlorofluoromethane | 0.398 | 0.405 | 0.416 | 0.449 | 0.468 | 0.474 | 0.462 | 0.446 | 0.452 | 0.430 | 0.440 | 6.01 | 2.7333 |
| | 8 | Trichlorofluoromethane | 0.206 | 0.227 | 0.236 | 0.284 | 0.292 | 0.299 | 0.289 | 0.281 | 0.281 | 0.272 | 0.267 | 11.95 | 2.9761 |
| 10 | 9 | sec-Propyl Alcohol | ------ | ------ | 0.021 | 0.019 | 0.019 | 0.020 | 0.018 | 0.019 | 0.018 | 0.017 | 0.019 | 5.59 | 3.2857 |
| 5 | 10 | Acrolein | 0.027 | 0.023 | 0.023 | 0.025 | 0.027 | 0.030 | 0.026 | 0.029 | 0.026 | 0.026 | 0.026 | 8.53 | 3.4405 |
| | 11 | 1,1,2-Trichloro-1,2,2-trifluoroethane | ------ | 0.153 | 0.143 | 0.171 | 0.178 | 0.185 | 0.185 | 0.173 | 0.183 | 0.166 | 0.171 | 8.55 | 3.4848 |
| 5 | 12 | Acetone | ------ | 0.070 | 0.059 | 0.060 | 0.058 | 0.062 | 0.053 | 0.054 | 0.052 | 0.050 | 0.058 | 10.36 | 3.5150 |
| | 13 | 1,1-Dichloroethene | 0.382 | 0.391 | 0.442 | 0.472 | 0.507 | 0.512 | 0.498 | 0.482 | 0.493 | 0.464 | 0.464 | 9.93 | 3.6798 |
| 10 | 14 | tert-Butyl alcohol | ------ | 0.016 | 0.017 | 0.020 | 0.022 | 0.024 | 0.023 | 0.024 | 0.023 | 0.023 | 0.021 | 14.57 | 3.7638 |
| 10 | 15 | Acetonitrile | ------ | 0.021 | 0.021 | 0.024 | 0.028 | 0.029 | 0.026 | 0.026 | 0.027 | 0.025 | 0.025 | 10.50 | 3.8354 |
| | 16 | Iodomethane | ------ | 0.302 | 0.339 | 0.379 | 0.405 | 0.416 | 0.414 | 0.399 | 0.413 | 0.388 | 0.384 | 10.16 | 4.0516 |
| | 17 | Methyl Acetate | 0.218 | 0.198 | 0.182 | 0.184 | 0.191 | 0.209 | 0.194 | 0.200 | 0.194 | 0.189 | 0.196 | 5.56 | 4.0676 |
| | 18 | Allyl Chloride | ------ | 0.144 | 0.163 | 0.176 | 0.187 | 0.197 | 0.195 | 0.192 | 0.199 | 0.190 | 0.183 | 10.07 | 4.1069 |
| | 19 | Methylene chloride | 0.380 | 0.361 | 0.359 | 0.392 | 0.402 | 0.411 | 0.397 | 0.388 | 0.394 | ------ | 0.387 | 4.55 | 4.2581 |
| | 20 | Carbon disulfide | 0.798 | 0.835 | 0.952 | 1.075 | 1.064 | 1.117 | 1.113 | 1.074 | 1.049 | ------ | 1.009 | 11.83 | 4.2663 |
| 5 | 21 | Acrylonitrile | ------ | 0.066 | 0.071 | 0.081 | 0.084 | 0.092 | 0.085 | 0.088 | 0.084 | 0.080 | 0.081 | 10.07 | 4.4045 |
| | 22 | tert-Butyl methyl ether (MTBE) | ------ | 0.605 | 0.664 | 0.737 | 0.760 | 0.803 | 0.767 | 0.792 | 0.769 | 0.720 | 0.735 | 8.72 | 4.4338 |
| | 23 | trans-1,2-Dichloroethene | 0.267 | 0.295 | 0.312 | 0.333 | 0.346 | 0.356 | 0.347 | 0.347 | 0.349 | 0.334 | 0.329 | 8.71 | 4.6062 |
| | 24 | Isopropyl ether (DIPE) | 0.956 | 1.051 | 1.122 | 1.240 | 1.276 | 1.315 | 1.262 | 1.229 | 1.178 | ------ | 1.181 | 9.95 | 5.0110 |
| | 25 | 1,1-Dichloroethane | 0.462 | 0.503 | 0.544 | 0.587 | 0.598 | 0.609 | 0.589 | 0.585 | 0.581 | 0.541 | 0.560 | 8.39 | 5.1477 |
| | 26 | Vinyl acetate | ------ | 0.395 | 0.422 | 0.503 | 0.534 | 0.575 | 0.549 | 0.558 | 0.544 | 0.509 | 0.510 | 12.16 | 5.1542 |
| 10 | 27 | 2-Butanol | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 28 | tert-Butyl ethyl ether (ETBE) | ------ | 0.827 | 0.916 | 1.007 | 1.046 | 1.102 | 1.057 | 1.067 | 1.032 | 0.929 | 0.998 | 8.91 | 5.5315 |
| 5 | 29 | 2-Butanone | ------ | 0.016 | 0.017 | 0.021 | 0.023 | 0.025 | 0.024 | 0.025 | 0.024 | 0.024 | 0.022 | 14.91 | 5.6941 |
| 10 | 30 | Propionitrile | ------ | 0.021 | 0.023 | 0.026 | 0.028 | 0.030 | 0.028 | 0.030 | 0.028 | 0.028 | 0.027 | 11.20 | 5.7965 |
| | 31 | 2,2-Dichloropropane | 0.199 | 0.211 | 0.229 | 0.235 | 0.240 | 0.241 | 0.229 | 0.210 | 0.203 | 0.180 | 0.218 | 9.26 | 5.8649 |
| | 32 | cis-1,2-Dichloroethene | 0.298 | 0.308 | 0.327 | 0.357 | 0.366 | 0.373 | 0.363 | 0.367 | 0.365 | 0.353 | 0.348 | 7.71 | 5.9322 |
| 10 | 33 | Methylacrylonitrile | ------ | 0.027 | 0.029 | 0.035 | 0.035 | 0.037 | 0.034 | 0.036 | 0.034 | ------ | 0.033 | 10.30 | 6.0550 |
| 20 | 34 | Isobutyl Alcohol | ------ | 0.006 | 0.007 | 0.008 | 0.009 | 0.011 | 0.011 | 0.011 | 0.010 | 0.010 | 0.009 | 20.66 | 6.0892 |
| | 35 | Chloroform | 0.438 | 0.454 | 0.481 | 0.513 | 0.518 | 0.537 | 0.516 | 0.522 | 0.513 | 0.482 | 0.497 | 6.48 | 6.1430 |
| | 36 | Bromochloromethane | ------ | 0.142 | 0.159 | 0.176 | 0.185 | 0.195 | 0.186 | 0.193 | 0.191 | 0.187 | 0.179 | 9.87 | 6.3624 |
| | 37 | Tetrahydrofuran | ------ | 0.059 | 0.054 | 0.056 | 0.060 | 0.067 | 0.062 | 0.068 | 0.065 | 0.065 | 0.062 | 8.10 | 6.4014 |
| | 38 | Dibromofluoromethane | ------ | 0.203 | 0.233 | 0.263 | 0.264 | 0.276 | 0.273 | 0.269 | 0.269 | 0.261 | 0.257 | 9.28 | 6.4275 |
| | 39 | 1,1,1-Trichloroethane | 0.261 | 0.271 | 0.299 | 0.326 | 0.334 | 0.348 | 0.340 | 0.329 | 0.333 | 0.314 | 0.315 | 9.34 | 6.6713 |
| | 40 | Cyclohexane | ------ | 0.375 | 0.390 | 0.447 | 0.453 | 0.484 | 0.478 | 0.469 | 0.481 | 0.462 | 0.449 | 8.87 | 6.6860 |
| | 41 | 1,1-Dichloropropene | ------ | 0.118 | 0.126 | 0.137 | 0.142 | 0.153 | 0.150 | 0.156 | 0.155 | 0.153 | 0.143 | 9.68 | 6.8860 |
| | 42 | Carbon tetrachloride | ------ | 0.223 | 0.240 | 0.264 | 0.275 | 0.290 | 0.285 | 0.285 | 0.287 | 0.273 | 0.269 | 8.62 | 7.0178 |
| | 43 | tert-Amyl methyl ether (TAME) | ------ | ------ | 0.131 | 0.154 | 0.165 | 0.179 | 0.175 | 0.183 | 0.183 | 0.182 | 0.169 | 10.95 | 7.0502 |
| | 44 | 1,2-Dichloroethane-d4 | ------ | 0.187 | 0.202 | 0.230 | 0.235 | 0.245 | 0.240 | 0.237 | 0.235 | 0.228 | 0.227 | 8.52 | 7.1088 |
| | 45 | 1,2-Dichloroethane | 0.229 | 0.251 | 0.269 | 0.294 | 0.304 | 0.316 | 0.302 | 0.306 | 0.299 | 0.286 | 0.286 | 9.66 | 7.2377 |
| | 46 | Benzene | 1.079 | 1.165 | 1.225 | 1.335 | 1.362 | 1.414 | 1.365 | 1.306 | 1.187 | ------ | 1.271 | 8.81 | 7.2535 |
| | 47 | Trichloroethene | 0.241 | 0.272 | 0.280 | 0.303 | 0.319 | 0.333 | 0.324 | 0.326 | 0.324 | 0.312 | 0.303 | 9.84 | 8.1172 |
| | 48 | Methylcyclohexane | 0.422 | 0.488 | 0.500 | 0.553 | 0.562 | 0.605 | 0.581 | 0.570 | 0.567 | 0.533 | 0.538 | 10.06 | 8.1919 |
| | 49 | 1,2-Dichloropropane | 0.240 | 0.262 | 0.279 | 0.308 | 0.325 | 0.340 | 0.332 | 0.333 | 0.332 | 0.320 | 0.307 | 11.29 | 8.3705 |
| | 50 | Methyl Methacrylate | ------ | ------ | 0.130 | 0.152 | 0.168 | 0.188 | 0.179 | 0.192 | 0.186 | 0.185 | 0.173 | 12.40 | 8.4717 |
| | 51 | Bromodichloromethane | 0.298 | 0.302 | 0.309 | 0.354 | 0.359 | 0.383 | 0.371 | 0.375 | 0.370 | 0.354 | 0.347 | 9.23 | 8.7115 |
| 20 | 52 | 1,4-Dioxane | ------ | ------ | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 14.14 | 8.7516 |
| | 53 | Dibromomethane | ------ | 0.121 | 0.131 | 0.144 | 0.151 | 0.163 | 0.157 | 0.163 | 0.162 | 0.158 | 0.150 | 10.15 | 8.7919 |
| | 54 | 2-Chloroethyl vinyl ether | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| 5 | 55 | 4-Methyl-2-pentanone | 0.207 | 0.195 | 0.204 | 0.243 | 0.254 | 0.283 | 0.260 | 0.255 | 0.223 | ------ | 0.236 | 12.81 | 9.2326 |
| | 56 | cis-1,3-Dichloropropene | ------ | 0.401 | 0.426 | 0.485 | 0.507 | 0.537 | 0.525 | 0.532 | 0.513 | 0.476 | 0.489 | 9.73 | 9.5383 |
| | 57 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 12.3323 |
| | 58 | Toluene-d8 | 0.971 | 1.239 | 1.210 | 1.341 | 1.322 | 1.351 | 1.297 | 1.275 | 1.207 | ------ | 1.246 | 9.31 | 9.9025 |
| | 59 | Toluene | 1.302 | 1.475 | 1.571 | 1.689 | 1.658 | 1.737 | 1.647 | 1.612 | 1.468 | ------ | 1.573 | 8.67 | 10.0213 |
| | 60 | Ethyl methacrylate | ------ | ------ | 0.303 | 0.381 | 0.407 | 0.455 | 0.436 | 0.476 | 0.463 | 0.455 | 0.422 | 13.62 | 10.3267 |
| | 61 | trans-1,3-Dichloropropene | ------ | 0.372 | 0.423 | 0.478 | 0.495 | 0.542 | 0.518 | 0.554 | 0.540 | 0.524 | 0.494 | 12.32 | 10.3189 |
| | 62 | 1,1,2-Trichloroethane | 0.210 | 0.233 | 0.236 | 0.275 | 0.283 | 0.299 | 0.280 | 0.298 | 0.294 | 0.295 | 0.270 | 11.88 | 10.5628 |
| 5 | 63 | 2-Hexanone | ------ | 0.149 | 0.161 | 0.191 | 0.202 | 0.232 | 0.215 | 0.226 | 0.207 | 0.182 | 0.196 | 14.47 | 10.5937 |
| | 64 | 1,3-Dichloropropane | ------ | 0.420 | 0.445 | 0.502 | 0.520 | 0.542 | 0.509 | 0.538 | 0.527 | 0.514 | 0.502 | 8.33 | 10.9710 |
| | 65 | Tetrachloroethene | 0.248 | 0.292 | 0.277 | 0.310 | 0.303 | 0.327 | 0.312 | 0.328 | 0.327 | 0.329 | 0.305 | 8.75 | 11.0473 |
| | 66 | Dibromochloromethane | 0.224 | 0.226 | 0.248 | 0.286 | 0.296 | 0.320 | 0.310 | 0.330 | 0.324 | 0.324 | 0.289 | 14.40 | 11.3707 |
| | 67 | 1,2-Dibromoethane | ------ | ------ | 0.219 | 0.247 | 0.256 | 0.275 | 0.262 | 0.279 | 0.271 | 0.272 | 0.260 | 7.54 | 11.6970 |
| | 68 | 1-Chlorohexane | 0.449 | 0.514 | 0.503 | 0.586 | 0.573 | 0.627 | 0.609 | 0.632 | 0.612 | 0.590 | 0.570 | 10.70 | 11.9971 |
| | 69 | Chlorobenzene | 0.731 | 0.829 | 0.875 | 0.947 | 0.962 | 0.996 | 0.962 | 0.969 | 0.924 | 0.838 | 0.903 | 9.21 | 12.3923 |
| | 70 | 1,1,1,2-Tetrachloroethane | ------ | 0.245 | 0.269 | 0.302 | 0.311 | 0.335 | 0.326 | 0.339 | 0.331 | 0.329 | 0.310 | 10.50 | 12.4719 |
| | 71 | Ethylbenzene | 1.465 | 1.582 | 1.568 | 1.746 | 1.760 | 1.867 | 1.784 | 1.707 | 1.497 | ------ | 1.664 | 8.41 | 12.4947 |
| 2 | 72 | m-Xylene & p-Xylene | 1.113 | 1.213 | 1.207 | 1.312 | 1.303 | 1.395 | 1.299 | 1.131 | ------ | ------ | 1.247 | 7.81 | 12.6264 |
| | 73 | o-Xylene | 1.038 | 1.105 | 1.126 | 1.268 | 1.264 | 1.338 | 1.289 | 1.236 | 1.167 | 1.001 | 1.183 | 9.58 | 13.3582 |
| | 74 | Styrene | 0.736 | 0.765 | 0.838 | 0.963 | 0.999 | 1.073 | 1.047 | 1.049 | 0.993 | 0.886 | 0.935 | 13.00 | 13.4241 |
| | 75 | Isopropylbenzene | 1.249 | 1.318 | 1.351 | 1.520 | 1.498 | 1.624 | 1.553 | 1.497 | 1.353 | ------ | 1.440 | 8.73 | 13.9875 |
| | 76 | Cis-1,4-Dichloro-2-Butene | ------ | 0.050 | 0.058 | 0.069 | 0.081 | 0.092 | 0.088 | 0.095 | 0.091 | 0.091 | 0.080 | 20.77 | 14.0916 |
| | 77 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 17.1635 |
| | 78 | Bromoform | ------ | ------ | 0.371 | 0.413 | 0.439 | 0.491 | 0.491 | 0.531 | 0.518 | 0.548 | 0.475 | 13.01 | 13.9746 |
| | 79 | 1,1,2,2-Tetrachloroethane | 0.707 | 0.791 | 0.844 | 0.924 | 0.950 | 1.006 | 0.958 | 1.025 | 0.977 | 1.006 | 0.919 | 11.45 | 14.2949 |
| | 80 | 4-Bromofluorobenzene | 0.972 | 1.265 | 1.142 | 1.242 | 1.260 | 1.303 | 1.303 | 1.312 | 1.295 | 1.310 | 1.240 | 8.65 | 14.4134 |
| | 81 | 1,2,3-Trichloropropane | 0.178 | 0.187 | 0.195 | 0.212 | 0.220 | 0.233 | 0.229 | 0.245 | 0.234 | 0.242 | 0.218 | 10.90 | 14.5481 |
| | 82 | trans-1,4-Dichloro-2-butene | ------ | ------ | 0.151 | 0.187 | 0.201 | 0.231 | 0.227 | 0.255 | 0.238 | 0.243 | 0.217 | 15.94 | 14.6899 |
| | 83 | n-Propylbenzene | 4.580 | 5.425 | 5.197 | 5.805 | 5.554 | 6.017 | 5.815 | 5.401 | 4.754 | ------ | 5.394 | 8.97 | 14.6900 |
| | 84 | Bromobenzene | ------ | 0.903 | 0.932 | 1.036 | 1.044 | 1.102 | 1.089 | 1.144 | 1.122 | 1.150 | 1.058 | 8.42 | 14.7323 |
| | 85 | 1,3,5-Trimethylbenzene | 2.812 | 3.301 | 3.185 | 3.584 | 3.468 | 3.766 | 3.657 | 3.566 | 3.287 | 3.016 | 3.364 | 8.95 | 14.9711 |
| | 86 | 2-Chlorotoluene | 2.933 | 3.353 | 3.404 | 3.661 | 3.433 | 3.694 | 3.588 | 3.704 | 3.414 | 3.129 | 3.431 | 7.32 | 14.9740 |
| | 87 | 4-Chlorotoluene | 2.415 | 2.853 | 2.772 | 3.066 | 3.128 | 3.364 | 3.299 | 3.198 | 3.024 | 2.812 | 2.993 | 9.54 | 15.0633 |
| | 88 | tert-Butylbenzene | ------ | 0.601 | 0.583 | 0.691 | 0.689 | 0.747 | 0.731 | 0.732 | 0.711 | 0.732 | 0.691 | 8.62 | 15.5974 |
| | 89 | 1,2,4-Trimethylbenzene | 2.669 | 3.025 | 3.043 | 3.339 | 3.313 | 3.583 | 3.505 | 3.411 | 3.191 | 2.950 | 3.203 | 8.81 | 15.6589 |
| | 90 | sec-Butylbenzene | 3.519 | 4.122 | 4.086 | 4.536 | 4.413 | 4.785 | 4.625 | 4.416 | 4.013 | ------ | 4.279 | 9.01 | 15.9779 |
| | 91 | p-Isopropyltoluene | 2.683 | 3.116 | 2.949 | 3.388 | 3.398 | 3.731 | 3.561 | 3.451 | 3.211 | 2.990 | 3.248 | 9.79 | 16.2341 |
| | 92 | 1,3-Dichlorobenzene | 1.454 | 1.656 | 1.638 | 1.834 | 1.831 | 1.949 | 1.895 | 1.901 | 1.850 | 1.834 | 1.784 | 8.59 | 16.3585 |
| | 93 | 1,2,3-Trimethylbenzene | 2.559 | 2.787 | 2.887 | 3.195 | 3.186 | 3.421 | 3.272 | 3.190 | 3.041 | 2.844 | 3.038 | 8.67 | 16.5049 |
| | 94 | 1,4-Dichlorobenzene | 1.433 | 1.643 | 1.631 | 1.813 | 1.778 | 1.941 | 1.886 | 1.874 | 1.843 | 1.822 | 1.766 | 8.70 | 16.5590 |
| | 95 | n-Butylbenzene | 2.414 | 2.807 | 2.655 | 3.091 | 3.095 | 3.494 | 3.381 | 3.291 | 3.107 | 2.863 | 3.020 | 11.13 | 16.9732 |
| | 96 | 1,2-Dichlorobenzene | 1.270 | 1.474 | 1.471 | 1.610 | 1.583 | 1.679 | 1.618 | 1.606 | 1.589 | 1.583 | 1.548 | 7.52 | 17.2074 |
| | 97 | 1,2-Dibromo-3-chloropropane | ------ | ------ | 0.081 | 0.089 | 0.104 | 0.113 | 0.113 | ------ | ------ | ------ | 0.100 | 14.39 | 18.5096 |
| | 98 | 1,2,4-Trichlorobenzene | 0.630 | 0.743 | 0.668 | 0.789 | 0.794 | 0.885 | 0.854 | 0.856 | 0.877 | 0.898 | 0.799 | 11.68 | 19.5534 |
| | 99 | Hexachlorobutadiene | ------ | 0.379 | 0.343 | 0.382 | 0.383 | 0.418 | 0.412 | 0.419 | 0.382 | 0.438 | 0.395 | 7.32 | 19.7100 |
| | 100 | Naphthalene | 1.218 | 1.274 | 1.289 | 1.498 | 1.543 | 1.753 | 1.668 | 1.753 | 1.735 | 1.670 | 1.540 | 13.71 | 19.8125 |
| | 101 | 1,2,3-Trichlorobenzene | 0.543 | 0.618 | 0.608 | 0.682 | 0.692 | 0.755 | 0.716 | 0.749 | 0.741 | 0.777 | 0.688 | 11.05 | 20.0598 |

Spike Amount = Nominal Amount * M
Ave_%RSD : 10.1 Max_%RSD : 20.8

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = x0 + x1 * Amt_Ratio

| IDX | Parameter | x0 | x1 | CCF |
|---|---|---|---|---|
| 34 | Isobutyl Alcohol | -0.00475 | 0.01040 | 0.9984 |
| 76 | Cis-1,4-Dichloro-2-Butene | -0.00250 | 0.09187 | 0.9996 |
| 82 | trans-1,4-Dichloro-2-butene | -0.01123 | 0.24395 | 0.9995 |

Sm
2/7/24

# Compound List Report 02

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
Total Cpnds : 101

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 114 | 7.65 | 1.000 | A | 1 | A | B |
| 2 | T | Dichlorodifluoromethane | 85 | 1.75 | 0.229 | A | 1 | A | B |
| 3 | T | Chloromethane | 50 | 2.01 | 0.262 | A | 1 | A | B |
| 4 | T | Vinyl chloride | 62 | 2.11 | 0.276 | A | 1 | A | B |
| 5 | T | Bromomethane | 94 | 2.61 | 0.341 | A | 1 | A | B |
| 6 | T | Chloroethane | 64 | 2.70 | 0.353 | A | 1 | A | B |
| 7 | T | Dichlorofluoromethane | 67 | 2.73 | 0.357 | A | 1 | A | B |
| 8 | T | Trichlorofluoromethane | 101 | 2.97 | 0.388 | A | 1 | A | B |
| 9 | T | sec-Propyl Alcohol | 45 | 3.29 | 0.430 | A | 1 | A | B |
| 10 | T | Acrolein | 56 | 3.44 | 0.449 | A | 1 | A | B |
| 11 | T | 1,1,2-Trichloro-1,2,2-trifluor | 151 | 3.48 | 0.455 | A | 1 | A | B |
| 12 | T | Acetone | 43 | 3.51 | 0.459 | A | 1 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 3.68 | 0.481 | A | 2 | A | B |
| 14 | T | tert-Butyl alcohol | 59 | 3.76 | 0.491 | A | 1 | A | B |
| 15 | T | Acetonitrile | 41 | 3.83 | 0.501 | A | 1 | A | B |
| 16 | T | Iodomethane | 142 | 4.05 | 0.529 | A | 1 | A | B |
| 17 | T | Methyl Acetate | 43 | 4.06 | 0.531 | A | 1 | A | B |
| 18 | T | Allyl Chloride | 76 | 4.11 | 0.537 | A | 1 | A | B |
| 19 | T | Methylene chloride | 49 | 4.25 | 0.556 | A | 2 | A | B |
| 20 | T | Carbon disulfide | 76 | 4.27 | 0.558 | A | 1 | A | B |
| 21 | T | Acrylonitrile | 53 | 4.40 | 0.575 | A | 2 | A | B |
| 22 | T | tert-Butyl methyl ether (MTBE) | 73 | 4.43 | 0.579 | A | 1 | A | B |
| 23 | T | trans-1,2-Dichloroethene | 96 | 4.60 | 0.602 | A | 1 | A | B |
| 24 | T | Isopropyl ether (DIPE) | 45 | 5.00 | 0.654 | A | 1 | A | B |
| 25 | T | 1,1-Dichloroethane | 63 | 5.15 | 0.673 | A | 2 | A | B |
| 26 | T | Vinyl acetate | 43 | 5.15 | 0.673 | A | 1 | A | B |
| 27 | T | 2-Butanol | 45 | 5.42 | 0.709 | A | 1 | A | B |
| 28 | T | tert-Butyl ethyl ether (ETBE) | 59 | 5.53 | 0.723 | A | 1 | A | B |
| 29 | T | 2-Butanone | 72 | 5.69 | 0.744 | A | 1 | A | B |
| 30 | T | Propionitrile | 54 | 5.79 | 0.757 | A | 1 | A | B |
| 31 | T | 2,2-Dichloropropane | 77 | 5.86 | 0.767 | A | 2 | A | B |
| 32 | T | cis-1,2-Dichloroethene | 96 | 5.94 | 0.776 | A | 2 | A | B |
| 33 | T | Methylacrynonitrile | 52 | 6.05 | 0.791 | A | 1 | A | B |
| 34 | T | Isobutyl Alcohol | 43 | 6.08 | 0.795 | L | 1 | A | B |
| 35 | T | Chloroform | 83 | 6.14 | 0.803 | A | 2 | A | B |
| 36 | T | Bromochloromethane | 130 | 6.36 | 0.832 | A | 1 | A | B |
| 37 | T | Tetrahydrofuran | 42 | 6.41 | 0.837 | A | 2 | A | B |
| 38 | S | Dibromofluoromethane | 111 | 6.42 | 0.839 | A | 1 | A | B |
| 39 | T | 1,1,1-Trichloroethane | 97 | 6.67 | 0.872 | A | 2 | A | B |
| 40 | T | Cyclohexane | 84 | 6.68 | 0.874 | A | 1 | A | B |
| 41 | T | 1,1-Dichloropropene | 110 | 6.89 | 0.900 | A | 1 | A | B |
| 42 | T | Carbon tetrachloride | 119 | 7.00 | 0.916 | A | 1 | A | B |
| 43 | T | tert-Amyl methyl ether (TAME) | 87 | 7.05 | 0.922 | A | 1 | A | B |
| 44 | S | 1,2-Dichloroethane-d4 | 65 | 7.11 | 0.929 | A | 1 | A | B |
| 45 | T | 1,2-Dichloroethane | 62 | 7.24 | 0.946 | A | 1 | A | B |
| 46 | T | Benzene | 78 | 7.25 | 0.948 | A | 2 | A | B |
| 47 | T | Trichloroethene | 130 | 8.12 | 1.061 | A | 3 | A | B |
| 48 | T | Methylcyclohexane | 83 | 8.19 | 1.071 | A | 2 | A | B |
| 49 | T | 1,2-Dichloropropane | 63 | 8.37 | 1.094 | A | 1 | A | B |
| 50 | T | Methyl Methacrylate | 69 | 8.47 | 1.107 | A | 1 | A | B |
| 51 | T | Bromodichloromethane | 83 | 8.70 | 1.138 | A | 1 | A | B |
| 52 | T | 1,4-Dioxane | 88 | 8.75 | 1.143 | A | 1 | A | B |
| 53 | T | Dibromomethane | 93 | 8.79 | 1.149 | A | 2 | A | B |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 54 | T | 2-Chloroethyl vinyl ether | 63 | 9.21 | 1.205 | A | 1 | A | B |
| 55 | T | 4-Methyl-2-pentanone | 43 | 9.23 | 1.207 | A | 3 | A | B |
| 56 | T | cis-1,3-Dichloropropene | 75 | 9.54 | 1.247 | A | 2 | A | B |
| 57 | I | CHLOROBENZENE-D5 | 117 | 12.33 | 1.000 | A | 2 | A | B |
| 58 | S | Toluene-d8 | 98 | 9.90 | 0.803 | A | 1 | A | B |
| 59 | T | Toluene | 91 | 10.02 | 0.812 | A | 1 | A | B |
| 60 | T | Ethyl methacrylate | 69 | 10.33 | 0.837 | A | 1 | A | B |
| 61 | T | trans-1,3-Dichloropropene | 75 | 10.31 | 0.836 | A | 1 | A | B |
| 62 | T | 1,1,2-Trichloroethane | 97 | 10.56 | 0.856 | A | 2 | A | B |
| 63 | T | 2-Hexanone | 43 | 10.59 | 0.859 | A | 1 | A | B |
| 64 | T | 1,3-Dichloropropane | 76 | 10.97 | 0.890 | A | 1 | A | B |
| 65 | T | Tetrachloroethene | 164 | 11.04 | 0.896 | A | 3 | A | B |
| 66 | T | Dibromochloromethane | 129 | 11.37 | 0.922 | A | 1 | A | B |
| 67 | T | 1,2-Dibromoethane | 107 | 11.69 | 0.948 | A | 1 | A | B |
| 68 | T | 1-Chlorohexane | 91 | 12.00 | 0.973 | A | 1 | A | B |
| 69 | T | Chlorobenzene | 112 | 12.39 | 1.005 | A | 1 | A | B |
| 70 | T | 1,1,1,2-Tetrachloroethane | 131 | 12.46 | 1.011 | A | 1 | A | B |
| 71 | T | Ethylbenzene | 91 | 12.49 | 1.013 | A | 1 | A | B |
| 72 | T | m-Xylene & p-Xylene | 91 | 12.63 | 1.024 | A | 1 | A | B |
| 73 | T | o-Xylene | 91 | 13.36 | 1.083 | A | 1 | A | B |
| 74 | T | Styrene | 104 | 13.42 | 1.088 | A | 2 | A | B |
| 75 | T | Isopropylbenzene | 105 | 13.99 | 1.134 | A | 3 | A | B |
| 76 | T | Cis-1,4-Dichloro-2-Butene | 53 | 14.09 | 1.142 | L | 2 | A | B |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 152 | 17.16 | 1.000 | A | 1 | A | B |
| 78 | T | Bromoform | 173 | 13.97 | 0.814 | A | 2 | A | B |
| 79 | T | 1,1,2,2-Tetrachloroethane | 83 | 14.29 | 0.833 | A | 1 | A | B |
| 80 | S | 4-Bromofluorobenzene | 95 | 14.41 | 0.840 | A | 2 | A | B |
| 81 | T | 1,2,3-Trichloropropane | 110 | 14.54 | 0.847 | A | 1 | A | B |
| 82 | T | trans-1,4-Dichloro-2-butene | 53 | 14.69 | 0.856 | L | 1 | A | B |
| 83 | T | n-Propylbenzene | 91 | 14.69 | 0.856 | A | 2 | A | B |
| 84 | T | Bromobenzene | 156 | 14.73 | 0.858 | A | 1 | A | B |
| 85 | T | 1,3,5-Trimethylbenzene | 105 | 14.97 | 0.872 | A | 2 | A | B |
| 86 | T | 2-Chlorotoluene | 91 | 14.97 | 0.872 | A | 1 | A | B |
| 87 | T | 4-Chlorotoluene | 91 | 15.05 | 0.877 | A | 1 | A | B |
| 88 | T | tert-Butylbenzene | 134 | 15.60 | 0.909 | A | 1 | A | B |
| 89 | T | 1,2,4-Trimethylbenzene | 105 | 15.65 | 0.912 | A | 1 | A | B |
| 90 | T | sec-Butylbenzene | 105 | 15.98 | 0.931 | A | 1 | A | B |
| 91 | T | p-Isopropyltoluene | 119 | 16.23 | 0.945 | A | 2 | A | B |
| 92 | T | 1,3-Dichlorobenzene | 146 | 16.36 | 0.953 | A | 2 | A | B |
| 93 | T | 1,2,3-Trimethylbenzene | 105 | 16.50 | 0.962 | A | 2 | A | B |
| 94 | T | 1,4-Dichlorobenzene | 146 | 16.55 | 0.964 | A | 2 | A | B |
| 95 | T | n-Butylbenzene | 91 | 16.97 | 0.989 | A | 2 | A | B |
| 96 | T | 1,2-Dichlorobenzene | 146 | 17.21 | 1.003 | A | 1 | A | B |
| 97 | T | 1,2-Dibromo-3-chloropropane | 157 | 18.51 | 1.078 | A | 1 | A | B |
| 98 | T | 1,2,4-Trichlorobenzene | 180 | 19.55 | 1.139 | A | 2 | A | B |
| 99 | T | Hexachlorobutadiene | 225 | 19.71 | 1.148 | A | 2 | A | B |
| 100 | T | Naphthalene | 128 | 19.81 | 1.154 | A | 1 | A | B |
| 101 | T | 1,2,3-Trichlorobenzene | 180 | 20.06 | 1.169 | A | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

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VO02A31.M Fri Feb 02 12:59:00 2024

Sn 2/7/24

# SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :02
IC_Beginning DateTime :01/31/24 13:50
Spike Amount :50 PPB
CC/CV File :RAP144
IC File :RAP137

Column Spec :RTX502.2 ID :0.25MM
IC_Ending DateTime :01/31/24 17:44
HPChem Method :V002A31
Date_Time :01/31/24 18:58

| M | IDX | Parameters | CC_Con | CC%_D | CC_Resp | CCRRF | AvRRF | CC_Rtm | AvRtm | %_RSD | Co_X0 | Co_X1 | Co_X2 | Co_Cor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 50.000 | 0 | 2730552 | 1 | 1 | 7.650 | 7.650 | 0 | | | | |
| | 2 | Dichlorodifluoromethane | 55.400 | 10.8 | 779924 | 0.286 | 0.258 | 1.750 | 1.746 | 9.62 | | | | |
| | 3 | Chloromethane | 54.642 | 9.3 | 1073455 | 0.393 | 0.360 | 2.006 | 2.000 | 6.51 | | | | |
| | 4 | Vinyl chloride | 56.207 | 12.4 | 937686 | 0.343 | 0.305 | 2.112 | 2.112 | 9.79 | | | | |
| | 5 | Bromomethane | 53.453 | 6.9 | 659246 | 0.241 | 0.226 | 2.609 | 2.605 | 4.52 | | | | |
| | 6 | Chloroethane | 54.212 | 8.4 | 591858 | 0.217 | 0.200 | 2.700 | 2.692 | 9.82 | | | | |
| | 7 | Dichlorofluoromethane | 54.112 | 8.2 | 1299860 | 0.476 | 0.440 | 2.730 | 2.733 | 6.01 | | | | |
| | 8 | Trichlorofluoromethane | 55.919 | 11.8 | 814305 | 0.298 | 0.267 | 2.971 | 2.976 | 11.95 | | | | |
| 10 | 9 | sec-Propyl Alcohol | 520.147 | 4.0 | 541619 | 0.020 | 0.019 | 3.288 | 3.286 | 5.59 | | | | |
| 5 | 10 | Acrolein | 272.250 | 8.9 | 389640 | 0.029 | 0.026 | 3.439 | 3.441 | 8.53 | | | | |
| | 11 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 51.119 | 2.2 | 477039 | 0.175 | 0.171 | 3.484 | 3.485 | 8.55 | | | | |
| 5 | 12 | Acetone | 247.710 | -0.9 | 780218 | 0.057 | 0.058 | 3.514 | 3.515 | 10.36 | | | | |
| | 13 | 1,1-Dichloroethene | 54.778 | 9.6 | 1389254 | 0.509 | 0.464 | 3.684 | 3.680 | 9.93 | | | | |
| 10 | 14 | tert-Butyl alcohol | 539.294 | 7.9 | 626368 | 0.023 | 0.021 | 3.757 | 3.764 | 14.57 | | | | |
| 10 | 15 | Acetonitrile | 554.367 | 10.9 | 766891 | 0.028 | 0.025 | 3.830 | 3.835 | 10.50 | | | | |
| | 16 | Iodomethane | 52.241 | 4.5 | 1094554 | 0.401 | 0.384 | 4.050 | 4.052 | 10.16 | | | | |
| | 17 | Methyl Acetate | 49.982 | -0.0 | 534732 | 0.196 | 0.196 | 4.065 | 4.068 | 5.56 | | | | |
| | 18 | Allyl Chloride | 52.272 | 4.5 | 521139 | 0.191 | 0.183 | 4.109 | 4.107 | 10.07 | | | | |
| | 19 | Methylene chloride | 51.680 | 3.4 | 1092475 | 0.400 | 0.387 | 4.255 | 4.258 | 4.55 | | | | |
| | 20 | Carbon disulfide | 56.381 | 12.8 | 3105264 | 1.137 | 1.009 | 4.269 | 4.266 | 11.83 | | | | |
| 5 | 21 | Acrylonitrile | 262.338 | 4.9 | 1165171 | 0.085 | 0.081 | 4.401 | 4.405 | 10.07 | | | | |
| | 22 | tert-Butyl methyl ether (MTBE) | 53.262 | 6.5 | 2138981 | 0.783 | 0.735 | 4.431 | 4.434 | 8.72 | | | | |
| | 23 | trans-1,2-Dichloroethene | 53.292 | 6.6 | 956254 | 0.350 | 0.329 | 4.606 | 4.606 | 8.71 | | | | |
| | 24 | Isopropyl ether (DIPE) | 54.783 | 9.6 | 3533288 | 1.294 | 1.181 | 5.001 | 5.011 | 9.95 | | | | |
| | 25 | 1,1-Dichloroethane | 53.893 | 7.8 | 1647948 | 0.604 | 0.560 | 5.148 | 5.148 | 8.39 | | | | |
| | 26 | Vinyl acetate | 55.870 | 11.7 | 1555384 | 0.570 | 0.510 | 5.162 | 5.154 | 12.16 | | | | |
| 10 | 27 | 2-Butanol | | | | | | | | | | | | |
| | 28 | tert-Butyl ethyl ether (ETBE) | 54.301 | 8.6 | 2959604 | 1.084 | 0.998 | 5.528 | 5.531 | 8.91 | | | | |
| 5 | 29 | 2-Butanone | 263.785 | 5.5 | 318654 | 0.023 | 0.022 | 5.689 | 5.694 | 14.91 | | | | |
| 10 | 30 | Propionitrile | 537.935 | 7.6 | 790314 | 0.029 | 0.027 | 5.792 | 5.797 | 11.20 | | | | |
| | 31 | 2,2-Dichloropropane | 56.703 | 13.4 | 674218 | 0.247 | 0.218 | 5.865 | 5.865 | 9.26 | | | | |
| | 32 | cis-1,2-Dichloroethene | 53.132 | 6.3 | 1009112 | 0.370 | 0.348 | 5.938 | 5.932 | 7.71 | | | | |
| 10 | 33 | Methylacrynonitrile | 533.267 | 6.7 | 973335 | 0.036 | 0.033 | 6.055 | 6.055 | 10.30 | | | | |
| 20 | 34 | Isobutyl Alcohol | 1010.435 | 1.0 | 560949 | 0.010 | 0.009 | 6.084 | 6.089 | 20.66 | -0.0047 | 0.0104 | | 0.9984 |
| | 35 | Chloroform | 52.853 | 5.7 | 1435812 | 0.526 | 0.497 | 6.143 | 6.143 | 6.48 | | | | |
| | 36 | Bromochloromethane | 52.433 | 4.9 | 513444 | 0.188 | 0.179 | 6.362 | 6.362 | 9.87 | | | | |
| | 37 | Tetrahydrofuran | 51.189 | 2.4 | 172566 | 0.063 | 0.062 | 6.406 | 6.401 | 8.10 | | | | |
| | 38 | Dibromofluoromethane | 51.111 | 2.2 | 716183 | 0.262 | 0.257 | 6.436 | 6.427 | 9.28 | | | | |
| | 39 | 1,1,1-Trichloroethane | 55.689 | 11.4 | 959413 | 0.351 | 0.315 | 6.670 | 6.671 | 9.34 | | | | |
| | 40 | Cyclohexane | 52.551 | 5.1 | 1287629 | 0.472 | 0.449 | 6.684 | 6.686 | 8.87 | | | | |
| | 41 | 1,1-Dichloropropene | 54.288 | 8.6 | 425058 | 0.156 | 0.143 | 6.889 | 6.886 | 9.68 | | | | |
| | 42 | Carbon tetrachloride | 53.090 | 6.2 | 779696 | 0.286 | 0.269 | 7.021 | 7.018 | 8.62 | | | | |
| | 43 | tert-Amyl methyl ether (TAME) | 51.817 | 3.6 | 478156 | 0.175 | 0.169 | 7.050 | 7.050 | 10.95 | | | | |
| | 44 | 1,2-Dichloroethane-d4 | 50.706 | 1.4 | 627604 | 0.230 | 0.227 | 7.109 | 7.109 | 8.52 | | | | |
| | 45 | 1,2-Dichloroethane | 53.736 | 7.5 | 837908 | 0.307 | 0.286 | 7.240 | 7.238 | 9.66 | | | | |
| | 46 | Benzene | 54.834 | 9.7 | 3805749 | 1.394 | 1.271 | 7.255 | 7.253 | 8.81 | | | | |
| | 47 | Trichloroethene | 54.449 | 8.9 | 902154 | 0.330 | 0.303 | 8.119 | 8.117 | 9.84 | | | | |
| | 48 | Methylcyclohexane | 55.686 | 11.4 | 1636502 | 0.599 | 0.538 | 8.192 | 8.192 | 10.06 | | | | |
| | 49 | 1,2-Dichloropropane | 54.212 | 8.4 | 909164 | 0.333 | 0.307 | 8.367 | 8.370 | 11.29 | | | | |
| | 50 | Methyl Methacrylate | 52.246 | 4.5 | 492441 | 0.180 | 0.173 | 8.470 | 8.472 | 12.40 | | | | |
| | 51 | Bromodichloromethane | 54.048 | 8.1 | 1025558 | 0.376 | 0.347 | 8.719 | 8.712 | 9.23 | | | | |
| 20 | 52 | 1,4-Dioxane | 1143.759 | 14.4 | 97331 | 0.002 | 0.002 | 8.748 | 8.752 | 14.14 | | | | |
| | 53 | Dibromomethane | 53.131 | 6.3 | 435406 | 0.159 | 0.150 | 8.792 | 8.792 | 10.15 | | | | |
| | 54 | 2-Chloroethyl vinyl ether | | | | | | | | | | | | |
| 5 | 55 | 4-Methyl-2-pentanone | 279.534 | 11.8 | 3602239 | 0.264 | 0.236 | 9.231 | 9.233 | 12.81 | | | | |
| | 56 | cis-1,3-Dichloropropene | 54.172 | 8.3 | 1446413 | 0.530 | 0.489 | 9.538 | 9.538 | 9.73 | | | | |
| | 57 | CHLOROBENZENE-D5 | 50.000 | 0 | 2153710 | 1 | 1 | 12.334 | 12.332 | 0 | | | | |
| | 58 | Toluene-d8 | 54.100 | 8.2 | 2903769 | 1.348 | 1.246 | 9.904 | 9.903 | 9.31 | | | | |
| | 59 | Toluene | 54.385 | 8.8 | 3685243 | 1.711 | 1.573 | 10.021 | 10.021 | 8.67 | | | | |
| | 60 | Ethyl methacrylate | 52.874 | 5.7 | 961106 | 0.446 | 0.422 | 10.329 | 10.327 | 13.62 | | | | |
| | 61 | trans-1,3-Dichloropropene | 53.285 | 6.6 | 1134056 | 0.527 | 0.494 | 10.314 | 10.319 | 12.32 | | | | |
| | 62 | 1,1,2-Trichloroethane | 53.009 | 6.0 | 617190 | 0.287 | 0.270 | 10.563 | 10.563 | 11.88 | | | | |
| 5 | 63 | 2-Hexanone | 271.904 | 8.8 | 2296063 | 0.213 | 0.196 | 10.592 | 10.594 | 14.47 | | | | |
| | 64 | 1,3-Dichloropropane | 52.344 | 4.7 | 1131334 | 0.525 | 0.502 | 10.973 | 10.971 | 8.33 | | | | |
| | 65 | Tetrachloroethene | 53.527 | 7.1 | 703950 | 0.327 | 0.305 | 11.046 | 11.047 | 8.75 | | | | |
| | 66 | Dibromochloromethane | 53.864 | 7.7 | 669961 | 0.311 | 0.289 | 11.368 | 11.371 | 14.40 | | | | |
| | 67 | 1,2-Dibromoethane | 50.602 | 1.2 | 567381 | 0.263 | 0.260 | 11.704 | 11.697 | 7.54 | | | | |
| | 68 | 1-Chlorohexane | 55.852 | 11.7 | 1370407 | 0.636 | 0.570 | 11.997 | 11.997 | 10.70 | | | | |
| | 69 | Chlorobenzene | 54.897 | 9.8 | 2135818 | 0.992 | 0.903 | 12.392 | 12.392 | 9.21 | | | | |
| | 70 | 1,1,1,2-Tetrachloroethane | 52.657 | 5.3 | 702085 | 0.326 | 0.310 | 12.480 | 12.472 | 10.50 | | | | |
| | 71 | Ethylbenzene | 55.513 | 11.0 | 3979031 | 1.848 | 1.664 | 12.495 | 12.495 | 8.41 | | | | |
| 2 | 72 | m-Xylene & p-Xylene | 111.355 | 11.4 | 5979636 | 1.388 | 1.247 | 12.626 | 12.626 | 7.81 | | | | |
| | 73 | o-Xylene | 56.059 | 12.1 | 2856791 | 1.326 | 1.183 | 13.358 | 13.358 | 9.58 | | | | |
| | 74 | Styrene | 56.642 | 13.3 | 2281053 | 1.059 | 0.935 | 13.417 | 13.424 | 13.00 | | | | |
| | 75 | Isopropylbenzene | 56.216 | 12.4 | 3487609 | 1.619 | 1.440 | 13.988 | 13.988 | 8.73 | | | | |
| | 76 | Cis-1,4-Dichloro-2-Butene | 48.276 | -3.4 | 185675 | 0.086 | 0.080 | 14.090 | 14.092 | 20.77 | -0.0025 | 0.0919 | | 0.9996 |
| | 77 | 1,2-DICHLOROBENZENE-D4 | 50.000 | 0 | 683560 | 1 | 1 | 17.163 | 17.163 | 0 | | | | |
| | 78 | Bromoform | 52.245 | 4.5 | 339438 | 0.497 | 0.475 | 13.973 | 13.975 | 13.01 | | | | |
| | 79 | 1,1,2,2-Tetrachloroethane | 54.768 | 9.5 | 687938 | 1.006 | 0.919 | 14.295 | 14.295 | 11.45 | | | | |
| | 80 | 4-Bromofluorobenzene | 54.601 | 9.2 | 925858 | 1.354 | 1.240 | 14.412 | 14.413 | 8.65 | | | | |
| | 81 | 1,2,3-Trichloropropane | 53.264 | 6.5 | 158448 | 0.232 | 0.218 | 14.544 | 14.548 | 10.90 | | | | |
| | 82 | trans-1,4-Dichloro-2-butene | 49.163 | -1.7 | 156290 | 0.229 | 0.217 | 14.690 | 14.690 | 15.94 | -0.0112 | 0.2439 | | 0.9995 |
| | 83 | n-Propylbenzene | 58.218 | 16.4 | 4293434 | 6.281 | 5.394 | 14.690 | 14.690 | 8.97 | | | | |
| | 84 | Bromobenzene | 52.457 | 4.9 | 758610 | 1.110 | 1.058 | 14.734 | 14.732 | 8.42 | | | | |
| | 85 | 1,3,5-Trimethylbenzene | 57.518 | 15.0 | 2645378 | 3.870 | 3.364 | 14.968 | 14.971 | 8.95 | | | | |
| | 86 | 2-Chlorotoluene | 56.245 | 12.5 | 2638426 | 3.860 | 3.431 | 14.968 | 14.974 | 7.32 | | | | |
| | 87 | 4-Chlorotoluene | 55.363 | 10.7 | 2265343 | 3.314 | 2.993 | 15.056 | 15.063 | 9.54 | | | | |
| | 88 | tert-Butylbenzene | 55.265 | 10.5 | 521950 | 0.764 | 0.691 | 15.597 | 15.597 | 8.62 | | | | |
| | 89 | 1,2,4-Trimethylbenzene | 57.111 | 14.2 | 2500664 | 3.658 | 3.203 | 15.656 | 15.659 | 8.81 | | | | |
| | 90 | sec-Butylbenzene | 57.894 | 15.8 | 3387077 | 4.955 | 4.279 | 15.978 | 15.978 | 9.01 | | | | |
| | 91 | p-Isopropyltoluene | 58.407 | 16.8 | 2593409 | 3.794 | 3.248 | 16.241 | 16.234 | 9.79 | | | | |
| | 92 | 1,3-Dlchlorobenzene | 55.135 | 10.3 | 1344816 | 1.967 | 1.784 | 16.358 | 16.358 | 8.59 | | | | |
| | 93 | 1,2,3-Trimethylbenzene | 56.596 | 13.2 | 2350683 | 3.439 | 3.038 | 16.505 | 16.505 | 8.67 | | | | |
| | 94 | 1,4-Dichlorobenzene | 54.250 | 8.5 | 1310057 | 1.917 | 1.766 | 16.563 | 16.559 | 8.70 | | | | |
| | 95 | n-Butylbenzene | 59.431 | 18.9 | 2453595 | 3.589 | 3.020 | 16.973 | 16.973 | 11.13 | | | | |
| | 96 | 1,2-Dichlorobenzene | 53.450 | 6.9 | 1131320 | 1.655 | 1.548 | 17.207 | 17.207 | 7.52 | | | | |
| | 97 | 1,2-Dibromo-3-chloropropane | 56.739 | 13.5 | 77578 | 0.113 | 0.100 | 18.510 | 18.510 | 14.39 | | | | |
| | 98 | 1,2,4-Trichlorobenzene | 55.548 | 11.1 | 607130 | 0.888 | 0.799 | 19.549 | 19.553 | 11.68 | | | | |
| | 99 | Hexachlorobutadiene | 53.527 | 7.1 | 289146 | 0.423 | 0.395 | 19.710 | 19.710 | 7.32 | | | | |
| | 100 | Naphthalene | 55.607 | 11.2 | 1170702 | 1.713 | 1.540 | 19.812 | 19.813 | 13.71 | | | | |
| | 101 | 1,2,3-Trichlorobenzene | 54.744 | 9.5 | 515122 | 0.754 | 0.688 | 20.061 | 20.060 | 11.05 | | | | |

Spike Amount = Nominal Amount * M

SW 2/7/24

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D Vial: 14
Acq On : 31 Jan 2024 18:58 Operator: IRagas
Sample : IVO02A311 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 50.000 | 50.000 | 0.0 | 95 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 50.000 | 55.401 | -10.8 | 97 | 0.00 |
| 3 | P,T,M | Chloromethane | 50.000 | 54.643 | -9.3 | 96 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 50.000 | 56.208 | -12.4 | 100 | 0.00 |
| 5 | T,M | Bromomethane | 50.000 | 53.453 | -6.9 | 99 | 0.00 |
| 6 | T,M | Chloroethane | 50.000 | 54.212 | -8.4 | 96 | 0.00 |
| 7 | T,M | Dichlorofluoromethane | 50.000 | 54.112 | -8.2 | 96 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 50.000 | 55.919 | -11.8 | 95 | 0.00 |
| 9 | T,M | sec-Propyl Alcohol | 500.000 | 520.148 | -4.0 | 96 | 0.00 |
| 10 | T,M | Acrolein | 250.000 | 272.250 | -8.9 | 90 | 0.00 |
| 11 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 50.000 | 51.119 | -2.2 | 90 | 0.00 |
| 12 | T,M | Acetone | 250.000 | 247.711 | 0.9 | 88 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 50.000 | 54.779 | -9.6 | 95 | 0.00 |
| 14 | T,M | tert-Butyl alcohol | 500.000 | 539.295 | -7.9 | 91 | 0.00 |
| 15 | T,M | Acetonitrile | 500.000 | 554.367 | -10.9 | 93 | 0.00 |
| 16 | T,M | Iodomethane | 50.000 | 52.241 | -4.5 | 92 | 0.00 |
| 17 | T,M | Methyl Acetate | 50.000 | 49.982 | 0.0 | 89 | 0.00 |
| 18 | T,M | Allyl Chloride | 50.000 | 52.272 | -4.5 | 93 | 0.00 |
| 19 | T,M | Methylene chloride | 50.000 | 51.680 | -3.4 | 93 | 0.00 |
| 20 | T,M | Carbon disulfide | 50.000 | 56.381 | -12.8 | 97 | 0.00 |
| 21 | T,M | Acrylonitrile | 250.000 | 262.339 | -4.9 | 89 | 0.00 |
| 22 | T,M | tert-Butyl methyl ether (MT | 50.000 | 53.262 | -6.5 | 93 | 0.00 |
| 23 | T,M | trans-1,2-Dichloroethene | 50.000 | 53.293 | -6.6 | 94 | 0.00 |
| 24 | T,M | Isopropyl ether (DIPE) | 50.000 | 54.783 | -9.6 | 94 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 50.000 | 53.894 | -7.8 | 95 | 0.00 |
| 26 | T,M | Vinyl acetate | 50.000 | 55.870 | -11.7 | 95 | 0.02 |
| 27 | T,M | 2-Butanol | 500.000 | 0.000 | 100.0# | 0 | 0.00 |
| 28 | T,M | tert-Butyl ethyl ether (ETB | 50.000 | 54.301 | -8.6 | 94 | 0.00 |
| 29 | T,M | 2-Butanone | 250.000 | 263.786 | -5.5 | 88 | 0.00 |
| 30 | T,M | Propionitrile | 500.000 | 537.936 | -7.6 | 92 | 0.00 |
| 31 | T,M | 2,2-Dichloropropane | 50.000 | 56.703 | -13.4 | 98 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 50.000 | 53.132 | -6.3 | 94 | 0.00 |
| 33 | T,M | Methylacrynonitrile | 500.000 | 533.267 | -6.7 | 92 | 0.00 |
| 34 | T,M | Isobutyl Alcohol | 1000.000 | 1010.435 | -1.0 | 92 | 0.00 |
| 35 | C,T,M | Chloroform | 50.000 | 52.854 | -5.7 | 93 | 0.00 |
| 36 | T,M | Bromochloromethane | 50.000 | 52.433 | -4.9 | 92 | 0.00 |
| 37 | T,M | Tetrahydrofuran | 50.000 | 51.189 | -2.4 | 90 | 0.00 |
| 38 | S | Dibromofluoromethane | 50.000 | 51.112 | -2.2 | 91 | 0.02 |
| 39 | T,M | 1,1,1-Trichloroethane | 50.000 | 55.690 | -11.4 | 96 | 0.00 |
| 40 | T,M | Cyclohexane | 50.000 | 52.551 | -5.1 | 93 | 0.00 |
| 41 | T,M | 1,1-Dichloropropene | 50.000 | 54.288 | -8.6 | 97 | 0.00 |

(#) = Out of Range



SH 2/7/24

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D Vial: 14
Acq On : 31 Jan 2024 18:58 Operator: IRagas
Sample : IVO02A311 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 42 | T,M | Carbon tetrachloride | 50.000 | 53.090 | -6.2 | 94 | 0.02 |
| 43 | T,M | tert-Amyl methyl ether (TAM | 50.000 | 51.817 | -3.6 | 93 | 0.00 |
| 44 | S | 1,2-Dichloroethane-d4 | 50.000 | 50.707 | -1.4 | 90 | 0.00 |
| 45 | T,M | 1,2-Dichloroethane | 50.000 | 53.736 | -7.5 | 93 | 0.00 |
| 46 | T,M | Benzene | 50.000 | 54.835 | -9.7 | 94 | 0.00 |
| 47 | T,M | Trichloroethene | 50.000 | 54.449 | -8.9 | 95 | 0.00 |
| 48 | T,M | Methylcyclohexane | 50.000 | 55.686 | -11.4 | 95 | 0.00 |
| 49 | C,T,M | 1,2-Dichloropropane | 50.000 | 54.213 | -8.4 | 93 | 0.00 |
| 50 | T,M | Methyl Methacrylate | 50.000 | 52.246 | -4.5 | 92 | 0.00 |
| 51 | T,M | Bromodichloromethane | 50.000 | 54.048 | -8.1 | 94 | 0.02 |
| 52 | T,M | 1,4-Dioxane | 1000.000 | 1143.760 | -14.4 | 93 | 0.00 |
| 53 | T,M | Dibromomethane | 50.000 | 53.132 | -6.3 | 93 | 0.00 |
| 54 | T,M | 2-Chloroethyl vinyl ether | 50.000 | 0.000 | 100.0# | 0 | 0.02 |
| 55 | T,M | 4-Methyl-2-pentanone | 250.000 | 279.534 | -11.8 | 89 | 0.00 |
| 56 | T,M | cis-1,3-Dichloropropene | 50.000 | 54.172 | -8.3 | 94 | 0.00 |
| 57 | I | CHLOROBENZENE-D5 | 50.000 | 50.000 | 0.0 | 96 | 0.00 |
| 58 | S | Toluene-d8 | 50.000 | 54.100 | -8.2 | 95 | 0.00 |
| 59 | C,T,M | Toluene | 50.000 | 54.385 | -8.8 | 94 | 0.00 |
| 60 | T,M | Ethyl methacrylate | 50.000 | 52.875 | -5.8 | 94 | 0.00 |
| 61 | T,M | trans-1,3-Dichloropropene | 50.000 | 53.285 | -6.6 | 93 | 0.00 |
| 62 | T,M | 1,1,2-Trichloroethane | 50.000 | 53.010 | -6.0 | 92 | 0.00 |
| 63 | T,M | 2-Hexanone | 250.000 | 271.905 | -8.8 | 88 | 0.00 |
| 64 | T,M | 1,3-Dichloropropane | 50.000 | 52.344 | -4.7 | 93 | 0.00 |
| 65 | T,M | Tetrachloroethene | 50.000 | 53.528 | -7.1 | 96 | 0.00 |
| 66 | T,M | Dibromochloromethane | 50.000 | 53.865 | -7.7 | 93 | 0.00 |
| 67 | T,M | 1,2-Dibromoethane | 50.000 | 50.603 | -1.2 | 92 | 0.02 |
| 68 | T,M | 1-Chlorohexane | 50.000 | 55.852 | -11.7 | 97 | 0.00 |
| 69 | P,T,M | Chlorobenzene | 50.000 | 54.897 | -9.8 | 95 | 0.00 |
| 70 | T,M | 1,1,1,2-Tetrachloroethane | 50.000 | 52.658 | -5.3 | 93 | 0.02 |
| 71 | C,T,M | Ethylbenzene | 50.000 | 55.514 | -11.0 | 95 | 0.00 |
| 72 | T,M | m-Xylene & p-Xylene | 100.000 | 111.355 | -11.4 | 95 | 0.00 |
| 73 | T,M | o-Xylene | 50.000 | 56.060 | -12.1 | 95 | 0.00 |
| 74 | T,M | Styrene | 50.000 | 56.643 | -13.3 | 94 | 0.00 |
| 75 | T,M | Isopropylbenzene | 50.000 | 56.216 | -12.4 | 95 | 0.00 |
| 76 | T,M | Cis-1,4-Dichloro-2-Butene | 50.000 | 48.276 | 3.4 | 90 | 0.00 |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 50.000 | 50.000 | 0.0 | 92 | 0.00 |
| 78 | P,T,M | Bromoform | 50.000 | 52.246 | -4.5 | 93 | 0.00 |
| 79 | P,T,M | 1,1,2,2-Tetrachloroethane | 50.000 | 54.768 | -9.5 | 92 | 0.00 |
| 80 | S | 4-Bromofluorobenzene | 50.000 | 54.601 | -9.2 | 95 | 0.00 |

(#) = Out of Range



2/7/24

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D Vial: 14
Acq On : 31 Jan 2024 18:58 Operator: IRagas
Sample : IVO02A311 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 81 | T,M | 1,2,3-Trichloropropane | 50.000 | 53.264 | -6.5 | 91 | 0.00 |
| 82 | T,M | trans-1,4-Dichloro-2-butene | 50.000 | 49.163 | 1.7 | 91 | 0.00 |
| 83 | T,M | n-Propylbenzene | 50.000 | 58.218 | -16.4 | 96 | 0.00 |
| 84 | T,M | Bromobenzene | 50.000 | 52.457 | -4.9 | 92 | 0.00 |
| 85 | T,M | 1,3,5-Trimethylbenzene | 50.000 | 57.519 | -15.0 | 94 | 0.00 |
| 86 | T,M | 2-Chlorotoluene | 50.000 | 56.245 | -12.5 | 96 | 0.00 |
| 87 | T,M | 4-Chlorotoluene | 50.000 | 55.363 | -10.7 | 90 | 0.00 |
| 88 | T,M | tert-Butylbenzene | 50.000 | 55.266 | -10.5 | 94 | 0.00 |
| 89 | T,M | 1,2,4-Trimethylbenzene | 50.000 | 57.112 | -14.2 | 94 | 0.00 |
| 90 | T,M | sec-Butylbenzene | 50.000 | 57.894 | -15.8 | 95 | 0.00 |
| 91 | T,M | p-Isopropyltoluene | 50.000 | 58.408 | -16.8 | 93 | 0.02 |
| 92 | T,M | 1,3-Dichlorobenzene | 50.000 | 55.135 | -10.3 | 93 | 0.00 |
| 93 | T,M | 1,2,3-Trimethylbenzene | 50.000 | 56.597 | -13.2 | 92 | 0.00 |
| 94 | T,M | 1,4-Dichlorobenzene | 50.000 | 54.250 | -8.5 | 91 | 0.02 |
| 95 | T,M | n-Butylbenzene | 50.000 | 59.432 | -18.9 | 94 | 0.00 |
| 96 | T,M | 1,2-Dichlorobenzene | 50.000 | 53.450 | -6.9 | 91 | 0.00 |
| 97 | T,M | 1,2-Dibromo-3-chloropropane | 50.000 | 56.740 | -13.5 | 92 | 0.00 |
| 98 | T,M | 1,2,4-Trichlorobenzene | 50.000 | 55.548 | -11.1 | 92 | 0.00 |
| 99 | T,M | Hexachlorobutadiene | 50.000 | 53.527 | -7.1 | 93 | 0.00 |
| 100 | T,M | Naphthalene | 50.000 | 55.607 | -11.2 | 90 | 0.00 |
| 101 | T,M | 1,2,3-Trichlorobenzene | 50.000 | 54.744 | -9.5 | 92 | 0.00 |

SA 2/7/24

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# DAILY CALIBRATIONS

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc.
Project : TITAN 1-A
Lab Code : EMAX
SDG No : 24F034
Lab File ID: RFP095
BFB Injection Date: 06/10/24
Instrument ID: 02
BFB Injection Time: 10:06

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 15.168 |
| 75 | 30 - 60% of mass 95 | 41.552 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 5.408 |
| 173 | Less than 2% of mass 174 | 0.000(0)1 |
| 174 | Greater than 50% of mass 95 | 76.737 |
| 175 | 5 - 9% of mass 174 | 5.023(6.55)1 |
| 176 | 95 - 101% % of mass 174 | 73.454(95.72)1 |
| 177 | 5 - 9% % of mass 176 | 4.202(5.72)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD50 | CV002A3130 | RFP096 | 06/10/24 | 10:30 |
| 2 | LCS1S | VS02F05L | RFP097 | 06/10/24 | 11:21 |
| 3 | LCD1S | VS02F05C | RFP098 | 06/10/24 | 11:45 |
| 4 | MBLK1S | VS02F05B | RFP100 | 06/10/24 | 12:34 |
| 5 | IDW-SOIL_JUN24 | 24F034-02 | RFP101 | 06/10/24 | 12:58 |
| 6 | VSTD50 | EV002A3130 | RFP102 | 06/10/24 | 13:24 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: RAP137
Instrument ID: 02

Project: TITAN 1-A
SDG No: 24F034
Date Analyzed: 01/31/24
Time Analyzed: 16:06

| INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 12 HOUR STD | 2861301 | 7.65 | 2252084 | 12.33 | 744411 | 17.16 |
| UPPER LIMIT | 5722602 | 7.82 | 4504168 | 12.50 | 1488822 | 17.33 |
| LOWER LIMIT | 1430651 | 7.48 | 1126042 | 12.16 | 372206 | 16.99 |
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 VSTD50 | 3650747 | 7.68 | 2887396 | 12.36 | 985478 | 17.19 |
| 2 LCS1S | 3949127 | 7.68 | 3106518 | 12.34 | 1062865 | 17.17 |
| 3 LCD1S | 3752826 | 7.66 | 2960214 | 12.34 | 1008836 | 17.17 |
| 4 MBLK1S | 3345925 | 7.66 | 2606901 | 12.33 | 862652 | 17.16 |
| 5 IDW-SOIL_JUN24 | 2969702 | 7.65 | 1959472 | 12.33 | 363450* | 17.16 |
| 6 VSTD50 | 3561805 | 7.65 | 2848269 | 12.33 | 986855 | 17.16 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D  Vial: 2
Acq On : 10 Jun 2024 10:30  Operator: IRagas
Sample : CVO02A3130  Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 50.000 | 50.000 | 0.0 | 128 | 0.03 |
| 2 | T,M | Dichlorodifluoromethane | 50.000 | 46.789 | 6.4 | 110 | 0.00 |
| 3 | P,T,M | Chloromethane | 50.000 | 55.878 | -11.8 | 132 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 50.000 | 53.069 | -6.1 | 126 | 0.00 |
| 5 | T,M | Bromomethane | 50.000 | 51.919 | -3.8 | 128 | 0.02 |
| 6 | T,M | Chloroethane | 50.000 | 54.825 | -9.7 | 130 | 0.02 |
| 7 | T,M | Dichlorofluoromethane | 50.000 | 51.620 | -3.2 | 122 | 0.04 |
| 8 | T,M | Trichlorofluoromethane | 50.000 | 52.098 | -4.2 | 118 | 0.02 |
| 9 | T,M | sec-Propyl Alcohol | 500.000 | 508.065 | -1.6 | 126 | 0.02 |
| 10 | T,M | Acrolein | 250.000 | 279.957 | -12.0 | 124 | 0.02 |
| 11 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 50.000 | 48.367 | 3.3 | 114 | 0.04 |
| 12 | T,M | Acetone | 250.000 | 272.730 | -9.1 | 130 | 0.02 |
| 13 | C,T,M | 1,1-Dichloroethene | 50.000 | 45.806 | 8.4 | 106 | 0.03 |
| 14 | T,M | tert-Butyl alcohol | 500.000 | 581.847 | -16.4 | 132 | 0.03 |
| 15 | T,M | Acetonitrile | 500.000 | 561.977 | -12.4 | 126 | 0.03 |
| 16 | T,M | Iodomethane | 50.000 | 40.719 | 18.6 | 96 | 0.03 |
| 17 | T,M | Methyl Acetate | 50.000 | 60.168 | -20.3# | 144 | 0.03 |
| 18 | T,M | Allyl Chloride | 50.000 | 47.359 | 5.3 | 112 | 0.03 |
| 19 | T,M | Methylene chloride | 50.000 | 48.172 | 3.7 | 116 | 0.02 |
| 20 | T,M | Carbon disulfide | 50.000 | 50.327 | -0.7 | 116 | 0.02 |
| 21 | T,M | Acrylonitrile | 250.000 | 278.780 | -11.5 | 126 | 0.03 |
| 22 | T,M | tert-Butyl methyl ether (MT | 50.000 | 54.327 | -8.7 | 127 | 0.03 |
| 23 | T,M | trans-1,2-Dichloroethene | 50.000 | 44.506 | 11.0 | 105 | 0.03 |
| 24 | T,M | Isopropyl ether (DIPE) | 50.000 | 54.502 | -9.0 | 125 | 0.03 |
| 25 | P,T,M | 1,1-Dichloroethane | 50.000 | 51.365 | -2.7 | 120 | 0.03 |
| 26 | T,M | Vinyl acetate | 50.000 | 54.461 | -8.9 | 123 | 0.03 |
| 27 | T,M | 2-Butanol | 500.000 | 0.000 | 100.0# | 0 | 0.03 |
| 28 | T,M | tert-Butyl ethyl ether (ETB | 50.000 | 55.264 | -10.5 | 128 | 0.03 |
| 29 | T,M | 2-Butanone | 250.000 | 271.708 | -8.7 | 121 | 0.03 |
| 30 | T,M | Propionitrile | 500.000 | 565.087 | -13.0 | 129 | 0.03 |
| 31 | T,M | 2,2-Dichloropropane | 50.000 | 58.389 | -16.8 | 135 | 0.03 |
| 32 | T,M | cis-1,2-Dichloroethene | 50.000 | 48.217 | 3.6 | 115 | 0.01 |
| 33 | T,M | Methylacrynonitrile | 500.000 | 570.191 | -14.0 | 131 | 0.03 |
| 34 | T,M | Isobutyl Alcohol | 1000.000 | 1081.643 | -8.2 | 131 | 0.03 |
| 35 | C,T,M | Chloroform | 50.000 | 51.049 | -2.1 | 121 | 0.03 |
| 36 | T,M | Bromochloromethane | 50.000 | 45.768 | 8.5 | 108 | 0.03 |
| 37 | T,M | Tetrahydrofuran | 50.000 | 50.761 | -1.5 | 119 | 0.01 |
| 38 | S | Dibromofluoromethane | 50.000 | 46.153 | 7.7 | 110 | 0.03 |
| 39 | T,M | 1,1,1-Trichloroethane | 50.000 | 51.345 | -2.7 | 119 | 0.03 |
| 40 | T,M | Cyclohexane | 50.000 | 54.033 | -8.1 | 128 | 0.03 |
| 41 | T,M | 1,1-Dichloropropene | 50.000 | 43.675 | 12.7 | 104 | 0.03 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D Vial: 2
Acq On : 10 Jun 2024 10:30 Operator: IRagas
Sample : CV002A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\V002A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 42 | T,M | Carbon tetrachloride | 50.000 | 46.801 | 6.4 | 111 | 0.04 |
| 43 | T,M | tert-Amyl methyl ether (TAM | 50.000 | 51.106 | -2.2 | 123 | 0.03 |
| 44 | S | 1,2-Dichloroethane-d4 | 50.000 | 49.744 | 0.5 | 118 | 0.03 |
| 45 | T,M | 1,2-Dichloroethane | 50.000 | 52.846 | -5.7 | 122 | 0.03 |
| 46 | T,M | Benzene | 50.000 | 49.764 | 0.5 | 114 | 0.03 |
| 47 | T,M | Trichloroethene | 50.000 | 45.089 | 9.8 | 105 | 0.03 |
| 48 | T,M | Methylcyclohexane | 50.000 | 55.248 | -10.5 | 125 | 0.03 |
| 49 | C,T,M | 1,2-Dichloropropane | 50.000 | 52.391 | -4.8 | 121 | 0.03 |
| 50 | T,M | Methyl Methacrylate | 50.000 | 53.034 | -6.1 | 124 | 0.03 |
| 51 | T,M | Bromodichloromethane | 50.000 | 52.253 | -4.5 | 121 | 0.03 |
| 52 | T,M | 1,4-Dioxane | 1000.000 | 1049.904 | -5.0 | 114 | 0.03 |
| 53 | T,M | Dibromomethane | 50.000 | 49.384 | 1.2 | 116 | 0.03 |
| 54 | T,M | 2-Chloroethyl vinyl ether | 50.000 | 0.000 | 100.0# | 0 | 0.06 |
| 55 | T,M | 4-Methyl-2-pentanone | 250.000 | 298.213 | -19.3 | 127 | 0.03 |
| 56 | T,M | cis-1,3-Dichloropropene | 50.000 | 51.567 | -3.1 | 120 | 0.03 |
| 57 | I | CHLOROBENZENE-D5 | 50.000 | 50.000 | 0.0 | 128 | 0.03 |
| 58 | S | Toluene-d8 | 50.000 | 47.264 | 5.5 | 112 | 0.03 |
| 59 | C,T,M | Toluene | 50.000 | 49.995 | 0.0 | 116 | 0.03 |
| 60 | T,M | Ethyl methacrylate | 50.000 | 54.181 | -8.4 | 129 | 0.01 |
| 61 | T,M | trans-1,3-Dichloropropene | 50.000 | 52.498 | -5.0 | 123 | 0.03 |
| 62 | T,M | 1,1,2-Trichloroethane | 50.000 | 52.741 | -5.5 | 122 | 0.03 |
| 63 | T,M | 2-Hexanone | 250.000 | 300.418 | -20.2# | 130 | 0.03 |
| 64 | T,M | 1,3-Dichloropropane | 50.000 | 52.300 | -4.6 | 124 | 0.03 |
| 65 | T,M | Tetrachloroethene | 50.000 | 42.716 | 14.6 | 102 | 0.03 |
| 66 | T,M | Dibromochloromethane | 50.000 | 50.908 | -1.8 | 118 | 0.03 |
| 67 | T,M | 1,2-Dibromoethane | 50.000 | 48.237 | 3.5 | 117 | 0.03 |
| 68 | T,M | 1-Chlorohexane | 50.000 | 49.309 | 1.4 | 115 | 0.03 |
| 69 | P,T,M | Chlorobenzene | 50.000 | 50.945 | -1.9 | 118 | 0.03 |
| 70 | T,M | 1,1,1,2-Tetrachloroethane | 50.000 | 49.324 | 1.4 | 117 | 0.03 |
| 71 | C,T,M | Ethylbenzene | 50.000 | 51.889 | -3.8 | 119 | 0.03 |
| 72 | T,M | m-Xylene & p-Xylene | 100.000 | 102.743 | -2.7 | 118 | 0.01 |
| 73 | T,M | o-Xylene | 50.000 | 53.668 | -7.3 | 122 | 0.03 |
| 74 | T,M | Styrene | 50.000 | 54.237 | -8.5 | 121 | 0.03 |
| 75 | T,M | Isopropylbenzene | 50.000 | 53.525 | -7.0 | 122 | 0.03 |
| 76 | T,M | Cis-1,4-Dichloro-2-Butene | 50.000 | 50.622 | -1.2 | 126 | 0.03 |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 50.000 | 50.000 | 0.0 | 132 | 0.02 |
| 78 | P,T,M | Bromoform | 50.000 | 46.716 | 6.6 | 120 | 0.03 |
| 79 | P,T,M | 1,1,2,2-Tetrachloroethane | 50.000 | 53.514 | -7.0 | 129 | 0.03 |
| 80 | S | 4-Bromofluorobenzene | 50.000 | 43.635 | 12.7 | 110 | 0.02 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D Vial: 2
Acq On : 10 Jun 2024 10:30 Operator: IRagas
Sample : CVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 81 | T,M | 1,2,3-Trichloropropane | 50.000 | 51.739 | -3.5 | 128 | 0.02 |
| 82 | T,M | trans-1,4-Dichloro-2-butene | 50.000 | 51.746 | -3.5 | 138 | 0.03 |
| 83 | T,M | n-Propylbenzene | 50.000 | 51.396 | -2.8 | 122 | 0.03 |
| 84 | T,M | Bromobenzene | 50.000 | 46.552 | 6.9 | 118 | 0.01 |
| 85 | T,M | 1,3,5-Trimethylbenzene | 50.000 | 50.364 | -0.7 | 119 | 0.02 |
| 86 | T,M | 2-Chlorotoluene | 50.000 | 49.900 | 0.2 | 123 | 0.02 |
| 87 | T,M | 4-Chlorotoluene | 50.000 | 52.655 | -5.3 | 124 | 0.02 |
| 88 | T,M | tert-Butylbenzene | 50.000 | 48.823 | 2.4 | 120 | 0.02 |
| 89 | T,M | 1,2,4-Trimethylbenzene | 50.000 | 51.644 | -3.3 | 122 | 0.02 |
| 90 | T,M | sec-Butylbenzene | 50.000 | 52.425 | -4.8 | 124 | 0.03 |
| 91 | T,M | p-Isopropyltoluene | 50.000 | 52.798 | -5.6 | 122 | 0.02 |
| 92 | T,M | 1,3-Dichlorobenzene | 50.000 | 49.313 | 1.4 | 120 | 0.02 |
| 93 | T,M | 1,2,3-Trimethylbenzene | 50.000 | 52.202 | -4.4 | 123 | 0.02 |
| 94 | T,M | 1,4-Dichlorobenzene | 50.000 | 49.222 | 1.6 | 119 | 0.02 |
| 95 | T,M | n-Butylbenzene | 50.000 | 54.255 | -8.5 | 124 | 0.02 |
| 96 | T,M | 1,2-Dichlorobenzene | 50.000 | 49.718 | 0.6 | 121 | 0.02 |
| 97 | T,M | 1,2-Dibromo-3-chloropropane | 50.000 | 56.548 | -13.1 | 132 | 0.02 |
| 98 | T,M | 1,2,4-Trichlorobenzene | 50.000 | 53.657 | -7.3 | 128 | 0.02 |
| 99 | T,M | Hexachlorobutadiene | 50.000 | 48.637 | 2.7 | 122 | 0.00 |
| 100 | T,M | Naphthalene | 50.000 | 60.928 | -21.9# | 142 | 0.00 |
| 101 | T,M | 1,2,3-Trichlorobenzene | 50.000 | 53.035 | -6.1 | 128 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
RFP096.D VO02A31.M Mon Jun 10 13:48:38 2024 Page 3

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D  Vial: 2
Acq On : 10 Jun 2024 10:30  Operator: IRagas
Sample : CVO02A3130  Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 128 | 0.03 |
| 2 | T,M | Dichlorodifluoromethane | 0.258 | 0.241 | 6.6 | 110 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.360 | 0.402 | -11.7 | 132 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.305 | 0.324 | -6.2 | 126 | 0.00 |
| 5 | T,M | Bromomethane | 0.226 | 0.235 | -4.0 | 128 | 0.02 |
| 6 | T,M | Chloroethane | 0.200 | 0.219 | -9.5 | 130 | 0.02 |
| 7 | T,M | Dichlorofluoromethane | 0.440 | 0.454 | -3.2 | 122 | 0.04 |
| 8 | T,M | Trichlorofluoromethane | 0.267 | 0.278 | -4.1 | 118 | 0.02 |
| 9 | T,M | sec-Propyl Alcohol | 0.019 | 0.019 | 0.0 | 126 | 0.02 |
| 10 | T,M | Acrolein | 0.026 | 0.029 | -11.5 | 124 | 0.02 |
| 11 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 0.171 | 0.165 | 3.5 | 114 | 0.04 |
| 12 | T,M | Acetone | 0.058 | 0.063 | -8.6 | 130 | 0.02 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.464 | 0.425 | 8.4 | 106 | 0.03 |
| 14 | T,M | tert-Butyl alcohol | 0.021 | 0.025 | -19.0 | 132 | 0.03 |
| 15 | T,M | Acetonitrile | 0.025 | 0.028 | -12.0 | 126 | 0.03 |
| 16 | T,M | Iodomethane | 0.384 | 0.312 | 18.8 | 96 | 0.03 |
| 17 | T,M | Methyl Acetate | 0.196 | 0.236 | -20.4# | 144 | 0.03 |
| 18 | T,M | Allyl Chloride | 0.183 | 0.173 | 5.5 | 112 | 0.03 |
| 19 | T,M | Methylene chloride | 0.387 | 0.373 | 3.6 | 116 | 0.02 |
| 20 | T,M | Carbon disulfide | 1.009 | 1.015 | -0.6 | 116 | 0.02 |
| 21 | T,M | Acrylonitrile | 0.081 | 0.091 | -12.3 | 126 | 0.03 |
| 22 | T,M | tert-Butyl methyl ether (MT | 0.735 | 0.799 | -8.7 | 127 | 0.03 |
| 23 | T,M | trans-1,2-Dichloroethene | 0.329 | 0.292 | 11.2 | 105 | 0.03 |
| 24 | T,M | Isopropyl ether (DIPE) | 1.181 | 1.287 | -9.0 | 125 | 0.03 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.560 | 0.575 | -2.7 | 120 | 0.03 |
| 26 | T,M | Vinyl acetate | 0.510 | 0.555 | -8.8 | 123 | 0.03 |
| 27 | T,M | 2-Butanol | 0.000 | 0.023 | 0.0 | 0# | 0.03 |
| 28 | T,M | tert-Butyl ethyl ether (ETB | 0.998 | 1.103 | -10.5 | 128 | 0.03 |
| 29 | T,M | 2-Butanone | 0.022 | 0.024 | -9.1 | 121 | 0.03 |
| 30 | T,M | Propionitrile | 0.027 | 0.030 | -11.1 | 129 | 0.03 |
| 31 | T,M | 2,2-Dichloropropane | 0.218 | 0.254 | -16.5 | 135 | 0.03 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.348 | 0.335 | 3.7 | 115 | 0.01 |
| 33 | T,M | Methylacrynonitrile | 0.033 | 0.038 | -15.2 | 131 | 0.03 |
| 34 | T,M | Isobutyl Alcohol | 0.009 | 0.011 | -22.2# | 131 | 0.03 |
| 35 | C,T,M | Chloroform | 0.497 | 0.508 | -2.2 | 121 | 0.03 |
| 36 | T,M | Bromochloromethane | 0.179 | 0.164 | 8.4 | 108 | 0.03 |
| 37 | T,M | Tetrahydrofuran | 0.062 | 0.063 | -1.6 | 119 | 0.01 |
| 38 | S | Dibromofluoromethane | 0.257 | 0.237 | 7.8 | 110 | 0.03 |
| 39 | T,M | 1,1,1-Trichloroethane | 0.315 | 0.324 | -2.9 | 119 | 0.03 |
| 40 | T,M | Cyclohexane | 0.449 | 0.485 | -8.0 | 128 | 0.03 |
| 41 | T,M | 1,1-Dichloropropene | 0.143 | 0.125 | 12.6 | 104 | 0.03 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D Vial: 2
Acq On : 10 Jun 2024 10:30 Operator: IRagas
Sample : CVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 42 | T,M | Carbon tetrachloride | 0.269 | 0.252 | 6.3 | 111 | 0.04 |
| 43 | T,M | tert-Amyl methyl ether (TAM | 0.169 | 0.173 | -2.4 | 123 | 0.03 |
| 44 | S | 1,2-Dichloroethane-d4 | 0.227 | 0.225 | 0.9 | 118 | 0.03 |
| 45 | T,M | 1,2-Dichloroethane | 0.286 | 0.302 | -5.6 | 122 | 0.03 |
| 46 | T,M | Benzene | 1.271 | 1.265 | 0.5 | 114 | 0.03 |
| 47 | T,M | Trichloroethene | 0.303 | 0.274 | 9.6 | 105 | 0.03 |
| 48 | T,M | Methylcyclohexane | 0.538 | 0.595 | -10.6 | 125 | 0.03 |
| 49 | C,T,M | 1,2-Dichloropropane | 0.307 | 0.322 | -4.9 | 121 | 0.03 |
| 50 | T,M | Methyl Methacrylate | 0.173 | 0.183 | -5.8 | 124 | 0.03 |
| 51 | T,M | Bromodichloromethane | 0.347 | 0.363 | -4.6 | 121 | 0.03 |
| 52 | T,M | 1,4-Dioxane | 0.002 | 0.002 | 0.0 | 114 | 0.03 |
| 53 | T,M | Dibromomethane | 0.150 | 0.148 | 1.3 | 116 | 0.03 |
| 54 | T,M | 2-Chloroethyl vinyl ether | 0.000 | 0.001 | 0.0 | 0# | 0.06 |
| 55 | T,M | 4-Methyl-2-pentanone | 0.236 | 0.281 | -19.1 | 127 | 0.03 |
| 56 | T,M | cis-1,3-Dichloropropene | 0.489 | 0.504 | -3.1 | 120 | 0.03 |
| 57 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 128 | 0.03 |
| 58 | S | Toluene-d8 | 1.246 | 1.178 | 5.5 | 112 | 0.03 |
| 59 | C,T,M | Toluene | 1.573 | 1.573 | 0.0 | 116 | 0.03 |
| 60 | T,M | Ethyl methacrylate | 0.422 | 0.457 | -8.3 | 129 | 0.01 |
| 61 | T,M | trans-1,3-Dichloropropene | 0.494 | 0.519 | -5.1 | 123 | 0.03 |
| 62 | T,M | 1,1,2-Trichloroethane | 0.270 | 0.285 | -5.6 | 122 | 0.03 |
| 63 | T,M | 2-Hexanone | 0.196 | 0.236 | -20.4# | 130 | 0.03 |
| 64 | T,M | 1,3-Dichloropropane | 0.502 | 0.525 | -4.6 | 124 | 0.03 |
| 65 | T,M | Tetrachloroethene | 0.305 | 0.261 | 14.4 | 102 | 0.03 |
| 66 | T,M | Dibromochloromethane | 0.289 | 0.294 | -1.7 | 118 | 0.03 |
| 67 | T,M | 1,2-Dibromoethane | 0.260 | 0.251 | 3.5 | 117 | 0.03 |
| 68 | T,M | 1-Chlorohexane | 0.570 | 0.562 | 1.4 | 115 | 0.03 |
| 69 | P,T,M | Chlorobenzene | 0.903 | 0.920 | -1.9 | 118 | 0.03 |
| 70 | T,M | 1,1,1,2-Tetrachloroethane | 0.310 | 0.305 | 1.6 | 117 | 0.03 |
| 71 | C,T,M | Ethylbenzene | 1.664 | 1.727 | -3.8 | 119 | 0.03 |
| 72 | T,M | m-Xylene & p-Xylene | 1.247 | 1.281 | -2.7 | 118 | 0.01 |
| 73 | T,M | o-Xylene | 1.183 | 1.270 | -7.4 | 122 | 0.03 |
| 74 | T,M | Styrene | 0.935 | 1.014 | -8.4 | 121 | 0.03 |
| 75 | T,M | Isopropylbenzene | 1.440 | 1.542 | -7.1 | 122 | 0.03 |
| 76 | T,M | Cis-1,4-Dichloro-2-Butene | 0.080 | 0.091 | -13.7 | 126 | 0.03 |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 132 | 0.02 |
| 78 | P,T,M | Bromoform | 0.475 | 0.444 | 6.5 | 120 | 0.03 |
| 79 | P,T,M | 1,1,2,2-Tetrachloroethane | 0.919 | 0.983 | -7.0 | 129 | 0.03 |
| 80 | S | 4-Bromofluorobenzene | 1.240 | 1.082 | 12.7 | 110 | 0.02 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D Vial: 2
Acq On : 10 Jun 2024 10:30 Operator: IRagas
Sample : CVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 81 | T,M | 1,2,3-Trichloropropane | 0.218 | 0.225 | -3.2 | 128 | 0.02 |
| 82 | T,M | trans-1,4-Dichloro-2-butene | 0.217 | 0.241 | -11.1 | 138 | 0.03 |
| 83 | T,M | n-Propylbenzene | 5.394 | 5.545 | -2.8 | 122 | 0.03 |
| 84 | T,M | Bromobenzene | 1.058 | 0.985 | 6.9 | 118 | 0.01 |
| 85 | T,M | 1,3,5-Trimethylbenzene | 3.364 | 3.389 | -0.7 | 119 | 0.02 |
| 86 | T,M | 2-Chlorotoluene | 3.431 | 3.424 | 0.2 | 123 | 0.02 |
| 87 | T,M | 4-Chlorotoluene | 2.993 | 3.152 | -5.3 | 124 | 0.02 |
| 88 | T,M | tert-Butylbenzene | 0.691 | 0.675 | 2.3 | 120 | 0.02 |
| 89 | T,M | 1,2,4-Trimethylbenzene | 3.203 | 3.308 | -3.3 | 122 | 0.02 |
| 90 | T,M | sec-Butylbenzene | 4.279 | 4.487 | -4.9 | 124 | 0.03 |
| 91 | T,M | p-Isopropyltoluene | 3.248 | 3.430 | -5.6 | 122 | 0.02 |
| 92 | T,M | 1,3-Dichlorobenzene | 1.784 | 1.760 | 1.3 | 120 | 0.02 |
| 93 | T,M | 1,2,3-Trimethylbenzene | 3.038 | 3.172 | -4.4 | 123 | 0.02 |
| 94 | T,M | 1,4-Dichlorobenzene | 1.766 | 1.739 | 1.5 | 119 | 0.02 |
| 95 | T,M | n-Butylbenzene | 3.020 | 3.277 | -8.5 | 124 | 0.02 |
| 96 | T,M | 1,2-Dichlorobenzene | 1.548 | 1.539 | 0.6 | 121 | 0.02 |
| 97 | T,M | 1,2-Dibromo-3-chloropropane | 0.100 | 0.113 | -13.0 | 132 | 0.02 |
| 98 | T,M | 1,2,4-Trichlorobenzene | 0.799 | 0.858 | -7.4 | 128 | 0.02 |
| 99 | T,M | Hexachlorobutadiene | 0.395 | 0.384 | 2.8 | 122 | 0.00 |
| 100 | T,M | Naphthalene | 1.540 | 1.877 | -21.9# | 142 | 0.00 |
| 101 | T,M | 1,2,3-Trichlorobenzene | 0.688 | 0.730 | -6.1 | 128 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D  Vial: 8
Acq On : 10 Jun 2024 13:24  Operator: IRagas
Sample : EVO02A3130  Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 50.000 | 50.000 | 0.0 | 124 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 50.000 | 48.301 | 3.4 | 110 | 0.00 |
| 3 | P,T,M | Chloromethane | 50.000 | 55.063 | -10.1 | 127 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 50.000 | 57.037 | -14.1 | 132 | 0.00 |
| 5 | T,M | Bromomethane | 50.000 | 50.742 | -1.5 | 122 | 0.00 |
| 6 | T,M | Chloroethane | 50.000 | 51.446 | -2.9 | 119 | 0.00 |
| 7 | T,M | Dichlorofluoromethane | 50.000 | 49.439 | 1.1 | 114 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 50.000 | 54.396 | -8.8 | 121 | 0.00 |
| 9 | T,M | sec-Propyl Alcohol | 500.000 | 516.684 | -3.3 | 125 | 0.00 |
| 10 | T,M | Acrolein | 250.000 | 268.559 | -7.4 | 116 | 0.00 |
| 11 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 50.000 | 49.833 | 0.3 | 114 | 0.00 |
| 12 | T,M | Acetone | 250.000 | 252.941 | -1.2 | 118 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 50.000 | 45.990 | 8.0 | 104 | 0.00 |
| 14 | T,M | tert-Butyl alcohol | 500.000 | 540.646 | -8.1 | 119 | 0.00 |
| 15 | T,M | Acetonitrile | 500.000 | 478.757 | 4.2 | 105 | 0.00 |
| 16 | T,M | Iodomethane | 50.000 | 40.960 | 18.1 | 94 | 0.02 |
| 17 | T,M | Methyl Acetate | 50.000 | 57.083 | -14.2 | 133 | 0.00 |
| 18 | T,M | Allyl Chloride | 50.000 | 45.311 | 9.4 | 105 | 0.00 |
| 19 | T,M | Methylene chloride | 50.000 | 46.477 | 7.0 | 109 | -0.01 |
| 20 | T,M | Carbon disulfide | 50.000 | 50.069 | -0.1 | 113 | 0.00 |
| 21 | T,M | Acrylonitrile | 250.000 | 264.828 | -5.9 | 117 | 0.00 |
| 22 | T,M | tert-Butyl methyl ether (MT | 50.000 | 51.801 | -3.6 | 118 | 0.00 |
| 23 | T,M | trans-1,2-Dichloroethene | 50.000 | 43.855 | 12.3 | 101 | 0.00 |
| 24 | T,M | Isopropyl ether (DIPE) | 50.000 | 52.841 | -5.7 | 118 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 50.000 | 50.870 | -1.7 | 116 | 0.00 |
| 26 | T,M | Vinyl acetate | 50.000 | 53.963 | -7.9 | 119 | 0.00 |
| 27 | T,M | 2-Butanol | 500.000 | 0.000 | 100.0# | 0 | 0.00 |
| 28 | T,M | tert-Butyl ethyl ether (ETB | 50.000 | 52.902 | -5.8 | 119 | 0.00 |
| 29 | T,M | 2-Butanone | 250.000 | 260.945 | -4.4 | 113 | 0.00 |
| 30 | T,M | Propionitrile | 500.000 | 541.600 | -8.3 | 121 | 0.00 |
| 31 | T,M | 2,2-Dichloropropane | 50.000 | 55.078 | -10.2 | 124 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 50.000 | 47.596 | 4.8 | 110 | 0.00 |
| 33 | T,M | Methylacrynonitrile | 500.000 | 546.665 | -9.3 | 122 | 0.00 |
| 34 | T,M | Isobutyl Alcohol | 1000.000 | 1038.630 | -3.9 | 123 | 0.00 |
| 35 | C,T,M | Chloroform | 50.000 | 50.023 | -0.0 | 115 | 0.00 |
| 36 | T,M | Bromochloromethane | 50.000 | 45.232 | 9.5 | 104 | 0.00 |
| 37 | T,M | Tetrahydrofuran | 50.000 | 49.616 | 0.8 | 113 | 0.00 |
| 38 | S | Dibromofluoromethane | 50.000 | 45.287 | 9.4 | 105 | 0.00 |
| 39 | T,M | 1,1,1-Trichloroethane | 50.000 | 50.315 | -0.6 | 114 | 0.00 |
| 40 | T,M | Cyclohexane | 50.000 | 52.710 | -5.4 | 122 | 0.00 |
| 41 | T,M | 1,1-Dichloropropene | 50.000 | 43.208 | 13.6 | 101 | 0.00 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D Vial: 8
Acq On : 10 Jun 2024 13:24 Operator: IRagas
Sample : EVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 42 | T,M | Carbon tetrachloride | 50.000 | 46.127 | 7.7 | 107 | 0.00 |
| 43 | T,M | tert-Amyl methyl ether (TAM | 50.000 | 48.975 | 2.0 | 115 | 0.00 |
| 44 | S | 1,2-Dichloroethane-d4 | 50.000 | 48.838 | 2.3 | 113 | 0.00 |
| 45 | T,M | 1,2-Dichloroethane | 50.000 | 51.381 | -2.8 | 116 | -0.02 |
| 46 | T,M | Benzene | 50.000 | 49.245 | 1.5 | 110 | 0.00 |
| 47 | T,M | Trichloroethene | 50.000 | 46.045 | 7.9 | 105 | -0.02 |
| 48 | T,M | Methylcyclohexane | 50.000 | 54.532 | -9.1 | 121 | 0.00 |
| 49 | C,T,M | 1,2-Dichloropropane | 50.000 | 51.136 | -2.3 | 115 | 0.00 |
| 50 | T,M | Methyl Methacrylate | 50.000 | 51.843 | -3.7 | 119 | 0.00 |
| 51 | T,M | Bromodichloromethane | 50.000 | 50.561 | -1.1 | 114 | 0.00 |
| 52 | T,M | 1,4-Dioxane | 1000.000 | 916.117 | 8.4 | 97 | 0.00 |
| 53 | T,M | Dibromomethane | 50.000 | 48.109 | 3.8 | 110 | 0.00 |
| 54 | T,M | 2-Chloroethyl vinyl ether | 50.000 | 0.000 | 100.0# | 0 | 0.01 |
| 55 | T,M | 4-Methyl-2-pentanone | 250.000 | 280.492 | -12.2 | 116 | 0.00 |
| 56 | T,M | cis-1,3-Dichloropropene | 50.000 | 50.473 | -0.9 | 114 | 0.00 |
| 57 | I | CHLOROBENZENE-D5 | 50.000 | 50.000 | 0.0 | 126 | 0.00 |
| 58 | S | Toluene-d8 | 50.000 | 47.007 | 6.0 | 110 | 0.00 |
| 59 | C,T,M | Toluene | 50.000 | 48.721 | 2.6 | 112 | 0.00 |
| 60 | T,M | Ethyl methacrylate | 50.000 | 51.991 | -4.0 | 122 | -0.02 |
| 61 | T,M | trans-1,3-Dichloropropene | 50.000 | 50.063 | -0.1 | 116 | 0.00 |
| 62 | T,M | 1,1,2-Trichloroethane | 50.000 | 51.179 | -2.4 | 117 | 0.00 |
| 63 | T,M | 2-Hexanone | 250.000 | 276.684 | -10.7 | 118 | 0.00 |
| 64 | T,M | 1,3-Dichloropropane | 50.000 | 50.281 | -0.6 | 118 | 0.00 |
| 65 | T,M | Tetrachloroethene | 50.000 | 43.017 | 14.0 | 102 | 0.00 |
| 66 | T,M | Dibromochloromethane | 50.000 | 48.175 | 3.7 | 110 | 0.00 |
| 67 | T,M | 1,2-Dibromoethane | 50.000 | 47.024 | 6.0 | 113 | 0.00 |
| 68 | T,M | 1-Chlorohexane | 50.000 | 48.985 | 2.0 | 112 | 0.00 |
| 69 | P,T,M | Chlorobenzene | 50.000 | 49.408 | 1.2 | 113 | 0.00 |
| 70 | T,M | 1,1,1,2-Tetrachloroethane | 50.000 | 48.191 | 3.6 | 113 | 0.00 |
| 71 | C,T,M | Ethylbenzene | 50.000 | 50.631 | -1.3 | 114 | 0.00 |
| 72 | T,M | m-Xylene & p-Xylene | 100.000 | 101.195 | -1.2 | 114 | 0.00 |
| 73 | T,M | o-Xylene | 50.000 | 52.600 | -5.2 | 118 | 0.00 |
| 74 | T,M | Styrene | 50.000 | 53.160 | -6.3 | 117 | 0.00 |
| 75 | T,M | Isopropylbenzene | 50.000 | 53.321 | -6.6 | 120 | 0.00 |
| 76 | T,M | Cis-1,4-Dichloro-2-Butene | 50.000 | 47.046 | 5.9 | 115 | 0.00 |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 50.000 | 50.000 | 0.0 | 133 | 0.00 |
| 78 | P,T,M | Bromoform | 50.000 | 44.313 | 11.4 | 114 | 0.00 |
| 79 | P,T,M | 1,1,2,2-Tetrachloroethane | 50.000 | 52.003 | -4.0 | 126 | 0.00 |
| 80 | S | 4-Bromofluorobenzene | 50.000 | 42.709 | 14.6 | 108 | 0.00 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D Vial: 8
Acq On : 10 Jun 2024 13:24 Operator: IRagas
Sample : EVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 81 | T,M | 1,2,3-Trichloropropane | 50.000 | 48.540 | 2.9 | 120 | 0.00 |
| 82 | T,M | trans-1,4-Dichloro-2-butene | 50.000 | 48.335 | 3.3 | 129 | 0.00 |
| 83 | T,M | n-Propylbenzene | 50.000 | 50.704 | -1.4 | 121 | 0.00 |
| 84 | T,M | Bromobenzene | 50.000 | 45.371 | 9.3 | 115 | 0.00 |
| 85 | T,M | 1,3,5-Trimethylbenzene | 50.000 | 49.841 | 0.3 | 118 | 0.00 |
| 86 | T,M | 2-Chlorotoluene | 50.000 | 48.432 | 3.1 | 119 | 0.00 |
| 87 | T,M | 4-Chlorotoluene | 50.000 | 51.372 | -2.7 | 121 | 0.00 |
| 88 | T,M | tert-Butylbenzene | 50.000 | 47.360 | 5.3 | 116 | 0.00 |
| 89 | T,M | 1,2,4-Trimethylbenzene | 50.000 | 50.864 | -1.7 | 121 | 0.00 |
| 90 | T,M | sec-Butylbenzene | 50.000 | 51.739 | -3.5 | 123 | 0.00 |
| 91 | T,M | p-Isopropyltoluene | 50.000 | 52.405 | -4.8 | 121 | 0.00 |
| 92 | T,M | 1,3-Dichlorobenzene | 50.000 | 48.736 | 2.5 | 118 | 0.00 |
| 93 | T,M | 1,2,3-Trimethylbenzene | 50.000 | 50.869 | -1.7 | 120 | 0.00 |
| 94 | T,M | 1,4-Dichlorobenzene | 50.000 | 49.026 | 1.9 | 118 | 0.00 |
| 95 | T,M | n-Butylbenzene | 50.000 | 54.772 | -9.5 | 125 | 0.00 |
| 96 | T,M | 1,2-Dichlorobenzene | 50.000 | 48.849 | 2.3 | 119 | 0.00 |
| 97 | T,M | 1,2-Dibromo-3-chloropropane | 50.000 | 52.720 | -5.4 | 123 | 0.00 |
| 98 | T,M | 1,2,4-Trichlorobenzene | 50.000 | 53.281 | -6.6 | 128 | 0.00 |
| 99 | T,M | Hexachlorobutadiene | 50.000 | 50.346 | -0.7 | 126 | 0.00 |
| 100 | T,M | Naphthalene | 50.000 | 58.397 | -16.8 | 136 | 0.00 |
| 101 | T,M | 1,2,3-Trichlorobenzene | 50.000 | 53.605 | -7.2 | 130 | 0.00 |

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D  Vial: 8
Acq On : 10 Jun 2024 13:24  Operator: IRagas
Sample : EVO02A3130  Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 124 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.258 | 0.249 | 3.5 | 110 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.360 | 0.396 | -10.0 | 127 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.305 | 0.348 | -14.1 | 132 | 0.00 |
| 5 | T,M | Bromomethane | 0.226 | 0.229 | -1.3 | 122 | 0.00 |
| 6 | T,M | Chloroethane | 0.200 | 0.206 | -3.0 | 119 | 0.00 |
| 7 | T,M | Dichlorofluoromethane | 0.440 | 0.435 | 1.1 | 114 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.267 | 0.290 | -8.6 | 121 | 0.00 |
| 9 | T,M | sec-Propyl Alcohol | 0.019 | 0.020 | -5.3 | 125 | 0.00 |
| 10 | T,M | Acrolein | 0.026 | 0.028 | -7.7 | 116 | 0.00 |
| 11 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 0.171 | 0.170 | 0.6 | 114 | 0.00 |
| 12 | T,M | Acetone | 0.058 | 0.058 | 0.0 | 118 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.464 | 0.427 | 8.0 | 104 | 0.00 |
| 14 | T,M | tert-Butyl alcohol | 0.021 | 0.023 | -9.5 | 119 | 0.00 |
| 15 | T,M | Acetonitrile | 0.025 | 0.024 | 4.0 | 105 | 0.00 |
| 16 | T,M | Iodomethane | 0.384 | 0.314 | 18.2 | 94 | 0.02 |
| 17 | T,M | Methyl Acetate | 0.196 | 0.224 | -14.3 | 133 | 0.00 |
| 18 | T,M | Allyl Chloride | 0.183 | 0.165 | 9.8 | 105 | 0.00 |
| 19 | T,M | Methylene chloride | 0.387 | 0.360 | 7.0 | 109 | -0.01 |
| 20 | T,M | Carbon disulfide | 1.009 | 1.010 | -0.1 | 113 | 0.00 |
| 21 | T,M | Acrylonitrile | 0.081 | 0.086 | -6.2 | 117 | 0.00 |
| 22 | T,M | tert-Butyl methyl ether (MT | 0.735 | 0.762 | -3.7 | 118 | 0.00 |
| 23 | T,M | trans-1,2-Dichloroethene | 0.329 | 0.288 | 12.5 | 101 | 0.00 |
| 24 | T,M | Isopropyl ether (DIPE) | 1.181 | 1.248 | -5.7 | 118 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.560 | 0.570 | -1.8 | 116 | 0.00 |
| 26 | T,M | Vinyl acetate | 0.510 | 0.550 | -7.8 | 119 | 0.00 |
| 27 | T,M | 2-Butanol | 0.000 | 0.021 | 0.0 | 0# | 0.00 |
| 28 | T,M | tert-Butyl ethyl ether (ETB | 0.998 | 1.056 | -5.8 | 119 | 0.00 |
| 29 | T,M | 2-Butanone | 0.022 | 0.023 | -4.5 | 113 | 0.00 |
| 30 | T,M | Propionitrile | 0.027 | 0.029 | -7.4 | 121 | 0.00 |
| 31 | T,M | 2,2-Dichloropropane | 0.218 | 0.240 | -10.1 | 124 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.348 | 0.331 | 4.9 | 110 | 0.00 |
| 33 | T,M | Methylacrynonitrile | 0.033 | 0.037 | -12.1 | 122 | 0.00 |
| 34 | T,M | Isobutyl Alcohol | 0.009 | 0.011 | -22.2# | 123 | 0.00 |
| 35 | C,T,M | Chloroform | 0.497 | 0.498 | -0.2 | 115 | 0.00 |
| 36 | T,M | Bromochloromethane | 0.179 | 0.162 | 9.5 | 104 | 0.00 |
| 37 | T,M | Tetrahydrofuran | 0.062 | 0.061 | 1.6 | 113 | 0.00 |
| 38 | S | Dibromofluoromethane | 0.257 | 0.232 | 9.7 | 105 | 0.00 |
| 39 | T,M | 1,1,1-Trichloroethane | 0.315 | 0.317 | -0.6 | 114 | 0.00 |
| 40 | T,M | Cyclohexane | 0.449 | 0.473 | -5.3 | 122 | 0.00 |
| 41 | T,M | 1,1-Dichloropropene | 0.143 | 0.124 | 13.3 | 101 | 0.00 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D Vial: 8
Acq On : 10 Jun 2024 13:24 Operator: IRagas
Sample : EVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 42 | T,M | Carbon tetrachloride | 0.269 | 0.248 | 7.8 | 107 | 0.00 |
| 43 | T,M | tert-Amyl methyl ether (TAM | 0.169 | 0.166 | 1.8 | 115 | 0.00 |
| 44 | S | 1,2-Dichloroethane-d4 | 0.227 | 0.221 | 2.6 | 113 | 0.00 |
| 45 | T,M | 1,2-Dichloroethane | 0.286 | 0.293 | -2.4 | 116 | -0.02 |
| 46 | T,M | Benzene | 1.271 | 1.252 | 1.5 | 110 | 0.00 |
| 47 | T,M | Trichloroethene | 0.303 | 0.279 | 7.9 | 105 | -0.02 |
| 48 | T,M | Methylcyclohexane | 0.538 | 0.587 | -9.1 | 121 | 0.00 |
| 49 | C,T,M | 1,2-Dichloropropane | 0.307 | 0.314 | -2.3 | 115 | 0.00 |
| 50 | T,M | Methyl Methacrylate | 0.173 | 0.179 | -3.5 | 119 | 0.00 |
| 51 | T,M | Bromodichloromethane | 0.347 | 0.351 | -1.2 | 114 | 0.00 |
| 52 | T,M | 1,4-Dioxane | 0.002 | 0.001 | 50.0# | 97 | 0.00 |
| 53 | T,M | Dibromomethane | 0.150 | 0.144 | 4.0 | 110 | 0.00 |
| 54 | T,M | 2-Chloroethyl vinyl ether | 0.000 | 0.001 | 0.0 | 0# | 0.01 |
| 55 | T,M | 4-Methyl-2-pentanone | 0.236 | 0.265 | -12.3 | 116 | 0.00 |
| 56 | T,M | cis-1,3-Dichloropropene | 0.489 | 0.494 | -1.0 | 114 | 0.00 |
| 57 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 126 | 0.00 |
| 58 | S | Toluene-d8 | 1.246 | 1.171 | 6.0 | 110 | 0.00 |
| 59 | C,T,M | Toluene | 1.573 | 1.533 | 2.5 | 112 | 0.00 |
| 60 | T,M | Ethyl methacrylate | 0.422 | 0.439 | -4.0 | 122 | -0.02 |
| 61 | T,M | trans-1,3-Dichloropropene | 0.494 | 0.495 | -0.2 | 116 | 0.00 |
| 62 | T,M | 1,1,2-Trichloroethane | 0.270 | 0.277 | -2.6 | 117 | 0.00 |
| 63 | T,M | 2-Hexanone | 0.196 | 0.217 | -10.7 | 118 | 0.00 |
| 64 | T,M | 1,3-Dichloropropane | 0.502 | 0.505 | -0.6 | 118 | 0.00 |
| 65 | T,M | Tetrachloroethene | 0.305 | 0.263 | 13.8 | 102 | 0.00 |
| 66 | T,M | Dibromochloromethane | 0.289 | 0.278 | 3.8 | 110 | 0.00 |
| 67 | T,M | 1,2-Dibromoethane | 0.260 | 0.245 | 5.8 | 113 | 0.00 |
| 68 | T,M | 1-Chlorohexane | 0.570 | 0.558 | 2.1 | 112 | 0.00 |
| 69 | P,T,M | Chlorobenzene | 0.903 | 0.893 | 1.1 | 113 | 0.00 |
| 70 | T,M | 1,1,1,2-Tetrachloroethane | 0.310 | 0.298 | 3.9 | 113 | 0.00 |
| 71 | C,T,M | Ethylbenzene | 1.664 | 1.685 | -1.3 | 114 | 0.00 |
| 72 | T,M | m-Xylene & p-Xylene | 1.247 | 1.262 | -1.2 | 114 | 0.00 |
| 73 | T,M | o-Xylene | 1.183 | 1.245 | -5.2 | 118 | 0.00 |
| 74 | T,M | Styrene | 0.935 | 0.994 | -6.3 | 117 | 0.00 |
| 75 | T,M | Isopropylbenzene | 1.440 | 1.536 | -6.7 | 120 | 0.00 |
| 76 | T,M | Cis-1,4-Dichloro-2-Butene | 0.080 | 0.084 | -5.0 | 115 | 0.00 |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 133 | 0.00 |
| 78 | P,T,M | Bromoform | 0.475 | 0.421 | 11.4 | 114 | 0.00 |
| 79 | P,T,M | 1,1,2,2-Tetrachloroethane | 0.919 | 0.956 | -4.0 | 126 | 0.00 |
| 80 | S | 4-Bromofluorobenzene | 1.240 | 1.059 | 14.6 | 108 | 0.00 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D Vial: 8
Acq On : 10 Jun 2024 13:24 Operator: IRagas
Sample : EVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 81 | T,M | 1,2,3-Trichloropropane | 0.218 | 0.211 | 3.2 | 120 | 0.00 |
| 82 | T,M | trans-1,4-Dichloro-2-butene | 0.217 | 0.225 | -3.7 | 129 | 0.00 |
| 83 | T,M | n-Propylbenzene | 5.394 | 5.470 | -1.4 | 121 | 0.00 |
| 84 | T,M | Bromobenzene | 1.058 | 0.960 | 9.3 | 115 | 0.00 |
| 85 | T,M | 1,3,5-Trimethylbenzene | 3.364 | 3.353 | 0.3 | 118 | 0.00 |
| 86 | T,M | 2-Chlorotoluene | 3.431 | 3.324 | 3.1 | 119 | 0.00 |
| 87 | T,M | 4-Chlorotoluene | 2.993 | 3.075 | -2.7 | 121 | 0.00 |
| 88 | T,M | tert-Butylbenzene | 0.691 | 0.654 | 5.4 | 116 | 0.00 |
| 89 | T,M | 1,2,4-Trimethylbenzene | 3.203 | 3.258 | -1.7 | 121 | 0.00 |
| 90 | T,M | sec-Butylbenzene | 4.279 | 4.428 | -3.5 | 123 | 0.00 |
| 91 | T,M | p-Isopropyltoluene | 3.248 | 3.404 | -4.8 | 121 | 0.00 |
| 92 | T,M | 1,3-Dichlorobenzene | 1.784 | 1.739 | 2.5 | 118 | 0.00 |
| 93 | T,M | 1,2,3-Trimethylbenzene | 3.038 | 3.091 | -1.7 | 120 | 0.00 |
| 94 | T,M | 1,4-Dichlorobenzene | 1.766 | 1.732 | 1.9 | 118 | 0.00 |
| 95 | T,M | n-Butylbenzene | 3.020 | 3.308 | -9.5 | 125 | 0.00 |
| 96 | T,M | 1,2-Dichlorobenzene | 1.548 | 1.513 | 2.3 | 119 | 0.00 |
| 97 | T,M | 1,2-Dibromo-3-chloropropane | 0.100 | 0.105 | -5.0 | 123 | 0.00 |
| 98 | T,M | 1,2,4-Trichlorobenzene | 0.799 | 0.852 | -6.6 | 128 | 0.00 |
| 99 | T,M | Hexachlorobutadiene | 0.395 | 0.398 | -0.8 | 126 | 0.00 |
| 100 | T,M | Naphthalene | 1.540 | 1.799 | -16.8 | 136 | 0.00 |
| 101 | T,M | 1,2,3-Trichlorobenzene | 0.688 | 0.738 | -7.3 | 130 | 0.00 |

# ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

# ANALYSIS RUN LOG
*for*
## VOLATILES

**Note:** For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

**Comments:**

| | |
|---|---|
| **Book #:** | A02-064 |
| **Instrument No.:** | 02 |
| **Analytical Sequence:** | 24A31 |
| **Method File:** | V002A31 |
| **Analytical Batch:** | V002A31C |

| SOP # |
|---|
| ☑ EMAX-8260 Rev. No. 10 |
| ☐ EMAX-8260C Rev. No. 1 |
| ☐ EMAX-8260SIM Rev. No. 1 |
| ☐ EMAX-M8260SIM Rev. No. 0 |
| ☐ EMAX-TCPSIM Rev. No. 2 |
| ☐ EMAX-624 Rev. No. 6 |
| ☐ EMAX-624.1 Rev. No. 1 |

| PURGE AMOUNT |
|---|
| ☑ 5-mL Purge |
| ☐ 10-mL Purge |
| ☐ 25-mL Purge |

| SAMPLE MATRIX |
|---|
| ☐ Soil (refer to sample weight log) |
| ☐ Water |
| ☐ pH <2. Outliers indicated on analytical sequence. |
| ☐ $Cl_2$ <5ppm. Outliers indicated on analytical sequence. |

**INITIAL CALIBRATION REFERENCE**

| | |
|---|---|
| DATE | 1/31/24 |
| ICAL ID | V002A31 |

**STANDARDS**

| NAME | ID | Amount (µl) | Conc. (mg/L) |
|---|---|---|---|
| DCC | SV1-43-38-03 | * | |
| DCC | -43-44-02 | | |
| DCC | -43-44-03 | | |
| DCC | -43-36-02 | ↓ | |
| BFB | -43-38-02 | 1 | |
| IS/SURR. 55 IS | -43-35-02 | 1 | 50/250 |
| | -43-35-03 | * | |
| ICV/LCS CS2 | -43-27-01 | 1 | |
| ICV/LCS 8260 KET-04 | -43-33-01 | 5 | |
| | -43-27-03 | 5 | |
| ICV/LCS | -43-40-02 | 1 | |
| ICV/LCS | -43-31-03 | 5 | |
| | -43-40-01 | 5 | |
| Data File Folder | 24A31 | | |
| | LOT # | Syringe Lot # | |
| pH strip | | MSV-03-02-18 | |
| Chlorine strip | | -03-04-13-6 | |
| Methanol | | -03-02-08 | |
| $NaHSO_4$ | SW1A-011-18-07 | | |
| Reagent Water | RW3-23-001 | | |
| Sand | SW18-004-06-19 | | |

| ELECTRONIC DATA ARCHIVAL | |
|---|---|
| Location | Date |
| HPCHEM_VOA/TO | |

Analyzed By: IR
Date: 1/31/24
Disposed By: IR
Date Disposed: 2/01/24

# Injection Log

Directory: D:\HPCHEM\1\DATA\24A31

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | RAP131.D | 1. | BFB02A16 | T/CHK | 31 Jan 2024 13:23 |
| 2 | 2 | RAP132.D | 1. | VO02A311 0.02uL | 1ppb 8260\5ppb KET-AA\10ppb TBA-2But | 31 Jan 2024 13:50 |
| 3 | 3 | RAP133.D | 1. | VO02A312 0.04uL | 2ppb 8260\10ppb KET-AA\20ppb TBA-2But | 31 Jan 2024 14:28 |
| 4 | 4 | RAP134.D | 1. | VO02A313 0.10uL | 5ppb 8260\25ppb KET-AA\50ppb TBA-2But | 31 Jan 2024 14:53 |
| 5 | 5 | RAP135.D | 1. | VO02A314 0.20uL | 10ppb 8260\50ppb KET-AA\100ppb TBA-2But | 31 Jan 2024 15:17 |
| 6 | 6 | RAP136.D | 1. | VO02A315 0.40uL | 20ppb 8260\100ppb KET-AA\200ppb TBA-2Bu | 31 Jan 2024 15:42 |
| 7 | 7 | RAP137.D | 1. | VO02A316 1.00uL | 50ppb 8260\250ppb KET-AA\500ppb TBA-2Bu | 31 Jan 2024 16:06 |
| 8 | 8 | RAP138.D | 1. | VO02A317 2.00uL | 100ppb 8260\500ppb KET-AA\1000ppb TBA-2 | 31 Jan 2024 16:31 |
| 9 | 9 | RAP139.D | 1. | VO02A318 4.00uL | 200ppb 8260\1000ppb KET-AA\2000ppb TBA- | 31 Jan 2024 16:55 |
| 10 | 10 | RAP140.D | 1. | VO02A319 6.00uL | 300ppb 8260\1500ppb KET-AA\3000ppb TBA- | 31 Jan 2024 17:20 |
| 11 | 11 | RAP141.D | 1. | VO02A3110 10.00uL | 500ppb 8260\2500ppb KET-AA\5000ppb TBA- | 31 Jan 2024 17:44 |
| 12 | 12 | RAP142.D | 1. | RINSE | 5.0mL | 31 Jan 2024 18:09 |
| 13 | 13 | RAP143.D | 1. | RINSE | 5.0mL | 31 Jan 2024 18:33 |
| 14 | 14 | RAP144.D | 1. | IVO02A311 1.00uL | 50ppb 8260\250ppb KET-AA\500ppb TBA-2Bu | 31 Jan 2024 18:58 |
| 15 | 15 | RAP145.D | 1. | RINSE | 5.0mL | 31 Jan 2024 19:22 |
| 16 | 16 | RAP146.D | 1. | LOD VERF | 1ppb 8260\5ppb KET-AA\10ppb TBA-2But | 31 Jan 2024 19:46 |

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #: A02-064
Instrument No.: 02
Analytical Sequence: 24F10
Method File: V002A31
Analytical Batch: CV002A3130

| INITIAL CALIBRATION REFERENCE | |
|---|---|
| DATE | 1/31/24 |
| ICAL ID | V002A31 |

**STANDARDS**

| NAME | ID | Amount (µl) | Conc. (mg/L) |
|---|---|---|---|
| DCC | SV1-43-54-03 | 1 | |
| DCC | -89-01 | 5 | |
| | -73-01 | 5 | |
| DCC | -77-02 | 1 | |
| DCC | -73-03 | 1 | |
| BFB | -38-04 | 1 | |
| IS/SURR. | -88-03 | 1 | 50/50 |
| ICV/LCS | -79-02 | 1 | |
| ICV/LCS | -92-01 | 5 | |
| | -51-01 | 5 | |
| ICV/LCS | -88-02 | 1 | |
| ICV/LCS | -90-01 | 5 | |
| | -40-01 | 5 | |
| Data File Folder | 24F10 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | | MSU-03-02-18 |
| Chlorine strip | | -03-04-11-5 |
| Methanol | | |
| $NaHSO_4$ | SWIA-011-18-07 | |
| Reagent Water | RW3-23-001 | |
| Sand | SWIB-004-06-09 | |

| SOP # |
|---|
| ☑ EMAX-8260 Rev. No. 10 |
| ☐ EMAX-8260C Rev. No. 1 |
| ☐ EMAX-8260SIM Rev. No. 1 |
| ☐ EMAX-M8260SIM Rev. No. 0 |
| ☐ EMAX-TCPSIM Rev. No. 2 |
| ☐ EMAX-624 Rev. No. 6 |
| ☐ EMAX-624.1 Rev. No. 1 |

| PURGE AMOUNT |
|---|
| ☑ 5-mL Purge |
| ☐ 10-mL Purge |
| ☐ 25-mL Purge |

| SAMPLE MATRIX |
|---|
| ☑ Soil (refer to sample weight log) |
| ☐ Water |
| ☐ pH <2. Outliers indicated on analytical sequence. |
| ☐ $Cl_2$ <5ppm. Outliers indicated on analytical sequence. |

| ELECTRONIC DATA ARCHIVAL | |
|---|---|
| Location | Date |
| HPCHEM_VOA/TO | |

Analyzed By: IP
Date: 6/10/24
Disposed By: IR
Date Disposed: 6/10/24

# Injection Log

Directory: D:\HPCHEM\1\DATA\24F10

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | RFP095.D | 1. | BFB02F05 | T/CHK | 10 Jun 2024 10:06 |
| 2 | 2 | RFP096.D | 1. | CVO02A3130 | 50ppb 8260\250ppb KET-AA\500ppb TBA | 10 Jun 2024 10:30 |
| 3 | 3 | RFP097.D | 1. | VS02F05L | 50ppb 8260\250ppb KET-AA\500ppb TBA | 10 Jun 2024 11:21 |
| 4 | 4 | RFP098.D | 1. | VS02F05C | 50ppb 8260\250ppb KET-AA\500ppb TBA | 10 Jun 2024 11:45 |
| 5 | 5 | RFP099.D | 1. | RINSE | 50ppb 8260\250ppb KET-AA\500ppb TBA | 10 Jun 2024 12:09 |
| 6 | 6 | RFP100.D | 1. | VS02F05B | 5.0g | 10 Jun 2024 12:34 |
| 7 | 7 | RFP101.D | 1. | 24F034-02 - 3RD ISV - NO Target analytes affected | | 10 Jun 2024 12:58 |
| 8 | 8 | RFP102.D | 1. | EVO02A3130 | 50ppb 8260\250ppb KET-AA\500ppb TBA | 10 Jun 2024 13:24 |

# EXTRACTION LOG(S)

EMAX LABORATORIES, INC.

# EXTRACTION LOG FOR VOLATILES

FileID: 24VMF003

| PrepBatchID | Lab Sample ID | W1 (g) | DateTime | Wf (g) | DateTime | ExpWs(g) | Ws(g) | %Moisture | CorrExt Vol(ml) | PrepFactor | PFx50 df(I) | df(J) | df(K) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24VMF00301 | 24F034-02I | 29.4 | 6/7/24 12:27 | 39.83 | 6/7/24 12:27 | 5 | 10.420 | | 5 | 0.48 | 24 | | | |

☑ EMAX-5035 Rev.5 ☑ Balance Calibration Check performed prior to use BlankSoil Lot#: Prepared By: EDegui

☐ Encore ☐ Balance ID 25650797 MeOH/Surr. ID: 22410031 Standard Added By: N/A

☐ Frozen Sample ☑ Balance ID 25451062 Weight MeOH(g): Witnessed By: N/A

☑ Pre-weighed vial / jar 01122011 Vol MeOH(ml): 5 Extract Rcvd By: *IRagas*

☐ Volumetric dispenser was checked with 5-ml volumetric flask Expected Ws(g) 5 Extract Location: *VW01*

W1=Weight of Vial+Solvent Wf=W1 + Sample

# PRESERVATION LOG(S)

EMAX LABORATORIES, INC.

# PRESERVATION LOG FOR VOLATILES

24VPF003

| PrepBatchID | Lab Sample ID | W1 (g) | DateTime | Wf (g) | DateTime | ExpWs(g) | Ws(g) | PrepFactor | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 24VPF00301 | 24F034-02 | 31.58 | 6/7/24 12:31 | 41.00 | 6/7/24 12:31 | 5 | 9.417 | 0.531 | |
| 24VPF00302 | 24F034-02R | 31.41 | 6/7/24 12:33 | 41.93 | 6/7/24 12:33 | 5 | 10.523 | 0.4751 | |
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☑ EMAX-5035 Rev. 5 ☑ Balance Calibration Check performed prior to use Surrogate ID: Prepared By: EDegui

☐ Encore+$NaHSO_4 \cdot H_2O$ ☑ BalanceID 25451062 ☐ BalanceID 25650797 BlankSoil Lot#: Standard Added By: N/A

☐ Frozen Sample ☐ Pre-weighed vial w/ H2O NaHSO4H2O: 225461 Witnessed By: N/A

☑ Pre-weighed vial w/ NaHSO4•H2O soln 01122011 Expected Ws(g): 5 Extract Rcvd By: IRagas

☐ Volumetric dispenser was checked with 5-ml volumetric flask Sample Location: VW01 Checked By: IRagas

W1=Weight of Vial + Stirrer+NaHSO4•H2O+Solvent Wf=W1 + Sample

EMAX LABORATORIES, INC.

# PRESERVATION LOG FOR VOLATILES

24VPF003

| PrepBatchID | Lab Sample ID | W1 (g) | DateTime | Wf (g) | DateTime | ExpWs(g) | Ws(g) | Prep Factor | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 24VPF00301 | 24034-02 | 31.58 | 6/7/24 12:31 | 41.00 | 6/7/24 12:31 | 5 | 9.417 | 0.531 | |
| 24VPF00302 | 24034-02R | 31.41 | 6/7/24 12:33 | 41.93 | 6/7/24 12:33 | 5 | 10.523 | 0.4751 | |
| | E | | | | | | | | |

☑ EMAX-5035 Rev. 5 ☑ Balance Calibration Check performed prior to use Surrogate ID: Preparec By: EDegui

☐ Encore+$NaHSO_4$•$H_2O$ ☑ BalanceID 25451062 ☐ BalanceID 25650797 BlankSoil Lot#: Standard Added By: N/A

☐ Frozen Sample ☐ Pre-weighed vial w/ H2O NaHSO4H2O: 225461 Witnessed By: N/A

☑ Pre-weighed vial w/ NaHSO4•H2O soln 0112201I Expected Ws(g): 5 Extract Rcvd By: IRagas

☐ Volumetric dispenser was checked with 5-ml volumetric flask Sample Location: VW01 Checked By: IRagas

W1=Weight of Vial + Stirrer+NaHSO4•H2O+Solvent Wf=W1 + Sample

# SUMMARY PACKAGE
# METALS / MERCURY

# METALS
# (WATER)

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F034

METHOD 3010A/6010C
METALS BY TRACE ICP

One(1) water sample was received on 06/07/24 to be analyzed for Metals by Trace ICP in accordance with Method 3010A/6010C and project specific requirements.

Holding Time
The sample was digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IPF009WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IPF009WL/IPF009WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. F034-01M/F034-01S - all analytes were within MS/MSD QC limits. Refer to Matrix QC summary form for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
METALS BY TRACE ICP

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F034
Instrument ID : D8

WATER

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| MBLK1W | IPF009WB | 1.000 | NA | 06/20/2419:15 | 06/14/2409:28 | ID8F008060 | ID8F008053 | IPF009W | Method Blank |
| LCS1W | IPF009WL | 1.000 | NA | 06/20/2419:20 | 06/14/2409:28 | ID8F008061 | ID8F008053 | IPF009W | Lab Control Sample (LCS) |
| LCD1W | IPF009WC | 1.000 | NA | 06/20/2419:24 | 06/14/2409:28 | ID8F008062 | ID8F008053 | IPF009W | LCS Duplicate |
| IDW-WATER_JUN24 | F034-01 | 1.000 | NA | 06/20/2419:44 | 06/14/2409:28 | ID8F008056 | ID8F008063 | IPF009W | Field Sample |
| IDW-WATER_JUN24MS | F034-01M | 1.000 | NA | 06/20/2419:54 | 06/14/2409:28 | ID8F008068 | ID8F008063 | IPF009W | Matrix Spike Sample (MS) |
| IDW-WATER_JUN24MSD | F034-01S | 1.000 | NA | 06/20/2419:59 | 06/14/2409:28 | ID8F008069 | ID8F008063 | IPF009W | MS Duplicate (MSD) |

FN - Filename
% Moist - Percent Moisture

METHOD 3010A/6010C
METALS BY TRACE ICP

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/06/24 11:40 |
| Project | : TITAN 1-A | Date Received: | 06/07/24 |
| SDG NO. | : 24F034 | Date Extracted: | 06/14/24 09:28 |
| Sample ID: | IDW-WATER_JUN24 | Date Analyzed: | 06/20/24 19:44 |
| Lab Samp ID: | F034-01 | Dilution Factor: | 1 |
| Lab File ID: | ID8F008066 | Matrix: | WATER |
| Ext Btch ID: | IPF009W | % Moisture: | NA |
| Calib. Ref.: | ID8F008063 | Instrument ID: | D8 |

| PARAMETERS | Result (mg/L) | LOQ (mg/L) | DL (mg/L) | LOD (mg/L) |
|---|---|---|---|---|
| Antimony | ND | 0.100 | 0.0150 | 0.0300 |
| Arsenic | 0.0118J | 0.0400 | 0.0100 | 0.0200 |
| Barium | 0.0406 | 0.0100 | 0.00100 | 0.00200 |
| Beryllium | ND | 0.0100 | 0.00100 | 0.00200 |
| Cadmium | ND | 0.0100 | 0.00250 | 0.00500 |
| Chromium | ND | 0.0100 | 0.00200 | 0.00500 |
| Cobalt | ND | 0.0100 | 0.00100 | 0.00200 |
| Copper | 0.0113 | 0.0100 | 0.00250 | 0.00500 |
| Lead | ND | 0.0100 | 0.00250 | 0.00500 |
| Molybdenum | 0.0278 | 0.0100 | 0.00200 | 0.00500 |
| Nickel | 0.00243J | 0.0100 | 0.00200 | 0.00500 |
| Selenium | ND | 0.0200 | 0.00500 | 0.0100 |
| Silver | ND | 0.0100 | 0.00200 | 0.00500 |
| Thallium | ND | 0.0100 | 0.00250 | 0.00500 |
| Vanadium | 0.0175 | 0.0100 | 0.00100 | 0.00200 |
| Zinc | ND | 0.0500 | 0.0100 | 0.0200 |

Note: Detection limits are reported relative to sample result significant figures.

| | | | |
|---|---|---|---|
| Sample Amount | : 50ml | Final Volume: | 50ml |
| Prepared by | : JChun | Analyzed by: | JFeng/JChun |

METHOD 3010A/6010C
METALS BY TRACE ICP

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | NA |
| Project | : TITAN 1-A | Date Received: | NA |
| SDG NO. | : 24F034 | Date Extracted: | 06/14/24 09:28 |
| Sample ID: | MBLK1W | Date Analyzed: | 06/20/24 19:15 |
| Lab Samp ID: | IPF009WB | Dilution Factor: | 1 |
| Lab File ID: | ID8F008060 | Matrix: | WATER |
| Ext Btch ID: | IPF009W | % Moisture: | NA |
| Calib. Ref.: | ID8F008053 | Instrument ID: | D8 |

| PARAMETERS | Result (mg/L) | LOQ (mg/L) | DL (mg/L) | LOD (mg/L) |
|---|---|---|---|---|
| Antimony | ND | 0.100 | 0.0150 | 0.0300 |
| Arsenic | ND | 0.0400 | 0.0100 | 0.0200 |
| Barium | ND | 0.0100 | 0.00100 | 0.00200 |
| Beryllium | ND | 0.0100 | 0.00100 | 0.00200 |
| Cadmium | ND | 0.0100 | 0.00250 | 0.00500 |
| Chromium | ND | 0.0100 | 0.00200 | 0.00500 |
| Cobalt | ND | 0.0100 | 0.00100 | 0.00200 |
| Copper | ND | 0.0100 | 0.00250 | 0.00500 |
| Lead | ND | 0.0100 | 0.00250 | 0.00500 |
| Molybdenum | ND | 0.0100 | 0.00200 | 0.00500 |
| Nickel | ND | 0.0100 | 0.00200 | 0.00500 |
| Selenium | ND | 0.0200 | 0.00500 | 0.0100 |
| Silver | ND | 0.0100 | 0.00200 | 0.00500 |
| Thallium | ND | 0.0100 | 0.00250 | 0.00500 |
| Vanadium | ND | 0.0100 | 0.00100 | 0.00200 |
| Zinc | ND | 0.0500 | 0.0100 | 0.0200 |

Note: Detection limits are reported relative to sample result significant figures.

| | | | |
|---|---|---|---|
| Sample Amount | : 50ml | Final Volume: | 50ml |
| Prepared by | : JChun | Analyzed by: | JFeng/JChun |

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : 3010A/6010C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR | : 1.000 | 1.000 | 1.000 |
| SAMPLE ID | : MBLK1W | LCS1W | LCD1W |
| LAB SAMPLE ID | : IPF009WB | IPF009WL | IPF009WC |
| LAB FILE ID | : ID8F008060 | ID8F008061 | ID8F008062 |
| DATE PREPARED | : 06/14/24 09:28 | 06/14/24 09:28 | 06/14/24 09:28 |
| DATE ANALYZED | : 06/20/24 19:15 | 06/20/24 19:20 | 06/20/24 19:24 |
| PREP BATCH | : IPF009W | IPF009W | IPF009W |
| CALIBRATION REF | : ID8F008053 | ID8F008053 | ID8F008053 |

ACCESSION:

| PARAMETERS | MBResult (mg/L) | SpikeAmt (mg/L) | LCSResult (mg/L) | LCSRec (%) | SpikeAmt (mg/L) | LCDResult (mg/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 2.5 | 2.32 | 93 | 2.5 | 2.34 | 94 | 1 | 88-113 | 20 |
| Arsenic | ND | 0.5 | 0.492 | 98 | 0.5 | 0.492 | 98 | 0 | 87-113 | 20 |
| Barium | ND | 0.5 | 0.473 | 95 | 0.5 | 0.475 | 95 | 0 | 88-113 | 20 |
| Beryllium | ND | 0.5 | 0.483 | 97 | 0.5 | 0.483 | 97 | 0 | 89-112 | 20 |
| Cadmium | ND | 0.5 | 0.494 | 99 | 0.5 | 0.494 | 99 | 0 | 88-113 | 20 |
| Chromium | ND | 0.5 | 0.475 | 95 | 0.5 | 0.481 | 96 | 1 | 90-113 | 20 |
| Cobalt | ND | 0.5 | 0.466 | 93 | 0.5 | 0.465 | 93 | 0 | 89-114 | 20 |
| Copper | ND | 0.5 | 0.467 | 93 | 0.5 | 0.468 | 94 | 0 | 86-114 | 20 |
| Lead | ND | 0.5 | 0.459 | 92 | 0.5 | 0.458 | 92 | 0 | 86-113 | 20 |
| Molybdenum | ND | 0.5 | 0.487 | 97 | 0.5 | 0.488 | 98 | 0 | 89-113 | 20 |
| Nickel | ND | 0.5 | 0.497 | 99 | 0.5 | 0.496 | 99 | 0 | 88-113 | 20 |
| Selenium | ND | 0.5 | 0.495 | 99 | 0.5 | 0.493 | 99 | 0 | 83-114 | 20 |
| Silver | ND | 0.5 | 0.483 | 97 | 0.5 | 0.485 | 97 | 0 | 84-115 | 20 |
| Thallium | ND | 0.5 | 0.470 | 94 | 0.5 | 0.470 | 94 | 0 | 85-114 | 20 |
| Vanadium | ND | 0.5 | 0.481 | 96 | 0.5 | 0.482 | 96 | 0 | 90-111 | 20 |
| Zinc | ND | 0.5 | 0.505 | 101 | 0.5 | 0.504 | 101 | 0 | 87-115 | 20 |

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : 3010A/6010C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE: NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : IDW-WATER_JUN24 | IDW-WATER_JUN24MS | IDW-WATER_JUN24MSD |
| LAB SAMPLE ID | : F034-01 | F034-01M | F034-01S |
| LAB FILE ID | : ID8F008066 | ID8F008068 | ID8F008069 |
| DATE PREPARED | : 06/14/24 09:28 | 06/14/24 09:28 | 06/14/24 09:28 |
| DATE ANALYZED | : 06/20/24 19:44 | 06/20/24 19:54 | 06/20/24 19:59 |
| PREP BATCH | : IPF009W | IPF009W | IPF009W |
| CALIBRATION REF | : ID8F008063 | ID8F008063 | ID8F008063 |

ACCESSION:

| PARAMETERS | PSResult (mg/L) | SpikeAmt (mg/L) | MSResult (mg/L) | MSRec (%) | SpikeAmt (mg/L) | MSDResult (mg/L) | MSDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 2.5 | 2.36 | 94 | 2.5 | 2.38 | 95 | 1 | 88-113 | 20 |
| Arsenic | 0.0118J | .5 | 0.512 | 100 | .5 | 0.516 | 101 | 1 | 87-113 | 20 |
| Barium | 0.0406 | .5 | 0.519 | 96 | .5 | 0.522 | 96 | 1 | 88-113 | 20 |
| Beryllium | ND | .5 | 0.482 | 96 | .5 | 0.484 | 97 | 0 | 89-112 | 20 |
| Cadmium | ND | .5 | 0.489 | 98 | .5 | 0.490 | 98 | 0 | 88-113 | 20 |
| Chromium | ND | .5 | 0.480 | 96 | .5 | 0.482 | 96 | 0 | 90-113 | 20 |
| Cobalt | ND | .5 | 0.458 | 92 | .5 | 0.460 | 92 | 0 | 89-114 | 20 |
| Copper | 0.0113 | .5 | 0.478 | 93 | .5 | 0.480 | 94 | 0 | 86-114 | 20 |
| Lead | ND | .5 | 0.446 | 89 | .5 | 0.447 | 89 | 0 | 86-113 | 20 |
| Molybdenum | 0.0278 | .5 | 0.513 | 97 | .5 | 0.518 | 98 | 1 | 89-113 | 20 |
| Nickel | 0.00243J | .5 | 0.489 | 97 | .5 | 0.490 | 98 | 0 | 88-113 | 20 |
| Selenium | ND | .5 | 0.494 | 99 | .5 | 0.499 | 100 | 1 | 83-114 | 20 |
| Silver | ND | .5 | 0.497 | 99 | .5 | 0.500 | 100 | 1 | 84-115 | 20 |
| Thallium | ND | .5 | 0.455 | 91 | .5 | 0.455 | 91 | 0 | 85-114 | 20 |
| Vanadium | 0.0175 | .5 | 0.501 | 97 | .5 | 0.503 | 97 | 0 | 90-111 | 20 |
| Zinc | ND | .5 | 0.500 | 100 | .5 | 0.502 | 100 | 0 | 87-115 | 20 |

PSResult - Parent Sample Result

# ICP (6010) QC CHECK TABLE

| QC | ICV | CCV | ICSAB | ICSA |
|---|---|---|---|---|
| Limit% | 90-110 | 90-110 | 80-120 | 80-120 |
| Comp | mg/L | mg/L | mg/L | mg/L |
| Al | 100 | 100 | 400 | 400 |
| Sb | 1.5 | 1.5 | 1 | 0 |
| As | 1 | 1 | 1 | 0 |
| Ba | 2 | 2 | 0.5 | 0 |
| Be | 1.5 | 1.5 | 0.5 | 0 |
| B | 2.5 | 2.5 | 1 | 0 |
| Cd | 2 | 2 | 1 | 0 |
| Ca | 75 | 75 | 500 | 500 |
| Cr | 2.5 | 2.5 | 0.5 | 0 |
| Co | 1 | 1 | 0.5 | 0 |
| Cu | 2.5 | 2.5 | 0.5 | 0 |
| Fe | 25 | 25 | 200 | 200 |
| Pb | 2.5 | 2.5 | 1 | 0 |
| Li | 0.5 | 0.5 | 1 | 0 |
| Mg | 60 | 60 | 200 | 200 |
| Mn | 2.5 | 2.5 | 0.5 | 0 |
| Mo | 2.5 | 2.5 | 1 | 0 |
| Ni | 2.5 | 2.5 | 1 | 0 |
| K | 60 | 60 | 75 | 0 |
| Se | 1 | 1 | 1 | 0 |
| Ag | 0.5 | 0.5 | 1 | 0 |
| Na | 60 | 60 | 75 | 0 |
| Sr | 0.5 | 0.5 | 0.5 | 0 |
| Tl | 2.5 | 2.5 | 1 | 0 |
| Sn | 0.5 | 0.5 | 1 | 0 |
| Ti | 0.5 | 0.5 | 1 | 0 |
| V | 1.5 | 1.5 | 0.5 | 0 |
| Zn | 2.5 | 2.5 | 1 | 0 |

**Note:** For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

**Start Date:** 6/20/24 12:28

**End Date:** 6/21/24 00:35

| SOP # | Rev. # |
|---|---|
| ☐ EMAX-6010 | 9 |
| ☑ EMAX-6010C | 3 |
| ☐ EMAX-200.7 | 6 |
| ☐ EMAX- | |

**Comments:** See Analytical Sequence

**Book #:** AD8-075

**Instrument No.:** D8

**Analytical Batch:** ID8F008

**Analytical Sequence:** 6-24F6010 (v19)

**Method File:** 6/20/24 24F6010 (v19)

**Database:** EMAX31

**Micropipette ID:** ☐ 942780530

**Micropipette ID:** ☑ D42761999

**Micropipette ID:** ☑ 542740566

**Micropipette ID:** ☑ D42781151

**Micropipette ID:** ☐

| | STANDARDS ID | | STANDARDS ID |
|---|---|---|---|
| S0 | SMIB-29-38-02 | S26 | SMIB-29-44-01 |
| S1 | N/A | S27 | -44-02 |
| S2 | | S28 | -18-01 |
| S3 | | S29 | -18-02 |
| S4 | | S30 | -24-02 |
| S5 | | S31 | -25-01 |
| S6 | | ICV | SMIB-29-40-01 |
| S7 | | CCV | -19-01 |
| S8 | | ICSA | -24-01 |
| S9 | | ICSAB | -39-01 |
| S10 | | CRI/MRL1 | -26-01 |
| S11 | | CRI/MRL2 | -37-02 |
| S12 | | CRI/MRL3 | -20-01(2x) |
| S16 | | CRI/MRL4 | -12-01 |
| S17 | | Internal Standard | SMIA-025-12-04 |
| S18 | | Post-Spike 1 | -09-02 |
| S20 | SMIB-29-39-01 | Post-Spike 2 | -07-03 |
| S21 | -39-02 | Post-Spike 3 | -07-04 |
| S22 | -16-02 | | |
| S23 | -17-01 | | |
| S24 | -43-01 | | |
| S25 | -43-02 | | |

Analyzed By: JF / JC

Date: 6/20/24

SEQUENCE FILE : ID8F008

| 4-18 | 19-33 | 34-43 | 44-53 | 54-63 |
|---|---|---|---|---|
| LFID | LSID | TIME | DATE | DF |
| ID8F008001 | S024F6010 | 12:28 | 06/20/24 | 1.000 |
| ID8F008002 | S20 | 12:33 | 06/20/24 | 1.000 |
| ID8F008003 | S21 | 12:38 | 06/20/24 | 1.000 |
| ID8F008004 | S22 | 12:43 | 06/20/24 | 1.000 |
| ID8F008005 | S23 | 12:48 | 06/20/24 | 1.000 |
| ID8F008006 | S24 | 12:54 | 06/20/24 | 1.000 |
| ID8F008007 | S25 | 12:58 | 06/20/24 | 1.000 |
| ID8F008008 | S26 | 13:04 | 06/20/24 | 1.000 |
| ID8F008009 | S27 | 13:08 | 06/20/24 | 1.000 |
| ID8F008010 | S28 | 13:13 | 06/20/24 | 1.000 |
| ID8F008011 | S29 | 13:18 | 06/20/24 | 1.000 |
| ID8F008012 | S30 | 13:23 | 06/20/24 | 1.000 |
| ID8F008013 | S31 | 13:28 | 06/20/24 | 1.000 |
| ID8F008014 | ICV | 13:33 | 06/20/24 | 1.000 |
| ID8F008015 | ICB | 13:38 | 06/20/24 | 1.000 |
| ID8F008016 | MRLF2001 | 13:43 | 06/20/24 | 1.000 |
| ID8F008017 | MRLF2002 | 13:48 | 06/20/24 | 1.000 |
| ID8F008018 | ICSA1 | 13:53 | 06/20/24 | 1.000 |
| ID8F008019 | ICSAB1 | 13:58 | 06/20/24 | 1.000 |
| ID8F008020 | MRLF2003 | 14:03 | 06/20/24 | 1.000 |
| ID8F008021 | MRLF2004 | 14:08 | 06/20/24 | 1.000 |
| ID8F008022 | CCV1 | 14:12 | 06/20/24 | 1.000 |
| ID8F008023 | CCB1 | 14:17 | 06/20/24 | 1.000 |
| ID8F008024 | IPF005WB | 16:17 | 06/20/24 | 1.000 |
| ID8F008025 | IPF005WL | 16:22 | 06/20/24 | 1.000 |
| ID8F008026 | IPF005WC | 16:27 | 06/20/24 | 1.000 |
| ID8F008027 | F020-02 | 16:31 | 06/20/24 | 1.000 |
| ID8F008028 | F020-03A | 16:36 | 06/20/24 | 1.000 |
| ID8F008029 | F020-03 | 16:41 | 06/20/24 | 1.000 |
| ID8F008030 | F020-03J | 16:46 | 06/20/24 | 5.000 |
| ID8F008031 | F020-03K | 16:51 | 06/20/24 | 1.000 |
| ID8F008032 | F020-03S | 16:56 | 06/20/24 | 1.000 |
| ID8F008033 | CCV2 | 17:01 | 06/20/24 | 1.000 |
| ID8F008034 | CCB2 | 17:06 | 06/20/24 | 1.000 |
| ID8F008035 | F020-04 | 17:11 | 06/20/24 | 1.000 |
| ID8F008036 | F020-05 | 17:15 | 06/20/24 | 1.000 |
| ID8F008037 | F020-06 | 17:20 | 06/20/24 | 1.000 |
| ID8F008038 | TXF002SB | 17:25 | 06/20/24 | 1.000 |
| ID8F008039 | F008-04A | 17:30 | 06/20/24 | 1.000 |
| ID8F008040 | F008-04 | 17:35 | 06/20/24 | 1.000 |
| ID8F008041 | F008-04J | 17:40 | 06/20/24 | 5.000 |
| ID8F008042 | F008-04M | 17:45 | 06/20/24 | 1.000 |
| ID8F008043 | F008-04S | 17:50 | 06/20/24 | 1.000 |
| ID8F008044 | TXF003SB | 17:55 | 06/20/24 | 1.000 |
| ID8F008045 | CCV3 | 18:00 | 06/20/24 | 1.000 |
| ID8F008046 | CCB3 | 18:05 | 06/20/24 | 1.000 |
| ID8F008047 | F032-05 | 18:10 | 06/20/24 | 1.000 |
| ID8F008048 | F034-02 | 18:16 | 06/20/24 | 1.000 |
| ID8F008049 | F428-01 | 18:21 | 06/20/24 | 1.000 |
| ID8F008050 | IPF010SB | 18:26 | 06/20/24 | 1.000 |
| ID8F008051 | IPF010SL | 18:31 | 06/20/24 | 1.000 |
| ID8F008052 | IPF010SC | 18:36 | 06/20/24 | 1.000 |
| ID8F008053 | CCV4 | 18:40 | 06/20/24 | 1.000 |
| ID8F008054 | CCB4 | 18:45 | 06/20/24 | 1.000 |
| ID8F008055 | F034-02A | 18:50 | 06/20/24 | 1.000 |
| ID8F008056 | F034-02 | 18:55 | 06/20/24 | 1.000 |
| ID8F008057 | F034-02J | 19:00 | 06/20/24 | 5.000 |
| ID8F008058 | F034-02M | 19:05 | 06/20/24 | 1.000 |
| ID8F008059 | F034-02S | 19:10 | 06/20/24 | 1.000 |
| ID8F008060 | IPF009WB | 19:15 | 06/20/24 | 1.000 |
| ID8F008061 | IPF009WL | 19:20 | 06/20/24 | 1.000 |
| ID8F008062 | IPF009WC | 19:24 | 06/20/24 | 1.000 |

| | | | | |
|---|---|---|---|---|
| ID8F008063 | CCV5 | 19:29 | 06/20/24 | 1.000 |
| ID8F008064 | CCB5 | 19:34 | 06/20/24 | 1.000 |
| ID8F008065 | F034-01A | 19:39 | 06/20/24 | 1.000 |
| ID8F008066 | F034-01 | 19:44 | 06/20/24 | 1.000 |
| ID8F008067 | F034-01J | 19:49 | 06/20/24 | 5.000 |
| ID8F008068 | F034-01M | 19:54 | 06/20/24 | 1.000 |
| ID8F008069 | F034-01S | 19:59 | 06/20/24 | 1.000 |
| ID8F008070 | CCV6 | 20:03 | 06/20/24 | 1.000 |
| ID8F008071 | CCB6 | 20:08 | 06/20/24 | 1.000 |
| ID8F008072 | IPF011WB | 20:13 | 06/20/24 | 1.000 |
| ID8F008073 | IPF011WL | 20:18 | 06/20/24 | 1.000 |
| ID8F008074 | IPF011WC | 20:23 | 06/20/24 | 1.000 |
| ID8F008075 | TX004WB | 20:28 | 06/20/24 | 1.000 |
| ID8F008076 | F058-01A | 20:33 | 06/20/24 | 1.000 |
| ID8F008077 | F058-01 | 20:38 | 06/20/24 | 1.000 |
| ID8F008078 | F058-01J | 20:43 | 06/20/24 | 5.000 |
| ID8F008079 | F058-01M | 20:48 | 06/20/24 | 1.000 |
| ID8F008080 | F058-01S | 20:52 | 06/20/24 | 1.000 |
| ID8F008081 | CCV7 | 20:57 | 06/20/24 | 1.000 |
| ID8F008082 | CCB7 | 21:02 | 06/20/24 | 1.000 |
| ID8F008083 | IPF006SB | 21:07 | 06/20/24 | 1.000 |
| ID8F008084 | IPF006SL | 21:12 | 06/20/24 | 1.000 |
| ID8F008085 | IPF006SC | 21:17 | 06/20/24 | 1.000 |
| ID8F008086 | F427-01A | 21:22 | 06/20/24 | 1.000 |
| ID8F008087 | F427-01 | 21:27 | 06/20/24 | 1.000 |
| ID8F008088 | F427-01J | 21:32 | 06/20/24 | 5.000 |
| ID8F008089 | F427-01M | 21:37 | 06/20/24 | 1.000 |
| ID8F00808C | F427-01S | 21:41 | 06/20/24 | 1.000 |
| ID8F008091 | CCV8 | 21:46 | 06/20/24 | 1.000 |
| ID8F008092 | CCB8 | 21:51 | 06/20/24 | 1.000 |
| ID8F008093 | IPF015SB | 21:56 | 06/20/24 | 1.000 |
| ID8F008094 | IPF015SL | 22:01 | 06/20/24 | 1.000 |
| ID8F008095 | IPF015SC | 22:06 | 06/20/24 | 1.000 |
| ID8F008096 | F476-01A | 22:11 | 06/20/24 | 1.000 |
| ID8F008C97 | F476-01 | 22:15 | 06/20/24 | 1.000 |
| ID8F008C98 | F476-01J | 22:20 | 06/20/24 | 5.000 |
| ID8FC08C99 | F476-01M | 22:25 | 06/20/24 | 1.000 |
| ID8F008100 | F476-01S | 22:30 | 06/20/24 | 1.000 |
| ID8F008101 | CCV9 | 22:35 | 06/20/24 | 1.000 |
| ID8F008102 | CCB9 | 22:40 | 06/20/24 | 1.000 |
| ID8F008103 | IPF016WB | 22:45 | 06/20/24 | 1.000 |
| ID8F008104 | IPF016WL | 22:50 | 06/20/24 | 1.000 |
| ID8F008105 | IPF016WC | 22:55 | 06/20/24 | 1.000 |
| ID8F008106 | CCV10 | 23:00 | 06/20/24 | 1.000 |
| ID8F008107 | CCB10 | 23:05 | 06/20/24 | 1.000 |
| ID8F008108 | WTF002SB | 23:10 | 06/20/24 | 5.000 |
| ID8F008109 | E112-01A | 23:15 | 06/20/24 | 5.000 |
| ID8F008110 | E112-01 | 23:20 | 06/20/24 | 5.000 |
| ID8F008111 | E112-01J | 23:25 | 06/20/24 | 25.000 |
| ID8FC08112 | E112-01M | 23:30 | 06/20/24 | 5.000 |
| ID8FC08113 | E112-01S | 23:35 | 06/20/24 | 5.000 |
| ID8F008114 | CCV11 | 23:40 | 06/20/24 | 1.000 |
| ID8F008115 | CCB11 | 23:45 | 06/20/24 | 1.000 |
| ID8F008116 | MRL2005 | 23:50 | 06/20/24 | 1.000 |
| ID8F008117 | MRL2006 | 23:55 | 06/20/24 | 1.000 |
| ID8F008118 | WTF001SB | 00:00 | 06/21/24 | 5.000 |
| ID8F008119 | F034-02A | 00:05 | 06/21/24 | 5.000 |
| ID8F008120 | F034-02 | 00:10 | 06/21/24 | 5.000 |
| ID8F008121 | F034-02J | 00:15 | 06/21/24 | 25.000 |
| ID8F008122 | F034-02M | 00:20 | 06/21/24 | 5.000 |
| ID8F008123 | F034-02S | 00:25 | 06/21/24 | 5.000 |
| ID8F008124 | CCV12 | 00:30 | 06/21/24 | 1.000 |
| ID8F008125 | CCB12 | 00:35 | 06/21/24 | 1.000 |

# INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Method : METHOD 3010A/6010C
Sequence : ID8F008
InstrumentID: D8

| | | ICV | | | | ICSA1 | | | ICSAB1 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab Samp ID : | | ICV | | | | ICSA1 | | | ICSAB1 | | |
| QC Limit : | | %R:90-110/RSD:<5 | | | | %R:80-120/<LOD | | | %R:80-120 | | |
| Lab File ID : | | ID8F008014 | | | | ID8F008018 | | | ID8F008019 | | |
| DateAnalyed : | | 06/20/2413:33 | | | | 06/20/2413:53 | | | 06/20/2413:58 | | |
| Parameter | | Result | ICV EV | RSD | %Recovery | Result | ICSA EV | %Rec/LOD | Result | ICSAB EV | %Recovery |
| Aluminum | | 97.211 | 100 | 1.0598 | 97 | 427.13 | 400 | 107 | 393.82 | 400 | 98 |
| Antimony | T | 1.5120 | 1.5 | .48756 | 101 | .00341 | 0 | <0.030 | .98030 | 1 | 98 |
| Arsenic | T | .97284 | 1.0 | .79739 | 97 | .00052 | 0 | <0.02 | .99520 | 1 | 100 |
| Barium | T | 1.8909 | 2.0 | .16430 | 95 | .00038 | 0 | <0.002 | .46414 | 0.5 | 93 |
| Beryllium | T | 1.4106 | 1.5 | .17814 | 94 | -.00002 | 0 | <0.002 | .45548 | 0.5 | 91 |
| Boron | | 2.3651 | 2.5 | .09104 | 95 | -.00519 | 0 | <0.01 | .97195 | 1.0 | 97 |
| Cadmium | T | 1.9290 | 2.0 | .30745 | 96 | -.00088 | 0 | <0.005 | .90537 | 1 | 91 |
| Calcium | | 74.758 | 75 | .05652 | 100 | 491.83 | 500 | 98 | 452.47 | 500 | 90 |
| Chromium | T | 2.3623 | 2.5 | .07450 | 94 | .00173 | 0 | <0.005 | .45155 | 0.5 | 90 |
| Cobalt | T | .91737 | 1.0 | .05552 | 92 | -.00021 | 0 | <0.002 | .45867 | 0.5 | 92 |
| Copper | T | 2.3152 | 2.5 | .09362 | 93 | .00004 | 0 | <0.005 | .46089 | 0.5 | 92 |
| Iron | | 22.705 | 25 | .11138 | 91 | 191.00 | 200 | 96 | 170.99 | 200 | 85 |
| Lead | T | 2.2661 | 2.5 | .09844 | 91 | -.00398 | 0 | <0.005 | .89361 | 1 | 89 |
| Lithium | | .49770 | 0.5 | .09084 | 100 | .00000 | 0 | <0.05 | .94251 | 1 | 94 |
| Magnesium | | 55.879 | 60 | .15134 | 93 | 187.56 | 200 | 94 | 170.38 | 200 | 85 |
| Manganese | | 2.2925 | 2.5 | .13963 | 92 | -.00177 | 0 | <0.003 | .46355 | 0.5 | 91 |
| Molybdenum | T | 2.4067 | 2.5 | .08768 | 96 | .00077 | 0 | <0.005 | .99245 | 1 | 99 |
| Nickel | T | 2.4347 | 2.5 | .08786 | 97 | -.00044 | 0 | <0.005 | .96364 | 1 | 96 |
| Potassium | | 60.684 | 60 | .25992 | 101 | .06875 | 0 | <0.1 | 74.837 | 75 | 100 |
| Selenium | T | .96453 | 1.0 | .44386 | 98 | .00157 | 0 | <0.01 | .93145 | 1 | 93 |
| Silver | T | .47292 | 0.5 | .06232 | 95 | -.00063 | 0 | <0.005 | .98569 | 1 | 99 |
| Sodium | | 60.526 | 60 | .07110 | 101 | .14504 | 0 | >0.1 | 74.826 | 75 | 100 |
| Strontium | | .46511 | 0.5 | .12812 | 93 | -.00056 | 0 | <0.001 | .45968 | 0.5 | 92 |
| Thallium | T | 2.2792 | 2.5 | .43089 | 91 | .00017 | 0 | <0.005 | .82674 | 1 | 83 |
| Tin | | .48910 | 0.5 | .13450 | 98 | .00033 | 0 | <0.005 | .95942 | 1 | 96 |
| Titanium | | .47216 | 0.5 | .21530 | 94 | .00000 | 0 | <0.005 | .90409 | 1 | 90 |
| Vanadium | T | 1.3869 | 1.5 | .10397 | 92 | -.00001 | 0 | <0.002 | .45211 | 0.5 | 90 |
| Zinc | T | 2.5064 | 2.5 | .09736 | 100 | .00300 | 0 | <0.02 | .99515 | 1 | 100 |

Unit: mg/L
T: Target analyte
EV: Expected Value
Comment:

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Method : 3010A/6010C
Sequence : ID8F008
Instrument ID: D8

| | | CCV4 | | | | CCV5 | | | | CCV6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CCV SampleID | | | | | | | | | | | | |
| CCV DataFileID | | ID8F008053 | | | | ID8F008063 | | | | ID8F008070 | | |
| CCV DateTime | | 06/20/24 18:40 | | | | 06/20/24 19:29 | | | | 06/20/24 20:03 | | |
| PARAMETER | | CCV EV | RESULT | %REC | RSD | RESULT | %REC | RSD | | RESULT | %REC | RSD |
| Aluminum | | 100 | 95.5 | 96 | .19554 | 94.3 | 94 | .69280 | | 93.2 | 93 | .53211 |
| Antimony | T | 1.5 | 1.5 | 100 | .29934 | 1.51 | 101 | .60562 | | 1.52 | 102 | .29970 |
| Arsenic | T | 1.0 | 0.961 | 96 | .63346 | 0.971 | 97 | .03805 | | 0.987 | 99 | .44364 |
| Barium | T | 2.0 | 1.89 | 95 | .05464 | 1.92 | 96 | .16021 | | 1.95 | 98 | .20957 |
| Beryllium | T | 1.5 | 1.42 | 94 | .11839 | 1.43 | 95 | .10693 | | 1.44 | 96 | .12628 |
| Boron | | 2.5 | 2.34 | 94 | .22775 | 2.36 | 94 | .21626 | | 2.39 | 96 | .06872 |
| Cadmium | T | 2.0 | 1.93 | 96 | .07084 | 1.94 | 97 | .32249 | | 1.96 | 98 | .43807 |
| Calcium | | 75 | 75.3 | 100 | .13657 | 75.4 | 100 | .14916 | | 74.6 | 99 | .11492 |
| Chromium | T | 2.5 | 2.32 | 93 | .13710 | 2.38 | 95 | .21813 | | 2.42 | 97 | .07021 |
| Cobalt | T | 1.0 | 0.916 | 92 | .11887 | 0.915 | 92 | .13443 | | 0.916 | 92 | .03343 |
| Copper | T | 2.5 | 2.3 | 92 | .12995 | 2.31 | 93 | .19803 | | 2.35 | 94 | .04595 |
| Iron | | 25 | 22.5 | 90 | .21289 | 23 | 92 | .43358 | | 23.5 | 94 | .09077 |
| Lead | T | 2.5 | 2.26 | 90 | .07493 | 2.26 | 91 | .12073 | | 2.26 | 90 | .11634 |
| Lithium | | 0.5 | 0.497 | 99 | .90178 | 0.531 | 106 | .87207 | | 0.572 | 114* | .47824 |
| Magnesium | | 60 | 55 | 92 | .34819 | 57.5 | 96 | .26164 | | 59.6 | 99 | .19944 |
| Manganese | | 2.5 | 2.33 | 93 | .09185 | 2.36 | 94 | .08025 | | 2.36 | 94 | .05833 |
| Molybdenum | T | 2.5 | 2.41 | 96 | .02517 | 2.41 | 96 | .03996 | | 2.42 | 97 | .02933 |
| Nickel | T | 2.5 | 2.43 | 97 | .03676 | 2.44 | 97 | .04493 | | 2.44 | 98 | .00912 |
| Potassium | | 60 | 60.1 | 100 | .31582 | 63.3 | 106 | .21253 | | 66.1 | 110 | .15163 |
| Selenium | T | 1.0 | 0.979 | 98 | .43813 | 0.984 | 98 | .26532 | | 0.995 | 99 | .69393 |
| Silver | T | 0.5 | 0.468 | 94 | .24923 | 0.479 | 96 | .51048 | | 0.491 | 98 | .05622 |
| Sodium | | 60 | 61 | 102 | .03485 | 62.2 | 104 | .05022 | | 63.4 | 106 | .10189 |
| Strontium | | 0.5 | 0.465 | 93 | .21449 | 0.463 | 93 | .05136 | | 0.462 | 92 | .13392 |
| Thallium | T | 2.5 | 2.28 | 91 | .13498 | 2.28 | 91 | .24580 | | 2.29 | 92 | .51595 |
| Tin | | 0.5 | 0.492 | 98 | .04726 | 0.489 | 98 | .50584 | | 0.49 | 98 | .14127 |
| Titanium | | 0.5 | 0.465 | 93 | .29386 | 0.48 | 96 | .37143 | | 0.49 | 98 | .31456 |
| Vanadium | T | 1.5 | 1.38 | 92 | .21122 | 1.4 | 93 | .29272 | | 1.42 | 95 | .06175 |
| Zinc | T | 2.5 | 2.51 | 100 | .03054 | 2.51 | 100 | .06421 | | 2.5 | 100 | .06034 |

| Unit: ug/L
| T: Target analyte
|%Rec QC Limit: 90-110
| RSD QC Limit: <5
| CCV EV: CCV Expected Value ug/L
| Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Method : 3010A/6010C
Sequence : ID8F008
Instrument ID: D8

| CB SampleID | | : ICB | CCB4 | CCB5 | CCB6 |
|---|---|---|---|---|---|
| CB DataFileID | | : ID8F008015 | ID8F008054 | ID8F008064 | ID8F008071 |
| CB DateTime | | : 06/20/2413:38 | 06/20/2418:45 | 06/20/2419:34 | 06/20/2420:08 |

| PARAMETER | | LOD | RESULT | < LOD > | RESULT | < LOD > | RESULT | < LOD > | RESULT | < LOD > |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.03 | 0.309 | <0.03 | 0.02 | <0.03 | 0.02 | <0.03 | 0.02 | <0.03 |
| Antimony | T | 0.030 | 0.0007 | <0.030 | 0.00001 | <0.030 | 0.0008 | <0.030 | 0.30 | <0.030 |
| Arsenic | T | 0.02 | 0.00306 | <0.02 | 0.0002 | <0.02 | 0.0007 | <0.02 | 0.0001 | <0.02 |
| Barium | T | 0.002 | 0.0001 | <0.002 | 0.0002 | <0.002 | 0.00003 | <0.002 | 0.0004 | <0.002 |
| Beryllium | T | 0.002 | 0.0002 | <0.002 | 0.0003 | <0.002 | 0.0002 | <0.002 | 0.0003 | <0.002 |
| Boron | | 0.01 | 0.007 | <0.01 | 0.004 | <0.01 | 0.005 | <0.01 | 0.009 | <0.01 |
| Cadmium | T | 0.005 | 0.00 | <0.005 | 0.00004 | <0.005 | 0.00001 | <0.005 | 0.00002 | <0.005 |
| Calcium | | 0.1 | 0.17 | >0.1 | 0.17 | >0.1 | 0.15 | >0.1 | 0.16 | >0.1 |
| Chromium | T | 0.005 | 0.0002 | <0.005 | 0.0001 | <0.005 | 0.0005 | <0.005 | 0.0003 | <0.005 |
| Cobalt | T | 0.002 | 0.0001 | <0.002 | 0.00009 | <0.002 | 0.00001 | <0.002 | 0.00002 | <0.002 |
| Copper | T | 0.005 | 0.0001 | <0.005 | 0.0001 | <0.005 | 0.0002 | <0.005 | 0.00003 | <0.005 |
| Iron | | 0.04 | 0.003 | <0.04 | 0.004 | <0.04 | 0.005 | <0.04 | 0.00003 | <0.04 |
| Lead | T | 0.005 | 0.00009 | <0.005 | 0.0001 | <0.005 | 0.0003 | <0.005 | 0.00004 | <0.005 |
| Lithium | | 0.05 | 0.002 | <0.05 | 0.0002 | <0.05 | 0.001 | <0.05 | 0.002 | <0.05 |
| Magnesium | | 0.1 | 0.01 | <0.1 | 0.01 | <0.1 | 0.0005 | <0.1 | 0.02 | <0.1 |
| Manganese | | 0.003 | 0.0002 | <0.003 | 0.0003 | <0.003 | 0.0004 | <0.003 | 0.0001 | <0.003 |
| Molybdenum | T | 0.005 | 0.0004 | <0.005 | 0.00005 | <0.005 | 0.0002 | <0.005 | 0.0002 | <0.005 |
| Nickel | T | 0.005 | 0.0004 | <0.005 | 0.0005 | <0.005 | 0.0004 | <0.005 | 0.0003 | <0.005 |
| Potassium | | 0.1 | 0.11 | >0.1 | 0.04 | <0.1 | 0.02 | <0.1 | 0.12 | >0.1 |
| Selenium | T | 0.01 | 0.002 | <0.01 | 0.0005 | <0.01 | 0.002 | <0.01 | 0.002 | <0.01 |
| Silver | T | 0.005 | 0.00004 | <0.005 | 0.0004 | <0.005 | 0.0003 | <0.005 | 0.0002 | <0.005 |
| Sodium | | 0.1 | 0.01 | <0.1 | 0.04 | <0.1 | 0.02 | <0.1 | 0.02 | <0.1 |
| Strontium | | 0.001 | 0.0004 | <0.001 | 0.0005 | <0.001 | 0.0003 | <0.001 | 0.0004 | <0.001 |
| Thallium | T | 0.005 | 0.0005 | <0.005 | 0.0005 | <0.005 | 0.002 | <0.005 | 0.002 | <0.005 |
| Tin | | 0.005 | 0.0005 | <0.005 | 0.00003 | <0.005 | 0.0002 | <0.005 | 0.0002 | <0.005 |
| Titanium | | 0.005 | 0.0006 | <0.005 | 0.0002 | <0.005 | 0.0006 | <0.005 | 0.00007 | <0.005 |
| Vanadium | T | 0.002 | 0.00005 | <0.002 | 0.00009 | <0.002 | 0.00006 | <0.002 | 0.0003 | <0.002 |
| Zinc | T | 0.02 | 0.003 | <0.02 | 0.002 | <0.02 | 0.002 | <0.02 | 0.002 | <0.02 |

Unit: mg/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Al 308.215 {109} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.000276 | 0.017897 | 0.000000 | 1.000000 | 0.999975 | 0.000138 | 0.035575 |
| Sb 206.833 {463} | 06/20/2024 15:33:38 | 06/20/2024 13:23:39 | Linear | 1/Conc | 0.000011 | 0.005403 | 0.000000 | 1.000000 | 0.999997 | 0.000003 | 0.002072 |
| As 189.042 {478} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.000023 | 0.002754 | 0.000000 | 1.000000 | 0.999996 | 0.000000 | 0.002817 |
| Ba 455.403 { 74} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.001346 | 0.724162 | 0.000000 | 1.000000 | 1.000000 | 0.000052 | 0.000358 |
| Be 313.042 {108} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | 0.001162 | 0.717046 | 0.000000 | 1.000000 | 0.999992 | 0.000517 | 0.000145 |
| B 249.773 {135} | 06/20/2024 15:33:38 | 06/20/2024 13:03:57 | Linear | 1/Conc | 0.000287 | 0.131674 | 0.000000 | 1.000000 | 0.999962 | 0.000207 | 0.000342 |
| Cd 226.502 {449} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | -0.000043 | 0.141311 | 0.000000 | 1.000000 | 0.999886 | 0.000388 | 0.000111 |
| Ca 317.933 {106} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.006429 | 0.033166 | 0.000000 | 1.000000 | 0.999751 | 0.006714 | 0.003640 |
| Cr 267.716 {126} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.000500 | 0.157130 | 0.000000 | 1.000000 | 1.000000 | 0.000026 | 0.000316 |
| Co 228.616 {447} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | -0.000292 | 0.678009 | 0.000000 | 1.000000 | 0.999959 | 0.000223 | 0.000300 |
| Cu 324.754 {104} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.000731 | 0.225991 | 0.000000 | 1.000000 | 0.999954 | 0.000389 | 0.000341 |
| Fe 271.441 {124} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.000021 | 0.006859 | 0.000000 | 1.000000 | 0.999993 | 0.000032 | 0.006722 |
| Pb 220.353 {453} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | -0.000485 | 0.346577 | 0.000000 | 1.000000 | 0.999951 | 0.000625 | 0.000767 |
| Li 670.784 { 50} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.000828 | 0.119696 | 0.000000 | 1.000000 | 0.999949 | 0.000032 | 0.004072 |
| Mg 279.079 {121} | 06/20/2024 15:33:38 | 06/20/2024 13:23:39 | Linear | 1/Conc | -0.000369 | 0.003749 | 0.000000 | 1.000000 | 0.999983 | 0.000040 | 0.035998 |
| Mn 257.610 {131} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | 0.000005 | 0.151351 | 0.000000 | 1.000000 | 0.999954 | 0.000264 | 0.000465 |
| Mo 202.030 {467} | 06/20/2024 15:33:38 | 06/20/2024 13:03:57 | Linear | 1/Conc | -0.000331 | 0.544414 | 0.000000 | 1.000000 | 1.000000 | 0.000044 | 0.000301 |
| Ni 231.604 {446} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.001349 | 0.784881 | 0.000000 | 1.000000 | 0.999991 | 0.000593 | 0.000348 |
| K 766.490 { 44} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | -0.003358 | 0.005706 | 0.000000 | 1.000000 | 0.999878 | 0.000810 | 0.063357 |
| Se 196.090 {472} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.000018 | 0.002900 | 0.000000 | 1.000000 | 0.999994 | 0.000001 | 0.002942 |
| Si 212.412 {459} | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| Ag 328.068 {103} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.000187 | 0.173641 | 0.000000 | 1.000000 | 0.999967 | 0.000038 | 0.000489 |
| Na 589.592 { 57} | 06/20/2024 15:33:38 | 06/20/2024 13:03:57 | Linear | 1/Conc | -0.001230 | 0.018063 | 0.000000 | 1.000000 | 0.999848 | 0.002283 | 0.018029 |
| Sr 421.552 { 80} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.001069 | 0.840338 | 0.000000 | 1.000000 | 0.999987 | 0.000114 | 0.000263 |
| Tl 190.856 {477} | 06/20/2024 15:33:38 | 06/20/2024 13:23:39 | Linear | 1/Conc | 0.000001 | 0.005817 | 0.000000 | 1.000000 | 0.999589 | 0.000020 | 0.001571 |
| Sn 189.989 {477} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.000061 | 0.098434 | 0.000000 | 1.000000 | 0.999915 | 0.000035 | 0.000927 |
| Ti 334.941 {101} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.000261 | 0.096682 | 0.000000 | 1.000000 | 0.999988 | 0.000013 | 0.001288 |
| U 409.014 { 82} | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| V 292.402 {115} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.000005 | 0.157811 | 0.000000 | 1.000000 | 0.999999 | 0.000045 | 0.000351 |
| Zn 206.200 {463} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.002579 | 0.776066 | 0.000000 | 1.000000 | 0.999973 | 0.001041 | 0.000174 |
| Sc 227.318 {448}* | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| Sc 361.384 { 93}* | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| Sc 364.531 { 92}* | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |

ID8F008
6/20/24 JF

## Status

| | | | | | |
|---|---|---|---|---|---|
| Revision | 19 | | | | |
| Date Created | 08/14/2006 16:36:29 | by admin | | | |
| Date Modified | 06/20/2024 15:33:37 | by admin | | | |
| Date Calibrated | 06/20/2024 15:33:38 | | | | |
| Current Status | by admin | | | | |
| Number of Elements | 31 | | | | |
| Number of Wavelengths | 33 | | | | |
| Calibration Type | External | | | | |
| Notes: | | | | | |

## Analysis Preferences

| | | | | | |
|---|---|---|---|---|---|
| Sample Options | # Repeats: | 3 | | | |
| | Delay Time: | 0.0 seconds | | | |
| | Sample Flush Time: | 50 seconds | | | |
| | Analysis mode | Speed | | | |
| Source | Sample Introduction | Nebulizer | | | |
| | Plasma View: | Line Selection | | | |
| Analysis Maximum Integration Times (sec) | Low WL Range | Axial | 15 | Radial | 15 |
| | High WL Range: | Axial | 10 | Radial | 5 |
| Calibration Mode | Concentration | | | | |
| Trailing Full Frame Options | Intelli-Frame: | | No | | |
| | Max Integration Time (sec): | | 30 | | |
| | WL Range: | | Low | | |
| | View: | | Axial | | |
| | Auto-Increment Sample Names: | | Yes | | |
| | Use Sample Weight Corrections: | | No | | |

## Source Settings

| | | | |
|---|---|---|---|
| Nebulizer Pump | Flush Pump Rate (rpm): | 88 | |
| | Analysis Pump Rate (rpm): | 36 | |
| | Pump Relaxation Time (sec): | 5 | |
| | Pump Tubing Type: | Tygon Orange/White | |
| | RF Power: | 1150 | W |

ID8F008
6/20/24 JF

**Note:** For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

**Comments:**

Digestion Vessel Lot # LV2401060T-F-9092-LC

Filter Lot # N/A

Book #: EIP-163

Batch: JPF009W

Matrix: WATER

Digestor ID: E

| SOP # | Rev. # |
|---|---|
| ☑ EMAX-3010 | 8 |
| ☐ EMAX-3050 | 9 |
| ☐ EMAX-200.7 | 6 |
| ☐ EMAX- | |

| Start | Temp | End | Temp |
|---|---|---|---|
| | 91.6 °C | | 93.3 °C |

| Standards | ID | Amount Added (mg/g) |
|---|---|---|
| LCS-1 | SW1A-025-07-02 | 0.25 |
| LCS-2 | ↓ -03 | 0.25 |
| LCS-3 | ↓ -04 | 0.50 |
| MS | Same spike std and volume as | LCS 1-3 |
| Blank Soil (Bead) | N/A | N/A |
| **Reagent** | **Lot# / ID** | **Amount Added (mL)** |
| $HNO_3$ | SW1A-012-09-01 | 1.50 + 1.50 |
| HCl | ↓ -03-01 | 2.50 + 2.50 |
| $H_2O_2$ | N/A | N/A |
| $HNO_3$(1:1) | ↓ | ↓ |
| pH Strip (0-14) | HC439975 | ↓ |
| Digestate Location | METALS | |
| Extract Location | N/A | |
| ☑ Reagent Water ID: SW1A-012-11-09 | | |
| ☑ Thermometer ID: 230389472/E8 | | |
| ☑ Pipette ID: D42761N1 | | |
| ☑ Pipette ID: D42781023 | | |
| ☐ Pipette ID: | | |
| ☐ $HNO_3$ dispenser checked @ 5.0 mL with Class A volumetric flask | | |
| ☐ HCl dispenser checked @ 5.0 mL with Class A volumetric flask | | |

Prepared By: JC

Standard Added By: JC Witnessed By: HC

Extract Rcvd By: JC Checked By: JC

EMAX LABORATORIES

DIGESTION LOG FOR METALS

| PrepBatchID | LabSampleID | Aliquot | Unit | DateTime | Vd(ml) | ExpAmt | ExpVd(ml) | PrepFctr | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 24IPF009W01 | IPF009WB | 50 | ml | 6/14/24 8:44 | 50 | 50 | 50 | 1 | |
| 24IPF009W02 | IPF009WL | 50 | ml | 6/14/24 8:44 | 50 | 50 | 50 | 1 | |
| 24IPF009W03 | IPF009WC | 50 | ml | 6/14/24 8:44 | 50 | 50 | 50 | 1 | |
| 24IPF009W04 | F034-01 | 50 | ml | 6/14/24 8:44 | 50 | 50 | 50 | 1 | |
| 24IPF009W05 | F034-01M | 50 | ml | 6/14/24 8:44 | 50 | 50 | 50 | 1 | |
| 24IPF009W06 | F034-01S | 50 | ml | 6/14/24 8:44 | 50 | 50 | 50 | 1 | |
| 24IPF009W07 | WTF001SB | 10 | ml | 6/14/24 9:10 | 50 | 50 | 50 | 5 | STLC |
| 24IPF009W08 | F034-02 | 5 | ml | 6/14/24 9:10 | 50 | 50 | 50 | 10 | STLC YELLOW |
| 24IPF009W09 | F034-02M | 5 | ml | 6/14/24 9:10 | 50 | 50 | 50 | 10 | STLC YELLOW |
| 24IPF009W10 | F034-02S | 5 | ml | 6/14/24 9:10 | 50 | 50 | 50 | 10 | STLC YELLOW |

Jc 6/14/24

Vd=digestate volume PrepFctr=)ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 6/14/24 9:28

☑ Digestion Ended @ 6/14/24 13:48

Comments:

Prepared By: JChun

Checked By: Jc

Date 6/14/24

# METALS
# (SOIL)

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F034

METHOD 3050B/6010C
METALS BY TRACE ICP

One(1) soil sample was received on 06/07/24 to be analyzed for Metals by Trace ICP in accordance with Method 3050B/6010C and project specific requirements.

Holding Time
The sample was digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IPF010SB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IPF010SL/IPF010SC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed and the following were noted: F034-02M/F034-02S - Percent recoveries for Antimony, Selenium and Thallium were not within MS/MSD QC limits. Percent recoveries for Barium and Nickel(1X) was not within MS QC limit. Presence of matrix interference was suspected. The rest of the analytes were in control. Analytical spike and serial dilution were analyzed and evaluated as appropriate. Results were within expected values. Refer to Matrix QC summary form for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

LAB CHRONICLE
METALS BY TRACE ICP

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F034
Instrument ID : D8

SOIL

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| MBLK1S | IPF010SB | 1.000 | NA | 06/20/2418:26 | 06/14/2409:36 | ID8F008050 | ID8F008045 | IPF010S | Method Blank |
| LCS1S | IPF010SL | 1.000 | NA | 06/20/2418:31 | 06/14/2409:36 | ID8F008051 | ID8F008045 | IPF010S | Lab Control Sample (LCS) |
| LCD1S | IPF010SC | 1.000 | NA | 06/20/2418:36 | 06/14/2409:36 | ID8F008052 | ID8F008045 | IPF010S | LCS Duplicate |
| IDW-SOIL_JUN24 | F034-02A | 1.000 | 10.5 | 06/20/2418:50 | 06/14/2409:36 | ID8F008055 | ID8F008053 | IPF010S | Analytical Spike Sample |
| IDW-SOIL_JUN24 | F034-02 | 1.000 | 10.5 | 06/20/2418:55 | 06/14/2409:36 | ID8F008056 | ID8F008053 | IPF010S | Field Sample |
| IDW-SOIL_JUN24 | F034-02D | 5.000 | 10.5 | 06/20/2419:00 | 06/14/2409:36 | ID8F008057 | ID8F008053 | IPF010S | Diluted Sample |
| IDW-SOIL_JUN24MS | F034-02M | 1.000 | 10.5 | 06/20/2419:05 | 06/14/2409:36 | ID8F008058 | ID8F008053 | IPF010S | Matrix Spike Sample (MS) |
| IDW-SOIL_JUN24MSD | F034-02S | 1.000 | 10.5 | 06/20/2419:10 | 06/14/2409:36 | ID8F008059 | ID8F008053 | IPF010S | MS Duplicate (MSD) |

FN - Filename
% Moist - Percent Moisture

METHOD 3050B/6010C
METALS BY TRACE ICP

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/06/24 11:20 |
| Project | : TITAN 1-A | Date Received: | 06/07/24 |
| SDG NO. | : 24F034 | Date Extracted: | 06/14/24 09:36 |
| Sample ID: | IDW-SOIL_JUN24 | Date Analyzed: | 06/20/24 18:55 |
| Lab Samp ID: | F034-02 | Dilution Factor: | 1 |
| Lab File ID: | ID8F008056 | Matrix: | SOIL |
| Ext Btch ID: | IPF010S | % Moisture: | 10.5 |
| Calib. Ref.: | ID8F008053 | Instrument ID: | D8 |

| PARAMETERS | Result (mg/kg) | LOQ (mg/kg) | DL (mg/kg) | LOD (mg/kg) |
|---|---|---|---|---|
| Antimony | ND | 10.8 | 1.08 | 3.25 |
| Arsenic | 12.8 | 2.17 | 0.542 | 1.08 |
| Barium | 197 | 1.08 | 0.217 | 0.542 |
| Beryllium | 0.679 | 0.542 | 0.108 | 0.217 |
| Cadmium | ND | 0.542 | 0.108 | 0.217 |
| Chromium | 63.1 | 1.08 | 0.271 | 0.542 |
| Cobalt | 12.9 | 1.08 | 0.108 | 0.217 |
| Copper | 21.3 | 1.08 | 0.271 | 0.542 |
| Lead | 4.47 | 2.17 | 0.542 | 1.08 |
| Molybdenum | 0.624J | 1.08 | 0.271 | 0.542 |
| Nickel | 29.2 | 1.08 | 0.271 | 0.542 |
| Selenium | ND | 2.17 | 0.542 | 1.08 |
| Silver | ND | 1.08 | 0.108 | 0.217 |
| Thallium | ND | 1.08 | 0.271 | 0.542 |
| Vanadium | 82.8 | 1.08 | 0.108 | 0.217 |
| Zinc | 48.3 | 10.8 | 2.17 | 5.42 |

Note: Detection limits are reported relative to sample result significant figures.

| | | | |
|---|---|---|---|
| Sample Amount | : 1.03g | Final Volume: | 100ml |
| Prepared by | : JChun | Analyzed by: | JFeng/JChun |

METHOD 3050B/6010C
METALS BY TRACE ICP

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | NA |
| Project | : TITAN 1-A | Date Received: | NA |
| SDG NO. | : 24F034 | Date Extracted: | 06/14/24 09:36 |
| Sample ID: | MBLK1S | Date Analyzed: | 06/20/24 18:26 |
| Lab Samp ID: | IPF010SB | Dilution Factor: | 1 |
| Lab File ID: | ID8F008050 | Matrix: | SOIL |
| Ext Btch ID: | IPF010S | % Moisture: | NA |
| Calib. Ref.: | ID8F008045 | Instrument ID: | D8 |

| PARAMETERS | Result (mg/kg) | LOQ (mg/kg) | DL (mg/kg) | LOD (mg/kg) |
|---|---|---|---|---|
| Antimony | ND | 10.0 | 1.00 | 3.00 |
| Arsenic | ND | 2.00 | 0.500 | 1.00 |
| Barium | ND | 1.00 | 0.200 | 0.500 |
| Beryllium | ND | 0.500 | 0.100 | 0.200 |
| Cadmium | ND | 0.500 | 0.100 | 0.200 |
| Chromium | ND | 1.00 | 0.250 | 0.500 |
| Cobalt | ND | 1.00 | 0.100 | 0.200 |
| Copper | ND | 1.00 | 0.250 | 0.500 |
| Lead | ND | 2.00 | 0.500 | 1.00 |
| Molybdenum | ND | 1.00 | 0.250 | 0.500 |
| Nickel | ND | 1.00 | 0.250 | 0.500 |
| Selenium | ND | 2.00 | 0.500 | 1.00 |
| Silver | ND | 1.00 | 0.100 | 0.200 |
| Thallium | ND | 1.00 | 0.250 | 0.500 |
| Vanadium | ND | 1.00 | 0.100 | 0.200 |
| Zinc | ND | 10.0 | 2.00 | 5.00 |

Note: Detection limits are reported relative to sample result significant figures.

| | | | |
|---|---|---|---|
| Sample Amount | : 1g | Final Volume: | 100ml |
| Prepared by | : JChun | Analyzed by: | JFeng/JChun |

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : 3050B/6010C

| | | | |
|---|---|---|---|
| MATRIX | : SOIL | | % MOISTURE:NA |
| DILUTION FACTOR | : 1.000 | 1.000 | 1.000 |
| SAMPLE ID | : MBLK1S | LCS1S | LCD1S |
| LAB SAMPLE ID | : IPF010SB | IPF010SL | IPF010SC |
| LAB FILE ID | : ID8F008050 | ID8F008051 | ID8F008052 |
| DATE PREPARED | : 06/14/24 09:36 | 06/14/24 09:36 | 06/14/24 09:36 |
| DATE ANALYZED | : 06/20/24 18:26 | 06/20/24 18:31 | 06/20/24 18:36 |
| PREP BATCH | : IPF010S | IPF010S | IPF010S |
| CALIBRATION REF | : ID8F008045 | ID8F008045 | ID8F008045 |

ACCESSION:

| PARAMETERS | MBResult (mg/kg) | SpikeAmt (mg/kg) | LCSResult (mg/kg) | LCSRec (%) | SpikeAmt (mg/kg) | LCDResult (mg/kg) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 250 | 231 | 92 | 250 | 224 | 90 | 3 | 79-114 | 20 |
| Arsenic | ND | 50 | 48.5 | 97 | 50 | 47.0 | 94 | 3 | 82-111 | 20 |
| Barium | ND | 50 | 47.7 | 95 | 50 | 46.9 | 94 | 2 | 83-113 | 20 |
| Beryllium | ND | 50 | 48.3 | 97 | 50 | 47.4 | 95 | 2 | 83-113 | 20 |
| Cadmium | ND | 50 | 49.0 | 98 | 50 | 47.7 | 95 | 3 | 82-113 | 20 |
| Chromium | ND | 50 | 47.8 | 96 | 50 | 46.8 | 94 | 2 | 85-113 | 20 |
| Cobalt | ND | 50 | 48.0 | 96 | 50 | 47.2 | 94 | 2 | 85-112 | 20 |
| Copper | ND | 50 | 46.9 | 94 | 50 | 46.1 | 92 | 2 | 81-117 | 20 |
| Lead | ND | 50 | 46.4 | 93 | 50 | 45.5 | 91 | 2 | 81-112 | 20 |
| Molybdenum | ND | 50 | 51.4 | 103 | 50 | 50.2 | 100 | 2 | 82-116 | 20 |
| Nickel | ND | 50 | 50.9 | 102 | 50 | 50.0 | 100 | 2 | 83-113 | 20 |
| Selenium | ND | 50 | 48.4 | 97 | 50 | 47.0 | 94 | 3 | 78-111 | 20 |
| Silver | ND | 50 | 46.8 | 94 | 50 | 46.0 | 92 | 2 | 82-112 | 20 |
| Thallium | ND | 50 | 46.1 | 92 | 50 | 45.0 | 90 | 2 | 83-111 | 20 |
| Vanadium | ND | 50 | 48.5 | 97 | 50 | 47.6 | 95 | 2 | 82-114 | 20 |
| Zinc | ND | 50 | 51.5 | 103 | 50 | 50.6 | 101 | 2 | 82-113 | 20 |

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : 3050B/6010C

| | | | |
|---|---|---|---|
| MATRIX | : SOIL | | % MOISTURE: 10.5 |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : IDW-SOIL_JUN24 | IDW-SOIL_JUN24MS | IDW-SOIL_JUN24MSD |
| LAB SAMPLE ID | : F034-02 | F034-02M | F034-02S |
| LAB FILE ID | : ID8F008056 | ID8F008058 | ID8F008059 |
| DATE PREPARED | : 06/14/24 09:36 | 06/14/24 09:36 | 06/14/24 09:36 |
| DATE ANALYZED | : 06/20/24 18:55 | 06/20/24 19:05 | 06/20/24 19:10 |
| PREP BATCH | : IPF010S | IPF010S | IPF010S |
| CALIBRATION REF | : ID8F008053 | ID8F008053 | ID8F008053 |

ACCESSION:

| PARAMETERS | PSResult (mg/kg) | SpikeAmt (mg/kg) | MSResult (mg/kg) | MSRec (%) | SpikeAmt (mg/kg) | MSDResult (mg/kg) | MSDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 271 | 186 | 69* | 271 | 183 | 68* | 2 | 79-114 | 20 |
| Arsenic | 12.8 | 54.2 | 65.5 | 97 | 54.2 | 60.9 | 89 | 7 | 82-111 | 20 |
| Barium | 197 | 54.2 | 259 | 114* | 54.2 | 252 | 101 | 3 | 83-113 | 20 |
| Beryllium | 0.679 | 54.2 | 51.6 | 94 | 54.2 | 51.1 | 93 | 1 | 83-113 | 20 |
| Cadmium | ND | 54.2 | 49.3 | 91 | 54.2 | 49.1 | 91 | 0 | 82-113 | 20 |
| Chromium | 63.1 | 54.2 | 121 | 107 | 54.2 | 118 | 101 | 3 | 85-113 | 20 |
| Cobalt | 12.9 | 54.2 | 67.0 | 100 | 54.2 | 65.4 | 97 | 2 | 85-112 | 20 |
| Copper | 21.3 | 54.2 | 71.4 | 92 | 54.2 | 70.7 | 91 | 1 | 81-117 | 20 |
| Lead | 4.47 | 54.2 | 55.5 | 94 | 54.2 | 54.8 | 93 | 1 | 81-112 | 20 |
| Molybdenum | 0.624J | 54.2 | 54.9 | 100 | 54.2 | 53.7 | 98 | 2 | 82-116 | 20 |
| Nickel | 29.2 | 54.2 | 91.4 | 115* | 54.2 | 86.5 | 106 | 6 | 83-113 | 20 |
| Selenium | ND | 54.2 | 40.7 | 75* | 54.2 | 40.9 | 75* | 0 | 78-111 | 20 |
| Silver | ND | 54.2 | 49.7 | 92 | 54.2 | 49.1 | 91 | 1 | 82-112 | 20 |
| Thallium | ND | 54.2 | 43.1 | 80* | 54.2 | 42.6 | 79* | 1 | 83-111 | 20 |
| Vanadium | 82.8 | 54.2 | 143 | 111 | 54.2 | 141 | 107 | 1 | 82-114 | 20 |
| Zinc | 48.3 | 54.2 | 109 | 112 | 54.2 | 107 | 108 | 2 | 82-113 | 20 |

PSResult - Parent Sample Result
* Out of QC limit

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : 3050B/6010C

| | | |
|---|---|---|
| MATRIX | : SOIL | % MOISTURE: 10.5 |
| DILUTION FACTOR: | 1 | 1 |
| SAMPLE ID | : IDW-SOIL_JUN24 | IDW-SOIL_JUN24 |
| LAB SAMPLE ID | : F034-02 | F034-02A |
| LAB FILE ID | : ID8F008056 | ID8F008055 |
| DATE PREPARED | : 06/14/24 09:36 | 06/14/24 09:36 |
| DATE ANALYZED | : 06/20/24 18:55 | 06/20/24 18:50 |
| PREP BATCH | : IPF010S | IPF010S |
| CALIBRATION REF: | ID8F008053 | ID8F008053 |

ACCESSION:

| PARAMETERS | Sample Result (mg/kg) | Spike Amt (mg/kg) | AS Result (mg/kg) | AS Rec (%) | QC Limit (%) |
|---|---|---|---|---|---|
| Antimony | ND | 271 | 275 | 101 | 80-120 |
| Arsenic | 12.8 | 54.2 | 68.4 | 102 | 80-120 |
| Barium | 197 | 54.2 | 250 | 98 | 80-120 |
| Beryllium | 0.679 | 54.2 | 56.6 | 103 | 80-120 |
| Cadmium | ND | 54.2 | 54.9 | 101 | 80-120 |
| Chromium | 63.1 | 54.2 | 116 | 98 | 80-120 |
| Cobalt | 12.9 | 54.2 | 71.8 | 109 | 80-120 |
| Copper | 21.3 | 54.2 | 75.8 | 100 | 80-120 |
| Lead | 4.47 | 54.2 | 60.4 | 103 | 80-120 |
| Molybdenum | 0.624J | 54.2 | 62.2 | 114 | 80-120 |
| Nickel | 29.2 | 54.2 | 90.9 | 114 | 80-120 |
| Selenium | ND | 54.2 | 46.3 | 85 | 80-120 |
| Silver | ND | 54.2 | 50.0 | 92 | 80-120 |
| Thallium | ND | 54.2 | 48.3 | 89 | 80-120 |
| Vanadium | 82.8 | 54.2 | 136 | 98 | 80-120 |
| Zinc | 48.3 | 54.2 | 113 | 119 | 80-120 |

AS - Analytical Spike

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : 3050B/6010C

| | | |
|---|---|---|
| MATRIX | : SOIL | % MOISTURE: 10.5 |
| DILUTION FACTOR | : 1 | 5 |
| SAMPLE ID | : IDW-SOIL_JUN24 | IDW-SOIL_JUN24 |
| LAB SAMPLE ID | : F034-02 | F034-02J |
| LAB FILE ID | : ID8F008056 | ID8F008057 |
| DATE PREPARED | : 06/14/24 09:36 | 06/14/24 09:36 |
| DATE ANALYZED | : 06/20/24 18:55 | 06/20/24 19:00 |
| PREP BATCH | : IPF010S | IPF010S |
| CALIBRATION REF | : ID8F008053 | ID8F008053 |

ACCESSION:

| PARAMETERS | Sample Result (mg/kg) | SD Result (mg/kg) | %Difference (%) | Max %D (%) |
|---|---|---|---|---|
| Antimony | ND | ND | 0 | 10 |
| Arsenic | 12.8 | 12.4 | 3 | 10 |
| Barium | 197 | 199 | 1 | 10 |
| Beryllium | 0.679 | 0.575J | NA | 10 |
| Cadmium | ND | ND | 0 | 10 |
| Chromium | 63.1 | 65.5 | 4 | 10 |
| Cobalt | 12.9 | 12.3 | 5 | 10 |
| Copper | 21.3 | 21.6 | 1 | 10 |
| Lead | 4.47 | 4.32J | NA | 10 |
| Molybdenum | 0.624J | ND | NA | 10 |
| Nickel | 29.2 | 27.5 | 6 | 10 |
| Selenium | ND | ND | 0 | 10 |
| Silver | ND | ND | 0 | 10 |
| Thallium | ND | ND | 0 | 10 |
| Vanadium | 82.8 | 84.3 | 2 | 10 |
| Zinc | 48.3 | 43.8J | NA | 10 |

SD - Serial Dilution

# ICP (6010) QC CHECK TABLE

| QC | ICV | CCV | ICSAB | ICSA |
|---|---|---|---|---|
| Limit% | 90-110 | 90-110 | 80-120 | 80-120 |
| Comp | mg/L | mg/L | mg/L | mg/L |
| Al | 100 | 100 | 400 | 400 |
| Sb | 1.5 | 1.5 | 1 | 0 |
| As | 1 | 1 | 1 | 0 |
| Ba | 2 | 2 | 0.5 | 0 |
| Be | 1.5 | 1.5 | 0.5 | 0 |
| B | 2.5 | 2.5 | 1 | 0 |
| Cd | 2 | 2 | 1 | 0 |
| Ca | 75 | 75 | 500 | 500 |
| Cr | 2.5 | 2.5 | 0.5 | 0 |
| Co | 1 | 1 | 0.5 | 0 |
| Cu | 2.5 | 2.5 | 0.5 | 0 |
| Fe | 25 | 25 | 200 | 200 |
| Pb | 2.5 | 2.5 | 1 | 0 |
| Li | 0.5 | 0.5 | 1 | 0 |
| Mg | 60 | 60 | 200 | 200 |
| Mn | 2.5 | 2.5 | 0.5 | 0 |
| Mo | 2.5 | 2.5 | 1 | 0 |
| Ni | 2.5 | 2.5 | 1 | 0 |
| K | 60 | 60 | 75 | 0 |
| Se | 1 | 1 | 1 | 0 |
| Ag | 0.5 | 0.5 | 1 | 0 |
| Na | 60 | 60 | 75 | 0 |
| Sr | 0.5 | 0.5 | 0.5 | 0 |
| Tl | 2.5 | 2.5 | 1 | 0 |
| Sn | 0.5 | 0.5 | 1 | 0 |
| Ti | 0.5 | 0.5 | 1 | 0 |
| V | 1.5 | 1.5 | 0.5 | 0 |
| Zn | 2.5 | 2.5 | 1 | 0 |

**Note:** For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

**Start Date:** 6/20/24 12:28

**End Date:** 6/21/24 00:35

| SOP # | Rev. # |
|---|---|
| ☐ EMAX-6010 | 9 |
| ☑ EMAX-6010C | 3 |
| ☐ EMAX-200.7 | 6 |
| ☐ EMAX- | |

**Comments:** See Analytical Sequence

**Book #:** AD8-075

**Instrument No.:** D8

**Analytical Batch:** ID8F008

**Analytical Sequence:** 8-24F6010 (v19)

**Method File:** 6/20/24 JF 24F6010 (v19)

**Database:** EMAX31

**Micropipette ID:** ☐ 942780530

**Micropipette ID:** ☑ D42761999

**Micropipette ID:** ☑ 542740566

**Micropipette ID:** ☑ D42781151

**Micropipette ID:** ☐

| | STANDARDS ID | | STANDARDS ID |
|---|---|---|---|
| S0 | SMIB-29-38-02 | S26 | SMIB-29-44-9 |
| S1 | N/A | S27 | -44-02 |
| S2 | | S28 | -18-01 |
| S3 | | S29 | -18-02 |
| S4 | | S30 | -24-02 |
| S5 | | S31 | -25-01 |
| S6 | | ICV | SMIB-29-40-01 |
| S7 | | CCV | -19-01 |
| S8 | | ICSA | -24-01 |
| S9 | | ICSAB | -39-01 |
| S10 | | CRI/MRL1 | -26-01 |
| S11 | | CRI/MRL2 | -37-02 |
| S12 | | CRI/MRL3 | -20-01(2x) |
| S16 | | CRI/MRL4 | -12-01 |
| S17 | | Internal Standard | SMIA-025-12-04 |
| S18 | | Post-Spike 1 | -04-02 |
| S20 | SMIB-29-39-01 | Post-Spike 2 | -07-03 |
| S21 | -39-02 | Post-Spike 3 | -07-04 |
| S22 | -16-02 | | |
| S23 | -17-01 | | |
| S24 | -43-01 | | |
| S25 | -43-02 | | |

**Analyzed By:** JF / JC

**Date:** 6/20/24

SEQUENCE FILE : ID8F008

| 4-18 | 19-33 | 34-43 | 44-53 | 54-63 |
|---|---|---|---|---|
| LFID | LSID | TIME | DATE | DF |
| ID8F008001 | S024F6010 | 12:28 | 06/20/24 | 1.000 |
| ID8F008002 | S20 | 12:33 | 06/20/24 | 1.000 |
| ID8F008003 | S21 | 12:38 | 06/20/24 | 1.000 |
| ID8F008004 | S22 | 12:43 | 06/20/24 | 1.000 |
| ID8F008005 | S23 | 12:48 | 06/20/24 | 1.000 |
| ID8F008006 | S24 | 12:54 | 06/20/24 | 1.000 |
| ID8F008007 | S25 | 12:58 | 06/20/24 | 1.000 |
| ID8F008008 | S26 | 13:04 | 06/20/24 | 1.000 |
| ID8F008009 | S27 | 13:08 | 06/20/24 | 1.000 |
| ID8F008010 | S28 | 13:13 | 06/20/24 | 1.000 |
| ID8F008011 | S29 | 13:18 | 06/20/24 | 1.000 |
| ID8F008012 | S30 | 13:23 | 06/20/24 | 1.000 |
| ID8F008013 | S31 | 13:28 | 06/20/24 | 1.000 |
| ID8F008014 | ICV | 13:33 | 06/20/24 | 1.000 |
| ID8F008015 | ICB | 13:38 | 06/20/24 | 1.000 |
| ID8F008016 | MRLF2001 | 13:43 | 06/20/24 | 1.000 |
| ID8F008017 | MRLF2002 | 13:48 | 06/20/24 | 1.000 |
| ID8F008018 | ICSA1 | 13:53 | 06/20/24 | 1.000 |
| ID8F008019 | ICSAB1 | 13:58 | 06/20/24 | 1.000 |
| ID8F008020 | MRLF2003 | 14:03 | 06/20/24 | 1.000 |
| ID8F008021 | MRLF2004 | 14:08 | 06/20/24 | 1.000 |
| ID8F008022 | CCV1 | 14:12 | 06/20/24 | 1.000 |
| ID8F008023 | CCB1 | 14:17 | 06/20/24 | 1.000 |
| ID8F008024 | IPF005WB | 16:17 | 06/20/24 | 1.000 |
| ID8F008025 | IPF005WL | 16:22 | 06/20/24 | 1.000 |
| ID8F008026 | IPF005WC | 16:27 | 06/20/24 | 1.000 |
| ID8F008027 | F020-02 | 16:31 | 06/20/24 | 1.000 |
| ID8F008028 | F020-03A | 16:36 | 06/20/24 | 1.000 |
| ID8F008029 | F020-03 | 16:41 | 06/20/24 | 1.000 |
| ID8F008030 | F020-03J | 16:46 | 06/20/24 | 5.000 |
| ID8F008031 | F020-03K | 16:51 | 06/20/24 | 1.000 |
| ID8F008032 | F020-03S | 16:56 | 06/20/24 | 1.000 |
| ID8F008033 | CCV2 | 17:01 | 06/20/24 | 1.000 |
| ID8F008034 | CCB2 | 17:06 | 06/20/24 | 1.000 |
| ID8F008035 | F020-04 | 17:11 | 06/20/24 | 1.000 |
| ID8F008036 | F020-05 | 17:15 | 06/20/24 | 1.000 |
| ID8F008037 | F020-06 | 17:20 | 06/20/24 | 1.000 |
| ID8F008038 | TXF002SB | 17:25 | 06/20/24 | 1.000 |
| ID8F008039 | F008-04A | 17:30 | 06/20/24 | 1.000 |
| ID8F008040 | F008-04 | 17:35 | 06/20/24 | 1.000 |
| ID8F008041 | F008-04J | 17:40 | 06/20/24 | 5.000 |
| ID8F008042 | F008-04M | 17:45 | 06/20/24 | 1.000 |
| ID8F008043 | F008-04S | 17:50 | 06/20/24 | 1.000 |
| ID8F008044 | TXF003SB | 17:55 | 06/20/24 | 1.000 |
| ID8F008045 | CCV3 | 18:00 | 06/20/24 | 1.000 |
| ID8F008046 | CCB3 | 18:05 | 06/20/24 | 1.000 |
| ID8F008047 | F032-05 | 18:10 | 06/20/24 | 1.000 |
| ID8F008048 | F034-02 | 18:16 | 06/20/24 | 1.000 |
| ID8F008049 | F428-01 | 18:21 | 06/20/24 | 1.000 |
| ID8F008050 | IPF010SB | 18:26 | 06/20/24 | 1.000 |
| ID8F008051 | IPF010SL | 18:31 | 06/20/24 | 1.000 |
| ID8F008052 | IPF010SC | 18:36 | 06/20/24 | 1.000 |
| ID8F008053 | CCV4 | 18:40 | 06/20/24 | 1.000 |
| ID8F008054 | CCB4 | 18:45 | 06/20/24 | 1.000 |
| ID8F008055 | F034-02A | 18:50 | 06/20/24 | 1.000 |
| ID8F008056 | F034-02 | 18:55 | 06/20/24 | 1.000 |
| ID8F008057 | F034-02J | 19:00 | 06/20/24 | 5.000 |
| ID8F008058 | F034-02M | 19:05 | 06/20/24 | 1.000 |
| ID8F008059 | F034-02S | 19:10 | 06/20/24 | 1.000 |
| ID8F008060 | IPF009WB | 19:15 | 06/20/24 | 1.000 |
| ID8F008061 | IPF009WL | 19:20 | 06/20/24 | 1.000 |
| ID8F008062 | IPF009WC | 19:24 | 06/20/24 | 1.000 |

| | | | | |
|---|---|---|---|---|
| ID8F008063 | CCV5 | 19:29 | 06/20/24 | 1.000 |
| ID8F008064 | CCB5 | 19:34 | 06/20/24 | 1.000 |
| ID8F008065 | F034-01A | 19:39 | 06/20/24 | 1.000 |
| ID8F008066 | F034-01 | 19:44 | 06/20/24 | 1.000 |
| ID8F008067 | F034-01J | 19:49 | 06/20/24 | 5.000 |
| ID8F008068 | F034-01M | 19:54 | 06/20/24 | 1.000 |
| ID8F008069 | F034-01S | 19:59 | 06/20/24 | 1.000 |
| ID8F008070 | CCV6 | 20:03 | 06/20/24 | 1.000 |
| ID8F008071 | CCB6 | 20:08 | 06/20/24 | 1.000 |
| ID8F008072 | IPFC11WB | 20:13 | 06/20/24 | 1.000 |
| ID8F008073 | IPFC11WL | 20:18 | 06/20/24 | 1.000 |
| ID8F008074 | IPFC11WC | 20:23 | 06/20/24 | 1.000 |
| ID8F008075 | TX0C4WB | 20:28 | 06/20/24 | 1.000 |
| ID8F008076 | F058-01A | 20:33 | 06/20/24 | 1.000 |
| ID8F008077 | F058-01 | 20:38 | 06/20/24 | 1.000 |
| ID8F008078 | F058-01J | 20:43 | 06/20/24 | 5.000 |
| ID8F008079 | F058-01M | 20:48 | 06/20/24 | 1.000 |
| ID8F008080 | F058-01S | 20:52 | 06/20/24 | 1.000 |
| ID8F008081 | CCV7 | 20:57 | 06/20/24 | 1.000 |
| ID8F008082 | CCB7 | 21:02 | 06/20/24 | 1.000 |
| ID8F008083 | IPF006SB | 21:07 | 06/20/24 | 1.000 |
| ID8F008084 | IPF006SL | 21:12 | 06/20/24 | 1.000 |
| ID8F008085 | IPF006SC | 21:17 | 06/20/24 | 1.000 |
| ID8F008086 | F427-01A | 21:22 | 06/20/24 | 1.000 |
| ID8F008087 | F427-01 | 21:27 | 06/20/24 | 1.000 |
| ID8F008088 | F427-01J | 21:32 | 06/20/24 | 5.000 |
| ID8F008089 | F427-01M | 21:37 | 06/20/24 | 1.000 |
| ID8F008090 | F427-01S | 21:41 | 06/20/24 | 1.000 |
| ID8F008091 | CCV8 | 21:46 | 06/20/24 | 1.000 |
| ID8F008092 | CCB8 | 21:51 | 06/20/24 | 1.000 |
| ID8F008093 | IPF015SB | 21:56 | 06/20/24 | 1.000 |
| ID8F008094 | IPF015SL | 22:01 | 06/20/24 | 1.000 |
| ID8F008095 | IPF015SC | 22:06 | 06/20/24 | 1.000 |
| ID8F008096 | F476-01A | 22:11 | 06/20/24 | 1.000 |
| ID8F008097 | F476-01 | 22:15 | 06/20/24 | 1.000 |
| ID8F008098 | F476-01J | 22:20 | 06/20/24 | 5.000 |
| ID8F008099 | F476-01M | 22:25 | 06/20/24 | 1.000 |
| ID8F008100 | F476-01S | 22:30 | 06/20/24 | 1.000 |
| ID8F008101 | CCV9 | 22:35 | 06/20/24 | 1.000 |
| ID8F008102 | CCB9 | 22:40 | 06/20/24 | 1.000 |
| ID8F008103 | IPF016WB | 22:45 | 06/20/24 | 1.000 |
| ID8F008104 | IPF016WL | 22:50 | 06/20/24 | 1.000 |
| ID8F008105 | IPF016WC | 22:55 | 06/20/24 | 1.000 |
| ID8F008106 | CCV10 | 23:00 | 06/20/24 | 1.000 |
| ID8F008107 | CCB10 | 23:05 | 06/20/24 | 1.000 |
| ID8F008108 | WTF002SB | 23:10 | 06/20/24 | 5.000 |
| ID8F008109 | E112-01A | 23:15 | 06/20/24 | 5.000 |
| ID8F008110 | E112-01 | 23:20 | 06/20/24 | 5.000 |
| ID8F008111 | E112-01J | 23:25 | 06/20/24 | 25.000 |
| ID8F008112 | E112-01M | 23:30 | 06/20/24 | 5.000 |
| ID8F008113 | E112-01S | 23:35 | 06/20/24 | 5.000 |
| ID8F008114 | CCV11 | 23:40 | 06/20/24 | 1.000 |
| ID8F008115 | CCB11 | 23:45 | 06/20/24 | 1.000 |
| ID8F008116 | MRL2005 | 23:50 | 06/20/24 | 1.000 |
| ID8F008117 | MRL2006 | 23:55 | 06/20/24 | 1.000 |
| ID8F008118 | WTFC01SB | 00:00 | 06/21/24 | 5.000 |
| ID8F008119 | F034-02A | 00:05 | 06/21/24 | 5.000 |
| ID8F008120 | F034-02 | 00:10 | 06/21/24 | 5.000 |
| ID8F008121 | F034-02J | 00:15 | 06/21/24 | 25.000 |
| ID8F008122 | F034-02M | 00:20 | 06/21/24 | 5.000 |
| ID8F008123 | F034-02S | 00:25 | 06/21/24 | 5.000 |
| ID8F008124 | CCV12 | 00:30 | 06/21/24 | 1.000 |
| ID8F008125 | CCB12 | 00:35 | 06/21/24 | 1.000 |

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Method : METHOD 3050B/6010C
Sequence : ID8F008
InstrumentID: D8

| Lab Samp ID : | | ICV | | | | ICSA1 | | | ICSAB1 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| QC Limit : | | %R:90-110/RSD:<5 | | | | %R:80-120/<LOD | | | %R:80-120 | | |
| Lab File ID : | | ID8F008014 | | | | ID8F008018 | | | ID8F008019 | | |
| DateAnalyed : | | 06/20/2413:33 | | | | 06/20/2413:53 | | | 06/20/2413:58 | | |
| Parameter | | Result | ICV EV | RSD | %Recovery | Result | ICSA EV | %Rec/LOD | Result | ICSAB EV | %Recovery |
| Aluminum | | 97.211 | 100 | 1.0598 | 97 | 427.13 | 400 | 107 | 393.82 | 400 | 98 |
| Antimony | T | 1.5120 | 1.5 | .48754 | 101 | .00341 | 0 | <0.030 | .98030 | 1 | 98 |
| Arsenic | T | .97284 | 1.0 | .79739 | 97 | .00052 | 0 | <0.02 | .99520 | 1 | 100 |
| Barium | T | 1.8909 | 2.0 | .16430 | 95 | .00038 | 0 | <0.002 | .46414 | 0.5 | 93 |
| Beryllium | T | 1.4106 | 1.5 | .17814 | 94 | -.00002 | 0 | <0.002 | .45548 | 0.5 | 91 |
| Boron | | 2.3651 | 2.5 | .09104 | 95 | -.00519 | 0 | <0.01 | .97195 | 1.0 | 97 |
| Cadmium | T | 1.9290 | 2.0 | .30745 | 96 | -.00088 | 0 | <0.005 | .90537 | 1 | 91 |
| Calcium | | 74.758 | 75 | .05652 | 100 | 491.83 | 500 | 98 | 452.47 | 500 | 90 |
| Chromium | T | 2.3623 | 2.5 | .07450 | 94 | .00173 | 0 | <0.005 | .45155 | 0.5 | 90 |
| Cobalt | T | .91737 | 1.0 | .05552 | 92 | -.00021 | 0 | <0.002 | .45867 | 0.5 | 92 |
| Copper | T | 2.3152 | 2.5 | .09362 | 93 | .00004 | 0 | <0.005 | .46089 | 0.5 | 92 |
| Iron | | 22.705 | 25 | .11138 | 91 | 191.00 | 200 | 96 | 170.99 | 200 | 85 |
| Lead | T | 2.2561 | 2.5 | .09844 | 91 | -.00398 | 0 | <0.005 | .89361 | 1 | 89 |
| Lithium | | .49770 | 0.5 | .09084 | 100 | .00000 | 0 | <0.05 | .94251 | 1 | 94 |
| Magnesium | | 55.879 | 60 | .15134 | 93 | 187.56 | 200 | 94 | 170.38 | 200 | 85 |
| Manganese | | 2.2925 | 2.5 | .13963 | 92 | -.00177 | 0 | <0.003 | .45355 | 0.5 | 91 |
| Molybdenum | T | 2.4067 | 2.5 | .08768 | 96 | .00077 | 0 | <0.005 | .99245 | 1 | 99 |
| Nickel | T | 2.4347 | 2.5 | .08786 | 97 | -.00044 | 0 | <0.005 | .96364 | 1 | 96 |
| Potassium | | 60.684 | 60 | .25992 | 101 | .06875 | 0 | <0.1 | 74.837 | 75 | 100 |
| Selenium | T | .98453 | 1.0 | .44386 | 98 | .00157 | 0 | <0.01 | .93145 | 1 | 93 |
| Silver | T | .47292 | 0.5 | .06232 | 95 | -.00063 | 0 | <0.005 | .98569 | 1 | 99 |
| Sodium | | 60.526 | 60 | .07110 | 101 | .14504 | 0 | >0.1 | 74.826 | 75 | 100 |
| Strontium | | .46511 | 0.5 | .12812 | 93 | -.00056 | 0 | <0.001 | .45968 | 0.5 | 92 |
| Thallium | T | 2.2792 | 2.5 | .43089 | 91 | .00017 | 0 | <0.005 | .82674 | 1 | 83 |
| Tin | | .48910 | 0.5 | .19450 | 98 | .00033 | 0 | <0.005 | .95942 | 1 | 96 |
| Titanium | | .47216 | 0.5 | .21530 | 94 | .00000 | 0 | <0.005 | .90409 | 1 | 90 |
| Vanadium | T | 1.3869 | 1.5 | .10397 | 92 | -.00001 | 0 | <0.002 | .45211 | 0.5 | 90 |
| Zinc | T | 2.5064 | 2.5 | .09736 | 100 | .00300 | 0 | <0.02 | .99515 | 1 | 100 |

| Unit: mg/L
| T: Target analyte
| EV: Expected Value
| Comment:

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Method : 3050B/6010C
Sequence : ID8F008
Instrument ID: D8

| CCV SampleID | | | CCV3 | | | CCV4 | | | CCV5 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CCV DataFileID | | | ID8F008045 | | | ID8F008053 | | | ID8F008063 | | |
| CCV DateTime | | | 06/20/24 18:00 | | | 06/20/24 18:40 | | | 06/20/24 19:29 | | |
| PARAMETER | | CCV EV | RESULT | %REC | RSD | RESULT | %REC | RSD | RESULT | %REC | RSD |
| Aluminum | | 100 | 96.8 | 97 | .51633 | 95.5 | 96 | .19554 | 94.3 | 94 | .69280 |
| Antimony | T | 1.5 | 1.5 | 100 | .22495 | 1.5 | 100 | .29934 | 1.51 | 101 | .60562 |
| Arsenic | T | 1.0 | 0.961 | 96 | .40587 | 0.961 | 96 | .63346 | 0.971 | 97 | .03805 |
| Barium | T | 2.0 | 1.9 | 95 | .24550 | 1.89 | 95 | .05464 | 1.92 | 96 | .16021 |
| Beryllium | T | 1.5 | 1.42 | 95 | .18968 | 1.42 | 94 | .11839 | 1.43 | 95 | .10693 |
| Boron | | 2.5 | 2.35 | 94 | .14233 | 2.34 | 94 | .22776 | 2.36 | 94 | .21626 |
| Cadmium | T | 2.0 | 1.92 | 96 | .27562 | 1.93 | 96 | .07084 | 1.94 | 97 | .32249 |
| Calcium | | 75 | 75.1 | 100 | .14952 | 75.3 | 100 | .13657 | 75.4 | 100 | .14916 |
| Chromium | T | 2.5 | 2.33 | 93 | .09302 | 2.32 | 93 | .13710 | 2.38 | 95 | .21813 |
| Cobalt | T | 1.0 | 0.918 | 92 | .26298 | 0.916 | 92 | .11887 | 0.916 | 92 | .13443 |
| Copper | T | 2.5 | 2.3 | 92 | .06179 | 2.3 | 92 | .12995 | 2.31 | 93 | .19803 |
| Iron | | 25 | 22.6 | 90 | .42877 | 22.5 | 90 | .21285 | 23 | 92 | .43358 |
| Lead | T | 2.5 | 2.26 | 91 | .12563 | 2.26 | 90 | .07493 | 2.26 | 91 | .12073 |
| Lithium | | 0.5 | 0.503 | 101 | .45686 | 0.497 | 99 | .90178 | 0.531 | 106 | .87207 |
| Magnesium | | 60 | 55.2 | 92 | .32284 | 55 | 92 | .34819 | 57.5 | 96 | .26164 |
| Manganese | | 2.5 | 2.32 | 93 | .18035 | 2.33 | 93 | .09185 | 2.36 | 94 | .08025 |
| Molybdenum | T | 2.5 | 2.41 | 96 | .04966 | 2.41 | 96 | .02517 | 2.41 | 96 | .03995 |
| Nickel | T | 2.5 | 2.43 | 97 | .11069 | 2.43 | 97 | .03576 | 2.44 | 97 | .04493 |
| Potassium | | 60 | 60.4 | 101 | .18533 | 60.1 | 100 | .31582 | 63.3 | 105 | .21253 |
| Selenium | T | 1.0 | 0.98 | 98 | .52711 | 0.979 | 98 | .43813 | 0.984 | 98 | .26532 |
| Silver | T | 0.5 | 0.47 | 94 | .44780 | 0.468 | 94 | .24923 | 0.479 | 96 | .51048 |
| Sodium | | 60 | 61.1 | 102 | .09268 | 61 | 102 | .03485 | 62.2 | 104 | .06022 |
| Strontium | | 0.5 | 0.465 | 93 | .11465 | 0.465 | 93 | .21449 | 0.463 | 93 | .05136 |
| Thallium | T | 2.5 | 2.26 | 91 | .42170 | 2.28 | 91 | .15498 | 2.28 | 91 | .24580 |
| Tin | | 0.5 | 0.49 | 98 | .23263 | 0.492 | 98 | .04726 | 0.489 | 98 | .50584 |
| Titanium | | 0.5 | 0.469 | 94 | .06259 | 0.465 | 93 | .29386 | 0.48 | 96 | .37143 |
| Vanadium | T | 1.5 | 1.38 | 92 | .27271 | 1.38 | 92 | .21122 | 1.4 | 93 | .29272 |
| Zinc | T | 2.5 | 2.51 | 100 | .06477 | 2.51 | 100 | .03054 | 2.51 | 100 | .06421 |

| Unit: ug/L
| T: Target analyte
|%Rec QC Limit: 90-110
| RSD QC Limit: <5
| CCV EV: CCV Expected Value ug/L
] Comment:

# CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Method : 3050B/6010C
Sequence : ID8F008
Instrument ID: D8

| CB SampleID | | : ICB | | CCB3 | | CCB4 | | CCB5 | |
|---|---|---|---|---|---|---|---|---|---|
| CB DataFileID | | : ID8F008015 | | ID8F008046 | | ID8F008054 | | ID8F008064 | |
| CB DateTime | | : 06/20/2413:38 | | 06/20/2418:05 | | 06/20/2418:45 | | 06/20/2419:34 | |
| PARAMETER | | LOD | RESULT | < LOD > | RESULT | < LOD > | RESULT | < LOD > | RESULT | < LOD > |
| Aluminum | | 0.03 | 0.009 | <0.03 | 0.01 | <0.03 | 0.02 | <0.03 | 0.02 | <0.03 |
| Antimony | T | 0.030 | 0.0007 | <0.030 | 0.0008 | <0.030 | 0.00001 | <0.030 | 0.0008 | <0.030 |
| Arsenic | T | 0.02 | 0.00006 | <0.02 | 0.0002 | <0.02 | 0.0002 | <0.02 | 0.0007 | <0.02 |
| Barium | T | 0.002 | 0.0001 | <0.002 | 0.00005 | <0.002 | 0.0002 | <0.002 | 0.00003 | <0.002 |
| Beryllium | T | 0.002 | 0.0002 | <0.002 | 0.0003 | <0.002 | 0.0003 | <0.002 | 0.0002 | <0.002 |
| Boron | | 0.01 | 0.007 | <0.01 | 0.004 | <0.01 | 0.004 | <0.01 | 0.005 | <0.01 |
| Cadmium | T | 0.005 | 0.00 | <0.005 | 0.00008 | <0.005 | 0.00004 | <0.005 | 0.00001 | <0.005 |
| Calcium | | 0.1 | 0.17 | >0.1 | 0.17 | >0.1 | 0.17 | >0.1 | 0.16 | >0.1 |
| Chromium | T | 0.005 | 0.0002 | <0.005 | 0.0004 | <0.005 | 0.0001 | <0.005 | 0.0005 | <0.005 |
| Cobalt | T | 0.002 | 0.0001 | <0.002 | 0.00006 | <0.002 | 0.00009 | <0.002 | 0.00001 | <0.002 |
| Copper | T | 0.005 | 0.0001 | <0.005 | 0.0001 | <0.005 | 0.0001 | <0.005 | 0.0002 | <0.005 |
| Iron | | 0.04 | 0.003 | <0.04 | 0.004 | <0.04 | 0.004 | <0.04 | 0.006 | <0.04 |
| Lead | T | 0.005 | 0.00009 | <0.005 | 0.0003 | <0.005 | 0.0001 | <0.005 | 0.0003 | <0.005 |
| Lithium | | 0.05 | 0.002 | <0.05 | 0.0009 | <0.05 | 0.0002 | <0.05 | 0.001 | <0.05 |
| Magnesium | | 0.1 | 0.01 | <0.1 | 0.008 | <0.1 | 0.01 | <0.1 | 0.0006 | <0.1 |
| Manganese | | 0.003 | 0.0002 | <0.003 | 0.0002 | <0.003 | 0.0003 | <0.003 | 0.0004 | <0.003 |
| Molybdenum | T | 0.005 | 0.0004 | <0.005 | 0.0002 | <0.005 | 0.00005 | <0.005 | 0.0002 | <0.005 |
| Nickel | T | 0.005 | 0.0004 | <0.005 | 0.0005 | <0.005 | 0.0005 | <0.005 | 0.0004 | <0.005 |
| Potassium | | 0.1 | 0.11 | >0.1 | 0.009 | <0.1 | 0.04 | <0.1 | 0.02 | <0.1 |
| Selenium | T | 0.01 | 0.002 | <0.01 | 0.002 | <0.01 | 0.0005 | <0.01 | 0.002 | <0.01 |
| Silver | T | 0.005 | 0.00004 | <0.005 | 0.00007 | <0.005 | 0.0004 | <0.005 | 0.0003 | <0.005 |
| Sodium | | 0.1 | 0.01 | <0.1 | 0.05 | <0.1 | 0.04 | <0.1 | 0.02 | <0.1 |
| Strontium | | 0.001 | 0.0004 | <0.001 | 0.0004 | <0.001 | 0.0005 | <0.001 | 0.0003 | <0.001 |
| Thallium | T | 0.005 | 0.0005 | <0.005 | 0.0001 | <0.005 | 0.0005 | <0.005 | 0.002 | <0.005 |
| Tin | | 0.005 | 0.0005 | <0.005 | 0.00009 | <0.005 | 0.00003 | <0.005 | 0.0002 | <0.005 |
| Titanium | | 0.005 | 0.0006 | <0.005 | 0.0005 | <0.005 | 0.0002 | <0.005 | 0.0006 | <0.005 |
| Vanadium | T | 0.002 | 0.00005 | <0.002 | 0.00007 | <0.002 | 0.00009 | <0.002 | 0.00006 | <0.002 |
| Zinc | T | 0.02 | 0.003 | <0.02 | 0.003 | <0.02 | 0.002 | <0.02 | 0.002 | <0.02 |

Unit: mg/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

| | Pos ID | Rack | Row | Col | Type | Samplename | Comment | Date File | Type | Anaylst | CorrFact | Check | Check Table | Fail Action |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | Unk | S0 | | ID8F008001 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 2 | 0 | 0 | 0 | 0 | Unk | S20 | | ID8F008002 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 3 | 0 | 0 | 0 | 0 | Unk | S21 | | ID8F008003 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 4 | 0 | 0 | 0 | 0 | Unk | S22 | | ID8F008004 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 5 | 0 | 0 | 0 | 0 | Unk | S23 | | ID8F008005 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 6 | 0 | 0 | 0 | 0 | Unk | S24 | | ID8F008006 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 7 | 0 | 0 | 0 | 0 | Unk | S25 | | ID8F008007 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 8 | 0 | 0 | 0 | 0 | Unk | S26 | | ID8F008008 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 9 | 0 | 0 | 0 | 0 | Unk | S27 | | ID8F008009 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 10 | 0 | 0 | 0 | 0 | Unk | S28 | | ID8F008010 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 11 | 0 | 0 | 0 | 0 | Unk | S29 | | ID8F008011 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 12 | 0 | 0 | 0 | 0 | Unk | S30 | | ID8F008012 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 13 | 0 | 0 | 0 | 0 | Unk | S31 | | ID8F008013 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 14 | 1 | 2 | 1 | 1 | QC | ICV | | ID8F008014 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 15 | 2 | 2 | 2 | 1 | QC | ICB | | ID8F008015 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 16 | 3 | 2 | 3 | 1 | QC | MRLF2001 | | ID8F008016 | | JFeng/JChun | 1 | ☒ | MRL-EMAX | None |
| 17 | 4 | 2 | 4 | 1 | QC | MRLF2002 | | ID8F008017 | | JFeng/JChun | 1 | ☒ | MRL-AFCEE | None |
| 18 | 5 | 2 | 5 | 1 | QC | ICSA1 | | ID8F008018 | | JFeng/JChun | 1 | ☒ | ICSA-DoD | None |
| 19 | 6 | 2 | 6 | 1 | QC | ICSAB1 | | ID8F008019 | | JFeng/JChun | 1 | ☒ | ICSAB | None |
| 20 | 7 | 2 | 7 | 1 | Unk | MRLF2003 | | ID8F008020 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 21 | 8 | 2 | 8 | 1 | Unk | MRLF2004 | | ID8F008021 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 22 | 9 | 2 | 9 | 1 | QC | CCV1 | | ID8F008022 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 23 | 10 | 2 | 10 | 1 | QC | CCB1 | | ID8F008023 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 24 | 61 | 3 | 1 | 1 | QC | IPF005WB | | ID8F008024 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 25 | 62 | 3 | 2 | 1 | QC | IPF005WL | | ID8F008025 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 26 | 63 | 3 | 3 | 1 | QC | IPF005WC | | ID8F008026 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 27 | 64 | 3 | 4 | 1 | Unk | F020-02 | | ID8F008027 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 28 | 65 | 3 | 5 | 1 | Unk | F020-03A | | ID8F008028 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 29 | 66 | 3 | 6 | 1 | Unk | F020-03 | | ID8F008029 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 30 | 67 | 3 | 7 | 1 | Unk | F020-03J | | ID8F008030 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 31 | 68 | 3 | 8 | 1 | Unk | F020-03M | | ID8F008031 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 32 | 69 | 3 | 9 | 1 | Unk | F020-03S | | ID8F008032 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 33 | 157 | 4 | 1 | 4 | QC | CCV2 | | ID8F008033 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 34 | 169 | 4 | 1 | 5 | QC | CCB2 | | ID8F008034 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 35 | 70 | 3 | 10 | 1 | Unk | F020-04 | | ID8F008035 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 36 | 71 | 3 | 11 | 1 | Unk | F020-05 | | ID8F008036 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 37 | 72 | 3 | 12 | 1 | Unk | F020-06 | | ID8F008037 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 38 | 73 | 3 | 1 | 2 | QC | TXF002SB | | ID8F008038 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 39 | 74 | 3 | 2 | 2 | Unk | F008-04A | TCLP | ID8F008039 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 40 | 75 | 3 | 3 | 2 | Unk | F008-04 | TCLP | ID8F008040 | | JFeng/JChun | 1 | ☒ | unk | --- |

| | Pos ID | Rack | Row | Col | Type | Samplename | Comment | Date File | Type | Anaylst | CorrFact | Check | Check Table | Fail Action |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 41 | 76 | 3 | 4 | 2 | Unk | F008-04J | TCLP | ID8F008041 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 42 | 77 | 3 | 5 | 2 | Unk | F008-04M | TCLP | ID8F008042 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 43 | 78 | 3 | 6 | 2 | Unk | F008-04S | TCLP | ID8F008043 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 44 | 79 | 3 | 7 | 2 | QC | TXF003SB | | ID8F008044 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 45 | 158 | 4 | 2 | 4 | QC | CCV3 | | ID8F008045 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 46 | 170 | 4 | 2 | 5 | QC | CCB3 | | ID8F008046 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 47 | 80 | 3 | 8 | 2 | Unk | F032-05 | TCLP | ID8F008047 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 48 | 81 | 3 | 9 | 2 | Unk | F034-02 | TCLP | ID8F008048 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 49 | 82 | 3 | 10 | 2 | Unk | F428-01 | TCLP | ID8F008049 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 50 | 83 | 3 | 11 | 2 | QC | IPF010SB | | ID8F008050 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 51 | 84 | 3 | 12 | 2 | QC | IPF010SL | | ID8F008051 | | JFeng/JChun | 1 | ☒ | LCS-SDoD | None |
| 52 | 85 | 3 | 1 | 3 | QC | IPF010SC | | ID8F008052 | | JFeng/JChun | 1 | ☒ | LCS-SDoD | None |
| 53 | 159 | 4 | 3 | 4 | QC | CCV4 | | ID8F008053 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 54 | 171 | 4 | 3 | 5 | QC | CCB4 | | ID8F008054 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 55 | 86 | 3 | 2 | 3 | Unk | F034-02A | | ID8F008055 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 56 | 87 | 3 | 3 | 3 | Unk | F034-02 | | ID8F008056 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 57 | 88 | 3 | 4 | 3 | Unk | F034-02J | | ID8F008057 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 58 | 89 | 3 | 5 | 3 | Unk | F034-02M | | ID8F008058 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 59 | 90 | 3 | 6 | 3 | Unk | F034-02S | | ID8F008059 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 60 | 91 | 3 | 7 | 3 | QC | IPF009WB | | ID8F008060 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 61 | 92 | 3 | 8 | 3 | QC | IPF009WL | | ID8F008061 | | JFeng/JChun | 1 | ☒ | LCS-WDoD | None |
| 62 | 93 | 3 | 9 | 3 | QC | IPF009WC | | ID8F008062 | | JFeng/JChun | 1 | ☒ | LCS-WDoD | None |
| 63 | 160 | 4 | 4 | 4 | QC | CCV5 | | ID8F008063 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 64 | 172 | 4 | 4 | 5 | QC | CCB5 | | ID8F008064 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 65 | 94 | 3 | 10 | 3 | Unk | F034-01A | | ID8F008065 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 66 | 95 | 3 | 11 | 3 | Unk | F034-01 | | ID8F008066 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 67 | 96 | 3 | 12 | 3 | Unk | F034-01J | | ID8F008067 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 68 | 97 | 3 | 1 | 4 | Unk | F034-01M | | ID8F008068 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 69 | 98 | 3 | 2 | 4 | Unk | F034-01S | | ID8F008069 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 70 | 161 | 4 | 5 | 4 | QC | CCV6 | | ID8F008070 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 71 | 173 | 4 | 5 | 5 | QC | CCB6 | | ID8F008071 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 72 | 99 | 3 | 3 | 4 | QC | IPF011WB | | ID8F008072 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 73 | 100 | 3 | 4 | 4 | QC | IPF011WL | | ID8F008073 | | JFeng/JChun | 1 | ☒ | LCS-WDoD | None |
| 74 | 101 | 3 | 5 | 4 | QC | IPF011WC | | ID8F008074 | | JFeng/JChun | 1 | ☒ | LCS-WDoD | None |
| 75 | 102 | 3 | 6 | 4 | QC | TX004WB | TCLP | ID8F008075 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 76 | 103 | 3 | 7 | 4 | Unk | F058-01A | TCLP | ID8F008076 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 77 | 104 | 3 | 8 | 4 | Unk | F058-01 | TCLP | ID8F008077 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 78 | 105 | 3 | 9 | 4 | Unk | F058-01J | TCLP | ID8F008078 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 79 | 106 | 3 | 10 | 4 | Unk | F058-01M | TCLP | ID8F008079 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 80 | 107 | 3 | 11 | 4 | Unk | F058-01S | TCLP | ID8F008080 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |

| | Pos ID | Rack | Row | Col | Type | Samplename | Comment | Date File | Type | Anaylst | CorrFact | Check | Check Table | Fail Action |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | 162 | 4 | 6 | 4 | QC | CCV7 | | ID8F008081 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 82 | 174 | 4 | 6 | 5 | QC | CCB7 | | ID8F008082 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 83 | 108 | 3 | 12 | 4 | QC | IPF006SB | | ID8F008083 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 84 | 109 | 3 | 1 | 5 | QC | IPF006SL | | ID8F008084 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 85 | 110 | 3 | 2 | 5 | QC | IPF006SC | | ID8F008085 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 86 | 111 | 3 | 3 | 5 | Unk | F427-01A | | ID8F008086 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 87 | 112 | 3 | 4 | 5 | Unk | F427-01 | | ID8F008087 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 88 | 113 | 3 | 5 | 5 | Unk | F427-01J | | ID8F008088 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 89 | 114 | 3 | 6 | 5 | Unk | F427-01M | | ID8F008089 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 90 | 115 | 3 | 7 | 5 | Unk | F427-01S | | ID8F008090 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 91 | 163 | 4 | 7 | 4 | QC | CCV8 | | ID8F008091 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 92 | 175 | 4 | 7 | 5 | QC | CCB8 | | ID8F008092 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 93 | 116 | 3 | 8 | 5 | QC | IPF015SB | | ID8F008093 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 94 | 117 | 3 | 9 | 5 | QC | IPF015SL | | ID8F008094 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 95 | 118 | 3 | 10 | 5 | QC | IPF015SC | | ID8F008095 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 96 | 119 | 3 | 11 | 5 | Unk | F476-01A | | ID8F008096 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 97 | 120 | 3 | 12 | 5 | Unk | F476-01 | | ID8F008097 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 98 | 121 | 4 | 1 | 1 | Unk | F476-01J | | ID8F008098 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 99 | 122 | 4 | 2 | 1 | Unk | F476-01M | | ID8F008099 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 100 | 123 | 4 | 3 | 1 | Unk | F476-01S | | ID8F008100 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 101 | 164 | 4 | 8 | 4 | QC | CCV9 | | ID8F008101 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 102 | 176 | 4 | 8 | 5 | QC | CCB9 | | ID8F008102 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 103 | 124 | 4 | 4 | 1 | QC | IPF016WB | | ID8F008103 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 104 | 125 | 4 | 5 | 1 | QC | IPF016WL | | ID8F008104 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 105 | 126 | 4 | 6 | 1 | QC | IPF016WC | | ID8F008105 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 106 | 165 | 4 | 9 | 4 | QC | CCV10 | | ID8F008106 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 107 | 177 | 4 | 9 | 5 | QC | CCB10 | | ID8F008107 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 108 | 127 | 4 | 7 | 1 | QC | WTF002SB | STLC 5X | ID8F008108 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 109 | 128 | 4 | 8 | 1 | Unk | E112-01A | STLC 5X | ID8F008109 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 110 | 129 | 4 | 9 | 1 | Unk | E112-01 | STLC 5X | ID8F008110 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 111 | 130 | 4 | 10 | 1 | Unk | E112-01J | STLC 25X | ID8F008111 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 112 | 131 | 4 | 11 | 1 | Unk | E112-01M | STLC 5X | ID8F008112 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 113 | 132 | 4 | 12 | 1 | Unk | E112-01S | STLC 5X | ID8F008113 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 114 | 166 | 4 | 10 | 4 | QC | CCV11 | | ID8F008114 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 115 | 178 | 4 | 10 | 5 | QC | CCB11 | | ID8F008115 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 116 | 168 | 4 | 12 | 4 | QC | MRL2005 | | ID8F008116 | | JFeng/JChun | 1 | ☒ | MRL-EMAX | None |
| 117 | 180 | 4 | 12 | 5 | QC | MRL2006 | | ID8F008117 | | JFeng/JChun | 1 | ☒ | MRL-EMAX | None |
| 118 | 133 | 4 | 1 | 2 | QC | WTF001SB | STLC 5X | ID8F008118 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 119 | 134 | 4 | 2 | 2 | Unk | F034-02A | STLC 5X | ID8F008119 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 120 | 135 | 4 | 3 | 2 | Unk | F034-02 | STLC 5X | ID8F008120 | | JFeng/JChun | 1 | ☒ | unk | --- |

| | Pos ID | Rack | Row | Col | Type | Samplename | Comment | Date File | Type | Anaylst | CorrFact | Check | Check Table | Fail Action |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 121 | 136 | 4 | 4 | 2 | Unk | F034-02J | STLC 25X | ID8F008121 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 122 | 137 | 4 | 5 | 2 | Unk | F034-02M | STLC 5X | ID8F008122 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 123 | 138 | 4 | 6 | 2 | Unk | F034-02S | STLC 5X | ID8F008123 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 124 | 167 | 4 | 11 | 4 | QC | CCV12 | | ID8F008124 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 125 | 179 | 4 | 11 | 5 | QC | CCB12 | | ID8F008125 | | JFeng/JChun | 1 | ☒ | LOD | None |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Al 308.215 {109} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.000276 | 0.017897 | 0.000000 | 1.000000 | 0.999975 | 0.000138 | 0.035575 |
| Sb 206.833 {463} | 06/20/2024 15:33:38 | 06/20/2024 13:23:39 | Linear | 1/Conc | 0.000011 | 0.005403 | 0.000000 | 1.000000 | 0.999997 | 0.000003 | 0.002072 |
| As 189.042 {478} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.000023 | 0.002754 | 0.000000 | 1.000000 | 0.999996 | 0.000000 | 0.002817 |
| Ba 455.403 { 74} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.001346 | 0.724162 | 0.000000 | 1.000000 | 1.000000 | 0.000052 | 0.000358 |
| Be 313.042 {108} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | 0.001162 | 0.717046 | 0.000000 | 1.000000 | 0.999992 | 0.000517 | 0.000145 |
| B 249.773 {135} | 06/20/2024 15:33:38 | 06/20/2024 13:03:57 | Linear | 1/Conc | 0.000287 | 0.131674 | 0.000000 | 1.000000 | 0.999962 | 0.000207 | 0.000342 |
| Cd 226.502 {449} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | -0.000043 | 0.141311 | 0.000000 | 1.000000 | 0.999886 | 0.000388 | 0.000111 |
| Ca 317.933 {106} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.006429 | 0.033166 | 0.000000 | 1.000000 | 0.999751 | 0.006714 | 0.003640 |
| Cr 267.716 {126} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.000500 | 0.157130 | 0.000000 | 1.000000 | 1.000000 | 0.000026 | 0.000316 |
| Co 228.616 {447} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | -0.000292 | 0.678009 | 0.000000 | 1.000000 | 0.999959 | 0.000223 | 0.000300 |
| Cu 324.754 {104} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.000731 | 0.225991 | 0.000000 | 1.000000 | 0.999954 | 0.000389 | 0.000341 |
| Fe 271.441 {124} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.000021 | 0.006859 | 0.000000 | 1.000000 | 0.999993 | 0.000032 | 0.006722 |
| Pb 220.353 {453} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | -0.000485 | 0.346577 | 0.000000 | 1.000000 | 0.999951 | 0.000625 | 0.000767 |
| Li 670.784 { 50} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.000828 | 0.119696 | 0.000000 | 1.000000 | 0.999949 | 0.000032 | 0.004072 |
| Mg 279.079 {121} | 06/20/2024 15:33:38 | 06/20/2024 13:23:39 | Linear | 1/Conc | -0.000369 | 0.003749 | 0.000000 | 1.000000 | 0.999983 | 0.000040 | 0.035998 |
| Mn 257.610 {131} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | 0.000005 | 0.151351 | 0.000000 | 1.000000 | 0.999954 | 0.000264 | 0.000465 |
| Mo 202.030 {467} | 06/20/2024 15:33:38 | 06/20/2024 13:03:57 | Linear | 1/Conc | -0.000331 | 0.544414 | 0.000000 | 1.000000 | 1.000000 | 0.000044 | 0.000301 |
| Ni 231.604 {446} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.001349 | 0.784881 | 0.000000 | 1.000000 | 0.999991 | 0.000593 | 0.000348 |
| K 766.490 { 44} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | -0.003358 | 0.005706 | 0.000000 | 1.000000 | 0.999878 | 0.000810 | 0.063357 |
| Se 196.090 {472} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.000018 | 0.002900 | 0.000000 | 1.000000 | 0.999994 | 0.000001 | 0.002942 |
| Si 212.412 {459} | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| Ag 328.068 {103} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.000187 | 0.173641 | 0.000000 | 1.000000 | 0.999967 | 0.000038 | 0.000489 |
| Na 589.592 { 57} | 06/20/2024 15:33:38 | 06/20/2024 13:03:57 | Linear | 1/Conc | -0.001230 | 0.018063 | 0.000000 | 1.000000 | 0.999848 | 0.002283 | 0.018029 |
| Sr 421.552 { 80} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.001069 | 0.840338 | 0.000000 | 1.000000 | 0.999987 | 0.000114 | 0.000263 |
| Tl 190.856 {477} | 06/20/2024 15:33:38 | 06/20/2024 13:23:39 | Linear | 1/Conc | 0.000001 | 0.005817 | 0.000000 | 1.000000 | 0.999589 | 0.000020 | 0.001571 |
| Sn 189.989 {477} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.000061 | 0.098434 | 0.000000 | 1.000000 | 0.999915 | 0.000035 | 0.000927 |
| Ti 334.941 {101} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.000261 | 0.096682 | 0.000000 | 1.000000 | 0.999988 | 0.000013 | 0.001288 |
| U 409.014 { 82} | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| V 292.402 {115} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.000005 | 0.157811 | 0.000000 | 1.000000 | 0.999999 | 0.000045 | 0.000351 |
| Zn 206.200 {463} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.002579 | 0.776066 | 0.000000 | 1.000000 | 0.999973 | 0.001041 | 0.000174 |
| Sc 227.318 {448}* | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| Sc 361.384 { 93}* | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| Sc 364.531 { 92}* | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |

ID8F008
6/20/24 JF

## Status

| | | | | | |
|---|---|---|---|---|---|
| Revision | 19 | | | | |
| Date Created | 08/14/2006 16:36:29 | by admin | | | |
| Date Modified | 06/20/2024 15:33:37 | by admin | | | |
| Date Calibrated | 06/20/2024 15:33:38 | | | | |
| Current Status | by admin | | | | |
| Number of Elements | 31 | | | | |
| Number of Wavelengths | 33 | | | | |
| Calibration Type | External | | | | |
| Notes: | | | | | |

## Analysis Preferences

| | | | | | |
|---|---|---|---|---|---|
| Sample Options | # Repeats: | 3 | | | |
| | Delay Time: | 0.0 seconds | | | |
| | Sample Flush Time: | 50 seconds | | | |
| | Analysis mode | Speed | | | |
| Source | Sample Introduction | Nebulizer | | | |
| | Plasma View: | Line Selection | | | |
| Analysis Maximum | Low WL Range | Axial | 15 | Radial | 15 |
| Integration Times (sec) | High WL Range: | Axial | 10 | Radial | 5 |
| Calibration Mode | Concentration | | | | |
| Trailing Full Frame Options | Intelli-Frame: | | No | | |
| | Max Integration Time (sec): | | 30 | | |
| | WL Range: | | Low | | |
| | View: | | Axial | | |
| | Auto-Increment Sample Names: | | Yes | | |
| | Use Sample Weight Corrections: | | No | | |

## Source Settings

| | | | |
|---|---|---|---|
| Nebulizer Pump | Flush Pump Rate (rpm): | 88 | |
| | Analysis Pump Rate (rpm): | 36 | |
| | Pump Relaxation Time (sec): | 5 | |
| | Pump Tubing Type: | Tygon Orange/White | |
| | RF Power: | 1150 | W |

ID8F008
6/20/24 JF

EMAX LABORATORIES, INC.

# DIGESTION LOG
*for*
## ICP METALS



**Note:** For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

**Comments:**

Digestion Vessel Lot # 29323008

Filter Lot # N/A

Book #: EIP-163
Batch: IPF010WS
Matrix: SOIL JC 6/14/24
Digestor ID: F

| SOP # | Rev. # |
|---|---|
| ☐ EMAX-3010 | 8 |
| ☑ EMAX-3050 | 9 |
| ☐ EMAX-200.7 | 6 |
| ☐ EMAX- | |

| Start | Temp | End | Temp |
|---|---|---|---|
| | 94.4 °C | | 92.8 °C |

| Standards | ID | Amount Added (mL)/(g) |
|---|---|---|
| LCS-1 | SW1A-025-07-02 | 0.50 |
| LCS-2 | -03 | 0.50 |
| LCS-3 | -04 | 1.00 |
| MS | same spike std and volume as LCS-3 | |
| Blank Soil (Bead) | SW5A-05-03-02 | 1g |
| **Reagent** | **Lot# / ID** | **Amount Added (mL)** |
| $HNO_3$ | SW1A-012-09-01 | 10.0 |
| HCl | -012-03-01 | 5.0 + 5.0 |
| $H_2O_2$ | -011-23-06 | 10.0 |
| $HNO_3$(1:1) | SW5B-06-30-02 | 10.0 |
| pH Strip (0-14) | N/A | N/A |

| | |
|---|---|
| Digestate Location | METALS |
| Extract Location | N/A |

☑ Reagent Water ID: SW1A-012-11-09
☑ Thermometer ID: 230167652 / F4
☑ Pipette ID: C42761741
☑ Pipette ID: D42781023
☐ Pipette ID:
☐ $HNO_3$ dispenser checked @ 5.0 mL with Class A volumetric flask
☐ HCl dispenser checked @ 5.0 mL with Class A volumetric flask

Prepared By: JC
Standard Added By: JC Witnessed By: HC
Extract Rcvd By: JC Checked By: JC

EMAX LABS

DIGESTION LOG FOR METALS

| PrepBatchID | LabSampleID | Aliquot | Unit | DateTime | Vd(ml) | ExpAmt | ExpVd(ml) | PrepFctr | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 24IPF010S01 | IPF010SB | 1 | g | 6/14/24 8:58 | 100 | 1 | 100 | 1 | |
| 24IPF010S02 | IPF010SL | 1 | g | 6/14/24 8:59 | 100 | 1 | 100 | 1 | |
| 24IPF010S03 | IPF010SC | 1 | g | 6/14/24 9:00 | 100 | 1 | 100 | 1 | |
| 24IPF010S04 | F034-02 | 1.03 | g | 6/14/24 9:01 | 100 | 1 | 100 | 0.971 | |
| 24IPF010S05 | F034-02M | 1.03 | g | 6/14/24 9:01 | 100 | 1 | 100 | 0.971 | |
| 24IPF010S06 | F034-02S | 1.03 | g | 6/14/24 9:02 | 100 | 1 | 100 | 0.971 | |

JC 6/14/24

Balance ID: 10203192. Calibration check was verified prior to use.

Vd=digestate volume

PrepFctr=)ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 6/14/24 9:36

☑ Digestion Ended @ 6/14/24 11:04

Prepared By: JChun

Checked By: JC

Comments:

Date 6/14/24

# MERCURY
# (WATER)

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F034

METHOD SW7470A
MERCURY BY COLD VAPOR

One(1) water sample was received on 06/07/24 to be analyzed for Mercury by Cold Vapor in accordance with Method SW7470A and project specific requirements.

Holding Time
The sample was digested and analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Mercury was not detected in HGF009WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. HGF009WL/HGF009WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Mercury was within MS QC limits in F034-01M/F034-01S. Refer to Matrix QC summary form for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
MERCURY BY COLD VAPOR

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F034
Instrument ID : 47

WATER

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| MBLK1W | HGF009WB | 1 | NA | 06/20/2413:46 | 06/20/2410:11 | M47F007012 | M47F007 | 24HGF009W | Method Blank |
| LCS1W | HGF009WL | 1 | NA | 06/20/2413:48 | 06/20/2410:11 | M47F007013 | M47F007 | 24HGF009W | Lab Control Sample (LCS) |
| LCD1W | HGF009WC | 1 | NA | 06/20/2413:50 | 06/20/2410:11 | M47F007014 | M47F007 | 24HGF009W | LCS Duplicate |
| IDW-WATER_JUN24MS | F034-01M | 1 | NA | 06/20/2414:16 | 06/20/2410:11 | M47F007028 | M47F007 | 24HGF009W | Matrix Spike Sample (MS) |
| IDW-WATER_JUN24MSD | F034-01S | 1 | NA | 06/20/2414:18 | 06/20/2410:11 | M47F007029 | M47F007 | 24HGF009W | MS Duplicate (MSD) |
| IDW-WATER_JUN24 | F034-01 | 1 | NA | 06/20/2414:21 | 06/20/2410:11 | M47F007031 | M47F007 | 24HGF009W | Field Sample |

FN - Filename
% Moist - Percent Moisture

METHOD SW7470A
MERCURY BY COLD VAPOR

Client : PARSONS
Project : TITAN 1-A
Batch No. : 24F034

Matrix : WATER
InstrumentID : 47

| CLIENT SAMPLE ID | EMAX SAMPLE ID | RESULTS (ug/L) | DILUTION FACTOR | MOIST (%) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) | ANALYSIS DATETIME | PREPARATION DATETIME | DATA FILE ID | CAL REF | PREP BATCH | COLLECTION DATETIME | RECEIVED DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBLK1W | HGF009WB | ND | 1 | NA | 0.500 | 0.100 | 0.200 | 06/20/2413:46 | 06/20/2410:11 | M47F007012 | M47F007 | 24HGF009W | NA | NA |
| LCS1W | HGF009WL | 2.52 | 1 | NA | 0.500 | 0.100 | 0.200 | 06/20/2413:48 | 06/20/2410:11 | M47F007013 | M47F007 | 24HGF009W | NA | NA |
| LCD1W | HGF009WC | 2.47 | 1 | NA | 0.500 | 0.100 | 0.200 | 06/20/2413:50 | 06/20/2410:11 | M47F007014 | M47F007 | 24HGF009W | NA | NA |
| IDW-WATER_JUN24MS | FC34-01M | 2.54 | 1 | NA | 0.500 | 0.100 | 0.200 | 06/20/2414:16 | 06/20/2410:11 | M47F007028 | M47F007 | 24HGF009W | 06/06/2411:40 | 06/07/24 |
| IDW-WATER_JUN24MSD | FC34-01S | 2.57 | 1 | NA | 0.500 | 0.100 | 0.200 | 06/20/2414:18 | 06/20/2410:11 | M47F007029 | M47F007 | 24HGF009W | 06/06/2411:40 | 06/07/24 |
| IDW-WATER_JUN24 | FC34-01 | ND | 1 | NA | 0.500 | 0.100 | 0.200 | 06/20/2414:21 | 06/20/2410:11 | M47F007031 | M47F007 | 24HGF009W | 06/06/2411:40 | 06/07/24 |

Note: Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : METHOD SW7470A

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : MBLK1W | LCS1W | LCD1W |
| LAB SAMPLE ID | : HGF009WB | HGF009WL | HGF009WC |
| LAB FILE ID | : M47F007012 | M47F007013 | M47F007014 |
| DATE PREPARED | : 06/20/2410:11 | 06/20/2410:11 | 06/20/2410:11 |
| DATE ANALYZED | : 06/20/2413:46 | 06/20/2413:48 | 06/20/2413:50 |
| PREP BATCH | : 24HGF009W | 24HGF009W | 24HGF009W |
| CALIBRATION REF | : M47F007 | M47F007 | M47F007 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 2.50 | 2.52 | 101 | 2.50 | 2.47 | 99 | 2 | 82-119 | 20 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : METHOD SW7470A

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1 1
SAMPLE ID : IDW-WATER_JUN24 IDW-WATER_JUN24MS IDW-WATER_JUN24MSD
LAB SAMPLE ID : F034-01 F034-01M F034-01S
LAB FILE ID : M47F007031 M47F007026 M47F007029
DATE PREPARED : 06/20/2410:11 06/20/2410:11 06/20/2410:11
DATE ANALYZED : 06/20/2414:21 06/20/2414:16 06/20/2414:18
PREP BATCH : 24HGF009W 24HGF009W 24HGF009W
CALIBRATION REF: M47F007 M47F007 M47F007

ACCESSION:

| PARAMETERS | PSResult (ug/L) | SpikeAmt (ug/L) | MSResult (ug/L) | MSRec (%) | SpikeAmt (ug/L) | MSDResult (ug/L) | MSDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | . ND | 2.50 | 2.54 | 102 | 2.50 | 2.57 | 103 | 1 | 82-119 | 20 |

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX LABORATORIES, INC.

# ANALYSIS RUN LOG
*for*
MERCURY



Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 6/20/24 Start Time: 13:25

End Date: 6/20/24 End Time: 14:38

Comments: QC OK

Book #: A47-140

Instrument No.: 47

Analytical Sequence/Batch: M47F007

Method File: HG1

Micropipette ID: ☐ 339342032

Micropipette ID: ☑ HG-03

Micropipette ID: ☑ C42780212

Micropipette ID: ☑ HG-06

Micropipette ID: ☐

| SOP # | Rev. # |
|---|---|
| [☑] EMAX-7470 | 9 |
| [ ] EMAX-7471 | 10 |
| [ ] EMAX-245.1 | 5 |
| [ ] EMAX- | |

| STANDARDS ID | |
|---|---|
| S1 | BLANK |
| S2 | SM3B-24-38-02 |
| S3 | |
| S4 | |
| S5 | |
| S6 | |
| CCV | ↓ |
| ICV | SM3B-24-38-03 |
| LCS | ↓ |
| Analytical Spike | SM3B-24-38-04 |
| | 7 V 3 mg/L |

Analyzed By: AMR

Date: 6/20/24

Disposed By: AMR

Date: 6/21/24

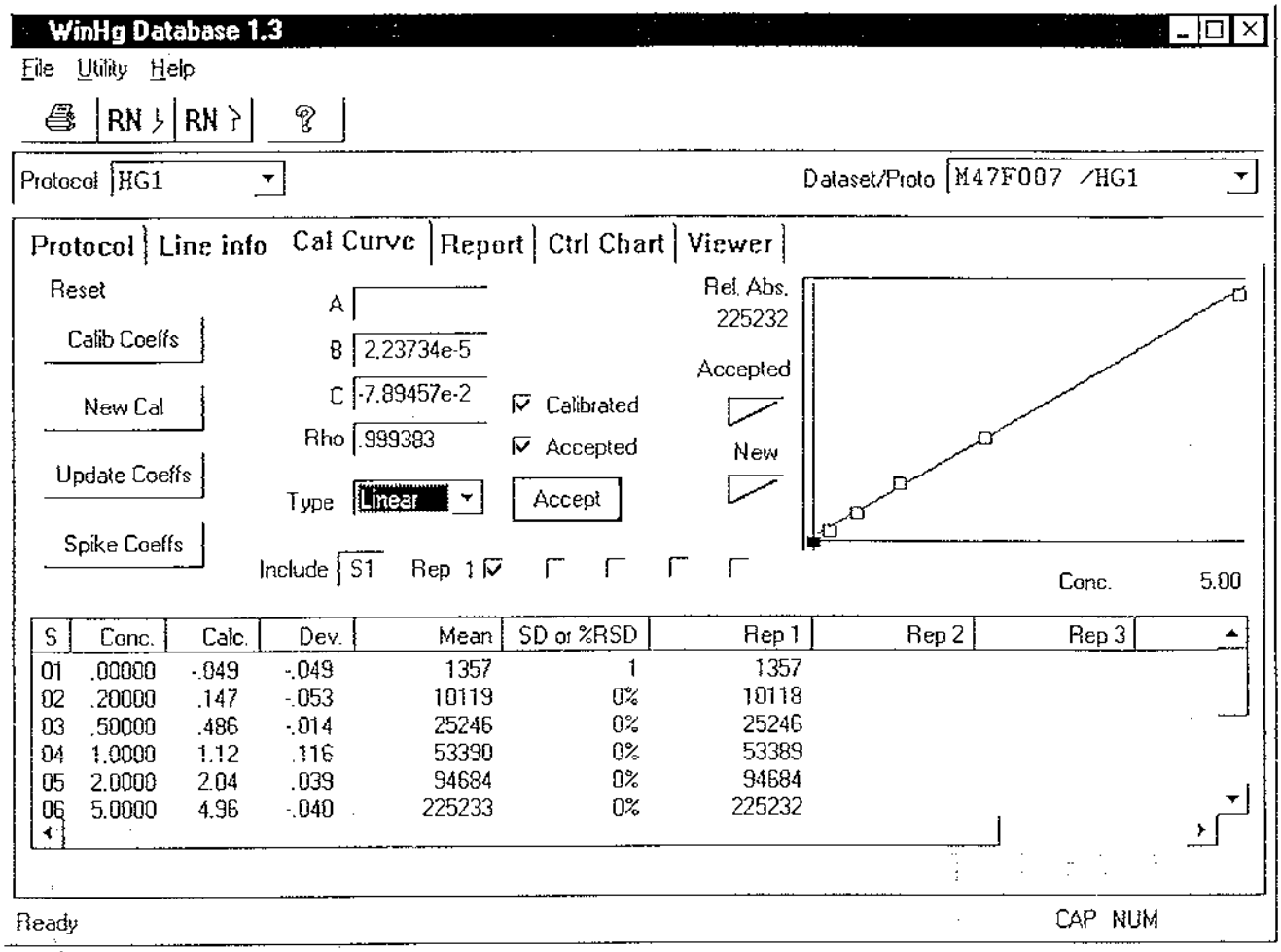
"M47F007"

| EMAX1fid | EMAX1sid | conc | Raw_resp | rsd/rf | adateTime | DF |
|---|---|---|---|---|---|---|
| M47F007001 | STD01REP1 | 0 | 1357 | | 06/20/2413:25 | 1 |
| M47F007002 | STD02REP1 | .2 | 10118 | | 06/20/2413:27 | 1 |
| M47F007003 | STD03REP1 | .5 | 25246 | | 06/20/2413:29 | 1 |
| M47F007004 | STD04REP1 | 1 | 53389 | | 06/20/2413:31 | 1 |
| M47F007005 | STD05REP1 | 2 | 94684 | | 06/20/2413:33 | 1 |
| M47F007006 | STD06REP1 | 5 | 225232 | | 06/20/2413:36 | 1 |
| M47F007007 | ICV | 1.99 | 92428 | 0 | 06/20/2413:38 | 1 |
| M47F007008 | ICB | -.016 | 2807 | 0 | 06/20/2413:39 | 1 |
| M47F007009 | MRLF2001 | .498 | 25805 | 0 | 06/20/2413:41 | 1 |
| M47F007010 | CCV1 | 1.98 | 91873 | 0 | 06/20/2413:43 | 1 |
| M47F007011 | CCB1 | -.035 | 1979 | 0 | 06/20/2413:45 | 1 |
| M47F007012 | HGF009WB | .066 | 6459 | 0 | 06/20/2413:46 | 1 |
| M47F007013 | HGF009WL | 2.52 | 116318 | 0 | 06/20/2413:48 | 1 |
| M47F007014 | HGF009WC | 2.47 | 113765 | 0 | 06/20/2413:50 | 1 |
| M47F007015 | TXF006WB | .052 | 5847 | 0 | 06/20/2413:52 | 1 |
| M47F007016 | F473-01 | -.04 | 1719 | 0 | 06/20/2413:54 | 1 |
| M47F007017 | F474-01 | -.064 | 662 | 0 | 06/20/2413:56 | 1 |
| M47F007018 | F475-01 | -.057 | 983 | 0 | 06/20/2413:57 | 1 |
| M47F007019 | F477-01 | .001 | 3577 | 0 | 06/20/2413:59 | 1 |
| M47F007020 | TXF004WB | -.046 | 1463 | 0 | 06/20/2414:01 | 1 |
| M47F007021 | F058-01M | 2.65 | 122019 | 0 | 06/20/2414:03 | 1 |
| M47F007022 | CCV2 | 1.84 | 85817 | 0 | 06/20/2414:04 | 1 |
| M47F007023 | CCB2 | .038 | 5247 | 0 | 06/20/2414:06 | 1 |
| M47F007024 | F058-01S | 2.57 | 118202 | 0 | 06/20/2414:08 | 1 |
| M47F007025 | F058-01A | 2.91 | 133451 | 0 | 06/20/2414:10 | 1 |
| M47F007026 | F058-01 | -.025 | 2410 | 0 | 06/20/2414:12 | 1 |
| M47F007027 | F058-01J | .014 | 4162 | 0 | 06/20/2414:14 | 5 |
| M47F007028 | F034-01M | 2.54 | 117079 | 0 | 06/20/2414:16 | 1 |
| M47F007029 | F034-01S | 2.57 | 118383 | 0 | 06/20/2414:18 | 1 |
| M47F007030 | F034-01A | 2.99 | 137054 | 0 | 06/20/2414:20 | 1 |
| M47F007031 | F034-01 | -.198 | -5308 | 0 | 06/20/2414:21 | 1 |
| M47F007032 | F034-01J | .017 | 4284 | 0 | 06/20/2414:23 | 5 |
| M47F007033 | F057-01 | -.063 | 701 | 0 | 06/20/2414:25 | 1 |
| M47F007034 | CCV3 | 1.87 | 87046 | 0 | 06/20/2414:27 | 1 |
| M47F007035 | CCB3 | -.033 | 2050 | 0 | 06/20/2414:29 | 1 |
| M47F007036 | F057-02 | -.088 | -392 | 0 | 06/20/2414:30 | 1 |
| M47F007037 | F057-03 | -.029 | 2237 | 0 | 06/20/2414:32 | 1 |
| M47F007038 | F072-01 | .023 | 4546 | 0 | 06/20/2414:34 | 1 |
| M47F007039 | CCV4 | 1.93 | 89866 | 0 | 06/20/2414:36 | 1 |
| M47F007040 | CCB4 | -.013 | 2955 | 0 | 06/20/2414:38 | 1 |

M471F007

| cup | sample ID | extended ID | weight | volume | ? A D F P S U SC UI US C1..7 |
|---|---|---|---|---|---|
| 1 | ICV | | 1.0000 | 1.0000 | |
| 2 | ICB | | 1.0000 | 1.0000 | |
| 3 | MRLF2001 | 0.5 | 1.0000 | 1.0000 | |
| 4 | CCV1 | | 1.0000 | 1.0000 | |
| 5 | CCB1 | | 1.0000 | 1.0000 | |
| 6 | HGF009WB | | 1.0000 | 1.0000 | |
| 7 | HGF009WL | | 1.0000 | 1.0000 | |
| 8 | HGF009WC | | 1.0000 | 1.0000 | |
| 9 | TXF006WB | TCLP | 1.0000 | 1.0000 | |
| 10 | F473-01 | TCLP | 1.0000 | 1.0000 | |
| 11 | F474-01 | TCLP | 1.0000 | 1.0000 | |
| 12 | F475-01 | TCLP | 1.0000 | 1.0000 | |
| 13 | F477-01 | TCLP | 1.0000 | 1.0000 | |
| 14 | TXF004WB | TCLP | 1.0000 | 1.0000 | |
| 15 | F058-01M | TCLP | 1.0000 | 1.0000 | |
| 16 | CCV2 | | 1.0000 | 1.0000 | |
| 17 | CCB2 | | 1.0000 | 1.0000 | |
| 18 | F058-01S | TCLP | 1.0000 | 1.0000 | |
| 19 | F058-01A | TCLP | 1.0000 | 1.0000 | |
| 20 | F058-01 | TCLP | 1.0000 | 1.0000 | |
| 21 | F058-01J | 5X TCLP | 1.0000 | 1.0000 | |
| 22 | F034-01M | | 1.0000 | 1.0000 | |
| 23 | F034-01S | | 1.0000 | 1.0000 | |
| 24 | F034-01A | | 1.0000 | 1.0000 | |
| 25 | F034-01 | | 1.0000 | 1.0000 | |
| 26 | F034-01J | 5X | 1.0000 | 1.0000 | |
| 27 | F057-01 | DISSOLVED | 1.0000 | 1.0000 | |
| 28 | CCV3 | | 1.0000 | 1.0000 | |
| 29 | CCB3 | | 1.0000 | 1.0000 | |
| 30 | F057-02 | DISSOLVED | 1.0000 | 1.0000 | |
| 31 | F057-03 | DISSOLVED | 1.0000 | 1.0000 | |
| 32 | F072-01 | | 1.0000 | 1.0000 | |
| 33 | CCV4 | | 1.0000 | 1.0000 | |
| 34 | CCB4 | | 1.0000 | 1.0000 | |
| 35 | | | 1.0000 | 1.0000 | |
| 36 | | | 1.0000 | 1.0000 | |
| 37 | | | 1.0000 | 1.0000 | |
| 38 | | | 1.0000 | 1.0000 | |
| 39 | | | 1.0000 | 1.0000 | |
| 40 | | | 1.0000 | 1.0000 | |
| 41 | | | 1.0000 | 1.0000 | |
| 42 | | | 1.0000 | 1.0000 | |
| 43 | | | 1.0000 | 1.0000 | |
| 44 | | | 1.0000 | 1.0000 | |

AMR 6/20/24


WinHg Database 1.3
File Utility Help
RN
RN
Protocol HG1
Dataset/Proto M47F007 /HG1
Protocol Line info Cal Curve Report Ctrl Chart Viewer
Reset
Calib Coeffs
New Cal
Update Coeffs
Spike Coeffs
A
B 2.23734e-5
C -7.89457e-2
Rho .999383
Type Linear
Calibrated
Accepted
Accept
Rel. Abs.
225232
Accepted
New
Include S1 Rep 1
Conc. 5.00
S Conc. Calc. Dev. Mean SD or %RSD Rep 1 Rep 2 Rep 3
01 .00000 -.049 -.049 1357 1 1357
02 .20000 .147 -.053 10119 0% 10118
03 .50000 .486 -.014 25246 0% 25246
04 1.0000 1.12 .116 53390 0% 53389
05 2.0000 2.04 .039 94684 0% 94684
06 5.0000 4.96 -.040 225233 0% 225232
Ready
CAP NUM

EMAX LABORATORIES, INC.

# DIGESTION LOG
*for*
# MERCURY



Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments: AMR 6/24/24

Digestion Vessel Lot #: ~~32-2~~ VC-24-022

Aqua Regia Prep. Vessel Lot#: N/A

Sample pH<2

Book #: E47-135

Batch No.: HGF009W

Matrix: water

| SOP # | Rev. # |
|---|---|
| ☑ EMAX-7470 | 9 |
| ☐ EMAX-7471 | 10 |
| ☐ EMAX-245.1 | 5 |
| ☐ EMAX- | |

| Standards | ID | Conc. (µg/L) | Amount Added (ml) |
|---|---|---|---|
| ICAL | SM3B-24-38-02 | 50 | 0.2,0.5,1,2,5 |
| CCV | ↓ | ↓ | 2 |
| ICV | SM3B-24-38-03 | ↓ | 2 |
| LCS/MS | ↓ | ↓ | 2.5 |

| Reagent | ID / Lot # |
|---|---|
| $HNO_3$ | SW1A-012-09-01 |
| HCl | N/A |
| $H_2SO_4$ | SW1A-012-05-05 |
| $KMnO_4$ | SM5B-06-30-03 |
| $K_2S_2O_8$ | SM5B-06-29-03 |
| $NH_2OH \cdot HCl \cdot NaCl$ | SM5B-06-29-04 |
| $SnCl_2$ | SM5B-06-30-04 |
| Silica Sand | N/A |
| Reagent Water | RW1-24-002 |
| pH strip 0-14 | HC210330 |

Digestor ID/ Temp (°C) A/96.0

Thermometer ID/LOC: 230389388 / AR

Thermometer ID/LOC: N/A

Pipette ID: HG-06, HG-03, C42780212

☑ $H_2SO_4$ dispenser checked @ 2.5 ml with Class A graduated cylinder

☐ HCl dispenser checked @ ___ ml with Class A graduated cylinder

☐ $HNO_3$ dispenser checked @ ___ ml with Class A graduated cylinder

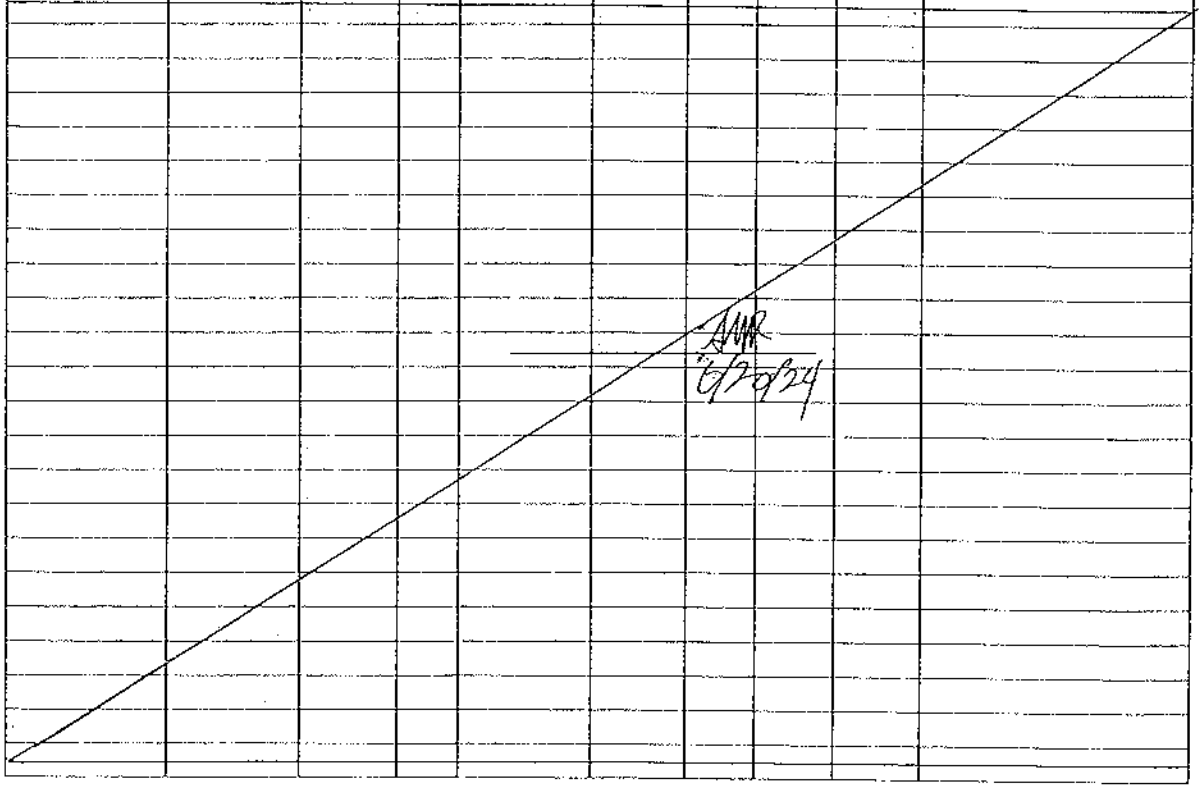
Prepared By: AMR

Standard Added By: AMR Witnessed By: JC

EMAX LABORATORIES

# DIGESTION LOG FOR MERCURY

| PrepBatchID | LabSampleID | Aliquot | Unit | DateTime | Vd(ml) | ExpAmt | ExpVd(ml) | PrepFctr | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 24HGF009W01 | HGF009WB | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W02 | HGF009WL | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W03 | HGF009WC | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W04 | TXF006WB | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W05 | F473-01 | 1 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 50 | TCLP |
| 24HGF009W06 | F474-01 | 1 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 50 | TCLP |
| 24HGF009W07 | F475-01 | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W08 | F477-01 | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W09 | TXF004WB | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W10 | F058-01 | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W11 | F058-01M | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W12 | F058-01S | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W13 | F034-01 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W14 | F034-01M | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W15 | F034-01S | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W16 | F057-01 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | DISSOLVED |
| 24HGF009W17 | F057-02 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | DISSOLVED |
| 24HGF009W18 | F057-03 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | DISSOLVED |
| 24HGF009W19 | F072-01 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | QC |
| 24HGF009W20 | S-0/ICB/CCB | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W21 | S-0.2 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W22 | S-0.5/MRL | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W23 | S-1 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W24 | S-2/CCV | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W25 | S-5 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W26 | ICV | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W27 | PS WATER | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |



Vd=digestate volume PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 6/20/24 10:11

☑ Digestion Ended @ 6/20/24 12:11

Prepared By: ARiver

Checked By: AMR

Comments: F473-01, F474-01 opaque white color

Date 6/20/24

# MERCURY
# (SOIL)

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F034

METHOD SW7471B
MERCURY BY COLD VAPOR

One(1) soil sample was received on 06/07/24 to be analyzed for Mercury by Cold Vapor in accordance with Method SW7471B and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Mercury was not detected in HGF007SB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. HGF007SL/HGF007SC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Mercury was within MS QC limits in F034-02M/F034-02S. Refer to Matrix QC summary form for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
MERCURY BY COLD VAPOR

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F034
Instrument ID : 47

SOIL

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| MBLK1S | HGF007SB | 1 | NA | 06/18/2413:19 | 06/18/2411:16 | M47FC06012 | M47F006 | 24HGF007S | Method Blank |
| LCS1S | HGF007SL | 1 | NA | 06/18/2413:21 | 06/18/2411:16 | M47FC06013 | M47F006 | 24HGF007S | Lab Control Sample (LCS) |
| LCD1S | HGF007SC | 1 | NA | 06/18/2413:22 | 06/18/2411:16 | M47FC06014 | M47F006 | 24HGF007S | LCS Duplicate |
| IDW-SOIL_JUN24MS | F034-02M | 1 | 10.5 | 06/18/2413:31 | 06/18/2411:16 | M47FC06019 | M47F006 | 24HGF007S | Matrix Spike Sample (MS) |
| IDW-SOIL_JUN24MSD | F034-02S | 1 | 10.5 | 06/18/2413:33 | 06/18/2411:16 | M47FC06020 | M47F006 | 24HGF007S | MS Duplicate (MSD) |
| IDW-SOIL_JUN24 | F034-02 | 1 | 10.5 | 06/18/2413:42 | 06/18/2411:16 | M47FC06024 | M47F006 | 24HGF007S | Field Sample |

FN - Filename
% Moist - Percent Moisture

METHOD SW7471B
MERCURY BY COLD VAPOR

Client : PARSONS
Project : TITAN 1-A
Batch No. : 24F034

Matrix : SOIL
InstrumentID : 47

| CLIENT SAMPLE ID | EMAX SAMPLE ID | RESULTS (mg/Kg) | DILT'N FACTOR | MOIST (%) | LOQ (mg/Kg) | DL (mg/Kg) | LOD (mg/Kg) | ANALYSIS DATETIME | PREPARATION DATETIME | DATA FILE ID | CAL REF | PREP BATCH | COLLECTION DATETIME | RECEIVED DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBLK1S | HGF007SB | ND | 1 | NA | 0.100 | 0.0330 | 0.0670 | 06/18/2413:19 | 06/18/2411:16 | M47F006012 | M47F006 | 24HGF007S | NA | NA |
| LCS1S | HGF007SL | 0.430 | 1 | NA | 0.100 | 0.0330 | 0.0670 | 06/18/2413:21 | 06/18/2411:16 | M47F006013 | M47F006 | 24HGF007S | NA | NA |
| LCD1S | HGF007SC | 0.438 | 1 | NA | 0.100 | 0.0330 | 0.0670 | 06/18/2413:22 | 06/18/2411:16 | M47F006014 | M47F006 | 24HGF007S | NA | NA |
| IDW-SOIL_JUN24MS | F034-02M | 0.478 | 1 | 10.5 | 0.109 | 0.0361 | 0.0733 | 06/18/2413:31 | 06/18/2411:16 | M47F006019 | M47F006 | 24HGF007S | 06/06/2411:20 | 06/07/24 |
| IDW-SOIL_JUN24MSD | F034-02S | 0.500 | 1 | 10.5 | 0.110 | 0.0363 | 0.0737 | 06/18/2413:33 | 06/18/2411:16 | M47F006020 | M47F006 | 24HGF007S | 06/06/2411:20 | 06/07/24 |
| IDW-SOIL_JUN24 | F034-02 | ND | 1 | 10.5 | 0.110 | 0.0363 | 0.0737 | 06/18/2413:42 | 06/18/2411:16 | M47F006024 | M47F006 | 24HGF007S | 06/06/2411:20 | 06/07/24 |

Note: Detection limits are reported relative to sample result significant figures.

METHOD SW7471B
MERCURY BY COLD VAPOR

Client : PARSONS
Project : TITAN 1-A
Batch No. : 24F034

Matrix : SOIL
InstrumentID : 47

| CLIENT SAMPLE ID | EMAX SAMPLE ID | RESULTS (mg/Kg) | DILT'N FACTOR | MOIST (%) | LOQ (mg/Kg) | DL (mg/Kg) | LOD (mg/Kg) | ANALYSIS DATETIME | PREPARATION DATETIME | DATA FILE ID | CAL REF | PREP BATCH | COLLECTION DATETIME | RECEIVED DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBLK1S | HGF007SB | ND | 1 | NA | 0.100 | 0.0330 | 0.0670 | 06/18/2413:19 | 06/18/2411:16 | M47F006012 | M47F006 | 24HGF007S | NA | NA |

Note: Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : METHOD SW7471B

| | | | |
|---|---|---|---|
| MATRIX | : SOIL | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK1S | LCS1S | LCD1S |
| LAB SAMPLE ID | : HGF007SB | HGF007SL | HGF007SC |
| LAB FILE ID | : M47F006012 | M47F006013 | M47F006014 |
| DATE PREPARED | : 06/18/2411:16 | 06/18/2411:16 | 06/18/2411:16 |
| DATE ANALYZED | : 06/18/2413:19 | 06/18/2413:21 | 06/18/2413:22 |
| PREP BATCH | : 24HGF007S | 24HGF007S | 24HGF007S |
| CALIBRATION REF: | M47F006 | M47F006 | M47F006 |

ACCESSION:

| PARAMETERS | MBResult (mg/Kg) | SpikeAmt (mg/Kg) | LCSResult (mg/Kg) | LCSRec (%) | SpikeAmt (mg/Kg) | LCDResult (mg/Kg) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.417 | 0.430 | 103 | 0.417 | 0.438 | 105 | 2 | 80-124 | 20 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : METHOD SW7471B

MATRIX : SOIL % MOISTURE:10.5
DILUTION FACTOR: 1 1 1
SAMPLE ID : IDW-SOIL_JUN24 IDW-SOIL_JUN24MS IDW-SOIL_JUN24MSD
LAB SAMPLE ID : F034-02 F034-02M F034-02S
LAB FILE ID : M47F006024 M47F006019 M47F006020
DATE PREPARED : 06/18/2411:16 06/18/2411:16 06/18/2411:16
DATE ANALYZED : 06/18/2413:42 06/18/2413:31 06/18/2413:33
PREP BATCH : 24HGF007S 24HGF007S 24HGF007S
CALIBRATION REF: M47F005 M47F006 M47F006

ACCESSION:

| PARAMETERS | PSResult (mg/Kg) | SpikeAmt (mg/Kg) | MSResult (mg/Kg) | MSRec (%) | SpikeAmt (mg/Kg) | MSDResult (mg/Kg) | MSDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.456 | 0.478 | 105 | 0.458 | 0.500 | 109 | 4 | 80-124 | 20 |

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 6/18/24 Start Time: 12:59

End Date: 6/18/24 End Time: 14:10

Comments:

QC ok

Book #: A47-140

Instrument No.: 47

Analytical Sequence/Batch: M471006

Method File: HG-1

Micropipette ID: ☐ 339342032

Micropipette ID: ☑ HG-03

Micropipette ID: ☑ C42780212

Micropipette ID: ☐ HG-06

Micropipette ID: ☐

| SOP # | Rev. # |
|---|---|
| ☐ EMAX-7470 | 9 |
| ☑ EMAX-7471 | 10 |
| ☐ EMAX-245.1 | 5 |
| ☐ EMAX- | |

| STANDARDS ID | |
|---|---|
| S1 | BLANK |
| S2 | SM3B-24-37-09 |
| S3 | |
| S4 | |
| S5 | |
| S6 | |
| CCV | ↓ |
| ICV | SM3B-24-37-10 |
| LCS | ↓ |
| Analytical Spike | SM3B-24-38-01 IV 3 ug/L |

Analyzed By: AMR

Date: 6/18/24

Disposed By: AMR

Date: 6/18/24

"M47F006"

| EMAX1fid | EMAX1sid | conc | Raw_resp | rsd/rf | adatetime | DF |
|---|---|---|---|---|---|---|
| M47F006001 | STD01REP1 | 0 | 6562 | | 06/18/2412:59 | 1 |
| M47F006002 | STD02REP1 | .2 | 15203 | | 06/18/2413:00 | 1 |
| M47F006003 | STD03REP1 | .5 | 42983 | | 06/18/2413:02 | 1 |
| M47F006004 | STD04REP1 | 1 | 77303 | | 06/18/2413:04 | 1 |
| M47F006005 | STD05REP1 | 2 | 166373 | | 06/18/2413:05 | 1 |
| M47F006006 | STD06REP1 | 5 | 392120 | | 06/18/2413:07 | 1 |
| M47F006007 | ICV | 2.02 | 161438 | 0 | 06/18/2413:09 | 1 |
| M47F006008 | ICB | .009 | 4211 | 0 | 06/18/2413:11 | 1 |
| M47F006009 | MRLF1801 | .513 | 43540 | 0 | 06/18/2413:12 | 1 |
| M47F006010 | CCV1 | 2.01 | 160438 | 0 | 06/18/2413:15 | 1 |
| M47F006011 | CCB1 | .003 | 3725 | 0 | 06/18/2413:17 | 1 |
| M47F006012 | HGF007SB | -.076 | -2399 | 0 | 06/18/2413:19 | 1 |
| M47F006013 | HGF007SL | 2.58 | 205037 | 0 | 06/18/2413:21 | 1 |
| M47F006014 | HGF007SC | 2.63 | 208717 | 0 | 06/18/2413:22 | 1 |
| M47F006015 | F427-01 | -.008 | 2844 | 0 | 06/18/2413:24 | 1 |
| M47F006016 | F476-01 | .017 | 4846 | 0 | 06/18/2413:26 | 1 |
| M47F006017 | E558-04 | .15 | 15194 | 0 | 06/18/2413:28 | 1 |
| M47F006018 | E558-09 | .078 | 9630 | 0 | 06/18/2413:29 | 1 |
| M47F006019 | F034-02M | 2.62 | 208019 | 0 | 06/18/2413:31 | 1 |
| M47F006020 | F034-02S | 2.73 | 216594 | 0 | 06/18/2413:33 | 1 |
| M47F006021 | F034-02A | 2.92 | 231664 | 0 | 06/18/2413:35 | 1 |
| M47F006022 | CCV2 | 1.94 | 155417 | 0 | 06/18/2413:37 | 1 |
| M47F006023 | CCB2 | -.091 | -3607 | 0 | 06/18/2413:39 | 1 |
| M47F006024 | F034-02 | .097 | 11085 | 0 | 06/18/2413:42 | 1 |
| M47F006025 | F034-02J | -.009 | 2805 | 0 | 06/18/2413:44 | 5 |
| M47F006026 | HGF008SB | -.04 | 413 | 0 | 06/18/2413:46 | 1 |
| M47F006027 | HGF008SL | 2.5 | 198443 | 0 | 06/18/2413:47 | 1 |
| M47F006028 | HGF008SC | 2.52 | 199945 | 0 | 06/18/2413:49 | 1 |
| M47F006029 | E558-01 | .025 | 5477 | 0 | 06/18/2413:51 | 1 |
| M47F006030 | E558-02 | .067 | 8720 | 0 | 06/18/2413:53 | 1 |
| M47F006031 | E558-03 | -.007 | 2986 | 0 | 06/18/2413:55 | 1 |
| M47F006032 | E558-05 | -.089 | -3432 | 0 | 06/18/2413:56 | 1 |
| M47F006033 | E558-06 | -.049 | -323 | 0 | 06/18/2413:58 | 1 |
| M47F006034 | CCV3 | 2 | 159448 | 0 | 06/18/2414:00 | 1 |
| M47F006035 | CCB3 | -.013 | 2478 | 0 | 06/18/2414:02 | 1 |
| M47F006036 | E558-07 | .236 | 21924 | 0 | 06/18/2414:04 | 1 |
| M47F006037 | E558-08 | .142 | 14615 | 0 | 06/18/2414:05 | 1 |
| M47F006038 | E558-10 | -.004 | 3192 | 0 | 06/18/2414:07 | 1 |
| M47F006039 | CCV4 | 1.92 | 153674 | 0 | 06/18/2414:09 | 1 |
| M47F006040 | CCB4 | -.047 | -205 | 0 | 06/18/2414:10 | 1 |

M47F006

| cup | sample ID | extended ID | weight | volume | ? A D F P S U SC UI US C1..7 |
|---|---|---|---|---|---|
| 1 | ICV | | 1.0000 | 1.0000 | |
| 2 | ICB | | 1.0000 | 1.0000 | |
| 3 | MRLF1801 | 0.5 | 1.0000 | 1.0000 | |
| 4 | CCV1 | | 1.0000 | 1.0000 | |
| 5 | CCB1 | | 1.0000 | 1.0000 | |
| 6 | HGF007SB | | 1.0000 | 1.0000 | |
| 7 | HGF007SL | | 1.0000 | 1.0000 | |
| 8 | HGF007SC | | 1.0000 | 1.0000 | |
| 9 | F427-01 | | 1.0000 | 1.0000 | |
| 10 | F476-01 | | 1.0000 | 1.0000 | |
| 11 | E558-04 | | 1.0000 | 1.0000 | |
| 12 | E558-09 | | 1.0000 | 1.0000 | |
| 13 | F034-02M | | 1.0000 | 1.0000 | |
| 14 | F034-02S | | 1.0000 | 1.0000 | |
| 15 | F034-02A | | 1.0000 | 1.0000 | |
| 16 | CCV2 | | 1.0000 | 1.0000 | |
| 17 | CCB2 | | 1.0000 | 1.0000 | |
| 18 | F034-02 | | 1.0000 | 1.0000 | |
| 19 | F034-02J | 5X | 1.0000 | 1.0000 | |
| 20 | HGF008SB | | 1.0000 | 1.0000 | |
| 21 | HGF008SL | | 1.0000 | 1.0000 | |
| 22 | HGF008SC | | 1.0000 | 1.0000 | |
| 23 | E558-01 | | 1.0000 | 1.0000 | |
| 24 | E558-02 | | 1.0000 | 1.0000 | |
| 25 | E558-03 | | 1.0000 | 1.0000 | |
| 26 | E558-05 | | 1.0000 | 1.0000 | |
| 27 | E558-06 | | 1.0000 | 1.0000 | |
| 28 | CCV3 | | 1.0000 | 1.0000 | |
| 29 | CCB3 | | 1.0000 | 1.0000 | |
| 30 | E558-07 | | 1.0000 | 1.0000 | |
| 31 | E558-08 | | 1.0000 | 1.0000 | |
| 32 | E558-10 | | 1.0000 | 1.0000 | |
| 33 | CCV4 | | 1.0000 | 1.0000 | |
| 34 | CCB4 | | 1.0000 | 1.0000 | |
| 35 | | | 1.0000 | 1.0000 | |
| 36 | | | 1.0000 | 1.0000 | |
| 37 | | | 1.0000 | 1.0000 | |
| 38 | | | 1.0000 | 1.0000 | |
| 39 | | | 1.0000 | 1.0000 | |
| 40 | | | 1.0000 | 1.0000 | |
| 41 | | | 1.0000 | 1.0000 | |
| 42 | | | 1.0000 | 1.0000 | |
| 43 | | | 1.0000 | 1.0000 | |
| 44 | | | 1.0000 | 1.0000 | |

AMP 6/18/24

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot #: 29323008

Aqua Regia Prep. Vessel Lot#: 32922001

Book #: E47-135

Batch No.: HGF0075

Matrix: Soil

| SOP # | Rev. # |
|---|---|
| ☐ EMAX-7470 | 9 |
| ☒ EMAX-7471 | 10 |
| ☐ EMAX-245.1 | 5 |
| ☐ EMAX- | |

| Standards | ID | Conc. (µg/L) | Amount Added (ml) |
|---|---|---|---|
| ICAL | SMSB-24-37-09 | 100 | 0.2, 0.5, 1, 2.5 |
| CCV | ↓ | \| | 1.2 |
| ICV | SMSB-24-37-10 | \| | 2 |
| LCS/MS | ↓ | ↓ | 2.5 |
| Reagent | ID / Lot # | | |
| $HNO_3$ – Aqua | SWA-012-05-06 | | |
| HCl Regia | SWA-012-09-03 | | |
| $H_2SO_4$ | N/A | | |
| $KMnO_4$ | SMSB-06-30-03 | | |
| $K_2S_2O_8$ | N/A | | |
| $NH_2OH \cdot HCl \cdot NaCl$ | SMSB-06-29-04 | | |
| $SnCl_2$ | SMSB-06-30-04 | | |
| Silica Sand | SMSA-05-02-03 | | |
| Reagent Water | RW-24-002 | | |
| pH strip 0-14 | N/A | | |

Digestor ID/ Temp (°C) A/96.1

Thermometer ID/LOC: 230389388 / A 11

Thermometer ID/LOC: N/A

Pipette ID: HG-06, HG-03, C4278021Z

☐ $H_2SO_4$ dispenser checked @ 2.5 ml with Class A graduated cylinder

☐ HCl dispenser checked @ ___ ml with Class A graduated cylinder

☐ $HNO_3$ dispenser checked @ ___ ml with Class A graduated cylinder

Prepared By: AMR

Standard Added By: AMR Witnessed By: JC

EMAX LABORATORIES

DIGESTION LOG FOR MERCURY

| PrepBatchID | LabSampleID | Aliquot | Unit | DateTime | Vd(ml) | ExpAmt | ExpVd(ml) | PrepFctr | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 24HGF007S01 | HGF007SB | 0.6 | g | 6/18/24 9:11 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S02 | HGF007SI | 0.6 | g | 6/18/24 9:11 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S03 | HGF007SC | 0.6 | g | 6/18/24 9:11 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S04 | F427-01 | 0.601 | g | 6/18/24 9:15 | 100 | 0.6 | 100 | 0.998 | |
| 24HGF007S05 | F476-01 | 0.605 | g | 6/18/24 9:16 | 100 | 0.6 | 100 | 0.992 | |
| 24HGF007S06 | E558-04 | 0.618 | g | 6/18/24 9:19 | 100 | 0.6 | 100 | 0.971 | |
| 24HGF007S07 | E558-09 | 0.607 | g | 6/18/24 9:20 | 100 | 0.6 | 100 | 0.988 | |
| 24HGF007S08 | F034-02 | 0.609 | g | 6/18/24 9:21 | 100 | 0.6 | 100 | 0.985 | |
| 24HGF007S09 | F034-02M | 0.613 | g | 6/18/24 9:22 | 100 | 0.6 | 100 | 0.979 | |
| 24HGF007S10 | F034-02S | 0.61 | g | 6/18/24 9:23 | 100 | 0.6 | 100 | 0.984 | |
| 24HGF007S11 | S-0/ICB/CCB | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S12 | S-0.2 | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S13 | S-0.5/MRL | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S14 | S-1 | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S15 | S-2/CCV | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S16 | S-5 | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S17 | ICV | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S18 | PS SOIL | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |

AMR 6/18/24

Balance ID: 671302. Calibration check was verified prior to use.

Vd=digestate volume

PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 6/18/24 11:16

☑ Digestion Ended @ 6/18/24 11:46

Prepared By: ARiver

Checked By: AMR

Comments:

Date 6/18/24

# RAW DATA
# VOLATILE ORGANICS
# (WATER)

LABORATORY REPORT FOR

PARSONS

TITAN 1-A

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

SDG#: 24F034

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F034

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

One(1) water sample was received on 06/07/24 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030C/8260C and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There were two(2)CCVs (Data file IDs: RFR060, and RFR072) associated with this SDG. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VQF3F04B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. VQF3F04X/VQF3F04C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F034
Instrument ID : F3

WATER

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| LCD1W | VOF3F04C | 1 | NA | 06/20/2413:17 | 06/20/2413:17 | RFR062 | RFR007 | VOF3F04 | LCS Duplicate |
| MBLK1W | VOF3F04B | 1 | NA | 06/20/2414:23 | 06/20/2414:23 | RFR064 | RFR007 | VOF3F04 | Method Blank |
| LCS1W | VOF3F04X | 1 | NA | 06/20/2414:56 | 06/20/2414:56 | RFR065 | RFR007 | VOF3F04 | Lab Control Sample (LCS) |
| IDW-WATER_JUN24 | 24F034-01 | 1 | NA | 06/20/2418:14 | 06/20/2418:14 | RFR071 | RFR007 | VOF3F04 | Field Sample |

FN - Filename
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/06/24 11:40 |
| Project | : TITAN 1-A | Date Received: | 06/07/24 |
| Batch No. | : 24F034 | Date Extracted: | 06/20/24 18:14 |
| Sample ID | : IDW-WATER_JUN24 | Date Analyzed: | 06/20/24 18:14 |
| Lab Samp ID: | 24F034-01 | Dilution Factor: | 1 |
| Lab File ID: | RFR071 | Matrix: | WATER |
| Ext Btch ID: | VOF3F04 | % Moisture: | NA |
| Calib. Ref.: | RFR007 | Instrument ID: | F3 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | 0.23J | 1.0 | 0.10 | 0.20 |
| 1,2-Dichloroethane | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| 2-Butanone | ND | 20 | 5.0 | 10 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| Carbon Tetrachloride | ND | 1.0 | 0.10 | 0.20 |
| Chlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Chloroform | ND | 1.0 | 0.10 | 0.20 |
| Tetrachloroethene | ND | 1.0 | 0.15 | 0.30 |
| Trichloroethene | 1.0 | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |
| Hexachlorobutadiene | ND | 1.0 | 0.15 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 11.1 | 10.0 | 111 | 81-118 |
| 4-Bromofluorobenzene | 9.80 | 10.0 | 98 | 85-114 |
| Toluene-d8 | 10.8 | 10.0 | 108 | 89-112 |
| Dibromofluoromethane | 10.2 | 10.0 | 102 | 80-119 |

Notes:
Sample Amount : 25ml Final Volume : 25ml
Prepared by : LPriet Analyzed by : LPriet
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F20\RFR071.D Vial: 13
Acq On : 20 Jun 2024 6:14 pm Operator: LPriet
Sample : 24F034-01 Inst : F3
Misc : 25mL Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 11 10:59 2024 Quant Results File: VOF3F17.RES

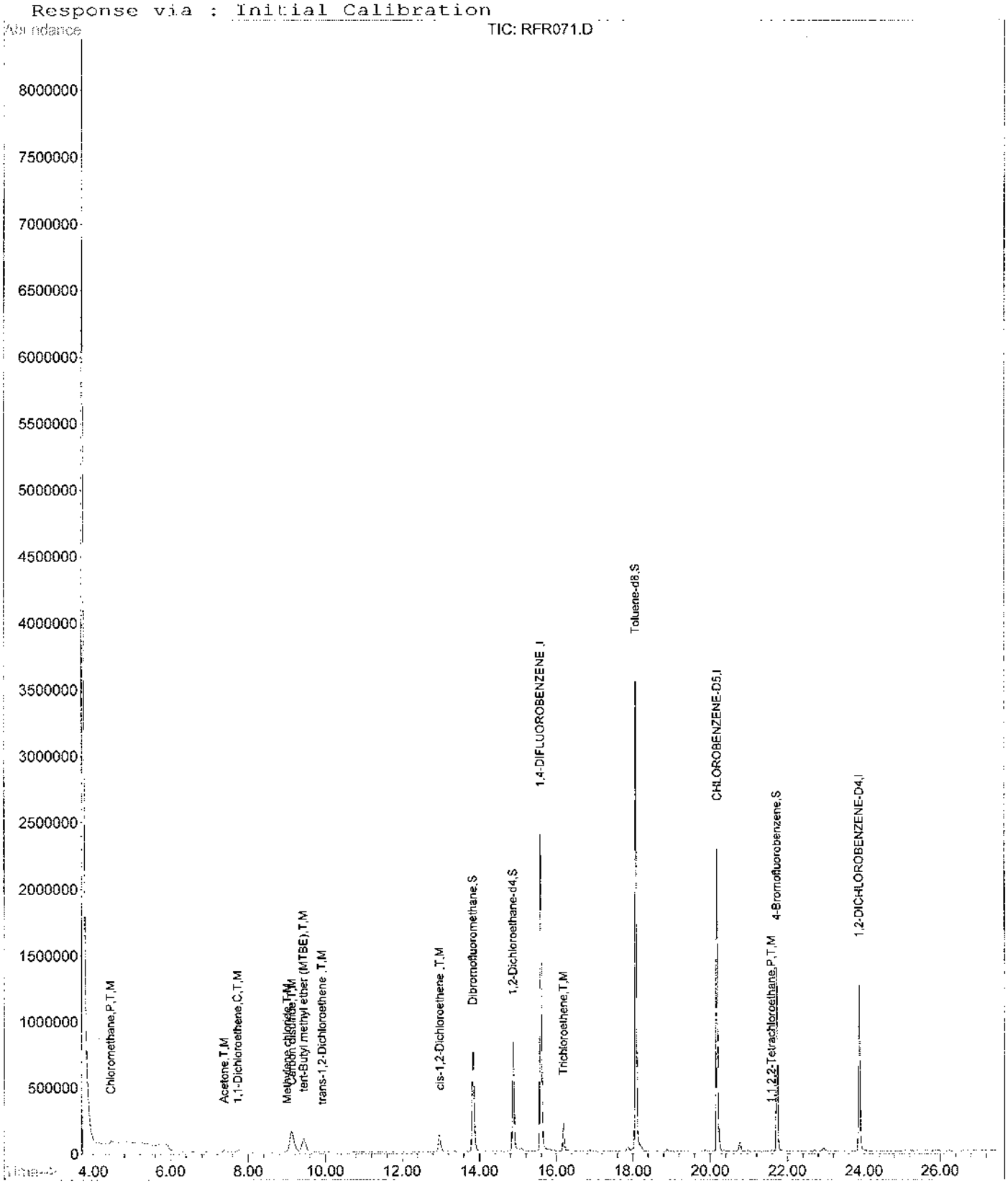
Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

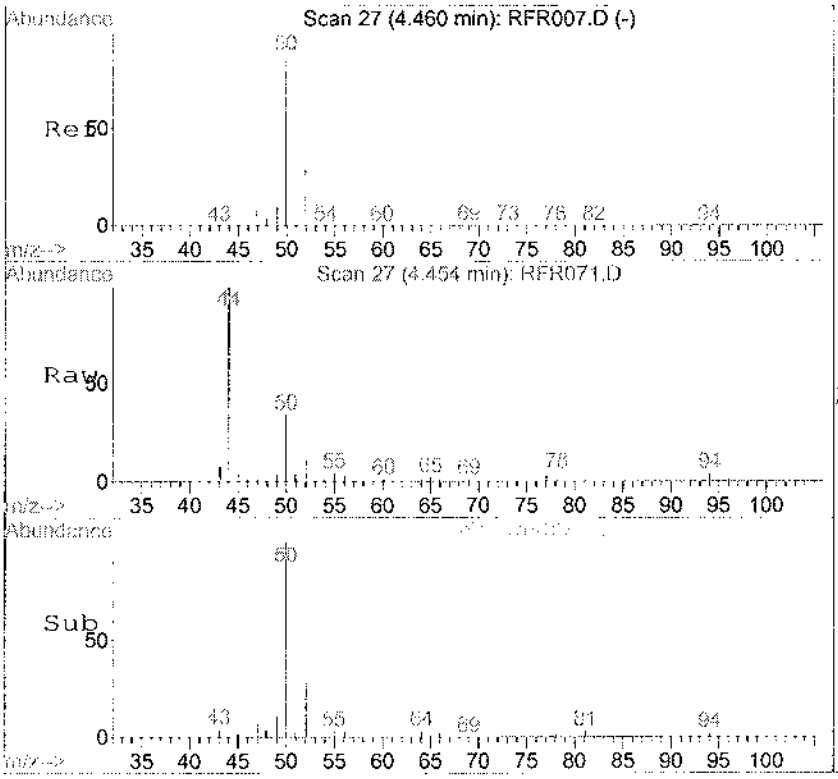
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.58 | 114 | 2821227 | 10.00 | ug/l | -0.02 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 1783157 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 446124 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.84 | 111 | 899880 | 10.23 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 102.30% | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 932830 | 11.10 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 111.00% | | |
| 55) Toluene-d8 | 18.08 | 98 | 2846555 | 10.77 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 107.70% | | |
| 75) 4-Bromofluorobenzene | 21.72 | 95 | 697872 | 9.80 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 98.00% | | |
| **Target Compounds** | | | | | | Qvalue |
| 4) Chloromethane | 4.45 | 50 | 75071 | 0.36 | ug/l | 98 |
| 13) 1,1-Dichloroethene | 7.74 | 61 | 56954 | 0.23 | ug/l | 92 |
| 14) Acetone | 7.39 | 43 | 78691 | 2.53 | ug/l | 89 |
| 17) Carbon disulfide | 9.13 | 76 | 727836 | 1.94 | ug/l | 99 |
| 18) Methylene chloride | 9.02 | 49 | 43935 | 0.28 | ug/l | 96 |
| 20) tert-Butyl methyl ether (M | 9.44 | 73 | 331191 | 1.90 | ug/l | 96 |
| 21) trans-1,2-Dichloroethene | 9.92 | 96 | 12479 | 0.10 | ug/l | 76 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 96088 | 0.96 | ug/l | 98 |
| 45) Trichloroethene | 16.19 | 130 | 99624 | 1.01 | ug/l | 97 |
| 76) 1,1,2,2-Tetrachloroethane | 21.58 | 83 | 7147 | 0.20 | ug/l | 90 |

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\24F20\RFR071.D Vial: 13
Acq On : 20 Jun 2024 6:14 pm Operator: LPriet
Sample : 24F034-01 Inst : F3
Misc : 25mL Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jul 11 10:59 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration

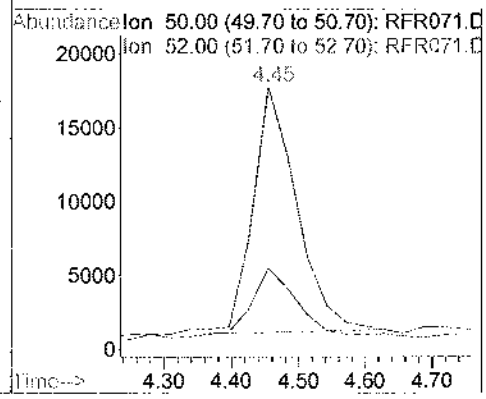


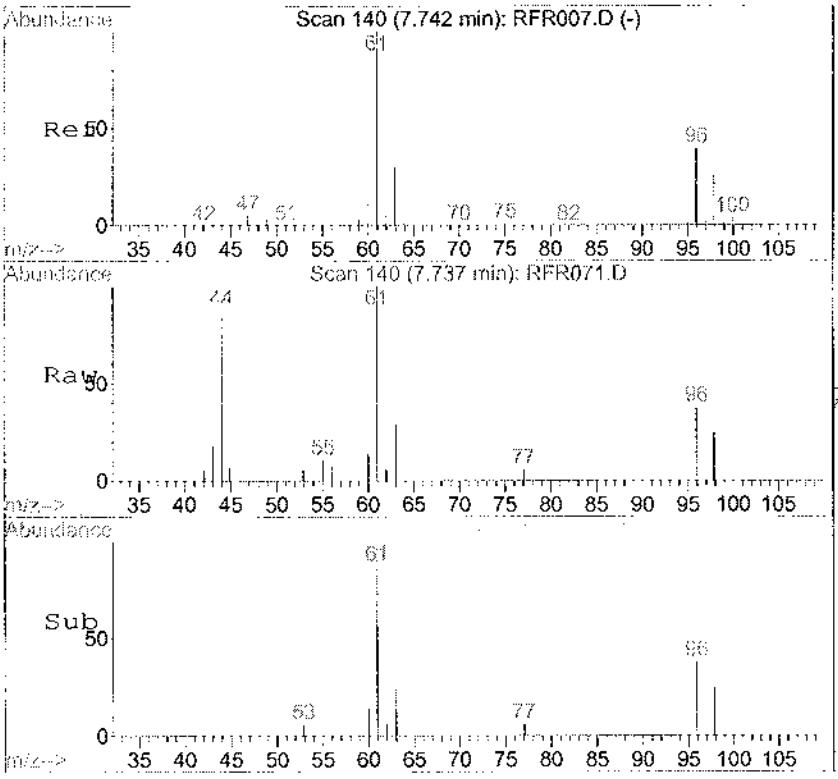



#4
Chloromethane
Concen: 0.36 ug/l
RT: 4.45 min Scan# 27
Delta R.T. -0.00 min
Lab File: RFR071.D
Acq: 20 Jun 2024 6:14 pm

Tgt Ion: 50 Resp: 75071

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 50 | 100 | | |
| 52 | 31.6 | 0.8 | 60.8 |

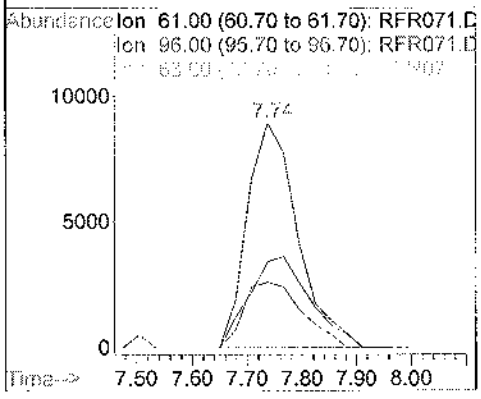


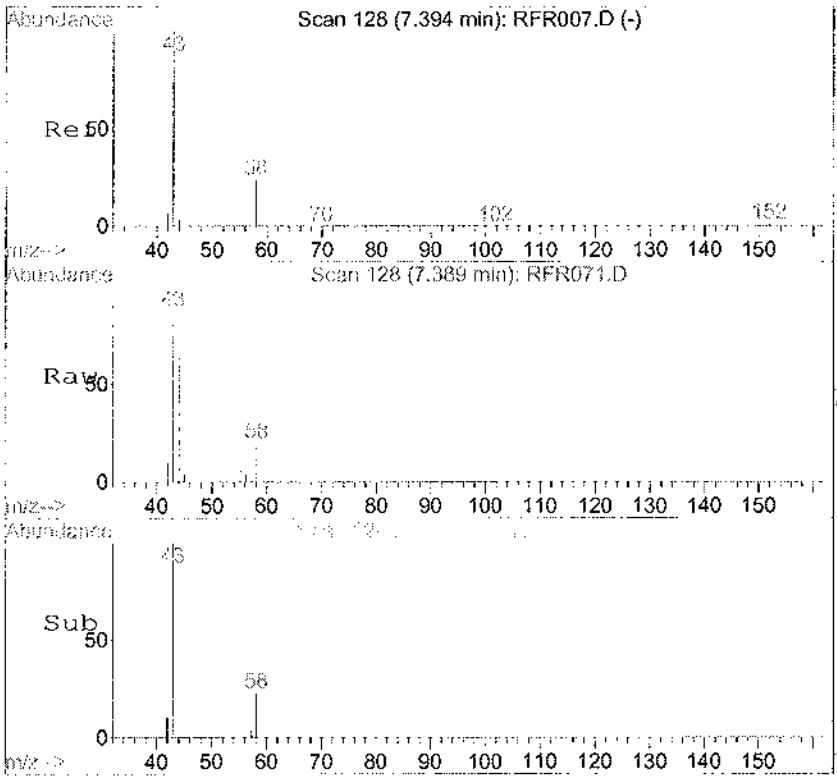




#13
1,1-Dichloroethene
Concen: 0.23 ug/l
RT: 7.74 min Scan# 140
Delta R.T. -0.01 min
Lab File: RFR071.D
Acq: 20 Jun 2024 6:14 pm

Tgt Ion: 61 Resp: 56954

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 61 | 100 | | |
| 96 | 48.9 | 13.0 | 73.0 |
| 63 | 33.7 | 0.3 | 60.3 |

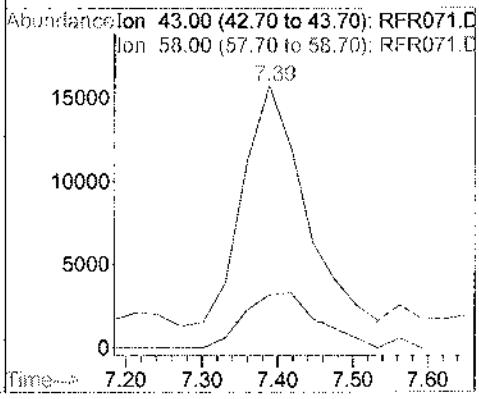


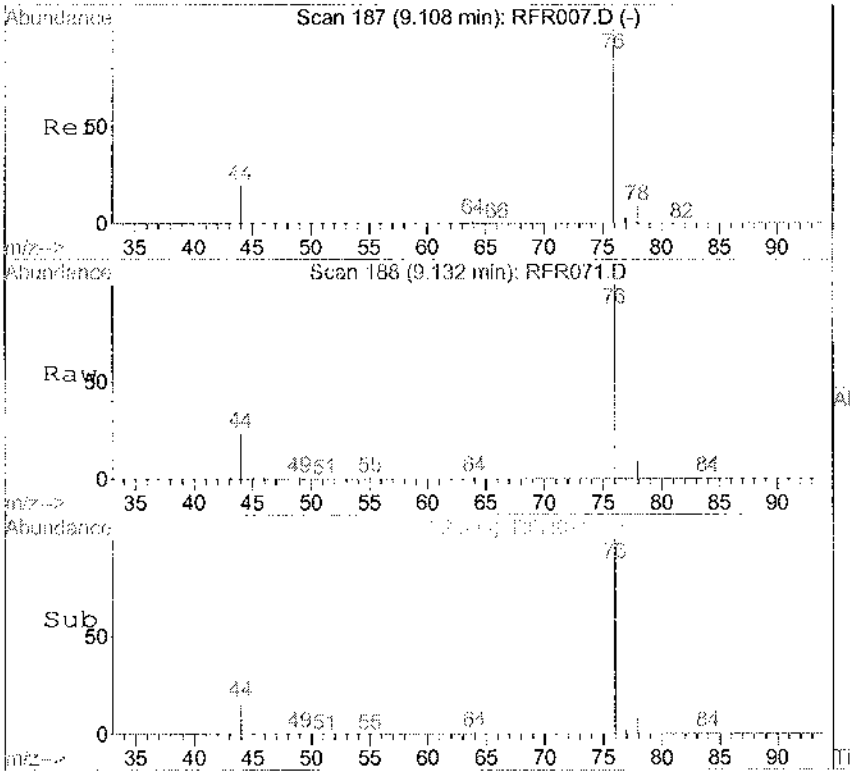



#14
Acetone
Concen: 2.53 ug/l
RT: 7.39 min Scan# 128
Delta R.T. -0.00 min
Lab File: RFR071.D
Acq: 20 Jun 2024 6:14 pm

Tgt Ion: 43 Resp: 78691

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 29.6 | 0.0 | 54.0 |

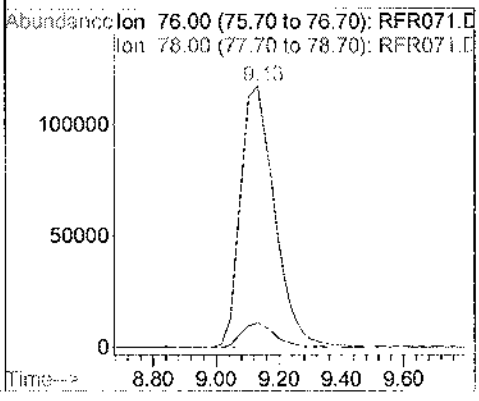


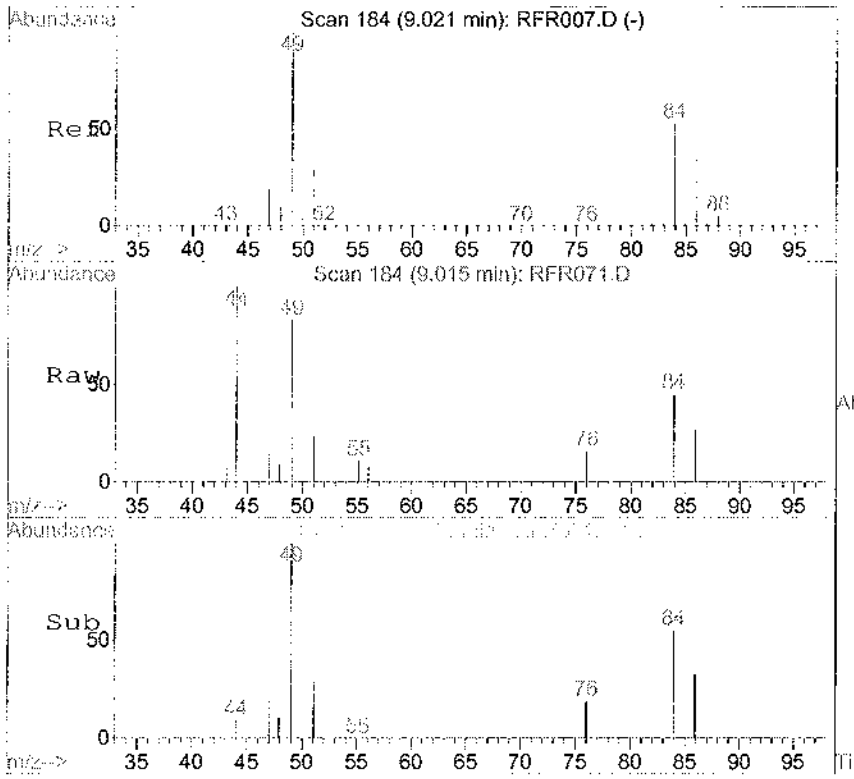




#17
Carbon disulfide
Concen: 1.94 ug/l
RT: 9.13 min Scan# 188
Delta R.T. 0.02 min
Lab File: RFR071.D
Acq: 20 Jun 2024 6:14 pm

Tgt Ion: 76 Resp: 727836

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 9.5 | 0.0 | 39.1 |

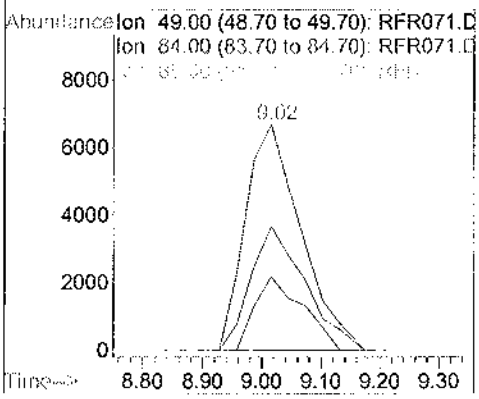


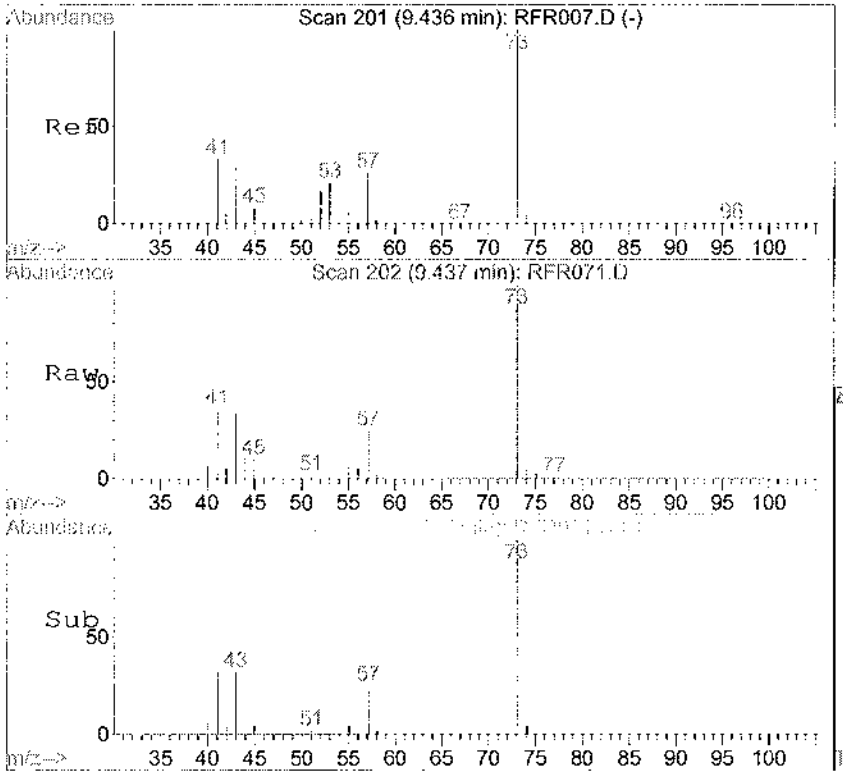



#18
Methylene chloride
Concen: 0.28 ug/l
RT: 9.02 min Scan# 184
Delta R.T. -0.00 min
Lab File: RFR071.D
Acq: 20 Jun 2024 6:14 pm

Tgt Ion: 49 Resp: 43935

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 53.7 | 21.8 | 81.8 |
| 86 | 29.4 | 2.8 | 62.8 |

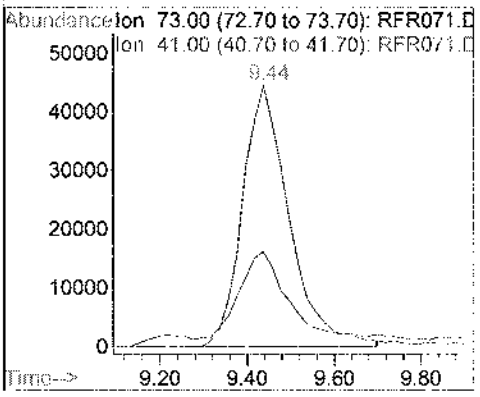


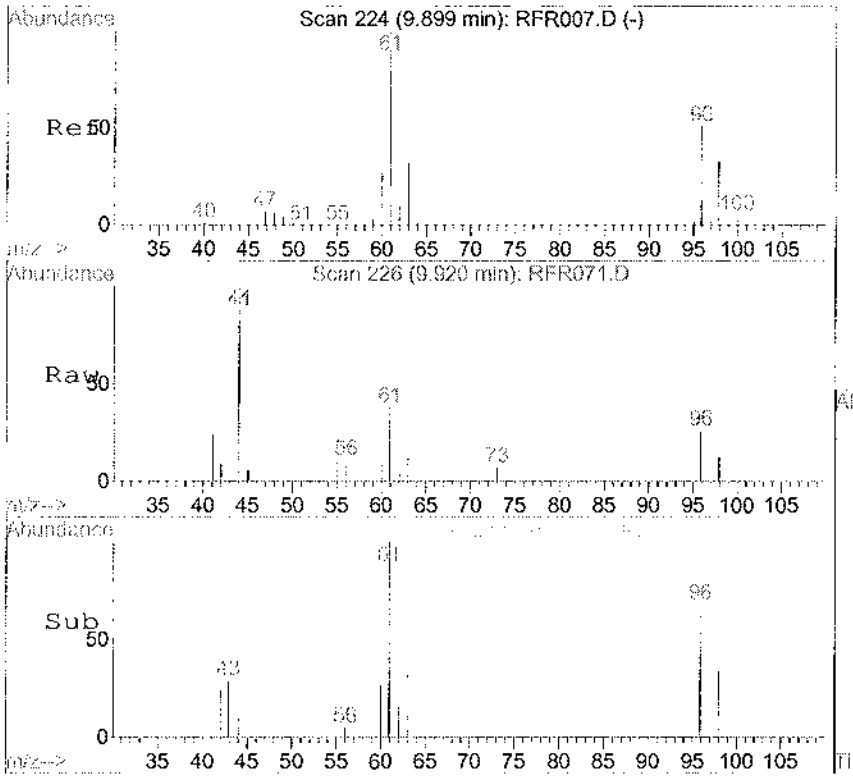




#20
tert-Butyl methyl ether (MTBE)
Concen: 1.90 ug/l
RT: 9.44 min Scan# 202
Delta R.T. 0.00 min
Lab File: RFR071.D
Acq: 20 Jun 2024 6:14 pm

Tgt Ion: 73 Resp: 331191

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 73 | 100 | | |
| 41 | 34.8 | 2.4 | 62.4 |

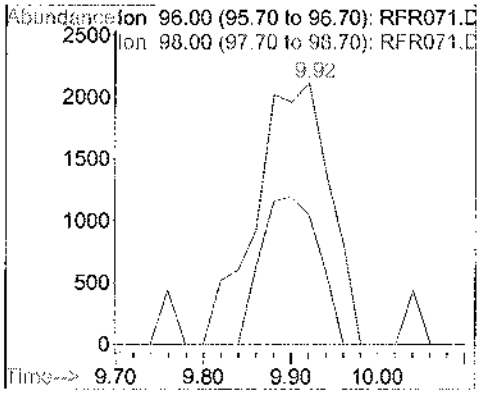


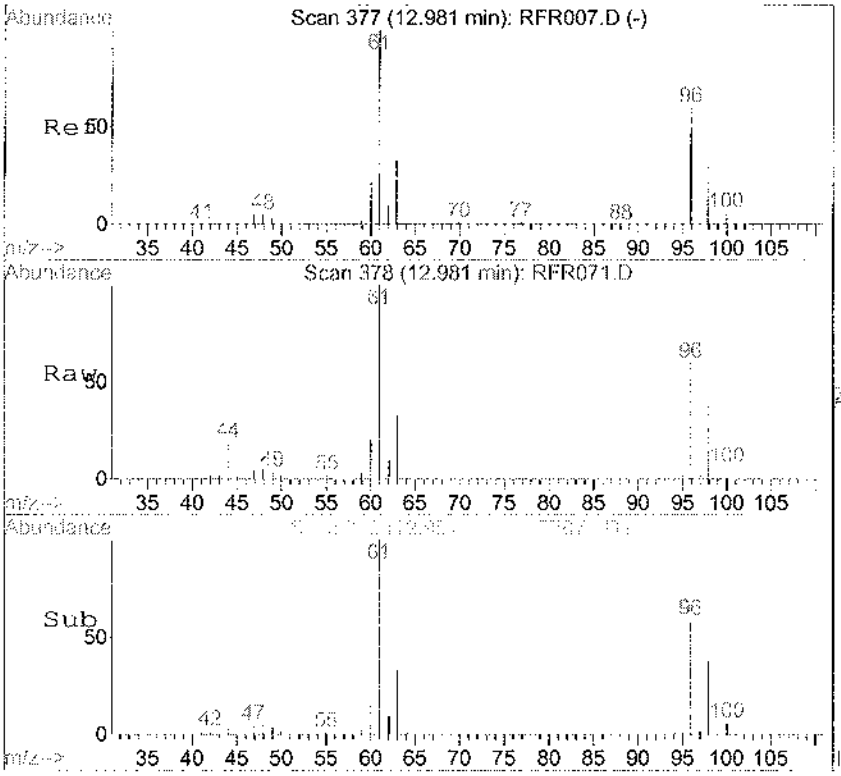



#21
trans-1,2-Dichloroethene
Concen: 0.10 ug/l
RT: 9.92 min Scan# 226
Delta R.T. 0.02 min
Lab File: RFR071.D
Acq: 20 Jun 2024 6:14 pm

Tgt Ion: 96 Resp: 12479

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 44.6 | 32.9 | 92.9 |

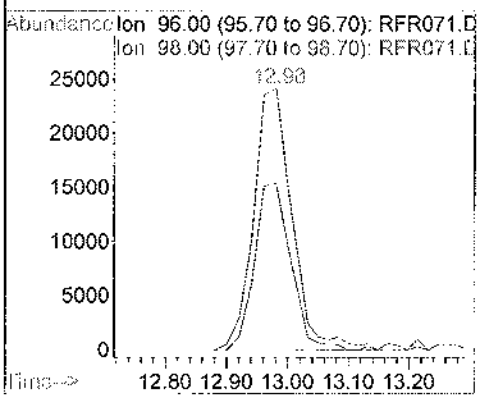


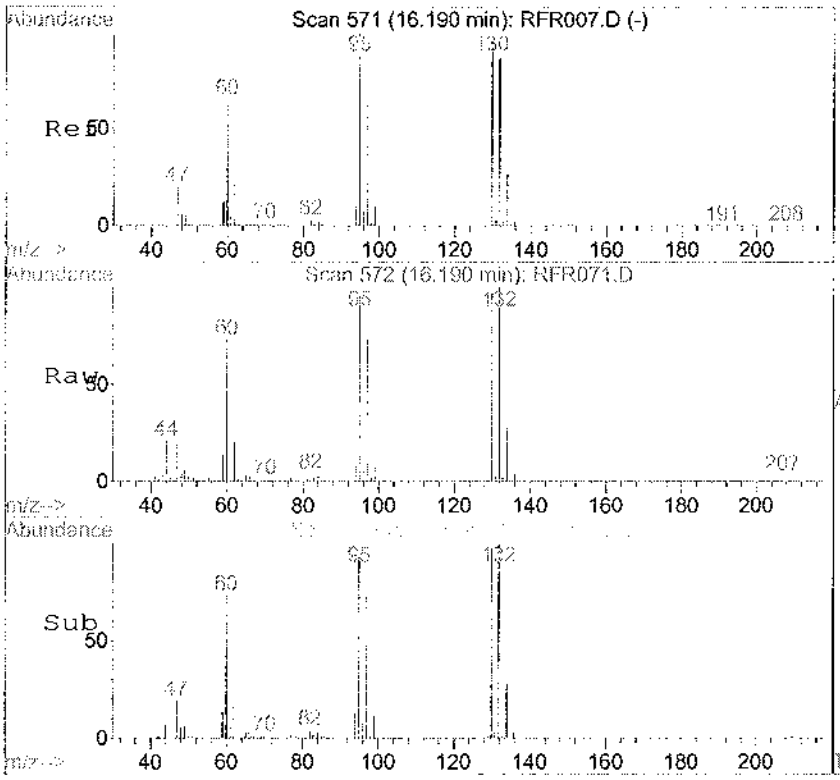




#28
cis-1,2-Dichloroethene
Concen: 0.96 ug/l
RT: 12.98 min Scan# 378
Delta R.T. 0.00 min
Lab File: RFR071.D
Acq: 20 Jun 2024 6:14 pm

Tgt Ion: 96 Resp: 96088

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 98 | 61.0 | 32.2 | 92.2 |

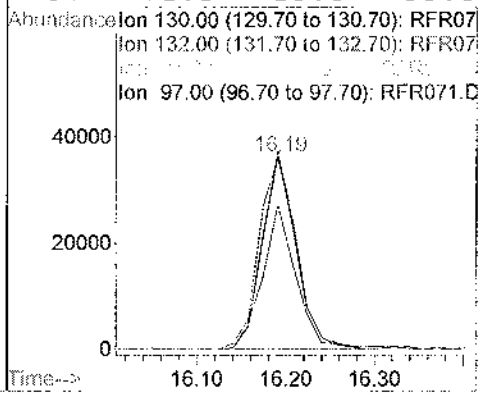


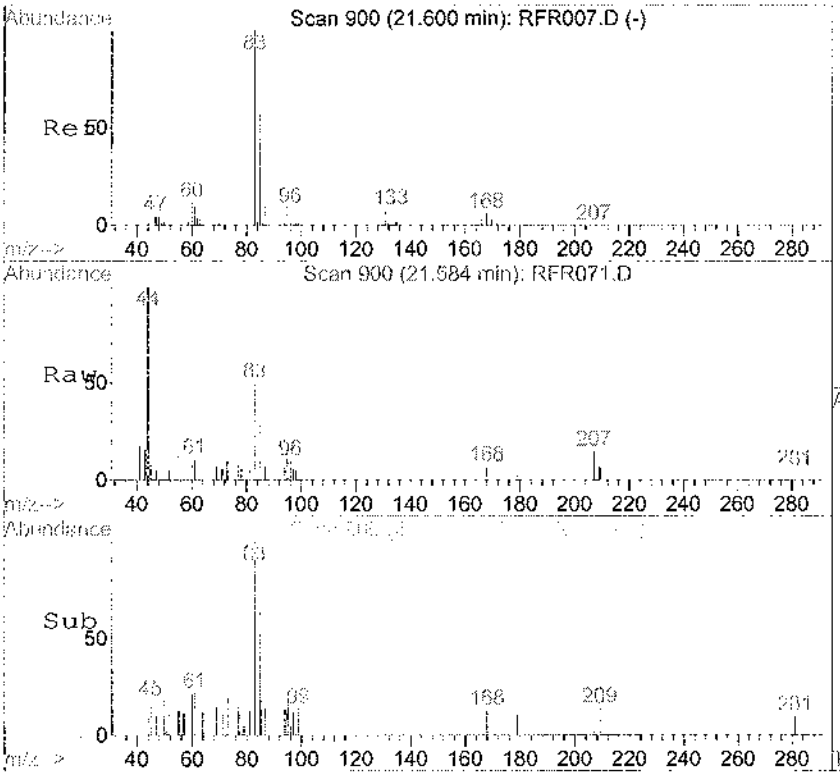



#45
Trichloroethene
Concen: 1.01 ug/l
RT: 16.19 min Scan# 572
Delta R.T. 0.00 min
Lab File: RFR071.D
Acq: 20 Jun 2024 6:14 pm

Tgt Ion:130 Resp: 99624

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 130 | 100 | | |
| 132 | 98.4 | 63.7 | 123.7 |
| 95 | 106.8 | 74.1 | 134.1 |
| 97 | 71.3 | 39.5 | 99.5 |

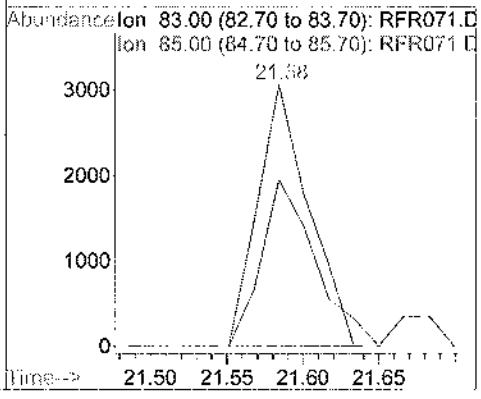



#76
1,1,2,2-Tetrachloroethane
Concen: 0.20 ug/l
RT: 21.58 min Scan# 900
Delta R.T. -0.02 min
Lab File: RFR071.D
Acq: 20 Jun 2024 6:14 pm

Tgt Ion: 83 Resp: 7147

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 67.5 | 30.0 | 90.0 |



# QC SUMMARIES

METHOD SW5030C/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/20/24 14:23 |
| Project | : TITAN 1-A | Date Received: | 06/20/24 |
| Batch No. | : 24F034 | Date Extracted: | 06/20/24 14:23 |
| Sample ID | : MBLK1W | Date Analyzed: | 06/20/24 14:23 |
| Lab Samp ID: | VOF3F04B | Dilution Factor: | 1 |
| Lab File ID: | RFR064 | Matrix: | WATER |
| Ext Btch ID: | VOF3F04 | % Moisture: | NA |
| Calib. Ref.: | RFR007 | Instrument ID: | F3 |

| PARAMETER(S) | RESULTS (ug/L) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 1.0 | 0.10 | 0.20 |
| 1,2-Dichloroethane | ND | 1.0 | 0.10 | 0.20 |
| 1,4-Dichlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| 2-Butanone | ND | 20 | 5.0 | 10 |
| Benzene | ND | 1.0 | 0.10 | 0.20 |
| Carbon Tetrachloride | ND | 1.0 | 0.10 | 0.20 |
| Chlorobenzene | ND | 1.0 | 0.10 | 0.20 |
| Chloroform | ND | 1.0 | 0.10 | 0.20 |
| Tetrachloroethene | ND | 1.0 | 0.15 | 0.30 |
| Trichloroethene | ND | 1.0 | 0.10 | 0.20 |
| Vinyl Chloride | ND | 1.0 | 0.11 | 0.30 |
| Hexachlorobutadiene | ND | 1.0 | 0.15 | 0.30 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 9.99 | 10.0 | 100 | 81-118 |
| 4-Bromofluorobenzene | 9.10 | 10.0 | 91 | 85-114 |
| Toluene-d8 | 10.6 | 10.0 | 106 | 89-112 |
| Dibromofluoromethane | 9.96 | 10.0 | 100 | 80-119 |

Notes:

| | | | |
|---|---|---|---|
| Sample Amount | : 25ml | Final Volume | : 25ml |
| Prepared by | : LPriet | Analyzed by | : LPriet |

Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : SW5030C/8260C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK1W | LCS1W | LCD1W |
| LAB SAMPLE ID | : VOF3F04B | VOF3F04X | VOF3F04C |
| LAB FILE ID | : RFR064 | RFR065 | RFR062 |
| DATE PREPARED | : 06/20/24 14:23 | 06/20/24 14:56 | 06/20/24 13:17 |
| DATE ANALYZED | : 06/20/24 14:23 | 06/20/24 14:56 | 06/20/24 13:17 |
| PREP BATCH | : VOF3F04 | VOF3F04 | VOF3F04 |
| CALIBRATION REF: | RFR007 | RFR007 | RFR007 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 10.0 | 9.58 | 96 | 10.0 | 8.94 | 89 | 7 | 71-131 | 20 |
| 1,2-Dichloroethane | ND | 10.0 | 9.66 | 97 | 10.0 | 9.31 | 93 | 4 | 73-128 | 20 |
| 1,4-Dichlorobenzene | ND | 10.0 | 9.85 | 99 | 10.0 | 9.68 | 97 | 2 | 79-118 | 20 |
| 2-Butanone | ND | 50.0 | 44.3 | 89 | 50.0 | 41.9 | 84 | 6 | 56-143 | 20 |
| Benzene | ND | 10.0 | 9.33 | 93 | 10.0 | 9.16 | 92 | 2 | 79-120 | 20 |
| Carbon Tetrachloride | ND | 10.0 | 9.89 | 99 | 10.0 | 9.08 | 91 | 9 | 72-136 | 20 |
| Chlorobenzene | ND | 10.0 | 10.5 | 105 | 10.0 | 9.78 | 98 | 7 | 82-118 | 20 |
| Chloroform | ND | 10.0 | 9.31 | 93 | 10.0 | 8.52 | 85 | 9 | 79-124 | 20 |
| Tetrachloroethene | ND | 10.0 | 9.84 | 98 | 10.0 | 9.70 | 97 | 1 | 74-129 | 20 |
| Trichloroethene | ND | 10.0 | 9.75 | 98 | 10.0 | 9.64 | 96 | 1 | 79-123 | 20 |
| Vinyl Chloride | ND | 10.0 | 8.48 | 85 | 10.0 | 7.80 | 78 | 8 | 58-137 | 20 |
| Hexachlorobutadiene | ND | 10.0 | 8.73 | 87 | 10.0 | 9.19 | 92 | 5 | 66-134 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 10.0 | 10.3 | 103 | 10.0 | 9.69 | 97 | 81-118 |
| 4-Bromofluorobenzene | 10.0 | 8.80 | 88 | 10.0 | 9.03 | 90 | 85-114 |
| Toluene-d8 | 10.0 | 10.4 | 104 | 10.0 | 10.4 | 104 | 89-112 |
| Dibromofluoromethane | 10.0 | 10.2 | 102 | 10.0 | 10.0 | 100 | 80-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

# QC DATA

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F20\RFR064.D
Acq On : 20 Jun 2024 2:23 pm
Sample : VOF3F04B
Misc : 25mL
MS Integration Params: RTE.P
Quant Time: Jul 11 10:47 2024

Vial: 6
Operator: LPriet
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.58 | 114 | 3159956 | 10.00 | ug/l | -0.02 |
| 54) CHLOROBENZENE-D5 | 20.17 | 117 | 1934356 | 10.00 | ug/l | -0.02 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 499486 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.84 | 111 | 981171 | 9.96 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 99.60% | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 939804 | 9.99 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.90% | | |
| 55) Toluene-d8 | 18.08 | 98 | 3038272 | 10.59 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 105.90% | | |
| 75) 4-Bromofluorobenzene | 21.71 | 95 | 724796 | 9.10 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 91.00% | | |
| **Target Compounds** | | | | | | Qvalue |
| 18) Methylene chloride | 9.01 | 49 | 40448 | 0.23 | ug/l | 98 |
| 97) Naphthalene | 26.88 | 128 | 21052 | 0.44 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

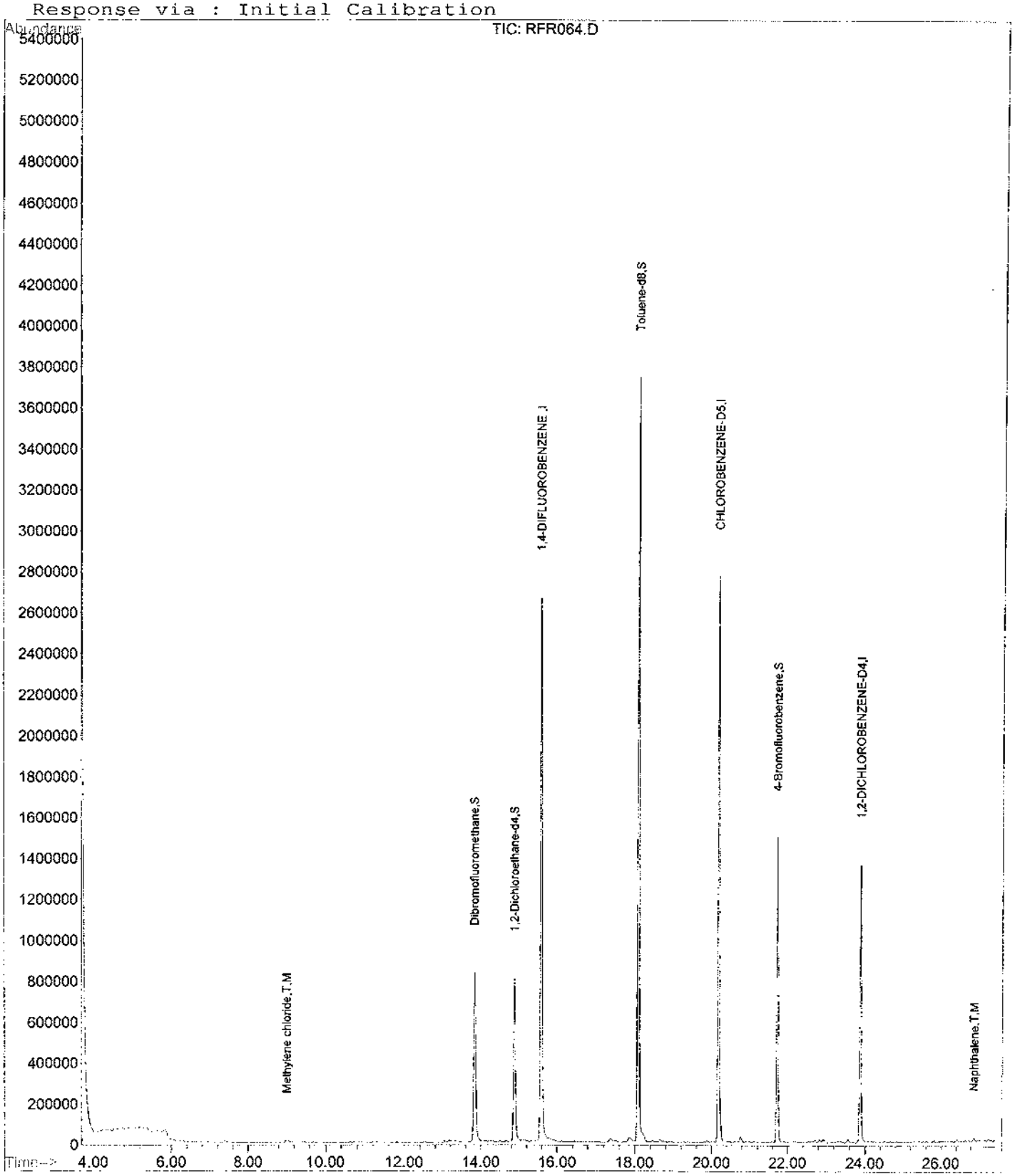
Quantitation Report

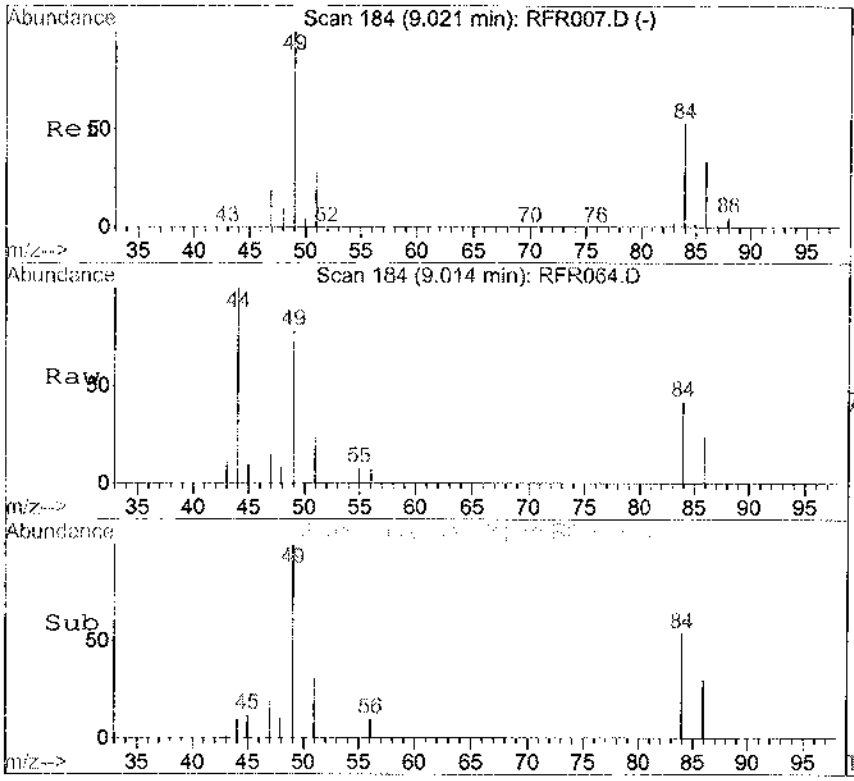
Data File : C:\HPCHEM\1\DATA\24F20\RFR064.D
Acq On : 20 Jun 2024 2:23 pm
Sample : VOF3F04B
Misc : 25mL
MS Integration Params: RTE.P
Quant Time: Jul 11 10:47 2024

Vial: 6
Operator: LPriet
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration

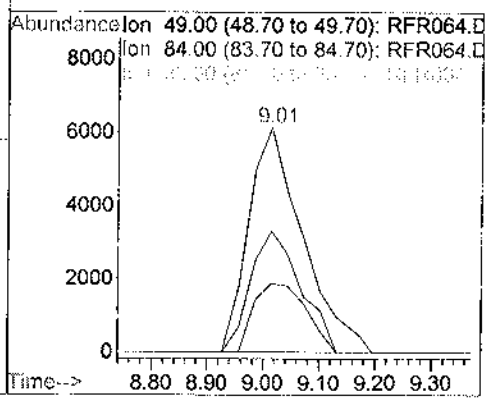


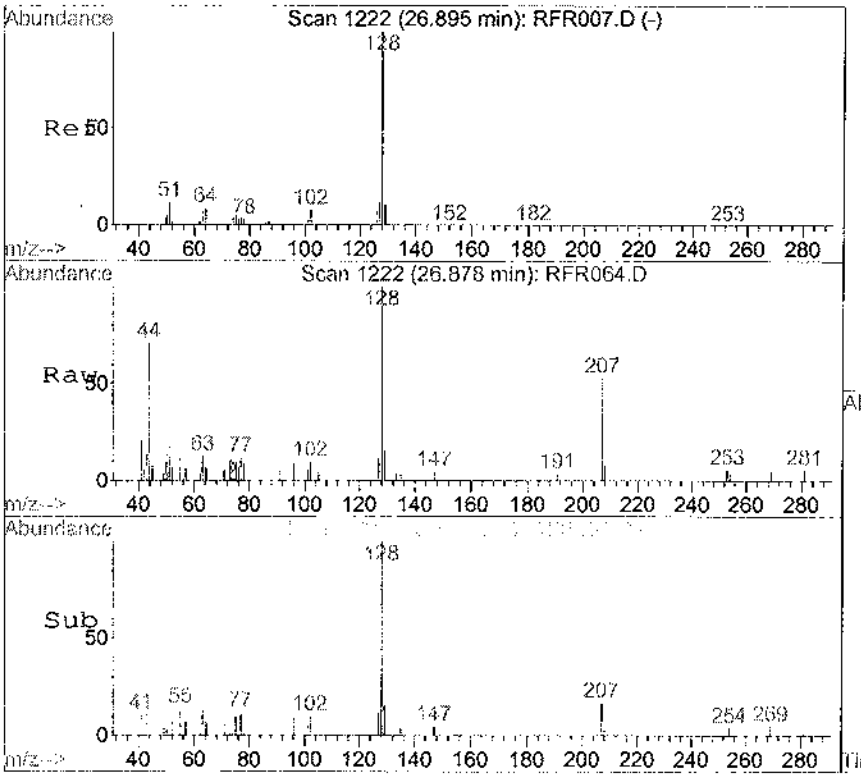



#18
Methylene chloride
Concen: 0.23 ug/l
RT: 9.01 min Scan# 184
Delta R.T. -0.01 min
Lab File: RFR064.D
Acq: 20 Jun 2024 2:23 pm

Tgt Ion: 49 Resp: 40448

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 49 | 100 | | |
| 84 | 53.7 | 21.8 | 81.8 |
| 86 | 32.0 | 2.8 | 62.8 |

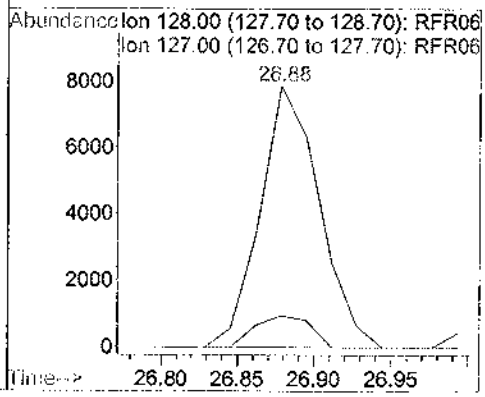



#97
Naphthalene
Concen: 0.44 ug/l
RT: 26.88 min Scan# 1222
Delta R.T. -0.02 min
Lab File: RFR064.D
Acq: 20 Jun 2024 2:23 pm

Tgt Ion:128 Resp: 21052

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 127 | 11.3 | 0.0 | 41.8 |



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F20\RFR062.D
Acq On : 20 Jun 2024 1:17 pm
Sample : VOF3F04C
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
MS Integration Params: RTE.P
Quant Time: Jun 20 13:44 2024

Vial: 4
Operator: LPriet
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.58 | 114 | 3228516 | 10.00 | ug/l | -0.02 |
| 54) CHLOROBENZENE-D5 | 20.17 | 117 | 2139311 | 10.00 | ug/l | -0.02 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 588978 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.84 | 111 | 1007826 | 10.01 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = 100.10% | | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 931803 | 9.69 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 96.90% | | | |
| 55) Toluene-d8 | 18.08 | 98 | 3308004 | 10.43 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 104.30% | | | |
| 75) 4-Bromofluorobenzene | 21.71 | 95 | 848469 | 9.03 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = 90.30% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.96 | 85 | 1383880 | 9.02 | ug/l | 100 |
| 4) Chloromethane | 4.45 | 50 | 2133441 | 8.84 | ug/l | 98 |
| 6) Vinyl chloride | 4.69 | 62 | 1699423 | 7.80 | ug/l | 98 |
| 7) Bromomethane | 5.61 | 94 | 935402 | 8.93 | ug/l | 99 |
| 8) Chloroethane | 5.76 | 64 | 966279 | 8.97 | ug/l | 97 |
| 9) Dichlorofluoromethane | 5.82 | 67 | 2389120 | 8.88 | ug/l | 100 |
| 10) Trichlorofluoromethane | 6.28 | 101 | 1635677 | 9.08 | ug/l | 99 |
| 11) Acrolein | 7.24 | 56 | 350236 | 42.35 | ug/l | 99 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.30 | 151 | 711051 | 9.30 | ug/l | 99 |
| 13) 1,1-Dichloroethene | 7.74 | 61 | 2483730 | 8.94 | ug/l | 98 |
| 14) Acetone | 7.36 | 43 | 819823 | 47.92 | ug/l | 99 |
| 15) Iodomethane | 8.58 | 142 | 1464034 | 9.05 | ug/l | 99 |
| 16) Methyl acetate | 8.55 | 43 | 585157 | 10.83 | ug/l | 97 |
| 17) Carbon disulfide | 9.10 | 76 | 3732966 | 8.68 | ug/l | 100 |
| 18) Methylene chloride | 9.01 | 49 | 1685085 | 9.47 | ug/l | 99 |
| 19) tert-Butyl alcohol | 7.88 | 59 | 919096 | 221.01 | ug/l | 97 |
| 20) tert-Butyl methyl ether (M | 9.42 | 73 | 1731757 | 8.68 | ug/l | 96 |
| 21) trans-1,2-Dichloroethene | 9.88 | 96 | 1206319 | 8.73 | ug/l | 99 |
| 22) Acrylonitrile | 9.36 | 53 | 916638 | 43.30 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 10.83 | 45 | 5074526 | 8.94 | ug/l | 99 |
| 24) 1,1-Dichloroethane | 11.27 | 63 | 2505025 | 9.00 | ug/l | 100 |
| 25) Vinyl acetate | 11.25 | 43 | 1376265 | 9.22 | ug/l | 99 |
| 26) tert-Butyl ethyl ether (ET | 12.12 | 59 | 2914096 | 8.63 | ug/l | 100 |
| 27) 2,2-Dichloropropane | 12.84 | 77 | 1051293 | 9.63 | ug/l | 94 |
| 28) cis-1,2-Dichloroethene | 12.96 | 96 | 944435 | 8.23 | ug/l | 99 |
| 29) 2-Butanone | 12.48 | 43 | 1178841 | 41.94 | ug/l | 99 |
| 30) 2-Butanol | 12.14 | 45 | 54533 | 12.17 | ug/l # | 1 |
| 31) Bromochloromethane | 13.72 | 130 | 463510 | 9.18 | ug/l | 98 |
| 32) Tetrahydrofuran | 13.79 | 42 | 161607 | 9.66 | ug/l | 95 |
| 33) Chloroform | 13.34 | 83 | 1947378 | 8.52 | ug/l | 98 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 1429218 | 9.07 | ug/l | 97 |
| 36) Cyclohexane | 14.27 | 84 | 1443351 | 7.46 | ug/l | 99 |
| 37) 1,1-Dichloropropene | 14.54 | 110 | 501650 | 8.87 | ug/l | 97 |
| 38) Carbon tetrachloride | 14.76 | 117 | 1160347 | 9.08 | ug/l | 97 |
| 42) Benzene | 15.09 | 78 | 4541615 | 9.16 | ug/l | 99 |
| 43) 1,2-Dichloroethane | 15.05 | 62 | 1129665 | 9.31 | ug/l | 98 |
| 44) tert-Amyl methyl ether (TA | 14.76 | 73 | 1731188 | 8.38 | ug/l | 98 |
| 45) Trichloroethene | 16.19 | 130 | 1084182 | 9.64 | ug/l | 97 |
| 46) Methylcyclohexane | 16.29 | 83 | 1814089 | 8.42 | ug/l | 94 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F20\RFR062.D Vial: 4
Acq On : 20 Jun 2024 1:17 pm Operator: LPriet
Sample : VOF3F04C Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 20 13:44 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

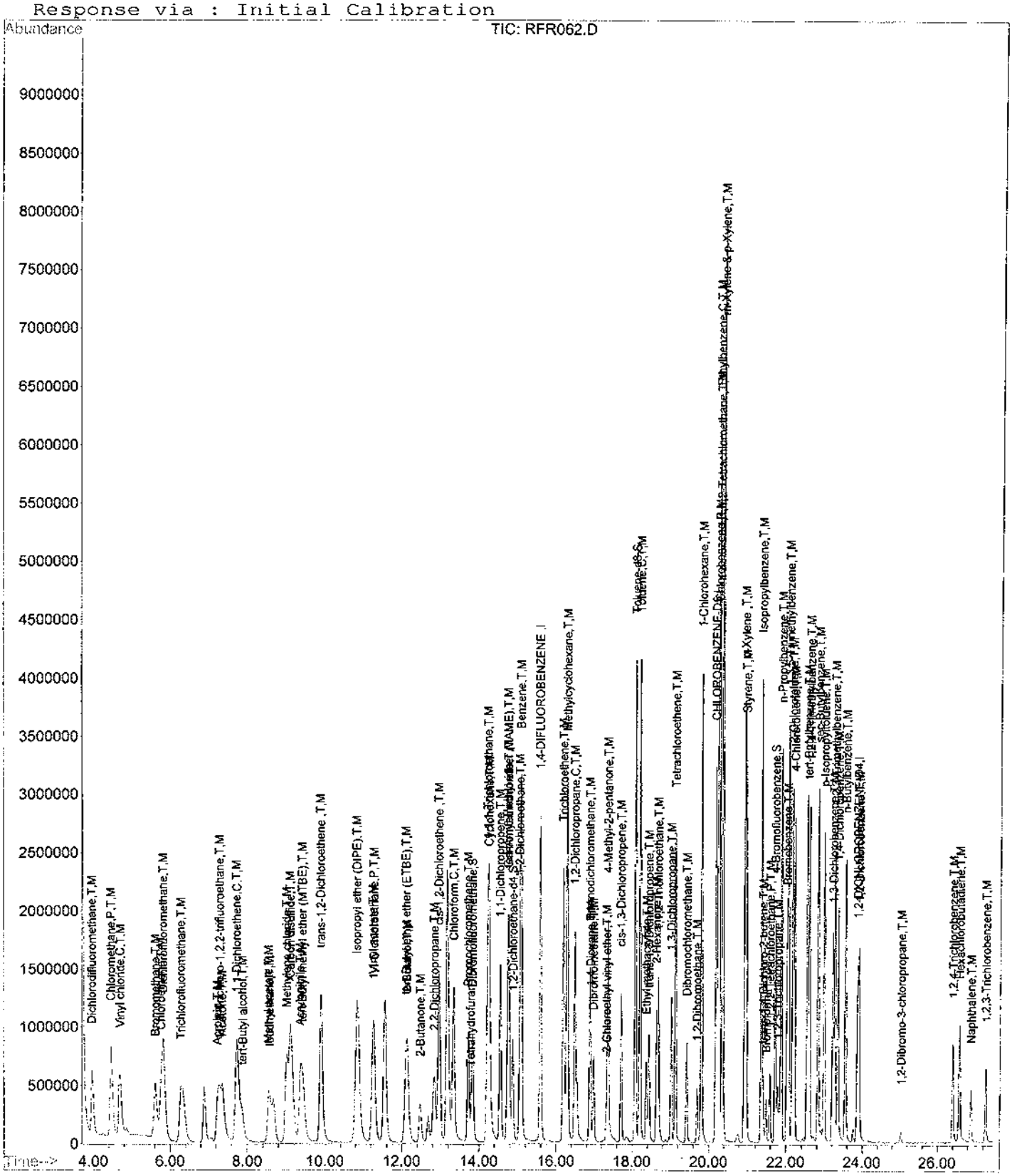
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 47) | 1,2-Dichloropropane | 16.49 | 63 | 1090527 | 8.84 | ug/l | 99 |
| 48) | 1,4-Dioxane | 16.90 | 88 | 54691 | 177.83 | ug/l | 99 |
| 49) | Dibromomethane | 16.98 | 93 | 363849 | 8.89 | ug/l | 88 |
| 50) | Bromodichloromethane | 16.88 | 83 | 1261139 | 8.96 | ug/l | 99 |
| 51) | 2-Chloroethyl vinyl ether | 17.32 | 63 | 133473 | 7.99 | ug/l | 99 |
| 52) | cis-1,3-Dichloropropene | 17.70 | 75 | 1430272 | 9.53 | ug/l | 98 |
| 53) | 4-Methyl-2-pentanone | 17.36 | 43 | 2733375 | 46.81 | ug/l | 99 |
| 56) | Toluene | 18.20 | 91 | 3878860 | 9.87 | ug/l | 99 |
| 57) | Ethyl methacrylate | 18.36 | 69 | 532491 | 8.70 | ug/l | 93 |
| 58) | trans-1,3-Dichloropropene | 18.43 | 75 | 944472 | 9.78 | ug/l | 99 |
| 59) | 1,1,2-Trichloroethane | 18.67 | 97 | 485104 | 10.02 | ug/l | 94 |
| 60) | Tetrachloroethene | 19.13 | 164 | 816451 | 9.70 | ug/l | 98 |
| 61) | 2-Hexanone | 18.62 | 43 | 1502178 | 47.62 | ug/l | 99 |
| 62) | 1,3-Dichloropropane | 19.02 | 76 | 928329 | 9.88 | ug/l | 99 |
| 63) | Dibromochloromethane | 19.43 | 129 | 576841 | 9.29 | ug/l | 96 |
| 64) | 1,2-Dibromoethane | 19.69 | 107 | 422842 | 9.63 | ug/l | 99 |
| 65) | 1-Chlorohexane | 19.81 | 91 | 1489173 | 9.98 | ug/l | 98 |
| 66) | Chlorobenzene | 20.23 | 112 | 1992835 | 9.78 | ug/l | 99 |
| 67) | Ethylbenzene | 20.25 | 91 | 3874579 | 9.85 | ug/l | 98 |
| 68) | 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 704574 | 9.53 | ug/l | 99 |
| 69) | m-Xylene & p-Xylene | 20.35 | 91 | 5439596 | 18.99 | ug/l | 96 |
| 70) | o-Xylene | 20.92 | 91 | 2873414 | 9.94 | ug/l | 98 |
| 71) | Styrene | 20.96 | 104 | 1879807 | 9.85 | ug/l | 97 |
| 72) | Isopropylbenzene | 21.35 | 105 | 3399691 | 10.29 | ug/l | 99 |
| 74) | Bromoform | 21.48 | 173 | 231459 | 9.75 | ug/l | 96 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.58 | 83 | 429800 | 9.01 | ug/l | 94 |
| 77) | trans-1,4-Dichloro-2-buten | 21.40 | 53 | 189759 | 9.26 | ug/l | 92 |
| 78) | n-Propylbenzene | 21.88 | 91 | 4036482 | 10.36 | ug/l | 100 |
| 79) | 1,2,3-Trichloropropane | 21.78 | 110 | 90603 | 9.25 | ug/l | 93 |
| 80) | Bromobenzene | 22.03 | 156 | 635757 | 9.46 | ug/l | 98 |
| 81) | 1,3,5-Trimethylbenzene | 22.06 | 105 | 2414760 | 10.22 | ug/l | 98 |
| 82) | 2-Chlorotoluene | 22.16 | 91 | 2720051 | 11.88 | ug/l | 96 |
| 83) | 4-Chlorotoluene | 22.21 | 91 | 1725996 | 8.50 | ug/l | 97 |
| 84) | tert-Butylbenzene | 22.55 | 134 | 557944 | 9.82 | ug/l | 87 |
| 85) | 1,2,4-Trimethylbenzene | 22.60 | 105 | 2142697 | 10.24 | ug/l | 90 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 3313596 | 10.42 | ug/l | 98 |
| 87) | p-Isopropyltoluene | 22.98 | 119 | 2140610 | 9.64 | ug/l | 98 |
| 88) | 1,3-Dichlorobenzene | 23.23 | 146 | 1094979 | 9.37 | ug/l | 100 |
| 89) | 1,2,3-Trimethylbenzene | 23.28 | 105 | 2018347 | 9.78 | ug/l | 99 |
| 90) | 1,4-Dichlorobenzene | 23.36 | 146 | 1051789 | 9.68 | ug/l | 98 |
| 92) | n-Butylbenzene | 23.56 | 91 | 2155120 | 10.03 | ug/l | 96 |
| 93) | 1,2-Dichlorobenzene | 23.90 | 146 | 904514 | 9.42 | ug/l | 98 |
| 94) | 1,2-Dibromo-3-chloropropan | 25.04 | 157 | 41962 | 8.47 | ug/l | 95 |
| 95) | 1,2,4-Trichlorobenzene | 26.40 | 180 | 390675 | 9.08 | ug/l | 98 |
| 96) | Hexachlorobutadiene | 26.58 | 225 | 321735 | 9.19 | ug/l | 96 |
| 97) | Naphthalene | 26.88 | 128 | 507773 | 8.92 | ug/l | 99 |
| 98) | 1,2,3-Trichlorobenzene | 27.27 | 180 | 296239 | 9.41 | ug/l | 94 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR062.D Vial: 4
Acq On : 20 Jun 2024 1:17 pm Operator: LPriet
Sample : VOF3F04C Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 20 13:44 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F20\RFR065.D Vial: 7
Acq On : 20 Jun 2024 2:56 pm Operator: LPriet
Sample : VOF3F04X Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 20 15:39 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.58 | 114 | 3049163 | 10.00 | ug/l | -0.02 |
| 54) CHLOROBENZENE-D5 | 20.17 | 117 | 2016431 | 10.00 | ug/l | -0.02 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 593739 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.84 | 111 | 965707 | 10.15 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 101.50% | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 934610 | 10.29 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.90% | | |
| 55) Toluene-d8 | 18.08 | 98 | 3123841 | 10.45 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 104.50% | | |
| 75) 4-Bromofluorobenzene | 21.71 | 95 | 833488 | 8.80 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 88.00% | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.96 | 85 | 1332313 | 9.20 | ug/l | 100 |
| 4) Chloromethane | 4.45 | 50 | 2103090 | 9.22 | ug/l | 98 |
| 6) Vinyl chloride | 4.69 | 62 | 1743875 | 8.48 | ug/l | 99 |
| 7) Bromomethane | 5.61 | 94 | 890529 | 9.01 | ug/l | 99 |
| 8) Chloroethane | 5.76 | 64 | 958934 | 9.43 | ug/l | 96 |
| 9) Dichlorofluoromethane | 5.82 | 67 | 2427364 | 9.56 | ug/l | 100 |
| 10) Trichlorofluoromethane | 6.28 | 101 | 1595492 | 9.38 | ug/l | 99 |
| 11) Acrolein | 7.24 | 56 | 335400 | 42.94 | ug/l | 96 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.30 | 151 | 652236 | 9.03 | ug/l | 100 |
| 13) 1,1-Dichloroethene | 7.74 | 61 | 2513814 | 9.58 | ug/l | 98 |
| 14) Acetone | 7.39 | 43 | 778344 | 48.19 | ug/l | 99 |
| 15) Iodomethane | 8.58 | 142 | 1418438 | 9.28 | ug/l | 100 |
| 16) Methyl acetate | 8.55 | 43 | 575580 | 11.28 | ug/l | 99 |
| 17) Carbon disulfide | 9.10 | 76 | 3944813 | 9.72 | ug/l | 99 |
| 18) Methylene chloride | 9.01 | 49 | 1661192 | 9.88 | ug/l | 100 |
| 19) tert-Butyl alcohol | 7.88 | 59 | 869794 | 221.46 | ug/l | 97 |
| 20) tert-Butyl methyl ether (M | 9.42 | 73 | 1638602 | 8.70 | ug/l | 99 |
| 21) trans-1,2-Dichloroethene | 9.90 | 96 | 1158324 | 8.88 | ug/l | 99 |
| 22) Acrylonitrile | 9.36 | 53 | 886157 | 44.32 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 10.85 | 45 | 5182107 | 9.66 | ug/l | 99 |
| 24) 1,1-Dichloroethane | 11.27 | 63 | 2568475 | 9.77 | ug/l | 100 |
| 25) Vinyl acetate | 11.25 | 43 | 1373792 | 9.74 | ug/l | 100 |
| 26) tert-Butyl ethyl ether (ET | 12.14 | 59 | 2869704 | 9.00 | ug/l | 100 |
| 27) 2,2-Dichloropropane | 12.84 | 77 | 1017251 | 9.86 | ug/l | 97 |
| 28) cis-1,2-Dichloroethene | 12.96 | 96 | 916268 | 8.46 | ug/l | 98 |
| 29) 2-Butanone | 12.48 | 43 | 1175141 | 44.26 | ug/l | 100 |
| 30) 2-Butanol | 12.14 | 45 | 52804 | 12.48 | ug/l # | 1 |
| 31) Bromochloromethane | 13.72 | 130 | 450835 | 9.46 | ug/l | 99 |
| 32) Tetrahydrofuran | 13.80 | 42 | 146561 | 9.27 | ug/l | 91 |
| 33) Chloroform | 13.34 | 83 | 2009851 | 9.31 | ug/l | 98 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 1418784 | 9.53 | ug/l | 100 |
| 36) Cyclohexane | 14.26 | 84 | 1389460 | 7.61 | ug/l | 98 |
| 37) 1,1-Dichloropropene | 14.54 | 110 | 499722 | 9.35 | ug/l | 97 |
| 38) Carbon tetrachloride | 14.76 | 117 | 1193108 | 9.89 | ug/l | 98 |
| 42) Benzene | 15.09 | 78 | 4369815 | 9.33 | ug/l | 99 |
| 43) 1,2-Dichloroethane | 15.05 | 62 | 1107271 | 9.66 | ug/l | 98 |
| 44) tert-Amyl methyl ether (TA | 14.76 | 73 | 1736014 | 8.89 | ug/l | 99 |
| 45) Trichloroethene | 16.19 | 130 | 1035526 | 9.75 | ug/l | 98 |
| 46) Methylcyclohexane | 16.29 | 83 | 1776795 | 8.73 | ug/l | 94 |

(#) = qualifier out of range (m) = manual integration


VOF3F17.M Thu Jul 11 10:48:26 2024 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F20\RFR065.D Vial: 7
Acq On : 20 Jun 2024 2:56 pm Operator: LPriet
Sample : VOF3F04X Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 20 15:39 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 47) | 1,2-Dichloropropane | 16.48 | 63 | 1135035 | 9.75 ug/l | 99 |
| 48) | 1,4-Dioxane | 16.90 | 88 | 47184 | 162.44 ug/l | 94 |
| 49) | Dibromomethane | 16.98 | 93 | 346223 | 8.96 ug/l | 90 |
| 50) | Bromodichloromethane | 16.88 | 83 | 1216369 | 9.15 ug/l | 100 |
| 51) | 2-Chloroethyl vinyl ether | 17.32 | 63 | 127998 | 8.11 ug/l | 97 |
| 52) | cis-1,3-Dichloropropene | 17.70 | 75 | 1431602 | 10.10 ug/l | 98 |
| 53) | 4-Methyl-2-pentanone | 17.36 | 43 | 2487175 | 45.10 ug/l | 99 |
| 56) | Toluene | 18.19 | 91 | 3670721 | 9.91 ug/l | 100 |
| 57) | Ethyl methacrylate | 18.38 | 69 | 537286 | 9.31 ug/l | 96 |
| 58) | trans-1,3-Dichloropropene | 18.43 | 75 | 887688 | 9.75 ug/l | 98 |
| 59) | 1,1,2-Trichloroethane | 18.67 | 97 | 434084 | 9.51 ug/l | 98 |
| 60) | Tetrachloroethene | 19.13 | 164 | 780337 | 9.84 ug/l | 97 |
| 61) | 2-Hexanone | 18.62 | 43 | 1394964 | 46.92 ug/l | 99 |
| 62) | 1,3-Dichloropropane | 19.02 | 76 | 903144 | 10.19 ug/l | 97 |
| 63) | Dibromochloromethane | 19.43 | 129 | 563435 | 9.62 ug/l | 97 |
| 64) | 1,2-Dibromoethane | 19.69 | 107 | 401310 | 9.69 ug/l | 98 |
| 65) | 1-Chlorohexane | 19.81 | 91 | 1432152 | 10.18 ug/l | 99 |
| 66) | Chlorobenzene | 20.23 | 112 | 2008882 | 10.46 ug/l | 99 |
| 67) | Ethylbenzene | 20.25 | 91 | 3988568 | 10.76 ug/l | 98 |
| 68) | 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 702440 | 10.08 ug/l | 99 |
| 69) | m-Xylene & p-Xylene | 20.35 | 91 | 5807529 | 21.51 ug/l | 98 |
| 70) | o-Xylene | 20.92 | 91 | 2933747 | 10.76 ug/l | 97 |
| 71) | Styrene | 20.96 | 104 | 1916335 | 10.65 ug/l | 96 |
| 72) | Isopropylbenzene | 21.35 | 105 | 3504782 | 11.25 ug/l | 99 |
| 74) | Bromoform | 21.48 | 173 | 225931 | 9.44 ug/l | 98 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.58 | 83 | 413154 | 8.60 ug/l | 94 |
| 77) | trans-1,4-Dichloro-2-buten | 21.40 | 53 | 200445 | 9.70 ug/l | 97 |
| 78) | n-Propylbenzene | 21.88 | 91 | 4087352 | 10.41 ug/l | 100 |
| 79) | 1,2,3-Trichloropropane | 21.78 | 110 | 89462 | 9.05 ug/l | 92 |
| 80) | Bromobenzene | 22.03 | 156 | 635670 | 9.38 ug/l | 99 |
| 81) | 1,3,5-Trimethylbenzene | 22.06 | 105 | 2649758 | 11.13 ug/l | 98 |
| 82) | 2-Chlorotoluene | 22.16 | 91 | 2647816 | 11.47 ug/l | 97 |
| 83) | 4-Chlorotoluene | 22.21 | 91 | 1839536 | 8.99 ug/l | 99 |
| 84) | tert-Butylbenzene | 22.55 | 134 | 541198 | 9.45 ug/l | 92 |
| 85) | 1,2,4-Trimethylbenzene | 22.60 | 105 | 2282316 | 10.82 ug/l | 91 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 3335177 | 10.41 ug/l | 98 |
| 87) | p-Isopropyltoluene | 22.98 | 119 | 2428886 | 10.85 ug/l | 99 |
| 88) | 1,3-Dichlorobenzene | 23.23 | 146 | 1154918 | 9.80 ug/l | 99 |
| 89) | 1,2,3-Trimethylbenzene | 23.28 | 105 | 2093703 | 10.06 ug/l | 100 |
| 90) | 1,4-Dichlorobenzene | 23.36 | 146 | 1078297 | 9.85 ug/l | 99 |
| 92) | n-Butylbenzene | 23.56 | 91 | 2257469 | 10.42 ug/l | 96 |
| 93) | 1,2-Dichlorobenzene | 23.90 | 146 | 916062 | 9.46 ug/l | 95 |
| 94) | 1,2-Dibromo-3-chloropropan | 25.04 | 157 | 43792 | 8.77 ug/l | 99 |
| 95) | 1,2,4-Trichlorobenzene | 26.40 | 180 | 377505 | 8.70 ug/l | 99 |
| 96) | Hexachlorobutadiene | 26.58 | 225 | 308049 | 8.73 ug/l | 97 |
| 97) | Naphthalene | 26.88 | 128 | 479857 | 8.37 ug/l | 100 |
| 98) | 1,2,3-Trichlorobenzene | 27.27 | 180 | 282534 | 8.90 ug/l | 95 |

(#) = qualifier out of range (m) = manual integration

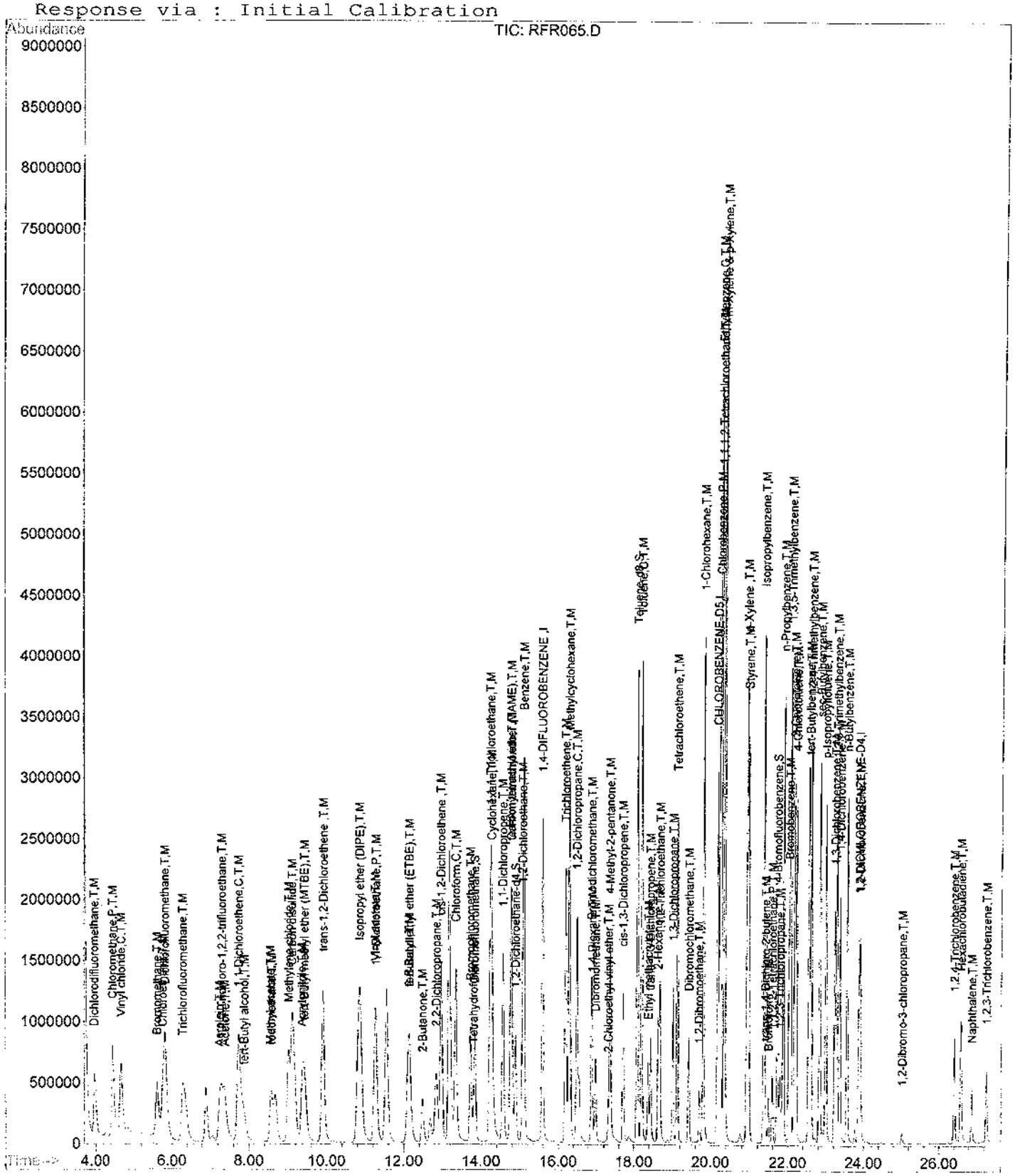
Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR065.D
Acq On : 20 Jun 2024 2:56 pm
Sample : VOF3F04X
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA
MS Integration Params: RTE.P
Quant Time: Jun 20 15:39 2024

Vial: 7
Operator: LPriet
Inst : F3
Multiplr: 1.00

Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration





REPORT ID: 24F034 Page 183 of 838

# INITIAL CALIBRATIONS

FORM 5

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL

Lab Code : EMAX SDG No : ICAL

Lab File ID: RFR001 BFB Injection Date: 06/17/24

Instrument ID: F3 BFB Injection Time: 15:54

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 31.276 |
| 75 | 30 - 60% of mass 95 | 52.562 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 6.273 |
| 173 | Less than 2% of mass 174 | 0.350(.49)1 |
| 174 | Greater than 50% of mass 95 | 72.063 |
| 175 | 5 - 9% of mass 174 | 4.455(6.18)1 |
| 176 | 95 - 101% % of mass 174 | 70.143(97.34)1 |
| 177 | 5 - 9% % of mass 176 | 4.142(5.91)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD0.3 | VOF3F171 | RFR002 | 06/17/24 | 16:35 |
| 2 | VSTD0.5 | VOF3F172 | RFR003 | 06/17/24 | 17:08 |
| 3 | VSTD1 | VOF3F173 | RFR004 | 06/17/24 | 17:40 |
| 4 | VSTD2 | VOF3F174 | RFR005 | 06/17/24 | 18:13 |
| 5 | VSTD5 | VOF3F175 | RFR006 | 06/17/24 | 18:46 |
| 6 | VSTD10 | VOF3F176 | RFR007 | 06/17/24 | 19:19 |
| 7 | VSTD20 | VOF3F177 | RFR008 | 06/17/24 | 19:52 |
| 8 | VSTD30 | VOF3F178 | RFR009 | 06/17/24 | 20:25 |
| 9 | VSTD50 | VOF3F179 | RFR010 | 06/17/24 | 20:58 |
| 10 | VSTD100 | VOF3F1710 | RFR011 | 06/17/24 | 21:31 |
| 11 | VSTD10 | IVO01E1101 | RFR014 | 06/17/24 | 23:09 |

Instrument ID :F3
Beginning DateTime :06/17/24 16:35
Spike Units :PPB
IC File :RFR007

Column Spec :ZB-624 ID :0.25MM
Ending DateTime :06/17/24 21:31
HPChem Method :VOF3F17

| M | IDX | Parameters | .3 16:35 RFR002 | .5 17:08 RFR003 | 1 17:40 RFR004 | 2 18:13 RFR005 | 5 18:46 RFR006 | 10 19:19 RFR007 | 20 19:52 RFR008 | 30 20:25 RFR009 | 50 20:58 RFR010 | 100 21:31 RFR011 | Av_RRF | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 15.5980 |
| | 2 | Chlorotrifluoroethylene | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 3 | Dichlorodifluoromethane | | 0.604 | 0.519 | 0.517 | 0.474 | 0.480 | 0.465 | 0.417 | 0.392 | 0.409 | 0.475 | 13.95 | 3.9734 |
| | 4 | Chloromethane | | 0.896 | 0.795 | 0.820 | 0.786 | 0.750 | 0.743 | 0.620 | 0.575 | | 0.748 | 14.03 | 4.4582 |
| | 5 | 2-Chloro-1,1,1-trifluoroethane | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 6 | Vinyl chloride | 0.818 | 0.760 | 0.647 | 0.655 | 0.648 | 0.615 | 0.578 | | | | 0.674 | 12.47 | 4.6870 |
| | 7 | Bromomethane | | 0.401 | 0.379 | 0.356 | 0.309 | 0.295 | 0.303 | 0.275 | 0.276 | | 0.324 | 14.81 | 5.6166 |
| | 8 | Chloroethane | | 0.437 | 0.350 | 0.363 | 0.341 | 0.321 | 0.330 | 0.283 | 0.279 | 0.299 | 0.334 | 14.57 | 5.7616 |
| | 9 | Dichlorofluoromethane | 0.917 | 0.933 | 0.882 | 0.897 | 0.846 | 0.840 | 0.815 | 0.774 | 0.720 | 0.705 | 0.833 | 9.54 | 5.8230 |
| | 10 | Trichlorofluoromethane | 0.696 | 0.630 | 0.537 | 0.593 | 0.532 | 0.530 | 0.543 | 0.493 | 0.481 | 0.544 | 0.558 | 11.63 | 6.3111 |
| 5 | 11 | Acrolein | | 0.028 | 0.034 | 0.025 | 0.025 | 0.024 | 0.023 | 0.024 | 0.022 | 0.024 | 0.026 | 14.42 | 7.2465 |
| | 12 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.240 | 0.233 | 0.230 | 0.243 | 0.223 | 0.222 | 0.231 | 0.242 | 0.246 | 0.259 | 0.237 | 4.79 | 7.3133 |
| | 13 | 1,1-Dichloroethene | 0.971 | 0.987 | 0.911 | 0.905 | 0.861 | 0.885 | 0.843 | 0.799 | 0.723 | 0.723 | 0.861 | 10.61 | 7.7491 |
| 5 | 14 | Acetone | 0.147 | 0.100 | 0.077 | 0.075 | 0.060 | 0.058 | 0.053 | 0.054 | 0.046 | 0.050 | 0.072 | 42.89 | 7.3888 |
| | 15 | Iodomethane | 0.543 | 0.508 | 0.466 | 0.486 | 0.472 | 0.490 | 0.498 | 0.510 | 0.512 | 0.528 | 0.501 | 4.79 | 8.5799 |
| | 16 | Methyl acetate | | | 0.170 | 0.177 | 0.166 | 0.170 | 0.159 | 0.161 | | | 0.167 | 3.90 | 8.5649 |
| | 17 | Carbon disulfide | 1.564 | 1.524 | 1.343 | 1.337 | 1.283 | 1.126 | 1.247 | 1.229 | | | 1.332 | 11.11 | 9.1244 |
| | 18 | Methylene chloride | | | 0.661 | 0.639 | 0.591 | 0.559 | 0.537 | 0.499 | 0.456 | 0.470 | 0.551 | 13.73 | 9.0155 |
| 25 | 19 | tert-Butyl alcohol | 0.017 | 0.011 | 0.011 | 0.011 | 0.013 | 0.013 | 0.013 | 0.014 | 0.013 | 0.014 | 0.013 | 14.17 | 7.8973 |
| | 20 | tert-Butyl methyl ether (MTBE) | 0.769 | 0.628 | 0.644 | 0.581 | 0.605 | 0.587 | 0.586 | 0.619 | 0.561 | 0.597 | 0.618 | 9.48 | 9.4464 |
| | 21 | trans-1,2-Dichloroethene | 0.525 | 0.494 | 0.449 | 0.418 | 0.411 | 0.407 | 0.401 | 0.400 | 0.388 | 0.388 | 0.428 | 10.99 | 9.9056 |
| 5 | 22 | Acrylonitrile | 0.074 | 0.067 | 0.070 | 0.068 | 0.065 | 0.064 | 0.062 | 0.064 | 0.058 | 0.063 | 0.066 | 6.94 | 9.3780 |
| | 23 | Isopropyl ether (DIPE) | 2.066 | 1.920 | 1.911 | 1.897 | 1.838 | 1.805 | 1.727 | 1.621 | 1.441 | 1.361 | 1.759 | 12.72 | 10.8622 |
| | 24 | 1,1-Dichloroethane | 0.958 | 0.933 | 0.944 | 0.913 | 0.866 | 0.891 | 0.844 | 0.805 | 0.749 | 0.722 | 0.863 | 9.51 | 11.2751 |
| | 25 | Vinyl acetate | | | 0.495 | 0.484 | 0.513 | 0.483 | 0.482 | 0.438 | 0.404 | 0.402 | 0.463 | 9.17 | 11.2564 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 1.194 | 1.141 | 1.116 | 1.055 | 1.047 | 1.072 | 1.012 | 1.016 | 0.894 | 0.914 | 1.046 | 8.96 | 12.1431 |
| | 27 | 2,2-Dichloropropane | 0.427 | 0.407 | 0.347 | 0.346 | 0.330 | 0.338 | 0.314 | 0.309 | 0.287 | 0.278 | 0.338 | 14.08 | 12.8600 |
| | 28 | cis-1,2-Dichloroethene | 0.438 | 0.408 | 0.350 | 0.363 | 0.348 | 0.344 | 0.326 | 0.337 | 0.319 | 0.320 | 0.355 | 10.88 | 12.9808 |
| 5 | 29 | 2-Butanone | 0.106 | 0.092 | 0.089 | 0.094 | 0.091 | 0.089 | 0.079 | 0.083 | 0.072 | 0.076 | 0.087 | 11.29 | 12.4935 |
| 25 | 30 | 2-Butanol | | | 0.014 | 0.014 | 0.014 | 0.014 | 0.013 | 0.014 | | | 0.014 | 3.78 | 11.9368 |
| | 31 | Bromochloromethane | 0.172 | 0.143 | 0.153 | 0.150 | 0.154 | 0.156 | 0.154 | 0.158 | 0.157 | 0.166 | 0.156 | 4.99 | 13.7398 |
| | 32 | Tetrahydrofuran | | | 0.057 | 0.057 | 0.054 | 0.056 | 0.050 | 0.049 | 0.044 | 0.049 | 0.052 | 9.17 | 13.8097 |
| | 33 | Chloroform | 0.896 | 0.845 | 0.744 | 0.706 | 0.704 | 0.688 | 0.679 | 0.629 | 0.613 | 0.573 | 0.708 | 14.17 | 13.3484 |
| | 34 | Dibromofluoromethane | | 0.343 | 0.308 | 0.310 | 0.310 | 0.316 | 0.300 | 0.296 | | | 0.312 | 4.96 | 13.8455 |
| | 35 | 1,1,1-Trichloroethane | 0.553 | 0.530 | 0.515 | 0.501 | 0.466 | 0.490 | 0.478 | 0.469 | 0.446 | 0.433 | 0.488 | 7.67 | 14.2348 |
| | 36 | Cyclohexane | 0.766 | 0.679 | 0.550 | 0.616 | 0.551 | 0.561 | 0.539 | 0.530 | | | 0.599 | 13.97 | 14.2700 |
| | 37 | 1,1-Dichloropropene | 0.188 | 0.186 | 0.168 | 0.175 | 0.173 | 0.174 | 0.173 | 0.173 | 0.166 | 0.177 | 0.175 | 3.97 | 14.5620 |
| | 38 | Carbon tetrachloride | 0.376 | 0.429 | 0.411 | 0.391 | 0.380 | 0.397 | 0.402 | 0.404 | 0.385 | 0.384 | 0.396 | 4.10 | 14.7610 |
| 5 | 39 | tert-Amyl alcohol | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 40 | 1,2-Dichloroethane-d4 | | 0.353 | 0.306 | 0.281 | 0.307 | 0.296 | 0.275 | 0.266 | | | 0.298 | 9.66 | 14.8767 |
| | 41 | 2,2,4-Trimethylpentane | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 42 | Benzene | 1.770 | 1.768 | 1.576 | 1.604 | 1.554 | 1.527 | 1.500 | 1.336 | 1.184 | | 1.535 | 12.19 | 15.0990 |
| | 43 | 1,2-Dichloroethane | 0.429 | 0.419 | 0.409 | 0.401 | 0.399 | 0.380 | 0.367 | 0.335 | 0.313 | 0.308 | 0.376 | 11.62 | 15.0636 |
| | 44 | tert-Amyl methyl ether (TAME) | 0.773 | 0.692 | 0.656 | 0.591 | 0.620 | 0.621 | 0.626 | 0.645 | 0.586 | 0.592 | 0.640 | 8.92 | 14.7774 |
| | 45 | Trichloroethene | 0.372 | 0.373 | 0.347 | 0.332 | 0.337 | 0.360 | 0.349 | 0.345 | 0.333 | 0.335 | 0.348 | 4.41 | 16.1949 |
| | 46 | Methylcyclohexane | 0.822 | 0.766 | 0.651 | 0.685 | 0.611 | 0.624 | 0.599 | 0.583 | | | 0.668 | 12.80 | 16.2947 |
| | 47 | 1,2-Dichloropropane | 0.433 | 0.404 | 0.413 | 0.379 | 0.395 | 0.386 | 0.383 | 0.364 | 0.324 | 0.338 | 0.382 | 8.66 | 16.4991 |
| 20 | 48 | 1,4-Dioxane | | | | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 8.35 | 16.9042 |
| | 49 | Dibromomethane | 0.131 | 0.132 | 0.129 | 0.119 | 0.130 | 0.125 | 0.131 | 0.125 | 0.120 | 0.126 | 0.127 | 3.51 | 16.9941 |
| | 50 | Bromodichloromethane | 0.567 | 0.517 | 0.447 | 0.416 | 0.435 | 0.415 | 0.422 | 0.403 | 0.369 | 0.368 | 0.436 | 14.28 | 16.8938 |
| | 51 | 2-Chloroethyl vinyl ether | | 0.054 | 0.041 | 0.049 | 0.050 | 0.051 | 0.051 | 0.055 | 0.053 | 0.061 | 0.052 | 10.70 | 17.3247 |
| | 52 | cis-1,3-Dichloropropene | 0.515 | 0.499 | 0.456 | 0.454 | 0.472 | 0.479 | 0.483 | 0.459 | 0.419 | 0.415 | 0.465 | 6.84 | 17.7193 |
| 5 | 53 | 4-Methyl-2-pentanone | | 0.219 | 0.196 | 0.197 | 0.191 | 0.185 | 0.174 | 0.179 | 0.149 | 0.137 | 0.181 | 13.81 | 17.3686 |
| | 54 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 20.1860 |
| | 55 | Toluene-d8 | | 1.779 | 1.366 | 1.498 | 1.426 | 1.624 | 1.404 | 1.281 | | | 1.483 | 11.42 | 18.0881 |
| | 56 | Toluene | 2.100 | 2.159 | 1.930 | 1.946 | 1.743 | 1.976 | 1.697 | 1.591 | 1.384 | | 1.836 | 13.71 | 18.2125 |
| | 57 | Ethyl methacrylate | 0.309 | 0.305 | 0.266 | 0.278 | 0.255 | 0.289 | 0.274 | 0.310 | 0.283 | 0.292 | 0.286 | 6.45 | 18.3771 |
| | 58 | trans-1,3-Dichloropropene | 0.502 | 0.473 | 0.449 | 0.412 | 0.433 | 0.495 | 0.453 | 0.448 | 0.441 | 0.409 | 0.451 | 6.88 | 18.4429 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 59 | 1,1,2-Trichloroethane | 0.250 | 0.251 | 0.232 | 0.227 | 0.217 | 0.222 | 0.216 | 0.218 | 0.211 | 0.218 | 0.226 | 6.24 | 18.6764 |
| | 60 | Tetrachloroethene | 0.400 | 0.457 | 0.386 | 0.391 | 0.358 | 0.413 | 0.380 | 0.390 | 0.391 | 0.366 | 0.393 | 6.99 | 19.1352 |
| 5 | 61 | 2-Hexanone | ------ | 0.182 | 0.154 | 0.162 | 0.145 | 0.153 | 0.137 | 0.142 | 0.132 | 0.121 | 0.147 | 12.18 | 18.6403 |
| | 62 | 1,3-Dichloropropane | 0.546 | 0.492 | 0.480 | 0.446 | 0.412 | 0.444 | 0.409 | 0.403 | 0.389 | 0.373 | 0.439 | 12.20 | 19.0201 |
| | 63 | Dibromochloromethane | 0.324 | 0.330 | 0.285 | 0.279 | 0.260 | 0.295 | 0.274 | 0.291 | 0.283 | 0.283 | 0.290 | 7.40 | 19.4312 |
| | 64 | 1,2-Dibromoethane | 0.230 | 0.217 | 0.225 | 0.196 | 0.187 | 0.210 | 0.195 | 0.205 | 0.192 | 0.197 | 0.205 | 7.18 | 19.7091 |
| | 65 | 1-Chlorohexane | 0.775 | 0.688 | 0.648 | 0.698 | 0.671 | 0.797 | 0.716 | 0.733 | 0.659 | 0.594 | 0.698 | 8.66 | 19.8094 |
| | 66 | Chlorobenzene | 1.088 | 1.027 | 0.945 | 0.974 | 0.948 | 1.032 | 0.967 | 0.951 | 0.878 | 0.712 | 0.952 | 10.77 | 20.2353 |
| | 67 | Ethylbenzene | 1.900 | 2.002 | 1.910 | 1.906 | 1.850 | 2.035 | 1.863 | 1.704 | 1.373 | ------ | 1.838 | 10.78 | 20.2680 |
| | 68 | 1,1,1,2-Tetrachloroethane | ------ | 0.378 | 0.343 | 0.340 | 0.312 | 0.365 | 0.345 | 0.356 | 0.338 | 0.335 | 0.346 | 5.47 | 20.2682 |
| 2 | 69 | m-Xylene & p-Xylene | 1.428 | 1.469 | 1.337 | 1.429 | 1.321 | 1.449 | 1.263 | 1.016 | ------ | ------ | 1.339 | 11.13 | 20.3523 |
| | 70 | o-Xylene | 1.459 | 1.459 | 1.284 | 1.359 | 1.344 | 1.554 | 1.327 | 1.255 | 1.125 | ------ | 1.352 | 9.43 | 20.9276 |
| | 71 | Styrene | 0.943 | 0.950 | 0.840 | 0.887 | 0.826 | 1.041 | 0.963 | 0.908 | 0.851 | 0.717 | 0.892 | 10.08 | 20.9753 |
| | 72 | Isopropylbenzene | 1.606 | 1.566 | 1.494 | 1.553 | 1.556 | 1.728 | 1.615 | 1.503 | 1.277 | ------ | 1.544 | 7.88 | 21.3680 |
| | 73 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 23.8711 |
| | 74 | Bromoform | 0.366 | 0.353 | 0.383 | 0.395 | 0.378 | 0.416 | 0.431 | 0.444 | 0.406 | 0.456 | 0.403 | 8.43 | 21.4867 |
| | 75 | 4-Bromofluorobenzene | ------ | 1.760 | 1.539 | 1.617 | 1.518 | 1.634 | 1.653 | 1.446 | ------ | ------ | 1.595 | 6.45 | 21.7293 |
| | 76 | 1,1,2,2-Tetrachloroethane | 0.935 | 0.812 | 0.951 | 0.882 | 0.758 | 0.786 | 0.793 | 0.763 | 0.678 | 0.735 | 0.809 | 10.86 | 21.6002 |
| | 77 | trans-1,4-Dichloro-2-butene | ------ | ------ | 0.455 | 0.370 | 0.335 | 0.358 | 0.320 | 0.322 | 0.285 | 0.339 | 0.348 | 14.42 | 21.4029 |
| | 78 | n-Propylbenzene | 7.055 | 7.012 | 6.508 | 6.942 | 6.993 | 7.350 | 6.949 | 6.008 | 4.721 | ------ | 6.615 | 12.21 | 21.8796 |
| | 79 | 1,2,3-Trichloropropane | ------ | ------ | 0.236 | 0.168 | 0.180 | 0.181 | 0.162 | 0.164 | 0.150 | 0.162 | 0.175 | 15.18 | 21.7831 |
| | 80 | Bromobenzene | 1.344 | 1.169 | 1.131 | 1.072 | 1.062 | 1.159 | 1.156 | 1.151 | 1.064 | 1.105 | 1.141 | 7.22 | 22.0294 |
| | 81 | 1,3,5-Trimethylbenzene | 4.303 | 4.264 | 3.990 | 4.207 | 4.161 | 4.536 | 4.378 | 4.046 | 3.533 | 2.688 | 4.010 | 13.41 | 22.0688 |
| | 82 | 2-Chlorotoluene | ------ | 4.262 | 4.152 | 4.167 | 4.159 | 4.195 | 4.366 | 3.776 | 3.289 | 2.633 | 3.889 | 14.74 | 22.1758 |
| | 83 | 4-Chlorotoluene | 3.679 | 3.474 | 3.937 | 3.642 | 3.578 | 3.742 | 3.664 | 3.277 | 3.062 | 2.403 | 3.446 | 12.80 | 22.2250 |
| | 84 | tert-Butylbenzene | 0.988 | 0.967 | 0.890 | 1.017 | 0.880 | 0.963 | 1.012 | 0.969 | 0.975 | 0.986 | 0.965 | 4.74 | 22.5539 |
| | 85 | 1,2,4-Trimethylbenzene | 3.648 | 3.613 | 3.497 | 3.627 | 3.722 | 3.746 | 4.041 | 3.731 | 3.362 | 2.552 | 3.554 | 11.08 | 22.6049 |
| | 86 | sec-Butylbenzene | 5.711 | 5.376 | 5.320 | 5.550 | 5.280 | 5.834 | 5.838 | 5.199 | 4.464 | ------ | 5.397 | 7.85 | 22.8333 |
| | 87 | p-Isopropyltoluene | 4.111 | 3.487 | 3.352 | 3.685 | 3.865 | 4.179 | 4.337 | 4.216 | 3.648 | 2.819 | 3.770 | 12.49 | 22.9979 |
| | 88 | 1,3-Dichlorobenzene | 2.257 | 2.025 | 1.865 | 1.972 | 1.901 | 2.039 | 2.040 | 2.056 | 1.892 | 1.799 | 1.985 | 6.54 | 23.2298 |
| | 89 | 1,2,3-Trimethylbenzene | 4.090 | 3.574 | 3.601 | 3.620 | 3.465 | 3.671 | 3.648 | 3.578 | 3.151 | 2.646 | 3.504 | 10.80 | 23.2791 |
| | 90 | 1,4-Dichlorobenzene | 2.079 | 1.871 | 1.673 | 1.772 | 1.750 | 1.804 | 2.022 | 1.971 | 1.815 | 1.686 | 1.844 | 7.54 | 23.3729 |
| | 91 | Benzyl Chloride | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 92 | n-Butylbenzene | 4.419 | 3.530 | 3.365 | 3.553 | 3.491 | 3.993 | 4.178 | 3.885 | 3.319 | 2.744 | 3.648 | 13.25 | 23.5587 |
| | 93 | 1,2-Dichlorobenzene | 1.764 | 1.807 | 1.704 | 1.648 | 1.497 | 1.614 | 1.589 | 1.629 | 1.576 | 1.480 | 1.631 | 6.48 | 23.9188 |
| | 94 | 1,2-Dibromo-3-chloropropane | ------ | ------ | 0.101 | 0.078 | 0.076 | 0.080 | 0.083 | 0.089 | 0.076 | 0.089 | 0.084 | 10.32 | 25.0391 |
| | 95 | 1,2,4-Trichlorobenzene | 0.946 | 0.633 | 0.658 | 0.632 | 0.628 | 0.701 | 0.756 | 0.783 | 0.741 | 0.827 | 0.730 | 14.07 | 26.4184 |
| | 96 | Hexachlorobutadiene | 0.630 | 0.549 | 0.268 | 0.532 | 0.516 | 0.586 | 0.625 | 0.592 | 0.580 | 0.616 | 0.549 | 19.30 | 26.5861 |
| | 97 | Naphthalene | ------ | 1.153 | 1.011 | 0.882 | 0.818 | 0.934 | 0.930 | 0.992 | 0.914 | 1.058 | 0.966 | 10.38 | 26.8953 |
| | 98 | 1,2,3-Trichlorobenzene | ------ | 0.471 | 0.549 | 0.509 | 0.492 | 0.527 | 0.552 | 0.572 | 0.524 | 0.615 | 0.535 | 8.15 | 27.2790 |

Spike Amount = Nominal Amount * M

Ave_%RSD : 10.4 Max_%RSD : 42.9

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15

Resp_Ratio = x0 + x1 * Amt_Ratio

| IDX | Parameter | x0 | x1 | CCF |
|---|---|---|---|---|
| 14 | Acetone | 0.01528 | 0.04980 | 0.9980 |
| 79 | 1,2,3-Trichloropropane | 0.00693 | 0.15883 | 0.9989 |
| 96 | Hexachlorobutadiene | -0.00735 | 0.60270 | 0.9988 |

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :F3
Beginning DateTime :06/17/24 16:35
Spike Units :PPB
IC File :RFR007

Column Spec :ZB-624 ID :0.25MM
Ending DateTime :06/17/24 21:31
HPChem Method :VOF3F17

| M | IDX | Parameters | .3 16:35 RFR002 | .5 17:08 RFR003 | 1 17:40 RFR004 | 2 18:13 RFR005 | 5 18:46 RFR006 | 10 19:19 RFR007 | 20 19:52 RFR008 | 30 20:25 RFR009 | 50 20:58 RFR010 | 100 21:31 RFR011 | AvDRec | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 15.5980 |
| | 2 | Chlorotrifluoroethylene | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 3 | Dichlorodifluoromethane | | 127 | 109 | 109 | 100 | 101 | 98 | 88 | 83 | 86 | 10.2 | 13.95 | 3.9734 |
| | 4 | Chloromethane | | 120 | 106 | 110 | 105 | 100 | 99 | 83 | 77 | | 10.2 | 14.03 | 4.4582 |
| | 5 | 2-Chloro-1,1,1-trifluoroethane | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 6 | Vinyl chloride | 121 | 113 | 96 | 97 | 96 | 91 | 86 | | | | 9.7 | 12.47 | 4.6870 |
| | 7 | Bromomethane | | 124 | 117 | 110 | 95 | 91 | 94 | 85 | 85 | | 12.6 | 14.81 | 5.6166 |
| | 8 | Chloroethane | | 131 | 105 | 109 | 102 | 96 | 99 | 85 | 84 | 90 | 10.4 | 14.57 | 5.7616 |
| | 9 | Dichlorofluoromethane | 110 | 112 | 106 | 108 | 102 | 101 | 98 | 93 | 86 | 85 | 7.6 | 9.54 | 5.8230 |
| | 10 | Trichlorofluoromethane | 125 | 113 | 96 | 106 | 95 | 95 | 97 | 88 | 86 | 97 | 8.8 | 11.63 | 6.3111 |
| 5 | 11 | Acrolein | | 108 | 131 | 96 | 96 | 92 | 88 | 92 | 85 | 92 | 10.7 | 14.42 | 7.2465 |
| | 12 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 101 | 98 | 97 | 103 | 94 | 94 | 97 | 102 | 104 | 109 | 3.8 | 4.79 | 7.3133 |
| | 13 | 1,1-Dichloroethene | 113 | 115 | 106 | 105 | 100 | 103 | 98 | 93 | 84 | 84 | 8.2 | 10.61 | 7.7491 |
| 5 | 14 | Acetone | 90 | 78 | 94 | 120 | 108 | 110 | 103 | 107 | 91 | 100 | 30.8 | 42.89 | 7.3888 |
| | 15 | Iodomethane | 108 | 101 | 93 | 97 | 94 | 98 | 99 | 102 | 102 | 105 | 3.8 | 4.79 | 8.5799 |
| | 16 | Methyl acetate | | | 102 | 106 | 99 | 102 | 95 | 96 | | | 3.1 | 3.90 | 8.5649 |
| | 17 | Carbon disulfide | 117 | 114 | 101 | 100 | 96 | 85 | 94 | 92 | | | 8.3 | 11.11 | 9.1244 |
| | 18 | Methylene chloride | | | 120 | 116 | 107 | 101 | 97 | 91 | 83 | 85 | 11.1 | 13.73 | 9.0155 |
| 25 | 19 | tert-Butyl alcohol | 131 | 85 | 85 | 85 | 100 | 100 | 100 | 108 | 100 | 108 | 9.2 | 14.17 | 7.8973 |
| | 20 | tert-Butyl methyl ether (MTBE) | 124 | 102 | 104 | 94 | 98 | 95 | 95 | 100 | 91 | 97 | 6.1 | 9.48 | 9.4464 |
| | 21 | trans-1,2-Dichloroethene | 123 | 115 | 105 | 98 | 96 | 95 | 94 | 93 | 91 | 91 | 8.6 | 10.99 | 9.9056 |
| 5 | 22 | Acrylonitrile | 112 | 102 | 106 | 103 | 98 | 97 | 94 | 97 | 88 | 95 | 5.3 | 6.94 | 9.3780 |
| | 23 | Isopropyl ether (DIPE) | 117 | 109 | 109 | 108 | 104 | 103 | 98 | 92 | 82 | 77 | 10.1 | 12.72 | 10.8622 |
| | 24 | 1,1-Dichloroethane | 111 | 108 | 109 | 106 | 100 | 103 | 98 | 93 | 87 | 84 | 7.6 | 9.51 | 11.2751 |
| | 25 | Vinyl acetate | | | 107 | 105 | 111 | 104 | 104 | 95 | 87 | 87 | 7.7 | 9.17 | 11.2564 |
| | 26 | tert-Butyl ethyl ether (ETBE) | 114 | 109 | 107 | 101 | 100 | 102 | 97 | 97 | 85 | 87 | 6.7 | 8.96 | 12.1431 |
| | 27 | 2,2-Dichloropropane | 126 | 120 | 103 | 102 | 98 | 100 | 93 | 91 | 85 | 82 | 10.3 | 14.08 | 12.8600 |
| | 28 | cis-1,2-Dichloroethene | 123 | 115 | 99 | 102 | 98 | 97 | 92 | 95 | 90 | 90 | 8 | 10.88 | 12.9808 |
| 5 | 29 | 2-Butanone | 122 | 106 | 102 | 108 | 105 | 102 | 91 | 95 | 83 | 87 | 8.9 | 11.29 | 12.4935 |
| 25 | 30 | 2-Butanol | | | 100 | 100 | 100 | 100 | 93 | 100 | | | 1.2 | 3.78 | 11.9368 |
| | 31 | Bromochloromethane | 110 | 92 | 98 | 96 | 99 | 100 | 99 | 101 | 101 | 106 | 3.5 | 4.99 | 13.7398 |
| | 32 | Tetrahydrofuran | | | 110 | 110 | 104 | 108 | 96 | 94 | 85 | 94 | 7.7 | 9.17 | 13.8097 |
| | 33 | Chloroform | 127 | 119 | 105 | 100 | 99 | 97 | 96 | 89 | 87 | 81 | 10.2 | 14.17 | 13.3484 |
| | 34 | Dibromofluoromethane | | 110 | 99 | 99 | 99 | 101 | 96 | 95 | | | 3.3 | 4.96 | 13.8455 |
| | 35 | 1,1,1-Trichloroethane | 113 | 109 | 106 | 103 | 95 | 100 | 98 | 96 | 91 | 89 | 6.1 | 7.67 | 14.2348 |
| | 36 | Cyclohexane | 128 | 113 | 92 | 103 | 92 | 94 | 90 | 88 | | | 11 | 13.97 | 14.2700 |
| | 37 | 1,1-Dichloropropene | 107 | 106 | 96 | 100 | 99 | 99 | 99 | 99 | 95 | 101 | 2.8 | 3.97 | 14.5620 |
| | 38 | Carbon tetrachloride | 95 | 108 | 104 | 99 | 96 | 100 | 102 | 102 | 97 | 97 | 3.2 | 4.10 | 14.7610 |
| 5 | 39 | tert-Amyl alcohol | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 40 | 1,2-Dichloroethane-d4 | | 118 | 103 | 94 | 103 | 99 | 92 | 89 | | | 7 | 9.66 | 14.8767 |
| | 41 | 2,2,4-Trimethylpentane | | | | | | | | | | | 0.000 | 0.00 | 0.0000 |
| | 42 | Benzene | 115 | 115 | 103 | 104 | 101 | 99 | 98 | 87 | 77 | | 8.6 | 12.19 | 15.0990 |
| | 43 | 1,2-Dichloroethane | 114 | 111 | 109 | 107 | 106 | 101 | 98 | 89 | 83 | 82 | 9.6 | 11.62 | 15.0636 |
| | 44 | tert-Amyl methyl ether (TAME) | 121 | 108 | 102 | 92 | 97 | 97 | 98 | 101 | 92 | 92 | 6.4 | 8.92 | 14.7774 |
| | 45 | Trichloroethene | 107 | 107 | 100 | 95 | 97 | 103 | 100 | 99 | 96 | 96 | 3.5 | 4.41 | 16.1949 |
| | 46 | Methylcyclohexane | 123 | 115 | 97 | 103 | 91 | 93 | 90 | 87 | | | 10.1 | 12.80 | 16.2947 |
| | 47 | 1,2-Dichloropropane | 113 | 106 | 108 | 99 | 103 | 101 | 100 | 95 | 85 | 88 | 6.4 | 8.66 | 16.4991 |
| 20 | 48 | 1,4-Dioxane | | | | 91 | 101 | 99 | 92 | 107 | 96 | 114 | 0 | 8.35 | 16.9042 |
| | 49 | Dibromomethane | 103 | 104 | 102 | 94 | 102 | 98 | 103 | 98 | 94 | 99 | 3 | 3.51 | 16.9941 |
| | 50 | Bromodichloromethane | 130 | 119 | 103 | 95 | 100 | 95 | 97 | 92 | 85 | 84 | 10.3 | 14.28 | 16.8938 |
| | 51 | 2-Chloroethyl vinyl ether | | 104 | 79 | 94 | 96 | 98 | 98 | 106 | 102 | 117 | 7.1 | 10.70 | 17.3247 |
| | 52 | cis-1,3-Dichloropropene | 111 | 107 | 98 | 98 | 102 | 103 | 104 | 99 | 90 | 89 | 5.3 | 6.84 | 17.7193 |
| 5 | 53 | 4-Methyl-2-pentanone | | 121 | 108 | 109 | 106 | 102 | 96 | 99 | 82 | 76 | 10.3 | 13.81 | 17.3686 |
| | 54 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 20.1860 |
| | 55 | Toluene-d8 | | 120 | 92 | 101 | 96 | 110 | 95 | 86 | | | 8.7 | 11.42 | 18.0881 |
| | 56 | Toluene | 114 | 118 | 105 | 106 | 95 | 108 | 92 | 87 | 75 | | 11.3 | 13.71 | 18.2125 |
| | 57 | Ethyl methacrylate | 108 | 107 | 93 | 97 | 89 | 101 | 96 | 108 | 99 | 102 | 5.2 | 6.45 | 18.3771 |
| | 58 | trans-1,3-Dichloropropene | 111 | 105 | 100 | 91 | 96 | 110 | 100 | 99 | 98 | 91 | 5.2 | 6.88 | 18.4429 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 59 | 1,1,2-Trichloroethane | 111 | 111 | 103 | 100 | 96 | 98 | 96 | 96 | 93 | 96 | 4.9 | 6.24 | 18.6764 |
| | 60 | Tetrachloroethene | 102 | 116 | 98 | 99 | 91 | 105 | 97 | 99 | 99 | 93 | 4.6 | 6.99 | 19.1352 |
| 5 | 61 | 2-Hexanone | ------ | 124 | 105 | 110 | 99 | 104 | 93 | 97 | 90 | 82 | 9.1 | 12.18 | 18.6403 |
| | 62 | 1,3-Dichloropropane | 124 | 112 | 109 | 102 | 94 | 101 | 93 | 92 | 89 | 85 | 9.6 | 12.20 | 19.0201 |
| | 63 | Dibromochloromethane | 112 | 114 | 98 | 96 | 90 | 102 | 94 | 100 | 98 | 98 | 5.4 | 7.40 | 19.4312 |
| | 64 | 1,2-Dibromoethane | 112 | 106 | 110 | 96 | 91 | 102 | 95 | 100 | 94 | 96 | 5.9 | 7.18 | 19.7091 |
| | 65 | 1-Chlorohexane | 111 | 99 | 93 | 100 | 96 | 114 | 103 | 105 | 94 | 85 | 6.6 | 8.66 | 19.8094 |
| | 66 | Chlorobenzene | 114 | 108 | 99 | 102 | 100 | 108 | 102 | 100 | 92 | 75 | 6.9 | 10.77 | 20.2353 |
| | 67 | Ethylbenzene | 103 | 109 | 104 | 104 | 101 | 111 | 101 | 93 | 75 | ------ | 7.2 | 10.78 | 20.2680 |
| | 68 | 1,1,1,2-Tetrachloroethane | ------ | 109 | 99 | 98 | 90 | 105 | 100 | 103 | 98 | 97 | 4 | 5.47 | 20.2682 |
| 2 | 69 | m-Xylene & p-Xylene | 107 | 110 | 100 | 107 | 99 | 108 | 94 | 76 | ------ | ------ | 7.8 | 11.13 | 20.3523 |
| | 70 | o-Xylene | 108 | 108 | 95 | 101 | 99 | 115 | 98 | 93 | 83 | ------ | 7 | 9.43 | 20.9276 |
| | 71 | Styrene | 106 | 107 | 94 | 99 | 93 | 117 | 108 | 102 | 95 | 80 | 7.7 | 10.08 | 20.9753 |
| | 72 | Isopropylbenzene | 104 | 101 | 97 | 101 | 101 | 112 | 105 | 97 | 83 | ------ | 5.2 | 7.88 | 21.3680 |
| | 73 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 23.8711 |
| | 74 | Bromoform | 91 | 88 | 95 | 98 | 94 | 103 | 107 | 110 | 101 | 113 | 6.9 | 8.43 | 21.4867 |
| | 75 | 4-Bromofluorobenzene | ------ | 110 | 96 | 101 | 95 | 102 | 104 | 91 | ------ | ------ | 5.1 | 6.45 | 21.7293 |
| | 76 | 1,1,2,2-Tetrachloroethane | 116 | 100 | 118 | 109 | 94 | 97 | 98 | 94 | 84 | 91 | 8.5 | 10.86 | 21.6002 |
| | 77 | trans-1,4-Dichloro-2-butene | ------ | ------ | 131 | 106 | 96 | 103 | 92 | 93 | 82 | 97 | 10 | 14.42 | 21.4029 |
| | 78 | n-Propylbenzene | 107 | 106 | 98 | 105 | 106 | 111 | 105 | 91 | 71 | ------ | 8.8 | 12.21 | 21.8796 |
| | 79 | 1,2,3-Trichloropropane | ------ | ------ | 105 | 84 | 105 | 110 | 100 | 102 | 94 | 102 | 10.1 | 15.18 | 21.7831 |
| | 80 | Bromobenzene | 118 | 102 | 99 | 94 | 93 | 102 | 101 | 101 | 93 | 97 | 4.8 | 7.22 | 22.0294 |
| | 81 | 1,3,5-Trimethylbenzene | 107 | 106 | 100 | 105 | 104 | 113 | 109 | 101 | 88 | 67 | 9.1 | 13.41 | 22.0688 |
| | 82 | 2-Chlorotoluene | ------ | 110 | 107 | 107 | 107 | 108 | 112 | 97 | 85 | 68 | 11.2 | 14.74 | 22.1758 |
| | 83 | 4-Chlorotoluene | 107 | 101 | 114 | 106 | 104 | 109 | 106 | 95 | 89 | 70 | 9.3 | 12.80 | 22.2250 |
| | 84 | tert-Butylbenzene | 102 | 100 | 92 | 105 | 91 | 100 | 105 | 100 | 101 | 102 | 3.3 | 4.74 | 22.5539 |
| | 85 | 1,2,4-Trimethylbenzene | 103 | 102 | 98 | 102 | 105 | 105 | 114 | 105 | 95 | 72 | 7 | 11.08 | 22.6049 |
| | 86 | sec-Butylbenzene | 106 | 100 | 99 | 103 | 98 | 108 | 108 | 96 | 83 | ------ | 5.5 | 7.85 | 22.8333 |
| | 87 | p-Isopropyltoluene | 109 | 92 | 89 | 98 | 103 | 111 | 115 | 112 | 97 | 75 | 9.9 | 12.49 | 22.9979 |
| | 88 | 1,3-Dichlorobenzene | 114 | 102 | 94 | 99 | 96 | 103 | 103 | 104 | 95 | 91 | 5 | 6.54 | 23.2298 |
| | 89 | 1,2,3-Trimethylbenzene | 117 | 102 | 103 | 103 | 99 | 105 | 104 | 102 | 90 | 76 | 7.1 | 10.80 | 23.2791 |
| | 90 | 1,4-Dichlorobenzene | 113 | 101 | 91 | 96 | 95 | 98 | 110 | 107 | 98 | 91 | 6.1 | 7.54 | 23.3729 |
| | 91 | Benzyl Chloride | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 92 | n-Butylbenzene | 121 | 97 | 92 | 97 | 96 | 109 | 115 | 106 | 91 | 75 | 10.3 | 13.25 | 23.5587 |
| | 93 | 1,2-Dichlorobenzene | 108 | 111 | 104 | 101 | 92 | 99 | 97 | 100 | 97 | 91 | 4.9 | 6.48 | 23.9188 |
| | 94 | 1,2-Dibromo-3-chloropropane | ------ | ------ | 120 | 93 | 90 | 95 | 99 | 106 | 90 | 106 | 8 | 10.32 | 25.0391 |
| | 95 | 1,2,4-Trichlorobenzene | 130 | 87 | 90 | 87 | 86 | 96 | 104 | 107 | 102 | 113 | 11 | 14.07 | 26.4184 |
| | 96 | Hexachlorobutadiene | 147 | 116 | 57 | 95 | 88 | 98 | 104 | 99 | 97 | 102 | 12.1 | 19.30 | 26.5861 |
| | 97 | Naphthalene | ------ | 119 | 105 | 91 | 85 | 97 | 96 | 103 | 95 | 110 | 8.1 | 10.38 | 26.8953 |
| | 98 | 1,2,3-Trichlorobenzene | ------ | 88 | 103 | 95 | 92 | 99 | 103 | 107 | 98 | 115 | 6.2 | 8.15 | 27.2790 |

Compound List Report F3

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
Total Cpnds : 98

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 114 | 15.60 | 1.000 | A | 1 | A | B |
| 2 | T | Chlorotrifluoroethylene | 116 | 4.06 | 0.260 | A | 1 | A | B |
| 3 | T | Dichlorodifluoromethane | 85 | 3.96 | 0.254 | A | 1 | A | B |
| 4 | T | Chloromethane | 50 | 4.46 | 0.286 | A | 1 | A | B |
| 5 | T | 2-Chloro-1,1,1-trifluoroethane | 118 | 4.65 | 0.298 | A | 2 | A | B |
| 6 | T | Vinyl chloride | 62 | 4.69 | 0.301 | A | 1 | A | B |
| 7 | T | Bromomethane | 94 | 5.62 | 0.360 | A | 1 | A | B |
| 8 | T | Chloroethane | 64 | 5.77 | 0.370 | A | 1 | A | B |
| 9 | T | Dichlorofluoromethane | 67 | 5.83 | 0.373 | A | 1 | A | B |
| 10 | T | Trichlorofluoromethane | 101 | 6.32 | 0.405 | A | 1 | A | B |
| 11 | T | Acrolein | 56 | 7.25 | 0.465 | A | 1 | A | B |
| 12 | T | 1,1,2-Trichloro-1,2,2-trifluor | 151 | 7.31 | 0.468 | A | 1 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 7.74 | 0.496 | A | 2 | A | B |
| 14 | T | Acetone | 43 | 7.39 | 0.474 | A | 1 | A | B |
| 15 | T | Iodomethane | 142 | 8.58 | 0.550 | A | 1 | A | B |
| 16 | T | Methyl acetate | 43 | 8.55 | 0.548 | A | 1 | A | B |
| 17 | T | Carbon disulfide | 76 | 9.11 | 0.584 | A | 1 | A | B |
| 18 | T | Methylene chloride | 49 | 9.02 | 0.578 | A | 2 | A | B |
| 19 | T | tert-Butyl alcohol | 59 | 7.89 | 0.506 | A | 1 | A | B |
| 20 | T | tert-Butyl methyl ether (MTBE) | 73 | 9.44 | 0.605 | A | 1 | A | B |
| 21 | T | trans-1,2-Dichloroethene | 96 | 9.90 | 0.635 | A | 1 | A | B |
| 22 | T | Acrylonitrile | 53 | 9.38 | 0.601 | A | 2 | A | B |
| 23 | T | Isopropyl ether (DIPE) | 45 | 10.87 | 0.697 | A | 1 | A | B |
| 24 | T | 1,1-Dichloroethane | 63 | 11.27 | 0.722 | A | 2 | A | B |
| 25 | T | Vinyl acetate | 43 | 11.25 | 0.721 | A | 1 | A | B |
| 26 | T | tert-Butyl ethyl ether (ETBE) | 59 | 12.13 | 0.778 | A | 1 | A | B |
| 27 | T | 2,2-Dichloropropane | 77 | 12.86 | 0.824 | A | 2 | A | B |
| 28 | T | cis-1,2-Dichloroethene | 96 | 12.98 | 0.832 | A | 1 | A | B |
| 29 | T | 2-Butanone | 43 | 12.50 | 0.801 | A | 1 | A | B |
| 30 | T | 2-Butanol | 45 | 11.93 | 0.765 | A | 1 | A | B |
| 31 | T | Bromochloromethane | 130 | 13.74 | 0.881 | A | 1 | A | B |
| 32 | T | Tetrahydrofuran | 42 | 13.81 | 0.885 | A | 2 | A | B |
| 33 | T | Chloroform | 83 | 13.35 | 0.856 | A | 2 | A | B |
| 34 | S | Dibromofluoromethane | 111 | 13.85 | 0.888 | A | 1 | A | B |
| 35 | T | 1,1,1-Trichloroethane | 97 | 14.23 | 0.912 | A | 2 | A | B |
| 36 | T | Cyclohexane | 84 | 14.27 | 0.915 | A | 1 | A | B |
| 37 | T | 1,1-Dichloropropene | 110 | 14.56 | 0.934 | A | 1 | A | B |
| 38 | T | Carbon tetrachloride | 117 | 14.76 | 0.946 | A | 1 | A | B |
| 39 | T | tert-Amyl alcohol | 59 | 14.55 | 0.932 | A | 1 | A | B |
| 40 | S | 1,2-Dichloroethane-d4 | 65 | 14.87 | 0.954 | A | 1 | A | B |
| 41 | T | 2,2,4-Trimethylpentane | 57 | 14.25 | 0.914 | A | 1 | A | B |
| 42 | T | Benzene | 78 | 15.09 | 0.967 | A | 2 | A | B |
| 43 | T | 1,2-Dichloroethane | 62 | 15.06 | 0.965 | A | 1 | A | B |
| 44 | T | tert-Amyl methyl ether (TAME) | 73 | 14.78 | 0.947 | A | 1 | A | B |
| 45 | T | Trichloroethene | 130 | 16.19 | 1.038 | A | 3 | A | B |
| 46 | T | Methylcyclohexane | 83 | 16.31 | 1.045 | A | 2 | A | B |
| 47 | T | 1,2-Dichloropropane | 63 | 16.50 | 1.058 | A | 1 | A | B |
| 48 | T | 1,4-Dioxane | 88 | 16.90 | 1.083 | A | 1 | A | B |
| 49 | T | Dibromomethane | 93 | 17.00 | 1.090 | A | 2 | A | B |
| 50 | T | Bromodichloromethane | 83 | 16.90 | 1.083 | A | 1 | A | B |
| 51 | T | 2-Chloroethyl vinyl ether | 63 | 17.32 | 1.111 | A | 1 | A | B |
| 52 | T | cis-1,3-Dichloropropene | 75 | 17.72 | 1.136 | A | 2 | A | B |
| 53 | T | 4-Methyl-2-pentanone | 43 | 17.37 | 1.114 | A | 3 | A | B |
| 54 | I | CHLOROBENZENE-D5 | 117 | 20.19 | 1.000 | A | 2 | A | B |
| 55 | S | Toluene-d8 | 98 | 18.08 | 0.896 | A | 1 | A | B |
| 56 | T | Toluene | 91 | 18.21 | 0.902 | A | 1 | A | B |
| 57 | T | Ethyl methacrylate | 69 | 18.38 | 0.910 | A | 1 | A | B |
| 58 | T | trans-1,3-Dichloropropene | 75 | 18.44 | 0.914 | A | 1 | A | B |
| 59 | T | 1,1,2-Trichloroethane | 97 | 18.67 | 0.925 | A | 2 | A | B |
| 60 | T | Tetrachloroethene | 164 | 19.13 | 0.948 | A | 3 | A | B |
| 61 | T | 2-Hexanone | 43 | 18.64 | 0.923 | A | 1 | A | B |
| 62 | T | 1,3-Dichloropropane | 76 | 19.02 | 0.942 | A | 1 | A | B |
| 63 | T | Dibromochloromethane | 129 | 19.43 | 0.963 | A | 1 | A | B |
| 64 | T | 1,2-Dibromoethane | 107 | 19.71 | 0.976 | A | 1 | A | B |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 65 | | T | 1-Chlorohexane | 91 | 19.81 | 0.981 | A | 1 | A | B |
| 66 | P,M | | Chlorobenzene | 112 | 20.24 | 1.002 | A | 1 | A | B |
| 67 | | T | Ethylbenzene | 91 | 20.27 | 1.004 | A | 1 | A | B |
| 68 | | T | 1,1,1,2-Tetrachloroethane | 131 | 20.27 | 1.004 | A | 1 | A | B |
| 69 | | T | m-Xylene & p-Xylene | 91 | 20.35 | 1.008 | A | 1 | A | B |
| 70 | | T | o-Xylene | 91 | 20.93 | 1.037 | A | 1 | A | B |
| 71 | | T | Styrene | 104 | 20.98 | 1.039 | A | 2 | A | B |
| 72 | | T | Isopropylbenzene | 105 | 21.37 | 1.059 | A | 3 | A | B |
| 73 | 1 | | 1,2-DICHLOROBENZENE-D4 | 152 | 23.87 | 1.000 | A | 1 | A | B |
| 74 | | T | Bromoform | 173 | 21.48 | 0.900 | A | 2 | A | B |
| 75 | S | | 4-Bromofluorobenzene | 95 | 21.73 | 0.910 | A | 2 | A | B |
| 76 | | T | 1,1,2,2-Tetrachloroethane | 83 | 21.60 | 0.905 | A | 1 | A | B |
| 77 | | T | trans-1,4-Dichloro-2-butene | 53 | 21.40 | 0.897 | A | 1 | A | B |
| 78 | | T | n-Propylbenzene | 91 | 21.88 | 0.917 | A | 2 | A | B |
| 79 | | T | 1,2,3-Trichloropropane | 110 | 21.78 | 0.912 | L | 1 | A | B |
| 80 | | T | Bromobenzene | 156 | 22.03 | 0.923 | A | 1 | A | B |
| 81 | | T | 1,3,5-Trimethylbenzene | 105 | 22.06 | 0.924 | A | 2 | A | B |
| 82 | | T | 2-Chlorotoluene | 91 | 22.18 | 0.929 | A | 1 | A | B |
| 83 | | T | 4-Chlorotoluene | 91 | 22.22 | 0.931 | A | 1 | A | B |
| 84 | | T | tert-Butylbenzene | 134 | 22.55 | 0.945 | A | 1 | A | B |
| 85 | | T | 1,2,4-Trimethylbenzene | 105 | 22.60 | 0.947 | A | 1 | A | B |
| 86 | | T | sec-Butylbenzene | 105 | 22.83 | 0.957 | A | 1 | A | B |
| 87 | | T | p-Isopropyltoluene | 119 | 23.00 | 0.963 | A | 2 | A | B |
| 88 | | T | 1,3-Dichlorobenzene | 146 | 23.23 | 0.973 | A | 2 | A | B |
| 89 | | T | 1,2,3-Trimethylbenzene | 105 | 23.28 | 0.975 | A | 2 | A | B |
| 90 | | T | 1,4-Dichlorobenzene | 146 | 23.38 | 0.979 | A | 2 | A | B |
| 91 | | T | Benzyl Chloride | 91 | 20.93 | 0.877 | A | 3 | A | B |
| 92 | | T | n-Butylbenzene | 91 | 23.56 | 0.987 | A | 2 | A | B |
| 93 | | T | 1,2-Dichlorobenzene | 146 | 23.92 | 1.002 | A | 1 | A | B |
| 94 | | T | 1,2-Dibromo-3-chloropropane | 157 | 25.04 | 1.049 | A | 1 | A | B |
| 95 | | T | 1,2,4-Trichlorobenzene | 180 | 26.42 | 1.107 | A | 2 | A | B |
| 96 | | T | Hexachlorobutadiene | 225 | 26.58 | 1.114 | L | 2 | A | B |
| 97 | | T | Naphthalene | 128 | 26.90 | 1.127 | A | 1 | A | B |
| 98 | | T | 1,2,3-Trichlorobenzene | 180 | 27.27 | 1.143 | A | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

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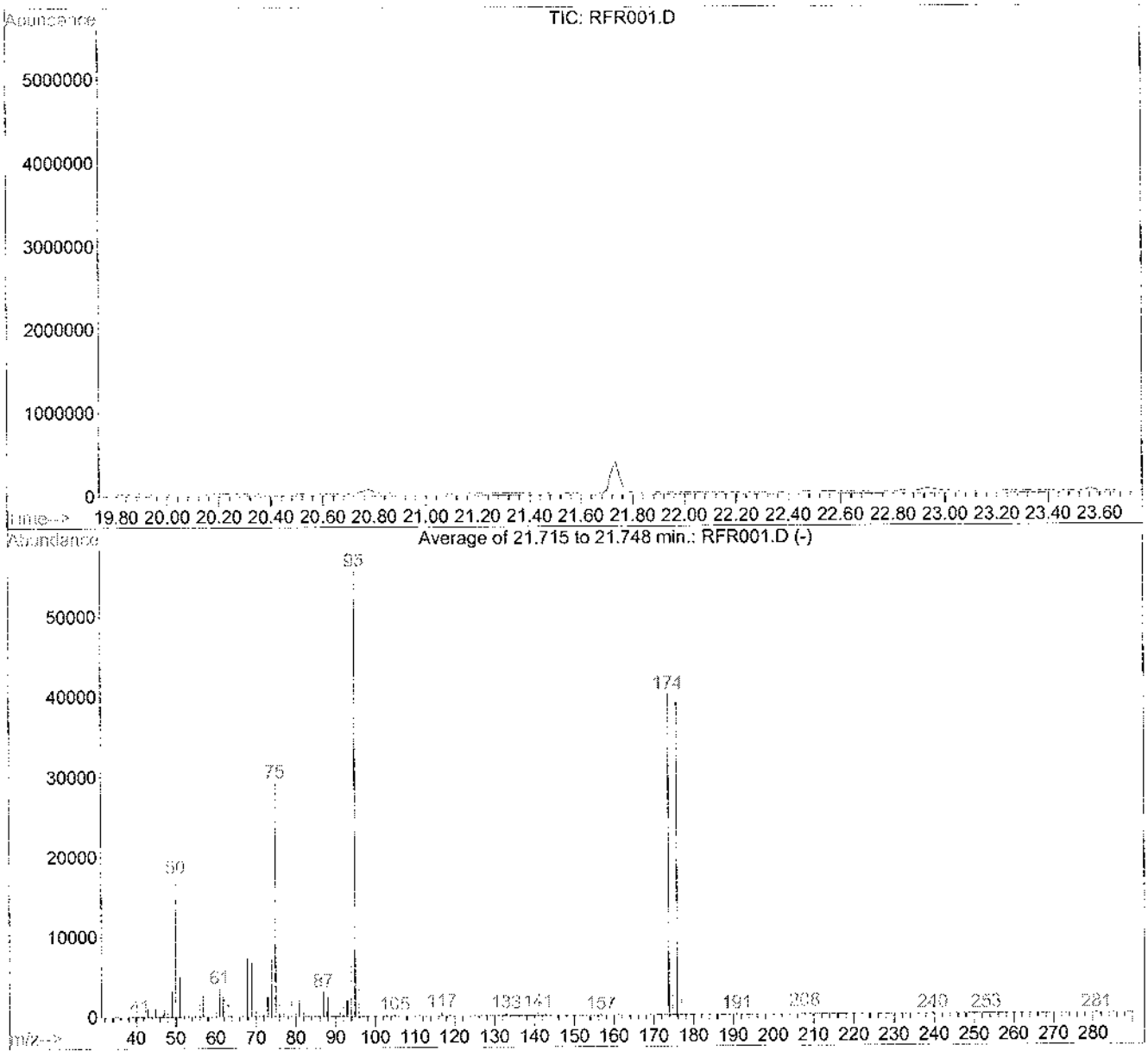
VOF3F17.M Wed Jun 19 15:45:28 2024

7/1/24

Data File : C:\HPCHEM\1\DATA\24F17\RFR001.D
Acq On : 17 Jun 2024 3:54 pm
Sample : BFBF3F01
Misc : T/CHK
MS Integration Params: RTE.P
Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL

Vial: 1
Operator: LPriet
Inst : F3
Multiplr: 1.00




AutoFind: Scans 908, 909, 910; Background Corrected with Scan 904

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 31.3 | 17411 | PASS |
| 75 | 95 | 30 | 60 | 52.6 | 29261 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 55669 | PASS |
| 96 | 95 | 5 | 9 | 6.3 | 3492 | PASS |
| 173 | 174 | 0.00 | 2 | 0.5 | 195 | PASS |
| 174 | 95 | 50 | 100 | 72.1 | 40117 | PASS |
| 175 | 174 | 5 | 9 | 6.2 | 2480 | PASS |
| 176 | 174 | 95 | 101 | 97.3 | 39048 | PASS |
| 177 | 176 | 5 | 9 | 5.9 | 2306 | PASS |

RFR001.D VOF3F17.M Wed Jun 19 15:45:56 2024

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR002.D Vial: 2
Acq On : 17 Jun 2024 4:35 pm Operator: LPriet
Sample : VOF3F171 0.03/0.15 Inst : F3
Misc : 0.3ppb 8260/1.5ppb KET-AA/7.5ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:49 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.60 | 114 | 3105061 | 10.00 | ug/l | 0.00 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 2149135 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.89 | 152 | 578334 | 10.00 | ug/l | 0.02 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 0.00 | 111 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 40) 1,2-Dichloroethane-d4 | 0.00 | 65 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 55) Toluene-d8 | 0.00 | 98 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 75) 4-Bromofluorobenzene | 0.00 | 95 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| **Target Compounds** | | | | | | Qvalue |
| 6) Vinyl chloride | 4.69 | 62 | 76176 | 0.36 | ug/l | 92 |
| 9) Dichlorofluoromethane | 5.82 | 67 | 85442 | 0.33 | ug/l | 95 |
| 10) Trichlorofluoromethane | 6.32 | 101 | 64862 | 0.37 | ug/l | 99 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.33 | 151 | 22399 | 0.30 | ug/l | 94 |
| 13) 1,1-Dichloroethene | 7.74 | 61 | 90452 | 0.34 | ug/l | 85 |
| 14) Acetone | 7.39 | 43 | 68279 | 1.35 | ug/l | 87 |
| 15) Iodomethane | 8.58 | 142 | 50595 | 0.33 | ug/l | 97 |
| 17) Carbon disulfide | 9.11 | 76 | 145678 | 0.35 | ug/l | 98 |
| 19) tert-Butyl alcohol | 7.92 | 59 | 39211 | 9.80 | ug/l | 94 |
| 20) tert-Butyl methyl ether (M | 9.46 | 73 | 71677 | 0.37 | ug/l | 96 |
| 21) trans-1,2-Dichloroethene | 9.92 | 96 | 48939 | 0.37 | ug/l | 82 |
| 22) Acrylonitrile | 9.38 | 53 | 34643 | 1.70 | ug/l | 94 |
| 23) Isopropyl ether (DIPE) | 10.89 | 45 | 192495 | 0.35 | ug/l | 98 |
| 24) 1,1-Dichloroethane | 11.29 | 63 | 89246 | 0.33 | ug/l | 98 |
| 26) tert-Butyl ethyl ether (ET | 12.15 | 59 | 111220 | 0.34 | ug/l | 98 |
| 27) 2,2-Dichloropropane | 12.86 | 77 | 39759 | 0.38 | ug/l | 86 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 40755 | 0.37 | ug/l | 87 |
| 29) 2-Butanone | 12.52 | 43 | 49492 | 1.83 | ug/l | 93 |
| 31) Bromochloromethane | 13.74 | 130 | 15976 | 0.33 | ug/l | 94 |
| 33) Chloroform | 13.36 | 83 | 83499 | 0.38 | ug/l | 97 |
| 35) 1,1,1-Trichloroethane | 14.25 | 97 | 51514 | 0.34 | ug/l | 93 |
| 36) Cyclohexane | 14.28 | 84 | 71339 | 0.38 | ug/l | 98 |
| 37) 1,1-Dichloropropene | 14.56 | 110 | 17501 | 0.32 | ug/l | 98 |
| 38) Carbon tetrachloride | 14.78 | 117 | 35005 | 0.28 | ug/l | 89 |
| 42) Benzene | 15.10 | 78 | 164859 | 0.35 | ug/l | 98 |
| 43) 1,2-Dichloroethane | 15.07 | 62 | 39927 | 0.34 | ug/l | 97 |
| 44) tert-Amyl methyl ether (TA | 14.79 | 73 | 72017 | 0.36 | ug/l | 98 |
| 45) Trichloroethene | 16.21 | 130 | 34664 | 0.32 | ug/l | 98 |
| 46) Methylcyclohexane | 16.30 | 83 | 76605 | 0.37 | ug/l | 99 |
| 47) 1,2-Dichloropropane | 16.50 | 63 | 40334 | 0.34 | ug/l | 97 |
| 49) Dibromomethane | 17.00 | 93 | 12236 | 0.31 | ug/l | 99 |
| 50) Bromodichloromethane | 16.90 | 83 | 52801 | 0.39 | ug/l | 82 |
| 52) cis-1,3-Dichloropropene | 17.72 | 75 | 47962 | 0.33 | ug/l | 88 |
| 56) Toluene | 18.21 | 91 | 135372 | 0.34 | ug/l | 99 |
| 57) Ethyl methacrylate | 18.38 | 69 | 19910 | 0.32 | ug/l | 86 |
| 58) trans-1,3-Dichloropropene | 18.44 | 75 | 32356 | 0.33 | ug/l | 96 |
| 59) 1,1,2-Trichloroethane | 18.69 | 97 | 16150 | 0.33 | ug/l | 97 |
| 60) Tetrachloroethene | 19.15 | 164 | 25799 | 0.31 | ug/l | 85 |
| 62) 1,3-Dichloropropane | 19.03 | 76 | 35177 | 0.37 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR002.D Vial: 2
Acq On : 17 Jun 2024 4:35 pm Operator: LPriet
Sample : VOF3F171 0.03/0.15 Inst : F3
Misc : 0.3ppb 8260/1.5ppb KET-AA/7.5ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:49 2024 Quant Results File: VOF3F17.RES

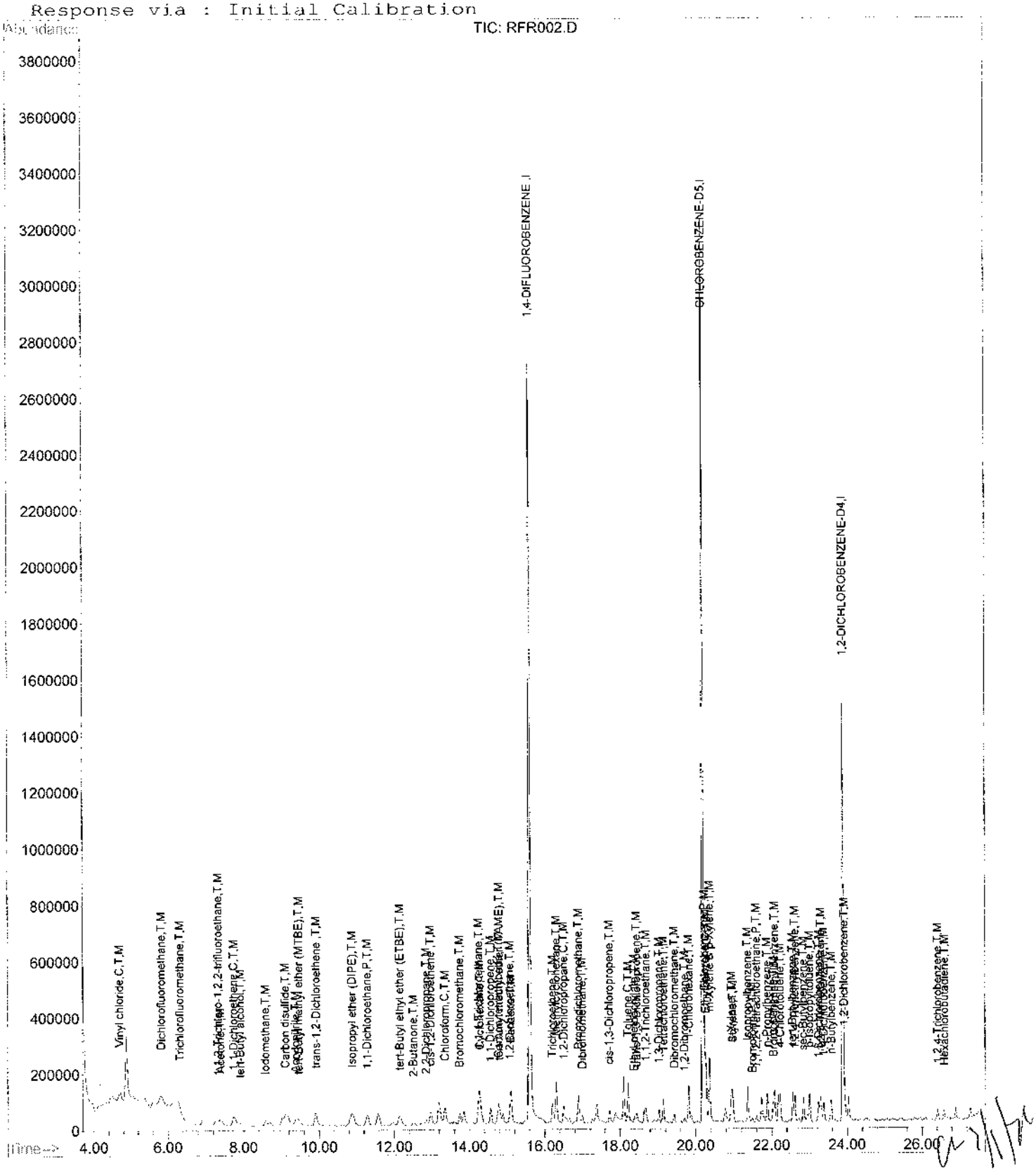
Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 63) | Dibromochloromethane | 19.45 | 129 | 20892 | 0.33 | ug/l | 83 |
| 64) | 1,2-Dibromoethane | 19.71 | 107 | 14820 | 0.34 | ug/l | 91 |
| 65) | 1-Chlorohexane | 19.82 | 91 | 49976 | 0.33 | ug/l | 99 |
| 66) | Chlorobenzene | 20.23 | 112 | 70169 | 0.34 | ug/l | 97 |
| 67) | Ethylbenzene | 20.27 | 91 | 122505 | 0.31 | ug/l | 99 |
| 69) | m-Xylene & p-Xylene | 20.37 | 91 | 184148 | 0.64 | ug/l | 99 |
| 70) | o-Xylene | 20.94 | 91 | 94097 | 0.32 | ug/l | 97 |
| 71) | Styrene | 20.97 | 104 | 60829 | 0.32 | ug/l | 84 |
| 72) | Isopropylbenzene | 21.37 | 105 | 103538 | 0.31 | ug/l | 98 |
| 74) | Bromoform | 21.50 | 173 | 6358 | 0.27 | ug/l | 97 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.60 | 83 | 16221 | 0.35 | ug/l | 84 |
| 78) | n-Propylbenzene | 21.88 | 91 | 122409 | 0.32 | ug/l | 99 |
| 80) | Bromobenzene | 22.04 | 156 | 23321 | 0.35 | ug/l | 96 |
| 81) | 1,3,5-Trimethylbenzene | 22.08 | 105 | 74649 | 0.32 | ug/l | 99 |
| 83) | 4-Chlorotoluene | 22.22 | 91 | 63839 | 0.32 | ug/l | 89 |
| 84) | tert-Butylbenzene | 22.55 | 134 | 17143 | 0.31 | ug/l | 84 |
| 85) | 1,2,4-Trimethylbenzene | 22.62 | 105 | 63301 | 0.31 | ug/l | 93 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 99082 | 0.32 | ug/l | 100 |
| 87) | p-Isopropyltoluene | 23.00 | 119 | 71324 | 0.33 | ug/l | 96 |
| 88) | 1,3-Dichlorobenzene | 23.24 | 146 | 39162 | 0.34 | ug/l | 97 |
| 89) | 1,2,3-Trimethylbenzene | 23.29 | 105 | 70963 | 0.35 | ug/l | 99 |
| 90) | 1,4-Dichlorobenzene | 23.38 | 146 | 36065 | 0.34 | ug/l | 92 |
| 92) | n-Butylbenzene | 23.57 | 91 | 76671 | 0.36 | ug/l | 86 |
| 93) | 1,2-Dichlorobenzene | 23.92 | 146 | 30614 | 0.32 | ug/l | 80 |
| 95) | 1,2,4-Trichlorobenzene | 26.42 | 180 | 16409 | 0.39 | ug/l | 89 |
| 96) | Hexachlorobutadiene | 26.60 | 225 | 10933 | 0.44 | ug/l | 85 |

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\24F17\RFR002.D Vial: 2
Acq On : 17 Jun 2024 4:35 pm Operator: LPriet
Sample : VOF3F171 0.03/0.15 Inst : F3
Misc : 0.3ppb 8260/1.5ppb KET-AA/7.5ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:49 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR003.D Vial: 3
Acq On : 17 Jun 2024 5:08 pm Operator: LPriet
Sample : VOF3F172 0.05/0.25 Inst : F3
Misc : 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:51 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.60 | 114 | 3050333 | 10.00 | ug/l | 0.00 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 1956754 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 541610 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.84 | 111 | 52358 | 0.55 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 5.50% | | |
| 40) 1,2-Dichloroethane-d4 | 14.89 | 65 | 53778 | 0.59 | ug/l | 0.02 |
| Spiked Amount 10.000 | | | Recovery = | 5.90% | | |
| 55) Toluene-d8 | 18.08 | 98 | 174100 | 0.60 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 6.00% | | |
| 75) 4-Bromofluorobenzene | 21.73 | 95 | 47654 | 0.55 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 5.50% | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.99 | 85 | 92168 | 0.64 | ug/l | 91 |
| 4) Chloromethane | 4.45 | 50 | 136584 | 0.60 | ug/l | 82 |
| 6) Vinyl chloride | 4.69 | 62 | 115870 | 0.56 | ug/l | 95 |
| 7) Bromomethane | 5.61 | 94 | 61141 | 0.62 | ug/l | 99 |
| 8) Chloroethane | 5.76 | 64 | 66703 | 0.66 | ug/l | 96 |
| 9) Dichlorofluoromethane | 5.82 | 67 | 142318 | 0.56 | ug/l | 91 |
| 10) Trichlorofluoromethane | 6.31 | 101 | 96075 | 0.56 | ug/l | 94 |
| 11) Acrolein | 7.24 | 56 | 21207 | 2.71 | ug/l | 99 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.30 | 151 | 35552 | 0.49 | ug/l | 92 |
| 13) 1,1-Dichloroethene | 7.74 | 61 | 150512 | 0.57 | ug/l | 95 |
| 14) Acetone | 7.39 | 43 | 76157 | 1.95 | ug/l | 94 |
| 15) Iodomethane | 8.58 | 142 | 77511 | 0.51 | ug/l | 94 |
| 17) Carbon disulfide | 9.13 | 76 | 232413 | 0.57 | ug/l | 97 |
| 19) tert-Butyl alcohol | 7.91 | 59 | 40722 | 10.36 | ug/l | 86 |
| 20) tert-Butyl methyl ether (M | 9.48 | 73 | 95839 | 0.51 | ug/l | 99 |
| 21) trans-1,2-Dichloroethene | 9.92 | 96 | 75403 | 0.58 | ug/l | 86 |
| 22) Acrylonitrile | 9.40 | 53 | 51226 | 2.56 | ug/l | 93 |
| 23) Isopropyl ether (DIPE) | 10.89 | 45 | 292850 | 0.55 | ug/l | 97 |
| 24) 1,1-Dichloroethane | 11.29 | 63 | 142337 | 0.54 | ug/l | 99 |
| 26) tert-Butyl ethyl ether (ET | 12.16 | 59 | 174081 | 0.55 | ug/l | 93 |
| 27) 2,2-Dichloropropane | 12.86 | 77 | 62092 | 0.60 | ug/l | 96 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 62195 | 0.57 | ug/l | 95 |
| 29) 2-Butanone | 12.52 | 43 | 70176 | 2.64 | ug/l | 93 |
| 31) Bromochloromethane | 13.74 | 130 | 21867 | 0.46 | ug/l | 85 |
| 33) Chloroform | 13.35 | 83 | 128913 | 0.60 | ug/l | 96 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 80779 | 0.54 | ug/l | 94 |
| 36) Cyclohexane | 14.27 | 84 | 103614 | 0.57 | ug/l | 91 |
| 37) 1,1-Dichloropropene | 14.56 | 110 | 28322 | 0.53 | ug/l | 97 |
| 38) Carbon tetrachloride | 14.76 | 117 | 65410 | 0.54 | ug/l | 93 |
| 42) Benzene | 15.11 | 78 | 269662 | 0.58 | ug/l | 99 |
| 43) 1,2-Dichloroethane | 15.07 | 62 | 63910 | 0.56 | ug/l | 89 |
| 44) tert-Amyl methyl ether (TA | 14.78 | 73 | 105545 | 0.54 | ug/l | 93 |
| 45) Trichloroethene | 16.21 | 130 | 56878 | 0.54 | ug/l | 96 |
| 46) Methylcyclohexane | 16.29 | 83 | 116843 | 0.57 | ug/l | 91 |
| 47) 1,2-Dichloropropane | 16.50 | 63 | 61563 | 0.53 | ug/l | 100 |
| 49) Dibromomethane | 16.98 | 93 | 20061 | 0.52 | ug/l | 76 |
| 50) Bromodichloromethane | 16.90 | 83 | 78825 | 0.59 | ug/l | 87 |
| 51) 2-Chloroethyl vinyl ether | 17.33 | 63 | 8293 | 0.53 | ug/l | 97 |
| 52) cis-1,3-Dichloropropene | 17.72 | 75 | 76079 | 0.54 | ug/l | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR003.D Vial: 3
Acq On : 17 Jun 2024 5:08 pm Operator: LPriet
Sample : VOF3F172 0.05/0.25 Inst : F3
Misc : 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:51 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | 4-Methyl-2-pentanone | 17.37 | 43 | 166894 | 3.02 | ug/l | 96 |
| 56) | Toluene | 18.21 | 91 | 211260 | 0.59 | ug/l | 100 |
| 57) | Ethyl methacrylate | 18.38 | 69 | 29855 | 0.53 | ug/l | 74 |
| 58) | trans-1,3-Dichloropropene | 18.44 | 75 | 46231 | 0.52 | ug/l | 96 |
| 59) | 1,1,2-Trichloroethane | 18.67 | 97 | 24553 | 0.55 | ug/l | 97 |
| 60) | Tetrachloroethene | 19.13 | 164 | 44744 | 0.58 | ug/l | 97 |
| 61) | 2-Hexanone | 18.64 | 43 | 89201 | 3.09 | ug/l | 98 |
| 62) | 1,3-Dichloropropane | 19.02 | 76 | 48173 | 0.56 | ug/l | 97 |
| 63) | Dibromochloromethane | 19.43 | 129 | 32255 | 0.57 | ug/l | 100 |
| 64) | 1,2-Dibromoethane | 19.71 | 107 | 21223 | 0.53 | ug/l | 94 |
| 65) | 1-Chlorohexane | 19.81 | 91 | 67310 | 0.49 | ug/l | 99 |
| 66) | Chlorobenzene | 20.24 | 112 | 100495 | 0.54 | ug/l | 94 |
| 67) | Ethylbenzene | 20.27 | 91 | 195909 | 0.54 | ug/l | 97 |
| 68) | 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 36964 | 0.55 | ug/l | 79 |
| 69) | m-Xylene & p-Xylene | 20.35 | 91 | 287507 | 1.10 | ug/l | 100 |
| 70) | o-Xylene | 20.93 | 91 | 142701 | 0.54 | ug/l | 100 |
| 71) | Styrene | 20.98 | 104 | 92919 | 0.53 | ug/l | 90 |
| 72) | Isopropylbenzene | 21.37 | 105 | 153188 | 0.51 | ug/l | 98 |
| 74) | Bromoform | 21.49 | 173 | 9557 | 0.44 | ug/l | 95 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.60 | 83 | 21998 | 0.50 | ug/l | 94 |
| 78) | n-Propylbenzene | 21.88 | 91 | 189887 | 0.53 | ug/l | 99 |
| 80) | Bromobenzene | 22.03 | 156 | 31650 | 0.51 | ug/l | 94 |
| 81) | 1,3,5-Trimethylbenzene | 22.08 | 105 | 115460 | 0.53 | ug/l | 96 |
| 82) | 2-Chlorotoluene | 22.18 | 91 | 115411 | 0.55 | ug/l | 94 |
| 83) | 4-Chlorotoluene | 22.23 | 91 | 94083 | 0.50 | ug/l | 100 |
| 84) | tert-Butylbenzene | 22.55 | 134 | 26194 | 0.50 | ug/l | 100 |
| 85) | 1,2,4-Trimethylbenzene | 22.60 | 105 | 97841 | 0.51 | ug/l | 99 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 145585 | 0.50 | ug/l | 99 |
| 87) | p-Isopropyltoluene | 23.00 | 119 | 94417 | 0.46 | ug/l | 96 |
| 88) | 1,3-Dichlorobenzene | 23.23 | 146 | 54848 | 0.51 | ug/l | 98 |
| 89) | 1,2,3-Trimethylbenzene | 23.28 | 105 | 96776 | 0.51 | ug/l | 99 |
| 90) | 1,4-Dichlorobenzene | 23.38 | 146 | 50678 | 0.51 | ug/l | 95 |
| 92) | n-Butylbenzene | 23.56 | 91 | 95593 | 0.48 | ug/l | 92 |
| 93) | 1,2-Dichlorobenzene | 23.92 | 146 | 48943 | 0.55 | ug/l | 91 |
| 95) | 1,2,4-Trichlorobenzene | 26.42 | 180 | 17131 | 0.43 | ug/l | 99 |
| 96) | Hexachlorobutadiene | 26.58 | 225 | 14855 | 0.58 | ug/l | 84 |
| 97) | Naphthalene | 26.90 | 128 | 31237 | 0.60 | ug/l | 94 |
| 98) | 1,2,3-Trichlorobenzene | 27.29 | 180 | 12745 | 0.44 | ug/l | 95 |

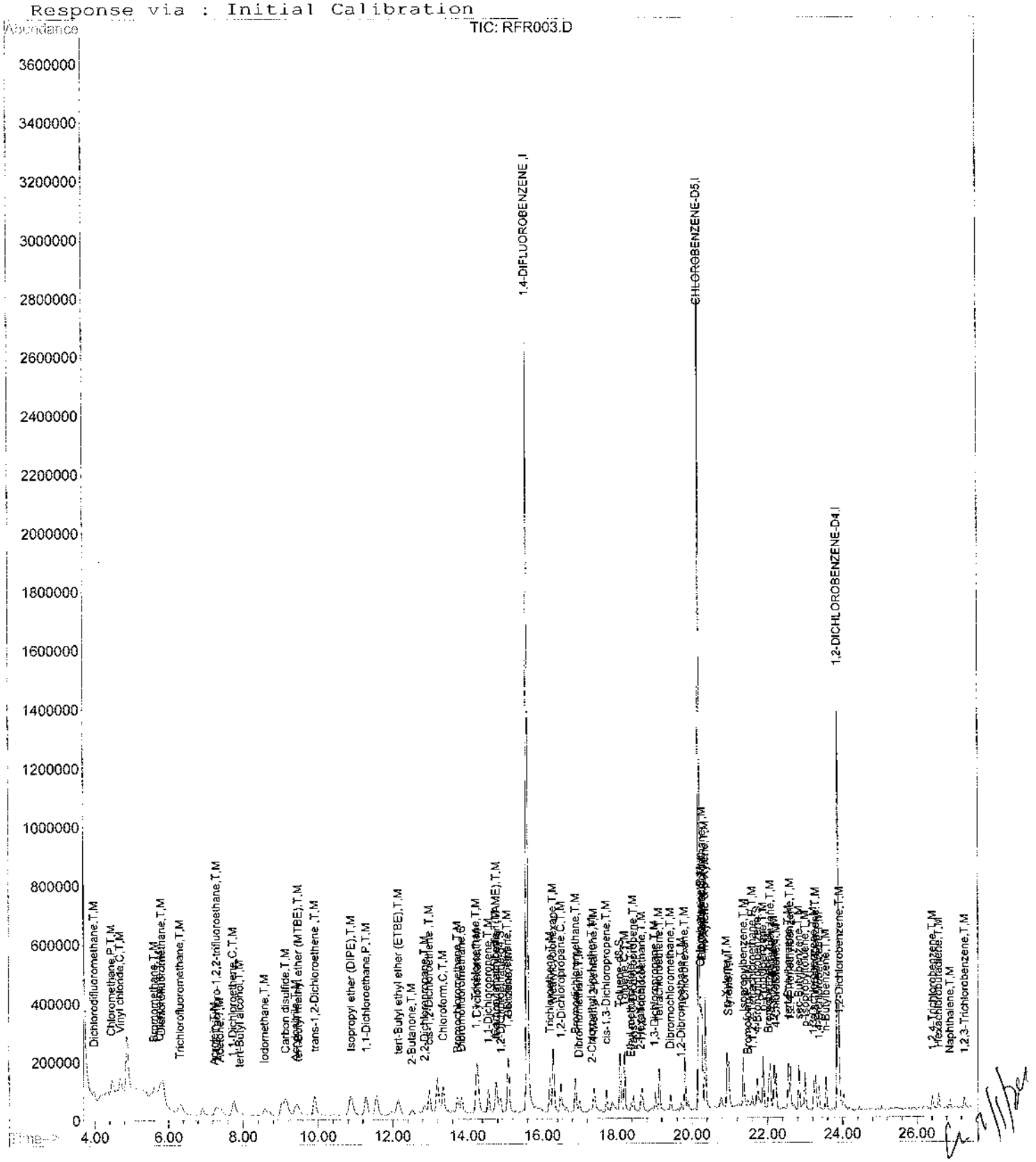
6/17/24

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR003.D Vial: 3
Acq On : 17 Jun 2024 5:08 pm Operator: LPrict
Sample : VOF3F172 0.05/0.25 Inst : F3
Misc : 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:51 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration




RFR003.D VOF3F17.M Wed Jun 19 15:51:09 2024 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR004.D Vial: 4
Acq On : 17 Jun 2024 5:40 pm Operator: LPriet
Sample : VOF3F173 0.1/0.5 Inst : F3
Misc : 1ppb 8260/5ppb KET-AA/25ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:51 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.60 | 114 | 3155309 | 10.00 | ug/l | 0.00 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 2175409 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 562535 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.85 | 111 | 97049 | 0.99 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 9.90% | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 96576 | 1.03 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 10.30% | | |
| 55) Toluene-d8 | 18.10 | 98 | 297205 | 0.92 | ug/l | 0.02 |
| Spiked Amount 10.000 | | | Recovery = | 9.20% | | |
| 75) 4-Bromofluorobenzene | 21.73 | 95 | 86599 | 0.96 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 9.60% | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.99 | 85 | 163729 | 1.09 | ug/l | 94 |
| 4) Chloromethane | 4.48 | 50 | 250736 | 1.06 | ug/l | 97 |
| 6) Vinyl chloride | 4.68 | 62 | 204148 | 0.96 | ug/l | 97 |
| 7) Bromomethane | 5.61 | 94 | 119658 | 1.17 | ug/l | 78 |
| 8) Chloroethane | 5.76 | 64 | 110302 | 1.05 | ug/l | 97 |
| 9) Dichlorofluoromethane | 5.82 | 67 | 278247 | 1.06 | ug/l | 99 |
| 10) Trichlorofluoromethane | 6.31 | 101 | 169425 | 0.96 | ug/l | 99 |
| 11) Acrolein | 7.27 | 56 | 54416 | 6.73 | ug/l | 95 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.30 | 151 | 72618 | 0.97 | ug/l | 97 |
| 13) 1,1-Dichloroethene | 7.76 | 61 | 287323 | 1.06 | ug/l | 95 |
| 14) Acetone | 7.39 | 43 | 121888 | 4.69 | ug/l | 92 |
| 15) Iodomethane | 8.58 | 142 | 146944 | 0.93 | ug/l | 96 |
| 16) Methyl acetate | 8.58 | 43 | 53702 | 1.02 | ug/l | 99 |
| 17) Carbon disulfide | 9.13 | 76 | 423613 | 1.01 | ug/l | 97 |
| 18) Methylene chloride | 9.01 | 49 | 208655 | 1.20 | ug/l | 100 |
| 19) tert-Butyl alcohol | 7.94 | 59 | 90251 | 22.21 | ug/l | 93 |
| 20) tert-Butyl methyl ether (M | 9.46 | 73 | 203331 | 1.04 | ug/l | 92 |
| 21) trans-1,2-Dichloroethene | 9.90 | 96 | 141532 | 1.05 | ug/l | 93 |
| 22) Acrylonitrile | 9.38 | 53 | 110144 | 5.32 | ug/l | 92 |
| 23) Isopropyl ether (DIPE) | 10.87 | 45 | 603029 | 1.09 | ug/l | 99 |
| 24) 1,1-Dichloroethane | 11.27 | 63 | 297855 | 1.09 | ug/l | 99 |
| 25) Vinyl acetate | 11.27 | 43 | 156142 | 1.07 | ug/l | 95 |
| 26) tert-Butyl ethyl ether (ET | 12.16 | 59 | 352008 | 1.07 | ug/l | 97 |
| 27) 2,2-Dichloropropane | 12.86 | 77 | 109454 | 1.03 | ug/l | 96 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 110582 | 0.99 | ug/l | 98 |
| 29) 2-Butanone | 12.50 | 43 | 139737 | 5.09 | ug/l | 99 |
| 30) 2-Butanol | 11.97 | 45 | 114202 | 26.08 | ug/l | 92 |
| 31) Bromochloromethane | 13.74 | 130 | 48199 | 0.98 | ug/l | 88 |
| 32) Tetrahydrofuran | 13.82 | 42 | 18074 | 1.10 | ug/l | 65 |
| 33) Chloroform | 13.35 | 83 | 234693 | 1.05 | ug/l | 98 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 162643 | 1.06 | ug/l | 96 |
| 36) Cyclohexane | 14.28 | 84 | 173433 | 0.92 | ug/l | 90 |
| 37) 1,1-Dichloropropene | 14.56 | 110 | 52995 | 0.96 | ug/l | 100 |
| 38) Carbon tetrachloride | 14.76 | 117 | 129633 | 1.04 | ug/l | 100 |
| 42) Benzene | 15.10 | 78 | 497165 | 1.03 | ug/l | 99 |
| 43) 1,2-Dichloroethane | 15.07 | 62 | 128926 | 1.09 | ug/l | 99 |
| 44) tert-Amyl methyl ether (TA | 14.78 | 73 | 206977 | 1.02 | ug/l | 95 |
| 45) Trichloroethene | 16.21 | 130 | 109547 | 1.00 | ug/l | 94 |
| 46) Methylcyclohexane | 16.29 | 83 | 205317 | 0.97 | ug/l | 98 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR004.D
Acq On : 17 Jun 2024 5:40 pm
Sample : VOF3F173 0.1/0.5
Misc : 1ppb 8260/5ppb KET-AA/25ppb TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 15:51 2024

Vial: 4
Operator: LPriet
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| | Compound | R.T. | QIon | Response | Conc | Unit | | Qvalue |
|---|---|---|---|---|---|---|---|---|
| 47) | 1,2-Dichloropropane | 16.50 | 63 | 130455 | 1.08 | ug/l | | 98 |
| 49) | Dibromomethane | 17.00 | 93 | 40619 | 1.02 | ug/l | | 92 |
| 50) | Bromodichloromethane | 16.90 | 83 | 140970 | 1.02 | ug/l | | 94 |
| 51) | 2-Chloroethyl vinyl ether | 17.32 | 63 | 12961 | 0.79 | ug/l | | 52 |
| 52) | cis-1,3-Dichloropropene | 17.72 | 75 | 143938 | 0.98 | ug/l | | 100 |
| 53) | 4-Methyl-2-pentanone | 17.37 | 43 | 309155 | 5.42 | ug/l | | 100 |
| 56) | Toluene | 18.21 | 91 | 419869 | 1.05 | ug/l | | 99 |
| 57) | Ethyl methacrylate | 18.38 | 69 | 57819 | 0.93 | ug/l | | 96 |
| 58) | trans-1,3-Dichloropropene | 18.44 | 75 | 97619 | 0.99 | ug/l | | 100 |
| 59) | 1,1,2-Trichloroethane | 18.69 | 97 | 50470 | 1.02 | ug/l | | 97 |
| 60) | Tetrachloroethene | 19.13 | 164 | 83966 | 0.98 | ug/l | | 97 |
| 61) | 2-Hexanone | 18.64 | 43 | 167497 | 5.22 | ug/l | | 97 |
| 62) | 1,3-Dichloropropane | 19.02 | 76 | 104475 | 1.09 | ug/l | | 97 |
| 63) | Dibromochloromethane | 19.43 | 129 | 61989 | 0.98 | ug/l | | 96 |
| 64) | 1,2-Dibromoethane | 19.71 | 107 | 49027 | 1.10 | ug/l | | 91 |
| 65) | 1-Chlorohexane | 19.81 | 91 | 140867 | 0.93 | ug/l | | 100 |
| 66) | Chlorobenzene | 20.24 | 112 | 205478 | 0.99 | ug/l | | 99 |
| 67) | Ethylbenzene | 20.27 | 91 | 415556 | 1.04 | ug/l | | 95 |
| 68) | 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 74558 | 0.99 | ug/l | | 95 |
| 69) | m-Xylene & p-Xylene | 20.35 | 91 | 581573 | 2.00 | ug/l | | 98 |
| 70) | o-Xylene | 20.93 | 91 | 279257 | 0.95 | ug/l | | 100 |
| 71) | Styrene | 20.98 | 104 | 182658 | 0.94 | ug/l | | 95 |
| 72) | Isopropylbenzene | 21.37 | 105 | 325031 | 0.97 | ug/l | | 99 |
| 74) | Bromoform | 21.49 | 173 | 21542 | 0.95 | ug/l | | 91 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.60 | 83 | 53525 | 1.18 | ug/l | | 98 |
| 77) | trans-1,4-Dichloro-2-buten | 21.40 | 53 | 25598 | 1.31 | ug/l | | 78 |
| 78) | n-Propylbenzene | 21.88 | 91 | 366089 | 0.98 | ug/l | | 99 |
| 79) | 1,2,3-Trichloropropane | 21.80 | 110 | 13298 | 1.05 | ug/l | | 99 |
| 80) | Bromobenzene | 22.03 | 156 | 63609 | 0.99 | ug/l | | 96 |
| 81) | 1,3,5-Trimethylbenzene | 22.08 | 105 | 224451 | 0.99 | ug/l | | 98 |
| 82) | 2-Chlorotoluene | 22.18 | 91 | 233554 | 1.07 | ug/l | | 98 |
| 83) | 4-Chlorotoluene | 22.23 | 91 | 221467 | 1.14 | ug/l | | 99 |
| 84) | tert-Butylbenzene | 22.55 | 134 | 50061 | 0.92 | ug/l | | 95 |
| 85) | 1,2,4-Trimethylbenzene | 22.60 | 105 | 196702 | 0.98 | ug/l | | 100 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 299263 | 0.99 | ug/l | | 99 |
| 87) | p-Isopropyltoluene | 23.00 | 119 | 188541 | 0.89 | ug/l | | 92 |
| 88) | 1,3-Dichlorobenzene | 23.23 | 146 | 104928 | 0.94 | ug/l | | 95 |
| 89) | 1,2,3-Trimethylbenzene | 23.28 | 105 | 202587 | 1.03 | ug/l | | 96 |
| 90) | 1,4-Dichlorobenzene | 23.38 | 146 | 94121 | 0.91 | ug/l | | 95 |
| 92) | n-Butylbenzene | 23.56 | 91 | 189277 | 0.92 | ug/l | | 98 |
| 93) | 1,2-Dichlorobenzene | 23.92 | 146 | 95850 | 1.04 | ug/l | | 96 |
| 94) | 1,2-Dibromo-3-chloropropan | 25.05 | 157 | 5703 | 1.21 | ug/l | | 82 |
| 95) | 1,2,4-Trichlorobenzene | 26.42 | 180 | 37007 | 0.90 | ug/l | | 97 |
| 96) | Hexachlorobutadiene | 26.60 | 225 | 15102 | 0.57 | ug/l | # | 47 |
| 97) | Naphthalene | 26.90 | 128 | 56872 | 1.05 | ug/l | | 96 |
| 98) | 1,2,3-Trichlorobenzene | 27.27 | 180 | 30878 | 1.03 | ug/l | | 83 |

6/19/24

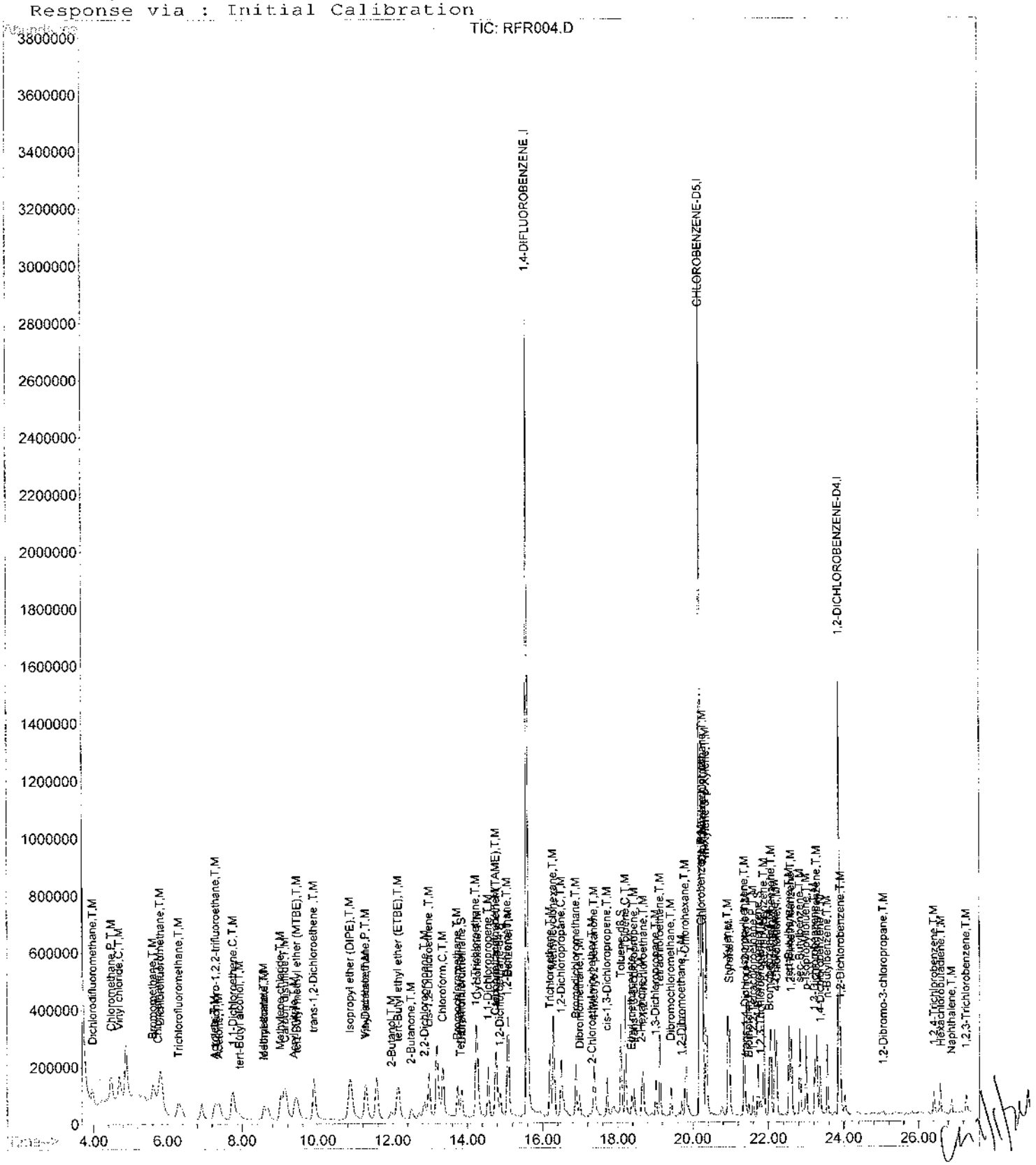
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR004.D
Acq On : 17 Jun 2024 5:40 pm
Sample : VOF3F173 0.1/0.5
Misc : 1ppb 8260/5ppb KET-AA/25ppb TBA
MS Integration Params: RTE.P
Quant Time: Jun 19 15:51 2024

Vial: 4
Operator: LPriet
Inst : F3
Multiplr: 1.00
Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR005.D Vial: 5
Acq On : 17 Jun 2024 6:13 pm Operator: LPriet
Sample : VOF3F174 0.2/1.0 Inst : F3
Misc : 2ppb 8260/10ppb KET-AA/50ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 13:09 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.60 | 114 | 3094676 | 10.00 | ug/l | 0.00 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 2105637 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 557924 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.85 | 111 | 192150 | 1.99 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 19.90% | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 174109 | 1.89 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 18.90% | | |
| 55) Toluene-d8 | 18.10 | 98 | 631034 | 2.02 | ug/l | 0.02 |
| Spiked Amount 10.000 | | | Recovery = | 20.20% | | |
| 75) 4-Bromofluorobenzene | 21.73 | 95 | 180468 | 2.03 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 20.30% | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.99 | 85 | 319853 | 2.18 | ug/l | 99 |
| 4) Chloromethane | 4.45 | 50 | 507410 | 2.19 | ug/l | 96 |
| 6) Vinyl chloride | 4.69 | 62 | 405438 | 1.94 | ug/l | 96 |
| 7) Bromomethane | 5.61 | 94 | 220249 | 2.19 | ug/l | 91 |
| 8) Chloroethane | 5.76 | 64 | 224616 | 2.18 | ug/l | 97 |
| 9) Dichlorofluoromethane | 5.85 | 67 | 555249 | 2.15 | ug/l | 100 |
| 10) Trichlorofluoromethane | 6.31 | 101 | 366755 | 2.12 | ug/l | 98 |
| 11) Acrolein | 7.24 | 56 | 78592 | 9.91 | ug/l | 97 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.30 | 151 | 150511 | 2.05 | ug/l | 96 |
| 13) 1,1-Dichloroethene | 7.74 | 61 | 560389 | 2.10 | ug/l | 97 |
| 14) Acetone | 7.39 | 43 | 232353 | 12.01 | ug/l | 97 |
| 15) Iodomethane | 8.58 | 142 | 300697 | 1.94 | ug/l | 98 |
| 16) Methyl acetate | 8.58 | 43 | 109701 | 2.12 | ug/l | 98 |
| 17) Carbon disulfide | 9.13 | 76 | 827515 | 2.01 | ug/l | 99 |
| 18) Methylene chloride | 9.01 | 49 | 395317 | 2.32 | ug/l | 97 |
| 19) tert-Butyl alcohol | 7.91 | 59 | 165844 | 41.60 | ug/l | 99 |
| 20) tert-Butyl methyl ether (M | 9.46 | 73 | 359867 | 1.88 | ug/l | 93 |
| 21) trans-1,2-Dichloroethene | 9.92 | 96 | 258427 | 1.95 | ug/l | 98 |
| 22) Acrylonitrile | 9.38 | 53 | 211651 | 10.43 | ug/l | 97 |
| 23) Isopropyl ether (DIPE) | 10.87 | 45 | 1173878 | 2.16 | ug/l | 97 |
| 24) 1,1-Dichloroethane | 11.29 | 63 | 564961 | 2.12 | ug/l | 99 |
| 25) Vinyl acetate | 11.27 | 43 | 299840 | 2.09 | ug/l | 99 |
| 26) tert-Butyl ethyl ether (ET | 12.15 | 59 | 652844 | 2.02 | ug/l | 98 |
| 27) 2,2-Dichloropropane | 12.86 | 77 | 214061 | 2.04 | ug/l | 96 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 224450 | 2.04 | ug/l | 93 |
| 29) 2-Butanone | 12.50 | 43 | 289651 | 10.75 | ug/l | 97 |
| 30) 2-Butanol | 11.95 | 45 | 212253 | 49.42 | ug/l | 94 |
| 31) Bromochloromethane | 13.74 | 130 | 93147 | 1.93 | ug/l | 97 |
| 32) Tetrahydrofuran | 13.82 | 42 | 35044 | 2.18 | ug/l | 96 |
| 33) Chloroform | 13.34 | 83 | 437208 | 2.00 | ug/l | 96 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 310377 | 2.05 | ug/l | 96 |
| 36) Cyclohexane | 14.27 | 84 | 381162 | 2.06 | ug/l | 98 |
| 37) 1,1-Dichloropropene | 14.56 | 110 | 108224 | 2.00 | ug/l | 99 |
| 38) Carbon tetrachloride | 14.76 | 117 | 241812 | 1.97 | ug/l | 100 |
| 42) Benzene | 15.10 | 78 | 993019 | 2.09 | ug/l | 99 |
| 43) 1,2-Dichloroethane | 15.07 | 62 | 247915 | 2.13 | ug/l | 100 |
| 44) tert-Amyl methyl ether (TA | 14.77 | 73 | 365592 | 1.85 | ug/l | 99 |
| 45) Trichloroethene | 16.19 | 130 | 205777 | 1.91 | ug/l | 95 |
| 46) Methylcyclohexane | 16.30 | 83 | 423882 | 2.05 | ug/l | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR005.D Vial: 5
Acq On : 17 Jun 2024 6:13 pm Operator: LPriet
Sample : VOF3F174 0.2/1.0 Inst : F3
Misc : 2ppb 8260/10ppb KET-AA/50ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 13:09 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

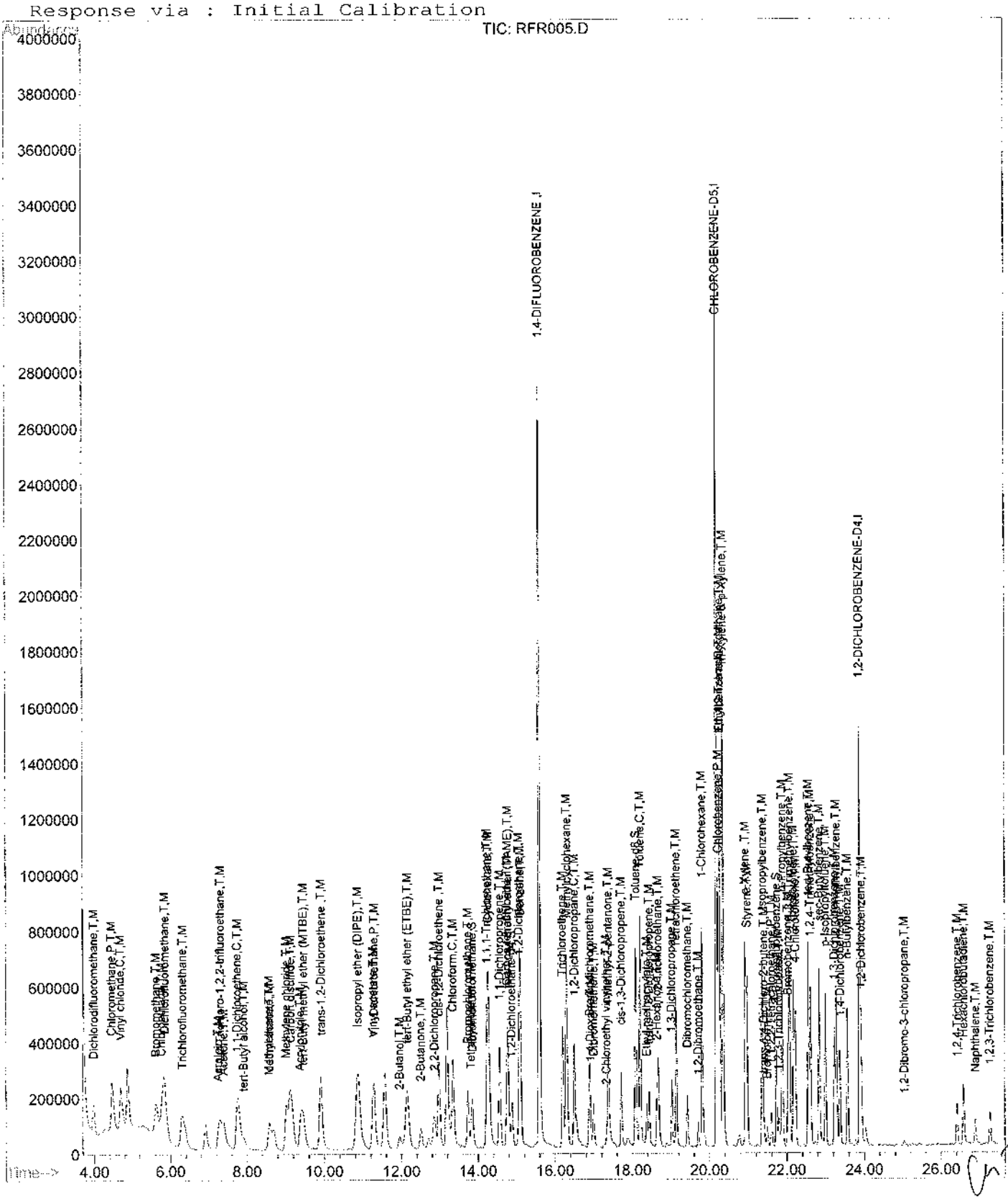
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 47) | 1,2-Dichloropropane | 16.50 | 63 | 234322 | 1.98 | ug/l | 96 |
| 48) | 1,4-Dioxane | 16.91 | 88 | 10705 | 36.31 | ug/l | 71 |
| 49) | Dibromomethane | 16.99 | 93 | 73577 | 1.88 | ug/l | 93 |
| 50) | Bromodichloromethane | 16.90 | 83 | 257673 | 1.91 | ug/l | 97 |
| 51) | 2-Chloroethyl vinyl ether | 17.32 | 63 | 30172 | 1.88 | ug/l | 89 |
| 52) | cis-1,3-Dichloropropene | 17.72 | 75 | 281179 | 1.95 | ug/l | 95 |
| 53) | 4-Methyl-2-pentanone | 17.37 | 43 | 611009 | 10.92 | ug/l | 100 |
| 56) | Toluene | 18.21 | 91 | 819441 | 2.12 | ug/l | 100 |
| 57) | Ethyl methacrylate | 18.38 | 69 | 117181 | 1.95 | ug/l | 92 |
| 58) | trans-1,3-Dichloropropene | 18.44 | 75 | 173679 | 1.83 | ug/l | 91 |
| 59) | 1,1,2-Trichloroethane | 18.67 | 97 | 95733 | 2.01 | ug/l | 99 |
| 60) | Tetrachloroethene | 19.13 | 164 | 164854 | 1.99 | ug/l | 96 |
| 61) | 2-Hexanone | 18.64 | 43 | 340339 | 10.96 | ug/l | 95 |
| 62) | 1,3-Dichloropropane | 19.02 | 76 | 187972 | 2.03 | ug/l | 99 |
| 63) | Dibromochloromethane | 19.43 | 129 | 117559 | 1.92 | ug/l | 96 |
| 64) | 1,2-Dibromoethane | 19.71 | 107 | 82486 | 1.91 | ug/l | 92 |
| 65) | 1-Chlorohexane | 19.81 | 91 | 293892 | 2.00 | ug/l | 100 |
| 66) | Chlorobenzene | 20.23 | 112 | 410339 | 2.05 | ug/l | 99 |
| 67) | Ethylbenzene | 20.27 | 91 | 802496 | 2.07 | ug/l | 96 |
| 68) | 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 143011 | 1.96 | ug/l | 96 |
| 69) | m-Xylene & p-Xylene | 20.35 | 91 | 1203965 | 4.27 | ug/l | 97 |
| 70) | o-Xylene | 20.93 | 91 | 572251 | 2.01 | ug/l | 100 |
| 71) | Styrene | 20.97 | 104 | 373458 | 1.99 | ug/l | 95 |
| 72) | Isopropylbenzene | 21.37 | 105 | 654034 | 2.01 | ug/l | 100 |
| 74) | Bromoform | 21.48 | 173 | 44124 | 1.96 | ug/l | 97 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.60 | 83 | 98442 | 2.18 | ug/l | 99 |
| 77) | trans-1,4-Dichloro-2-buten | 21.40 | 53 | 41282 | 2.13 | ug/l | 91 |
| 78) | n-Propylbenzene | 21.88 | 91 | 774665 | 2.10 | ug/l | 99 |
| 79) | 1,2,3-Trichloropropane | 21.78 | 110 | 18712 | 1.68 | ug/l | 97 |
| 80) | Bromobenzene | 22.03 | 156 | 119575 | 1.88 | ug/l | 98 |
| 81) | 1,3,5-Trimethylbenzene | 22.06 | 105 | 469435 | 2.10 | ug/l | 99 |
| 82) | 2-Chlorotoluene | 22.17 | 91 | 464988 | 2.14 | ug/l | 100 |
| 83) | 4-Chlorotoluene | 22.22 | 91 | 406382 | 2.11 | ug/l | 100 |
| 84) | tert-Butylbenzene | 22.55 | 134 | 113445 | 2.11 | ug/l | 97 |
| 85) | 1,2,4-Trimethylbenzene | 22.60 | 105 | 404735 | 2.04 | ug/l | 97 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 619341 | 2.06 | ug/l | 99 |
| 87) | p-Isopropyltoluene | 23.00 | 119 | 411210 | 1.96 | ug/l | 98 |
| 88) | 1,3-Dichlorobenzene | 23.23 | 146 | 220043 | 1.99 | ug/l | 98 |
| 89) | 1,2,3-Trimethylbenzene | 23.28 | 105 | 403898 | 2.07 | ug/l | 100 |
| 90) | 1,4-Dichlorobenzene | 23.38 | 146 | 197687 | 1.92 | ug/l | 97 |
| 92) | n-Butylbenzene | 23.56 | 91 | 396474 | 1.95 | ug/l | 98 |
| 93) | 1,2-Dichlorobenzene | 23.92 | 146 | 183889 | 2.02 | ug/l | 97 |
| 94) | 1,2-Dibromo-3-chloropropan | 25.04 | 157 | 8701 | 1.86 | ug/l | 85 |
| 95) | 1,2,4-Trichlorobenzene | 26.42 | 180 | 70562 | 1.73 | ug/l | 99 |
| 96) | Hexachlorobutadiene | 26.58 | 225 | 59383 | 1.89 | ug/l | 92 |
| 97) | Naphthalene | 26.89 | 128 | 98446 | 1.83 | ug/l | 97 |
| 98) | 1,2,3-Trichlorobenzene | 27.27 | 180 | 56792 | 1.90 | ug/l | 91 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR005.D Vial: 5
Acq On : 17 Jun 2024 6:13 pm Operator: LPriet
Sample : VOF3F174 0.2/1.0 Inst : F3
Misc : 2ppb 8260/10ppb KET-AA/50ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 13:09 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR006.D Vial: 6
Acq On : 17 Jun 2024 6:46 pm Operator: LPriet
Sample : VOF3F175 0.5/2.5 Inst : F3
Misc : 5ppb 8260/25ppb KET-AA/125ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 13:09 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.60 | 114 | 3219254 | 10.00 | ug/l | 0.00 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 2290966 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 623483 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.84 | 111 | 499350 | 4.97 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 49.70% | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 494072 | 5.15 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 51.50% | | |
| 55) Toluene-d8 | 18.10 | 98 | 1633180 | 4.81 | ug/l | 0.02 |
| Spiked Amount 10.000 | | | Recovery = | 48.10% | | |
| 75) 4-Bromofluorobenzene | 21.73 | 95 | 473325 | 4.76 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 47.60% | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.99 | 85 | 762188 | 4.98 | ug/l | 98 |
| 4) Chloromethane | 4.45 | 50 | 1265311 | 5.26 | ug/l | 100 |
| 6) Vinyl chloride | 4.69 | 62 | 1043427 | 4.81 | ug/l | 98 |
| 7) Bromomethane | 5.61 | 94 | 496699 | 4.76 | ug/l | 100 |
| 8) Chloroethane | 5.76 | 64 | 548834 | 5.11 | ug/l | 99 |
| 9) Dichlorofluoromethane | 5.82 | 67 | 1362084 | 5.08 | ug/l | 98 |
| 10) Trichlorofluoromethane | 6.31 | 101 | 857057 | 4.77 | ug/l | 98 |
| 11) Acrolein | 7.24 | 56 | 202273 | 24.53 | ug/l | 88 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.33 | 151 | 358179 | 4.70 | ug/l | 99 |
| 13) 1,1-Dichloroethene | 7.74 | 61 | 1386158 | 5.00 | ug/l | 98 |
| 14) Acetone | 7.39 | 43 | 481026 | 26.93 | ug/l | 99 |
| 15) Iodomethane | 8.58 | 142 | 759298 | 4.71 | ug/l | 100 |
| 16) Methyl acetate | 8.58 | 43 | 266942 | 4.96 | ug/l | 97 |
| 17) Carbon disulfide | 9.13 | 76 | 2065289 | 4.82 | ug/l | 99 |
| 18) Methylene chloride | 9.01 | 49 | 950889 | 5.36 | ug/l | 96 |
| 19) tert-Butyl alcohol | 7.88 | 59 | 523145 | 126.16 | ug/l | 99 |
| 20) tert-Butyl methyl ether (M | 9.44 | 73 | 974606 | 4.90 | ug/l | 99 |
| 21) trans-1,2-Dichloroethene | 9.90 | 96 | 660946 | 4.80 | ug/l | 97 |
| 22) Acrylonitrile | 9.38 | 53 | 525816 | 24.91 | ug/l | 97 |
| 23) Isopropyl ether (DIPE) | 10.87 | 45 | 2959110 | 5.23 | ug/l | 99 |
| 24) 1,1-Dichloroethane | 11.27 | 63 | 1393799 | 5.02 | ug/l | 100 |
| 25) Vinyl acetate | 11.27 | 43 | 825385 | 5.54 | ug/l | 99 |
| 26) tert-Butyl ethyl ether (ET | 12.13 | 59 | 1685774 | 5.01 | ug/l | 99 |
| 27) 2,2-Dichloropropane | 12.86 | 77 | 531025 | 4.88 | ug/l | 100 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 560512 | 4.90 | ug/l | 98 |
| 29) 2-Butanone | 12.50 | 43 | 731941 | 26.11 | ug/l | 99 |
| 30) 2-Butanol | 11.93 | 45 | 574013 | 128.49 | ug/l | 96 |
| 31) Bromochloromethane | 13.74 | 130 | 248499 | 4.94 | ug/l | 95 |
| 32) Tetrahydrofuran | 13.81 | 42 | 86278 | 5.17 | ug/l | 86 |
| 33) Chloroform | 13.34 | 83 | 1133944 | 4.98 | ug/l | 96 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 750514 | 4.78 | ug/l | 97 |
| 36) Cyclohexane | 14.27 | 84 | 887177 | 4.60 | ug/l | 99 |
| 37) 1,1-Dichloropropene | 14.56 | 110 | 277840 | 4.93 | ug/l | 100 |
| 38) Carbon tetrachloride | 14.76 | 117 | 611143 | 4.80 | ug/l | 98 |
| 42) Benzene | 15.10 | 78 | 2501106 | 5.06 | ug/l | 99 |
| 43) 1,2-Dichloroethane | 15.05 | 62 | 641766 | 5.30 | ug/l | 98 |
| 44) tert-Amyl methyl ether (TA | 14.78 | 73 | 997835 | 4.84 | ug/l | 99 |
| 45) Trichloroethene | 16.19 | 130 | 541901 | 4.83 | ug/l | 95 |
| 46) Methylcyclohexane | 16.29 | 83 | 983693 | 4.58 | ug/l | 98 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR006.D Vial: 6
Acq On : 17 Jun 2024 6:46 pm Operator: LPriet
Sample : VOF3F175 0.5/2.5 Inst : F3
Misc : 5ppb 8260/25ppb KET-AA/125ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 13:09 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 47) | 1,2-Dichloropropane | 16.49 | 63 | 635774 | 5.17 | ug/l | 98 |
| 48) | 1,4-Dioxane | 16.91 | 88 | 30943 | 100.90 | ug/l | 93 |
| 49) | Dibromomethane | 17.00 | 93 | 208491 | 5.11 | ug/l | 89 |
| 50) | Bromodichloromethane | 16.90 | 83 | 700991 | 4.99 | ug/l | 98 |
| 51) | 2-Chloroethyl vinyl ether | 17.32 | 63 | 79848 | 4.79 | ug/l | 97 |
| 52) | cis-1,3-Dichloropropene | 17.72 | 75 | 759978 | 5.08 | ug/l | 99 |
| 53) | 4-Methyl-2-pentanone | 17.37 | 43 | 1536085 | 26.38 | ug/l | 99 |
| 56) | Toluene | 18.21 | 91 | 1996103 | 4.75 | ug/l | 98 |
| 57) | Ethyl methacrylate | 18.38 | 69 | 292330 | 4.46 | ug/l | 98 |
| 58) | trans-1,3-Dichloropropene | 18.44 | 75 | 495974 | 4.80 | ug/l | 96 |
| 59) | 1,1,2-Trichloroethane | 18.67 | 97 | 248422 | 4.79 | ug/l | 97 |
| 60) | Tetrachloroethene | 19.13 | 164 | 409570 | 4.55 | ug/l | 96 |
| 61) | 2-Hexanone | 18.64 | 43 | 829247 | 24.55 | ug/l | 96 |
| 62) | 1,3-Dichloropropane | 19.02 | 76 | 471868 | 4.69 | ug/l | 97 |
| 63) | Dibromochloromethane | 19.43 | 129 | 297583 | 4.47 | ug/l | 99 |
| 64) | 1,2-Dibromoethane | 19.71 | 107 | 214319 | 4.56 | ug/l | 98 |
| 65) | 1-Chlorohexane | 19.81 | 91 | 768106 | 4.80 | ug/l | 99 |
| 66) | Chlorobenzene | 20.23 | 112 | 1085870 | 4.98 | ug/l | 98 |
| 67) | Ethylbenzene | 20.27 | 91 | 2118926 | 5.03 | ug/l | 95 |
| 68) | 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 357623 | 4.52 | ug/l | 97 |
| 69) | m-Xylene & p-Xylene | 20.35 | 91 | 3027011 | 9.87 | ug/l | 98 |
| 70) | o-Xylene | 20.93 | 91 | 1540066 | 4.97 | ug/l | 99 |
| 71) | Styrene | 20.97 | 104 | 945876 | 4.63 | ug/l | 93 |
| 72) | Isopropylbenzene | 21.37 | 105 | 1782735 | 5.04 | ug/l | 99 |
| 74) | Bromoform | 21.48 | 173 | 117882 | 4.69 | ug/l | 97 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.60 | 83 | 236327 | 4.68 | ug/l | 93 |
| 77) | trans-1,4-Dichloro-2-buten | 21.40 | 53 | 104524 | 4.82 | ug/l | 99 |
| 78) | n-Propylbenzene | 21.88 | 91 | 2179916 | 5.29 | ug/l | 99 |
| 79) | 1,2,3-Trichloropropane | 21.78 | 110 | 56253 | 5.24 | ug/l | 96 |
| 80) | Bromobenzene | 22.03 | 156 | 330950 | 4.65 | ug/l | 97 |
| 81) | 1,3,5-Trimethylbenzene | 22.06 | 105 | 1297090 | 5.19 | ug/l | 99 |
| 82) | 2-Chlorotoluene | 22.18 | 91 | 1296497 | 5.35 | ug/l | 96 |
| 83) | 4-Chlorotoluene | 22.22 | 91 | 1115355 | 5.19 | ug/l | 99 |
| 84) | tert-Butylbenzene | 22.55 | 134 | 274422 | 4.56 | ug/l | 98 |
| 85) | 1,2,4-Trimethylbenzene | 22.60 | 105 | 1160342 | 5.24 | ug/l | 96 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 1646150 | 4.89 | ug/l | 99 |
| 87) | p-Isopropyltoluene | 23.00 | 119 | 1204962 | 5.13 | ug/l | 99 |
| 88) | 1,3-Dichlorobenzene | 23.23 | 146 | 592564 | 4.79 | ug/l | 100 |
| 89) | 1,2,3-Trimethylbenzene | 23.28 | 105 | 1080061 | 4.94 | ug/l | 99 |
| 90) | 1,4-Dichlorobenzene | 23.36 | 146 | 545607 | 4.74 | ug/l | 98 |
| 92) | n-Butylbenzene | 23.56 | 91 | 1088276 | 4.79 | ug/l | 100 |
| 93) | 1,2-Dichlorobenzene | 23.92 | 146 | 466581 | 4.59 | ug/l | 98 |
| 94) | 1,2-Dibromo-3-chloropropan | 25.04 | 157 | 23681 | 4.52 | ug/l | 89 |
| 95) | 1,2,4-Trichlorobenzene | 26.42 | 180 | 195827 | 4.30 | ug/l | 96 |
| 96) | Hexachlorobutadiene | 26.58 | 225 | 160724 | 4.40 | ug/l | 95 |
| 97) | Naphthalene | 26.89 | 128 | 254859 | 4.23 | ug/l | 98 |
| 98) | 1,2,3-Trichlorobenzene | 27.29 | 180 | 153353 | 4.60 | ug/l | 97 |

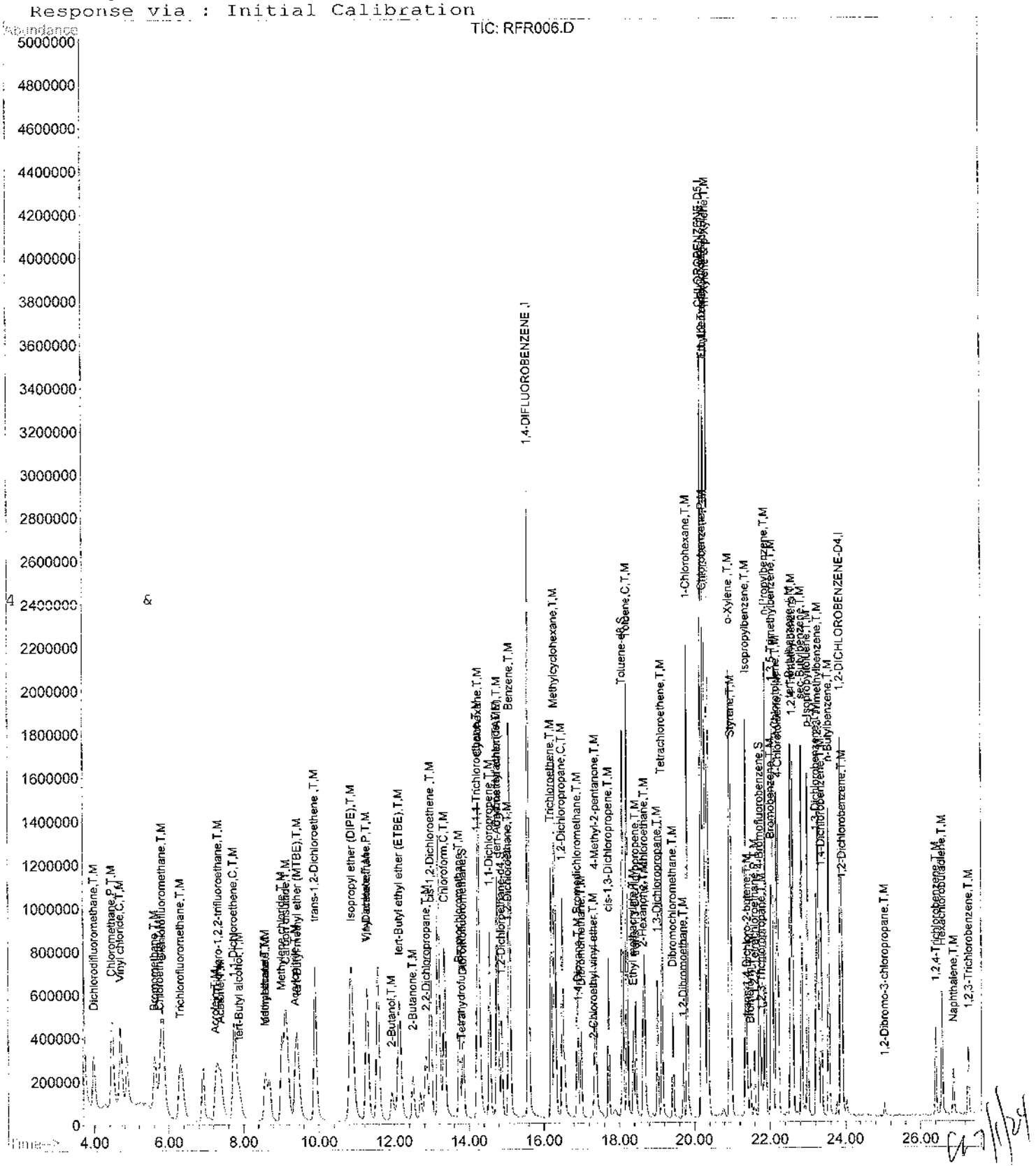
CR 7/1/24

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR006.D Vial: 6
Acq On : 17 Jun 2024 6:46 pm Operator: LPriet
Sample : VOF3F175 0.5/2.5 Inst : F3
Misc : 5ppb 8260/25ppb KET-AA/125ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 13:09 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR007.D Vial: 7
Acq On : 17 Jun 2024 7:19 pm Operator: LPriet
Sample : VOF3F176 1.0/5.0 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:52 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.60 | 114 | 3250044 | 10.00 | ug/l | 0.00 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 2141369 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 612864 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.85 | 111 | 1027666 | 10.14 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 101.40% | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 963536 | 9.96 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 99.60% | | |
| 55) Toluene-d8 | 18.08 | 98 | 3477166 | 10.95 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 109.50% | | |
| 75) 4-Bromofluorobenzene | 21.73 | 95 | 1001502 | 10.24 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 102.40% | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.97 | 85 | 1559014 | 10.10 | ug/l | 100 |
| 4) Chloromethane | 4.46 | 50 | 2436115 | 10.02 | ug/l | 100 |
| 6) Vinyl chloride | 4.69 | 62 | 1999032 | 9.12 | ug/l | 100 |
| 7) Bromomethane | 5.62 | 94 | 960341 | 9.11 | ug/l | 100 |
| 8) Chloroethane | 5.77 | 64 | 1041767 | 9.61 | ug/l | 100 |
| 9) Dichlorofluoromethane | 5.83 | 67 | 2729794 | 10.08 | ug/l | 100 |
| 10) Trichlorofluoromethane | 6.32 | 101 | 1723133 | 9.50 | ug/l | 100 |
| 11) Acrolein | 7.25 | 56 | 396533 | 47.63 | ug/l | 100 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.31 | 151 | 721653 | 9.37 | ug/l | 100 |
| 13) 1,1-Dichloroethene | 7.74 | 61 | 2877721 | 10.28 | ug/l | 100 |
| 14) Acetone | 7.39 | 43 | 937218 | 54.83 | ug/l | 100 |
| 15) Iodomethane | 8.58 | 142 | 1592833 | 9.78 | ug/l | 100 |
| 16) Methyl acetate | 8.56 | 43 | 552245 | 10.15 | ug/l | 100 |
| 17) Carbon disulfide | 9.11 | 76 | 3660341 | 8.46 | ug/l | 100 |
| 18) Methylene chloride | 9.02 | 49 | 1816048 | 10.13 | ug/l | 100 |
| 19) tert-Butyl alcohol | 7.89 | 59 | 1018368 | 243.26 | ug/l | 100 |
| 20) tert-Butyl methyl ether (M | 9.44 | 73 | 1908078 | 9.50 | ug/l | 100 |
| 21) trans-1,2-Dichloroethene | 9.90 | 96 | 1323208 | 9.51 | ug/l | 100 |
| 22) Acrylonitrile | 9.38 | 53 | 1037145 | 48.66 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 10.87 | 45 | 5867198 | 10.26 | ug/l | 100 |
| 24) 1,1-Dichloroethane | 11.27 | 63 | 2896715 | 10.33 | ug/l | 100 |
| 25) Vinyl acetate | 11.25 | 43 | 1569998 | 10.44 | ug/l | 100 |
| 26) tert-Butyl ethyl ether (ET | 12.13 | 59 | 3484763 | 10.25 | ug/l | 100 |
| 27) 2,2-Dichloropropane | 12.86 | 77 | 1098321 | 9.99 | ug/l | 100 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 1117635 | 9.68 | ug/l | 100 |
| 29) 2-Butanone | 12.50 | 43 | 1442915 | 50.99 | ug/l | 100 |
| 30) 2-Butanol | 11.93 | 45 | 1118186 | 247.93 | ug/l | 100 |
| 31) Bromochloromethane | 13.74 | 130 | 505477 | 9.95 | ug/l | 100 |
| 32) Tetrahydrofuran | 13.81 | 42 | 181776 | 10.79 | ug/l | 100 |
| 33) Chloroform | 13.35 | 83 | 2236392 | 9.72 | ug/l | 100 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 1593047 | 10.04 | ug/l | 100 |
| 36) Cyclohexane | 14.27 | 84 | 1823106 | 9.36 | ug/l | 100 |
| 37) 1,1-Dichloropropene | 14.56 | 110 | 565762 | 9.93 | ug/l | 100 |
| 38) Carbon tetrachloride | 14.76 | 117 | 1290224 | 10.03 | ug/l | 100 |
| 42) Benzene | 15.09 | 78 | 4964147 | 9.95 | ug/l | 100 |
| 43) 1,2-Dichloroethane | 15.06 | 62 | 1236389 | 10.12 | ug/l | 100 |
| 44) tert-Amyl methyl ether (TA | 14.78 | 73 | 2018247 | 9.70 | ug/l | 100 |
| 45) Trichloroethene | 16.19 | 130 | 1171316 | 10.34 | ug/l | 100 |
| 46) Methylcyclohexane | 16.31 | 83 | 2028033 | 9.35 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR007.D Vial: 7
Acq On : 17 Jun 2024 7:19 pm Operator: LPriet
Sample : VOF3F176 1.0/5.0 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:52 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

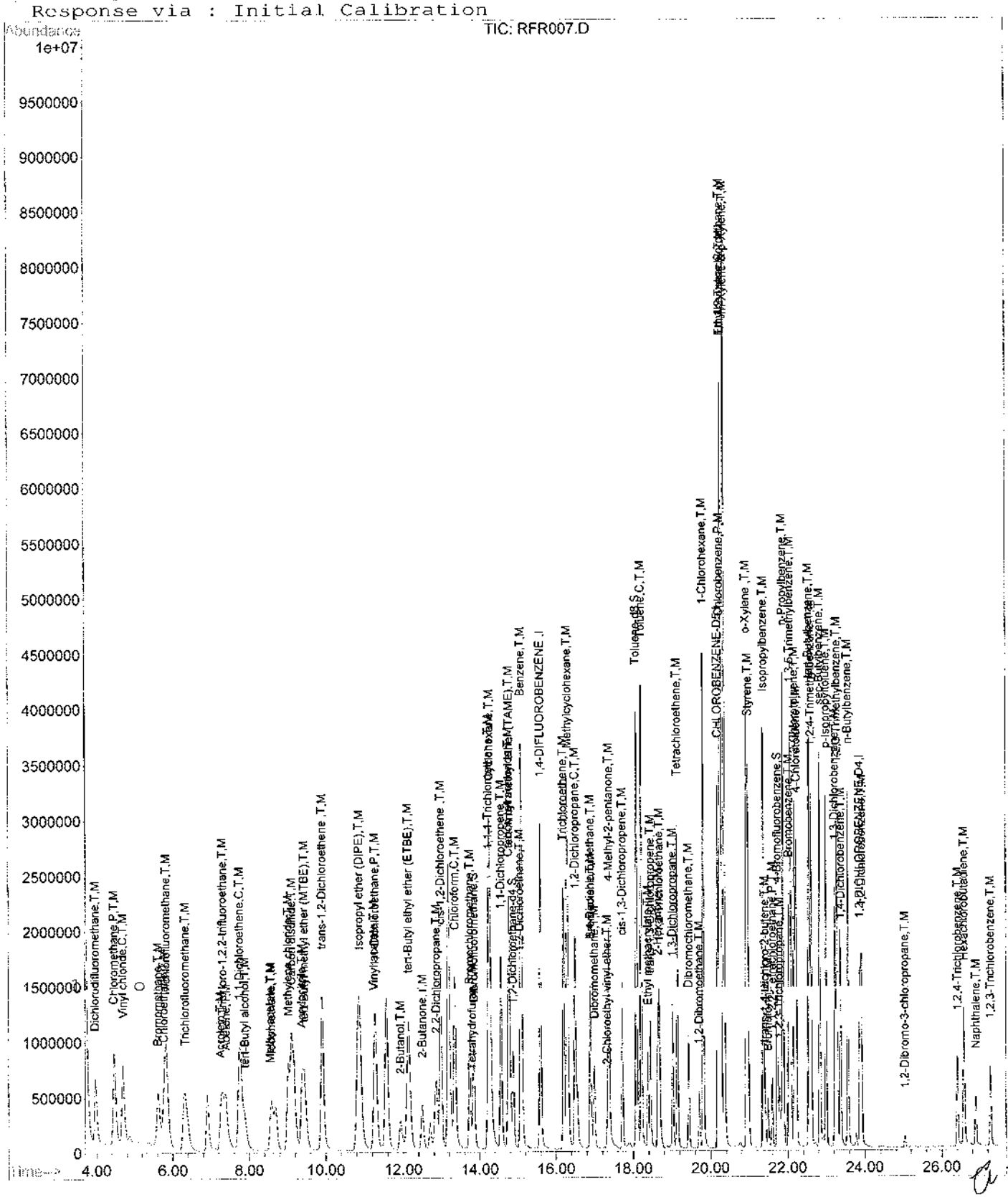
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 47) | 1,2-Dichloropropane | 16.50 | 63 | 1254574 | 10.11 | ug/l | 100 |
| 48) | 1,4-Dioxane | 16.90 | 88 | 61568 | 198.86 | ug/l | 100 |
| 49) | Dibromomethane | 17.00 | 93 | 406931 | 9.88 | ug/l | 100 |
| 50) | Bromodichloromethane | 16.90 | 83 | 1347998 | 9.51 | ug/l | 100 |
| 51) | 2-Chloroethyl vinyl ether | 17.32 | 63 | 165509 | 9.84 | ug/l | 100 |
| 52) | cis-1,3-Dichloropropene | 17.72 | 75 | 1557225 | 10.30 | ug/l | 100 |
| 53) | 4-Methyl-2-pentanone | 17.37 | 43 | 3012580 | 51.25 | ug/l | 100 |
| 56) | Toluene | 18.21 | 91 | 4231982 | 10.76 | ug/l | 100 |
| 57) | Ethyl methacrylate | 18.38 | 69 | 617793 | 10.09 | ug/l | 100 |
| 58) | trans-1,3-Dichloropropene | 18.44 | 75 | 1059234 | 10.96 | ug/l | 100 |
| 59) | 1,1,2-Trichloroethane | 18.67 | 97 | 476330 | 9.83 | ug/l | 100 |
| 60) | Tetrachloroethene | 19.13 | 164 | 884845 | 10.51 | ug/l | 100 |
| 61) | 2-Hexanone | 18.64 | 43 | 1638048 | 51.88 | ug/l | 100 |
| 62) | 1,3-Dichloropropane | 19.02 | 76 | 951816 | 10.12 | ug/l | 100 |
| 63) | Dibromochloromethane | 19.43 | 129 | 631957 | 10.16 | ug/l | 100 |
| 64) | 1,2-Dibromoethane | 19.71 | 107 | 450253 | 10.24 | ug/l | 100 |
| 65) | 1-Chlorohexane | 19.81 | 91 | 1705977 | 11.42 | ug/l | 100 |
| 66) | Chlorobenzene | 20.24 | 112 | 2209747 | 10.84 | ug/l | 100 |
| 67) | Ethylbenzene | 20.27 | 91 | 4358704 | 11.07 | ug/l | 100 |
| 68) | 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 782441 | 10.57 | ug/l | 100 |
| 69) | m-Xylene & p-Xylene | 20.35 | 91 | 6203939 | 21.64 | ug/l | 100 |
| 70) | o-Xylene | 20.93 | 91 | 3328080 | 11.50 | ug/l | 100 |
| 71) | Styrene | 20.98 | 104 | 2228397 | 11.66 | ug/l | 100 |
| 72) | Isopropylbenzene | 21.37 | 105 | 3700141 | 11.19 | ug/l | 100 |
| 74) | Bromoform | 21.48 | 173 | 255238 | 10.34 | ug/l | 100 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.60 | 83 | 481824 | 9.71 | ug/l | 100 |
| 77) | trans-1,4-Dichloro-2-buten | 21.40 | 53 | 219269 | 10.28 | ug/l | 100 |
| 78) | n-Propylbenzene | 21.88 | 91 | 4504648 | 11.11 | ug/l | 100 |
| 79) | 1,2,3-Trichloropropane | 21.78 | 110 | 110800 | 10.95 | ug/l | 100 |
| 80) | Bromobenzene | 22.03 | 156 | 710469 | 10.16 | ug/l | 100 |
| 81) | 1,3,5-Trimethylbenzene | 22.06 | 105 | 2780026 | 11.31 | ug/l | 100 |
| 82) | 2-Chlorotoluene | 22.18 | 91 | 2570810 | 10.79 | ug/l | 100 |
| 83) | 4-Chlorotoluene | 22.22 | 91 | 2293272 | 10.86 | ug/l | 100 |
| 84) | tert-Butylbenzene | 22.55 | 134 | 590238 | 9.98 | ug/l | 100 |
| 85) | 1,2,4-Trimethylbenzene | 22.60 | 105 | 2295935 | 10.54 | ug/l | 100 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 3575669 | 10.81 | ug/l | 100 |
| 87) | p-Isopropyltoluene | 23.00 | 119 | 2561223 | 11.09 | ug/l | 100 |
| 88) | 1,3-Dichlorobenzene | 23.23 | 146 | 1249897 | 10.28 | ug/l | 100 |
| 89) | 1,2,3-Trimethylbenzene | 23.28 | 105 | 2250089 | 10.48 | ug/l | 100 |
| 90) | 1,4-Dichlorobenzene | 23.38 | 146 | 1105883 | 9.78 | ug/l | 100 |
| 92) | n-Butylbenzene | 23.56 | 91 | 2447373 | 10.95 | ug/l | 100 |
| 93) | 1,2-Dichlorobenzene | 23.92 | 146 | 989436 | 9.90 | ug/l | 100 |
| 94) | 1,2-Dibromo-3-chloropropan | 25.04 | 157 | 49110 | 9.53 | ug/l | 100 |
| 95) | 1,2,4-Trichlorobenzene | 26.42 | 180 | 429355 | 9.59 | ug/l | 100 |
| 96) | Hexachlorobutadiene | 26.58 | 225 | 359034 | 9.84 | ug/l | 100 |
| 97) | Naphthalene | 26.90 | 128 | 572522 | 9.67 | ug/l | 100 |
| 98) | 1,2,3-Trichlorobenzene | 27.27 | 180 | 323245 | 9.86 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR007.D Vial: 7
Acq On : 17 Jun 2024 7:19 pm Operator: LPriet
Sample : VOF3F176 1.0/5.0 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:52 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR008.D Vial: 8
Acq On : 17 Jun 2024 7:52 pm Operator: LPriet
Sample : VOF3F177 2.0/10 Inst : F3
Misc : 20ppb 8260/100ppb KET-AA/500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 13:09 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.60 | 114 | 3354045 | 10.00 | ug/l | 0.00 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 2367647 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 642879 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.84 | 111 | 2009304 | 19.21 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 192.10% | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 1846157 | 18.49 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 184.90% | | |
| 55) Toluene-d8 | 18.08 | 98 | 6646454 | 18.93 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 189.30% | | |
| 75) 4-Bromofluorobenzene | 21.72 | 95 | 2125221 | 20.72 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 207.20% | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.96 | 85 | 3121407 | 19.59 | ug/l | 100 |
| 4) Chloromethane | 4.45 | 50 | 4982845 | 19.87 | ug/l | 98 |
| 6) Vinyl chloride | 4.69 | 62 | 3878924 | 17.15 | ug/l | 100 |
| 7) Bromomethane | 5.62 | 94 | 2033557 | 18.70 | ug/l | 97 |
| 8) Chloroethane | 5.76 | 64 | 2211900 | 19.77 | ug/l | 97 |
| 9) Dichlorofluoromethane | 5.82 | 67 | 5469983 | 19.58 | ug/l | 98 |
| 10) Trichlorofluoromethane | 6.31 | 101 | 3641915 | 19.46 | ug/l | 100 |
| 11) Acrolein | 7.24 | 56 | 765098 | 89.05 | ug/l | 93 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.30 | 151 | 1551324 | 19.52 | ug/l | 99 |
| 13) 1,1-Dichloroethene | 7.74 | 61 | 5655495 | 19.59 | ug/l | 97 |
| 14) Acetone | 7.39 | 43 | 1771348 | 102.97 | ug/l | 100 |
| 15) Iodomethane | 8.58 | 142 | 3343309 | 19.89 | ug/l | 99 |
| 16) Methyl acetate | 8.55 | 43 | 1069763 | 19.06 | ug/l | 100 |
| 17) Carbon disulfide | 9.13 | 76 | 8366915 | 18.73 | ug/l | 100 |
| 18) Methylene chloride | 9.02 | 49 | 3604254 | 19.49 | ug/l | 98 |
| 19) tert-Butyl alcohol | 7.88 | 59 | 2147992 | 497.18 | ug/l | 98 |
| 20) tert-Butyl methyl ether (M | 9.44 | 73 | 3933728 | 18.98 | ug/l | 96 |
| 21) trans-1,2-Dichloroethene | 9.90 | 96 | 2693221 | 18.76 | ug/l | 99 |
| 22) Acrylonitrile | 9.38 | 53 | 2090512 | 95.05 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 10.85 | 45 | 11582177 | 19.63 | ug/l | 97 |
| 24) 1,1-Dichloroethane | 11.27 | 63 | 5664161 | 19.58 | ug/l | 99 |
| 25) Vinyl acetate | 11.25 | 43 | 3233156 | 20.84 | ug/l | 99 |
| 26) tert-Butyl ethyl ether (ET | 12.14 | 59 | 6791450 | 19.35 | ug/l | 98 |
| 27) 2,2-Dichloropropane | 12.86 | 77 | 2105414 | 18.55 | ug/l | 96 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 2190096 | 18.38 | ug/l | 99 |
| 29) 2-Butanone | 12.48 | 43 | 2660153 | 91.09 | ug/l | 100 |
| 30) 2-Butanol | 11.91 | 45 | 2177971 | 467.93 | ug/l | 98 |
| 31) Bromochloromethane | 13.74 | 130 | 1032722 | 19.70 | ug/l | 99 |
| 32) Tetrahydrofuran | 13.81 | 42 | 332964 | 19.15 | ug/l | 91 |
| 33) Chloroform | 13.35 | 83 | 4555801 | 19.19 | ug/l | 97 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 3205838 | 19.58 | ug/l | 100 |
| 36) Cyclohexane | 14.27 | 84 | 3617179 | 18.00 | ug/l | 100 |
| 37) 1,1-Dichloropropene | 14.56 | 110 | 1157201 | 19.69 | ug/l | 99 |
| 38) Carbon tetrachloride | 14.76 | 117 | 2693715 | 20.29 | ug/l | 99 |
| 42) Benzene | 15.09 | 78 | 10065020 | 19.54 | ug/l | 100 |
| 43) 1,2-Dichloroethane | 15.06 | 62 | 2459743 | 19.51 | ug/l | 98 |
| 44) tert-Amyl methyl ether (TA | 14.78 | 73 | 4199043 | 19.56 | ug/l | 100 |
| 45) Trichloroethene | 16.19 | 130 | 2344009 | 20.06 | ug/l | 98 |
| 46) Methylcyclohexane | 16.29 | 83 | 4020169 | 17.95 | ug/l | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR008.D Vial: 8
Acq On : 17 Jun 2024 7:52 pm Operator: LPriet
Sample : VOF3F177 2.0/10 Inst : F3
Misc : 20ppb 8260/100ppb KET-AA/500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 13:09 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

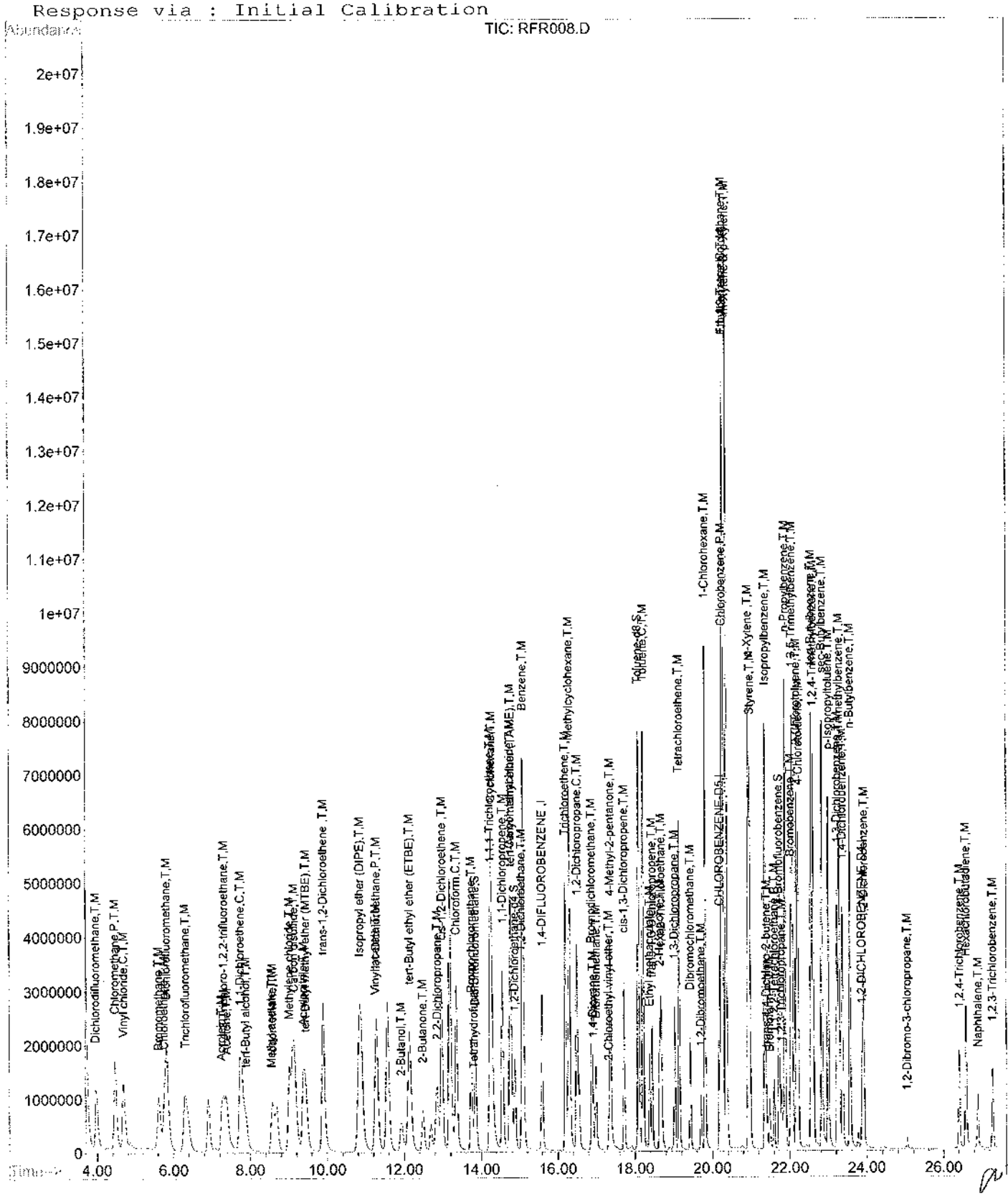
| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 47) | 1,2-Dichloropropane | 16.50 | 63 | 2570655 | 20.07 ug/l | 99 |
| 48) | 1,4-Dioxane | 16.91 | 88 | 117726 | 368.46 ug/l | 100 |
| 49) | Dibromomethane | 17.00 | 93 | 875643 | 20.59 ug/l | 88 |
| 50) | Bromodichloromethane | 16.88 | 83 | 2830539 | 19.36 ug/l | 99 |
| 51) | 2-Chloroethyl vinyl ether | 17.33 | 63 | 340407 | 19.61 ug/l | 99 |
| 52) | cis-1,3-Dichloropropene | 17.72 | 75 | 3238367 | 20.76 ug/l | 99 |
| 53) | 4-Methyl-2-pentanone | 17.36 | 43 | 5819444 | 95.92 ug/l | 98 |
| 56) | Toluene | 18.21 | 91 | 8037376 | 18.49 ug/l | 96 |
| 57) | Ethyl methacrylate | 18.38 | 69 | 1298021 | 19.17 ug/l | 93 |
| 58) | trans-1,3-Dichloropropene | 18.44 | 75 | 2145701 | 20.08 ug/l | 100 |
| 59) | 1,1,2-Trichloroethane | 18.67 | 97 | 1022580 | 19.08 ug/l | 95 |
| 60) | Tetrachloroethene | 19.13 | 164 | 1799988 | 19.33 ug/l | 96 |
| 61) | 2-Hexanone | 18.64 | 43 | 3233749 | 92.63 ug/l | 99 |
| 62) | 1,3-Dichloropropane | 19.02 | 76 | 1935498 | 18.60 ug/l | 100 |
| 63) | Dibromochloromethane | 19.43 | 129 | 1298027 | 18.88 ug/l | 98 |
| 64) | 1,2-Dibromoethane | 19.71 | 107 | 921690 | 18.96 ug/l | 98 |
| 65) | 1-Chlorohexane | 19.81 | 91 | 3390475 | 20.52 ug/l | 98 |
| 66) | Chlorobenzene | 20.24 | 112 | 4578964 | 20.31 ug/l | 99 |
| 67) | Ethylbenzene | 20.27 | 91 | 8819573 | 20.27 ug/l | 98 |
| 68) | 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 1632046 | 19.94 ug/l | 99 |
| 69) | m-Xylene & p-Xylene | 20.35 | 91 | 11957007 | 37.71 ug/l | 91 |
| 70) | o-Xylene | 20.93 | 91 | 6285575 | 19.64 ug/l | 97 |
| 71) | Styrene | 20.98 | 104 | 4558430 | 21.57 ug/l | 99 |
| 72) | Isopropylbenzene | 21.37 | 105 | 7648376 | 20.92 ug/l | 99 |
| 74) | Bromoform | 21.49 | 173 | 554449 | 21.40 ug/l | 98 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.60 | 83 | 1019676 | 19.59 ug/l | 96 |
| 77) | trans-1,4-Dichloro-2-buten | 21.40 | 53 | 411883 | 18.41 ug/l | 94 |
| 78) | n-Propylbenzene | 21.88 | 91 | 8934554 | 21.01 ug/l | 97 |
| 79) | 1,2,3-Trichloropropane | 21.78 | 110 | 207851 | 19.92 ug/l | 97 |
| 80) | Bromobenzene | 22.03 | 156 | 1486610 | 20.26 ug/l | 98 |
| 81) | 1,3,5-Trimethylbenzene | 22.06 | 105 | 5628814 | 21.83 ug/l | 100 |
| 82) | 2-Chlorotoluene | 22.18 | 91 | 5613329 | 22.45 ug/l | 100 |
| 83) | 4-Chlorotoluene | 22.23 | 91 | 4710814 | 21.27 ug/l | 98 |
| 84) | tert-Butylbenzene | 22.55 | 134 | 1301557 | 20.98 ug/l | 96 |
| 85) | 1,2,4-Trimethylbenzene | 22.60 | 105 | 5196123 | 22.74 ug/l | 100 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 7506256 | 21.63 ug/l | 99 |
| 87) | p-Isopropyltoluene | 23.00 | 119 | 5576658 | 23.01 ug/l | 99 |
| 88) | 1,3-Dichlorobenzene | 23.23 | 146 | 2623108 | 20.56 ug/l | 99 |
| 89) | 1,2,3-Trimethylbenzene | 23.28 | 105 | 4690913 | 20.82 ug/l | 99 |
| 90) | 1,4-Dichlorobenzene | 23.36 | 146 | 2599214 | 21.92 ug/l | 99 |
| 92) | n-Butylbenzene | 23.56 | 91 | 5371579 | 22.91 ug/l | 98 |
| 93) | 1,2-Dichlorobenzene | 23.92 | 146 | 2043516 | 19.49 ug/l | 98 |
| 94) | 1,2-Dibromo-3-chloropropan | 25.04 | 157 | 106766 | 19.75 ug/l | 97 |
| 95) | 1,2,4-Trichlorobenzene | 26.42 | 180 | 972229 | 20.70 ug/l | 99 |
| 96) | Hexachlorobutadiene | 26.58 | 225 | 803302 | 20.85 ug/l | 97 |
| 97) | Naphthalene | 26.90 | 128 | 1196390 | 19.27 ug/l | 99 |
| 98) | 1,2,3-Trichlorobenzene | 27.27 | 180 | 710255 | 20.66 ug/l | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR008.D Vial: 8
Acq On : 17 Jun 2024 7:52 pm Operator: LPriet
Sample : VOF3F177 2.0/10 Inst : F3
Misc : 20ppb 8260/100ppb KET-AA/500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 13:09 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR009.D Vial: 9
Acq On : 17 Jun 2024 8:25 pm Operator: LPriet
Sample : VOF3F178 3.0/15 Inst : F3
Misc : 30ppb 8260/150ppb KET-AA/750ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:53 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.60 | 114 | 3513961 | 10.00 | ug/l | 0.00 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 2523382 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 718339 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.84 | 111 | 3119721 | 28.47 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 284.70% | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 2801435 | 26.77 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 267.70% | | |
| 55) Toluene-d8 | 18.08 | 98 | 9696738 | 25.92 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 259.20% | | |
| 75) 4-Bromofluorobenzene | 21.73 | 95 | 3117189 | 27.20 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 272.00% | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.96 | 85 | 4399613 | 26.35 | ug/l | 100 |
| 4) Chloromethane | 4.45 | 50 | 6531802 | 24.86 | ug/l | 96 |
| 7) Bromomethane | 5.62 | 94 | 2898694 | 25.44 | ug/l | 94 |
| 8) Chloroethane | 5.76 | 64 | 2981679 | 25.44 | ug/l | 98 |
| 9) Dichlorofluoromethane | 5.82 | 67 | 8159924 | 27.88 | ug/l | 99 |
| 10) Trichlorofluoromethane | 6.31 | 101 | 5199301 | 26.52 | ug/l | 99 |
| 11) Acrolein | 7.24 | 56 | 1252223 | 139.11 | ug/l | 94 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.33 | 151 | 2552740 | 30.66 | ug/l | 99 |
| 13) 1,1-Dichloroethene | 7.77 | 61 | 8427130 | 27.86 | ug/l | 96 |
| 14) Acetone | 7.39 | 43 | 2859887 | 160.35 | ug/l | 99 |
| 15) Iodomethane | 8.58 | 142 | 5372498 | 30.50 | ug/l | 98 |
| 16) Methyl acetate | 8.55 | 43 | 1701140 | 28.93 | ug/l | 98 |
| 17) Carbon disulfide | 9.13 | 76 | 12954416 | 27.69 | ug/l | 100 |
| 18) Methylene chloride | 9.01 | 49 | 5258342 | 27.14 | ug/l | 94 |
| 19) tert-Butyl alcohol | 7.88 | 59 | 3680710 | 813.18 | ug/l | 97 |
| 20) tert-Butyl methyl ether (M | 9.44 | 73 | 6530347 | 30.07 | ug/l | 93 |
| 21) trans-1,2-Dichloroethene | 9.90 | 96 | 4212389 | 28.01 | ug/l | 99 |
| 22) Acrylonitrile | 9.38 | 53 | 3360864 | 145.85 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 10.85 | 45 | 17084572 | 27.64 | ug/l | 95 |
| 24) 1,1-Dichloroethane | 11.27 | 63 | 8483531 | 27.99 | ug/l | 98 |
| 25) Vinyl acetate | 11.25 | 43 | 4618545 | 28.41 | ug/l | 98 |
| 26) tert-Butyl ethyl ether (ET | 12.14 | 59 | 10713220 | 29.14 | ug/l | 96 |
| 27) 2,2-Dichloropropane | 12.86 | 77 | 3256987 | 27.40 | ug/l | 98 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 3554328 | 28.46 | ug/l | 97 |
| 29) 2-Butanone | 12.48 | 43 | 4356100 | 142.38 | ug/l | 97 |
| 30) 2-Butanol | 11.91 | 45 | 3703874 | 759.56 | ug/l | 97 |
| 31) Bromochloromethane | 13.74 | 130 | 1668484 | 30.38 | ug/l | 98 |
| 32) Tetrahydrofuran | 13.81 | 42 | 518672 | 28.47 | ug/l | 89 |
| 33) Chloroform | 13.35 | 83 | 6625732 | 26.64 | ug/l | 98 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 4941165 | 28.80 | ug/l | 97 |
| 36) Cyclohexane | 14.27 | 84 | 5589759 | 26.55 | ug/l | 99 |
| 37) 1,1-Dichloropropene | 14.56 | 110 | 1826680 | 29.67 | ug/l | 99 |
| 38) Carbon tetrachloride | 14.76 | 117 | 4262378 | 30.65 | ug/l | 99 |
| 42) Benzene | 15.09 | 78 | 14086273 | 26.11 | ug/l | 99 |
| 43) 1,2-Dichloroethane | 15.06 | 62 | 3529510 | 26.72 | ug/l | 100 |
| 44) tert-Amyl methyl ether (TA | 14.78 | 73 | 6796076 | 30.21 | ug/l | 98 |
| 45) Trichloroethene | 16.19 | 130 | 3637035 | 29.70 | ug/l | 97 |
| 46) Methylcyclohexane | 16.29 | 83 | 6147770 | 26.20 | ug/l | 92 |
| 47) 1,2-Dichloropropane | 16.50 | 63 | 3835955 | 28.58 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR009.D Vial: 9
Acq On : 17 Jun 2024 8:25 pm Operator: LPriet
Sample : VOF3F178 3.0/15 Inst : F3
Misc : 30ppb 8260/150ppb KET-AA/750ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:53 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

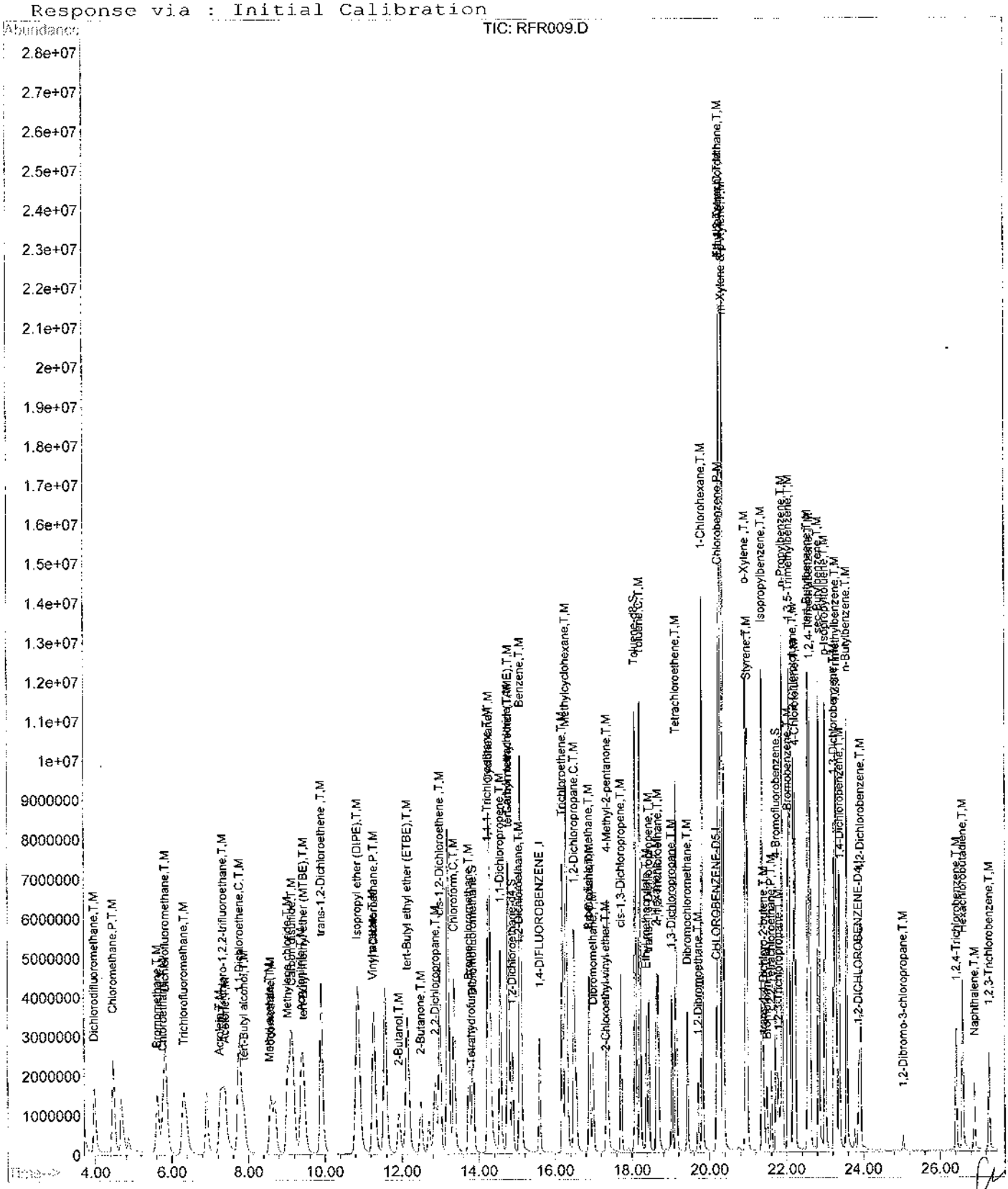
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 48) | 1,4-Dioxane | 16.90 | 88 | 214997 | 642.27 | ug/l | 91 |
| 49) | Dibromomethane | 17.00 | 93 | 1320465 | 29.64 | ug/l | 82 |
| 50) | Bromodichloromethane | 16.88 | 83 | 4251271 | 27.75 | ug/l | 96 |
| 51) | 2-Chloroethyl vinyl ether | 17.32 | 63 | 584733 | 32.16 | ug/l | 97 |
| 52) | cis-1,3-Dichloropropene | 17.72 | 75 | 4839401 | 29.61 | ug/l | 96 |
| 53) | 4-Methyl-2-pentanone | 17.36 | 43 | 9433948 | 148.43 | ug/l | 94 |
| 56) | Toluene | 18.21 | 91 | 12041595 | 25.99 | ug/l | 92 |
| 57) | Ethyl methacrylate | 18.38 | 69 | 2346144 | 32.50 | ug/l | 88 |
| 58) | trans-1,3-Dichloropropene | 18.44 | 75 | 3389230 | 29.76 | ug/l | 97 |
| 59) | 1,1,2-Trichloroethane | 18.67 | 97 | 1652260 | 28.93 | ug/l | 96 |
| 60) | Tetrachloroethene | 19.13 | 164 | 2951373 | 29.74 | ug/l | 99 |
| 61) | 2-Hexanone | 18.64 | 43 | 5360731 | 144.08 | ug/l | 95 |
| 62) | 1,3-Dichloropropane | 19.02 | 76 | 3049354 | 27.50 | ug/l | 98 |
| 63) | Dibromochloromethane | 19.43 | 129 | 2201690 | 30.05 | ug/l | 98 |
| 64) | 1,2-Dibromoethane | 19.71 | 107 | 1549709 | 29.91 | ug/l | 99 |
| 65) | 1-Chlorohexane | 19.81 | 91 | 5548454 | 31.51 | ug/l | 99 |
| 66) | Chlorobenzene | 20.24 | 112 | 7197077 | 29.95 | ug/l | 97 |
| 67) | Ethylbenzene | 20.27 | 91 | 12898844 | 27.81 | ug/l | 93 |
| 68) | 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 2694936 | 30.89 | ug/l | 99 |
| 69) | m-Xylene & p-Xylene | 20.35 | 91 | 15388584 | 45.54 | ug/l | 81 |
| 70) | o-Xylene | 20.93 | 91 | 9500787 | 27.85 | ug/l | 93 |
| 71) | Styrene | 20.98 | 104 | 6872068 | 30.52 | ug/l | 98 |
| 72) | Isopropylbenzene | 21.35 | 105 | 11380134 | 29.20 | ug/l | 96 |
| 74) | Bromoform | 21.49 | 173 | 957350 | 33.08 | ug/l | 97 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.60 | 83 | 1645094 | 28.29 | ug/l | 98 |
| 77) | trans-1,4-Dichloro-2-buten | 21.40 | 53 | 693267 | 27.72 | ug/l | 87 |
| 78) | n-Propylbenzene | 21.88 | 91 | 12947367 | 27.25 | ug/l | 91 |
| 79) | 1,2,3-Trichloropropane | 21.78 | 110 | 352482 | 30.46 | ug/l | 100 |
| 80) | Bromobenzene | 22.03 | 156 | 2480080 | 30.25 | ug/l | 97 |
| 81) | 1,3,5-Trimethylbenzene | 22.06 | 105 | 8718410 | 30.26 | ug/l | 95 |
| 82) | 2-Chlorotoluene | 22.18 | 91 | 8137469 | 29.13 | ug/l | 96 |
| 83) | 4-Chlorotoluene | 22.23 | 91 | 7062327 | 28.53 | ug/l | 94 |
| 84) | tert-Butylbenzene | 22.55 | 134 | 2089288 | 30.15 | ug/l | 91 |
| 85) | 1,2,4-Trimethylbenzene | 22.60 | 105 | 8040184 | 31.49 | ug/l | 97 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 11203945 | 28.90 | ug/l | 94 |
| 87) | p-Isopropyltoluene | 23.00 | 119 | 9085029 | 33.55 | ug/l | 97 |
| 88) | 1,3-Dichlorobenzene | 23.23 | 146 | 4430846 | 31.08 | ug/l | 99 |
| 89) | 1,2,3-Trimethylbenzene | 23.28 | 105 | 7709915 | 30.63 | ug/l | 95 |
| 90) | 1,4-Dichlorobenzene | 23.38 | 146 | 4246918 | 32.06 | ug/l | 97 |
| 92) | n-Butylbenzene | 23.56 | 91 | 8372240 | 31.95 | ug/l | 97 |
| 93) | 1,2-Dichlorobenzene | 23.92 | 146 | 3511559 | 29.97 | ug/l | 99 |
| 94) | 1,2-Dibromo-3-chloropropan | 25.04 | 157 | 191860 | 31.77 | ug/l | 97 |
| 95) | 1,2,4-Trichlorobenzene | 26.42 | 180 | 1687798 | 32.17 | ug/l | 99 |
| 96) | Hexachlorobutadiene | 26.58 | 225 | 1276699 | 29.61 | ug/l | 99 |
| 97) | Naphthalene | 26.90 | 128 | 2138502 | 30.82 | ug/l | 98 |
| 98) | 1,2,3-Trichlorobenzene | 27.27 | 180 | 1233723 | 32.12 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR009.D Vial: 9
Acq On : 17 Jun 2024 8:25 pm Operator: LPriet
Sample : VOF3F178 3.0/15 Inst : F3
Misc : 30ppb 8260/150ppb KET-AA/750ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:53 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR010.D Vial: 10
Acq On : 17 Jun 2024 8:58 pm Operator: LPriet
Sample : VOF3F179 5.0/25 Inst : F3
Misc : 50ppb 8260/250ppb KET-AA/1250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:54 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.60 | 114 | 3467387 | 10.00 | ug/l | 0.00 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 2425797 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 726802 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 0.00 | 111 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 40) 1,2-Dichloroethane-d4 | 0.00 | 65 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 55) Toluene-d8 | 0.00 | 98 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 75) 4-Bromofluorobenzene | 0.00 | 95 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.96 | 85 | 6791235 | 41.22 | ug/l | 99 |
| 4) Chloromethane | 4.46 | 50 | 9963415 | 38.42 | ug/l | 94 |
| 7) Bromomethane | 5.62 | 94 | 4790006 | 42.60 | ug/l | 96 |
| 8) Chloroethane | 5.77 | 64 | 4831161 | 41.78 | ug/l | 95 |
| 9) Dichlorofluoromethane | 5.82 | 67 | 12483120 | 43.22 | ug/l | 98 |
| 10) Trichlorofluoromethane | 6.29 | 101 | 8342426 | 43.12 | ug/l | 97 |
| 11) Acrolein | 7.25 | 56 | 1930311 | 217.32 | ug/l | 96 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.31 | 151 | 4258663 | 51.84 | ug/l | 99 |
| 13) 1,1-Dichloroethene | 7.77 | 61 | 12539022 | 42.00 | ug/l | 91 |
| 14) Acetone | 7.39 | 43 | 3976706 | 227.22 | ug/l | 96 |
| 15) Iodomethane | 8.58 | 142 | 8879910 | 51.09 | ug/l | 98 |
| 18) Methylene chloride | 9.02 | 49 | 7901200 | 41.33 | ug/l | 93 |
| 19) tert-Butyl alcohol | 7.89 | 59 | 5527039 | 1237.49 | ug/l | 96 |
| 20) tert-Butyl methyl ether (M | 9.44 | 73 | 9727985 | 45.39 | ug/l | 91 |
| 21) trans-1,2-Dichloroethene | 9.90 | 96 | 6723164 | 45.30 | ug/l | 100 |
| 22) Acrylonitrile | 9.38 | 53 | 5046434 | 221.94 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 10.85 | 45 | 24984517 | 40.97 | ug/l | 92 |
| 24) 1,1-Dichloroethane | 11.27 | 63 | 12986618 | 43.42 | ug/l | 96 |
| 25) Vinyl acetate | 11.25 | 43 | 6997895 | 43.63 | ug/l | 97 |
| 26) tert-Butyl ethyl ether (ET | 12.13 | 59 | 15495368 | 42.72 | ug/l | 95 |
| 27) 2,2-Dichloropropane | 12.86 | 77 | 4983594 | 42.48 | ug/l | 98 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 5530349 | 44.88 | ug/l | 98 |
| 29) 2-Butanone | 12.48 | 43 | 6277461 | 207.93 | ug/l | 97 |
| 31) Bromochloromethane | 13.74 | 130 | 2723138 | 50.24 | ug/l | 97 |
| 32) Tetrahydrofuran | 13.81 | 42 | 760474 | 42.31 | ug/l | 86 |
| 33) Chloroform | 13.34 | 83 | 10633722 | 43.33 | ug/l | 96 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 7735669 | 45.70 | ug/l | 96 |
| 37) 1,1-Dichloropropene | 14.56 | 110 | 2875375 | 47.33 | ug/l | 98 |
| 38) Carbon tetrachloride | 14.76 | 117 | 6677299 | 48.66 | ug/l | 99 |
| 42) Benzene | 15.10 | 78 | 20520313 | 38.54 | ug/l | 94 |
| 43) 1,2-Dichloroethane | 15.07 | 62 | 5427463 | 41.65 | ug/l | 99 |
| 44) tert-Amyl methyl ether (TA | 14.78 | 73 | 10151330 | 45.74 | ug/l | 98 |
| 45) Trichloroethene | 16.19 | 130 | 5775024 | 47.80 | ug/l | 96 |
| 47) 1,2-Dichloropropane | 16.49 | 63 | 5624765 | 42.48 | ug/l | 95 |
| 48) 1,4-Dioxane | 16.90 | 88 | 315679 | 955.72 | ug/l | 90 |
| 49) Dibromomethane | 17.00 | 93 | 2085434 | 47.44 | ug/l | 82 |
| 50) Bromodichloromethane | 16.90 | 83 | 6404984 | 42.37 | ug/l | 96 |
| 51) 2-Chloroethyl vinyl ether | 17.32 | 63 | 925230 | 51.57 | ug/l | 94 |
| 52) cis-1,3-Dichloropropene | 17.72 | 75 | 7258071 | 45.01 | ug/l | 95 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR010.D Vial: 10
Acq On : 17 Jun 2024 8:58 pm Operator: LPriet
Sample : VOF3F179 5.0/25 Inst : F3
Misc : 50ppb 8260/250ppb KET-AA/1250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:54 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

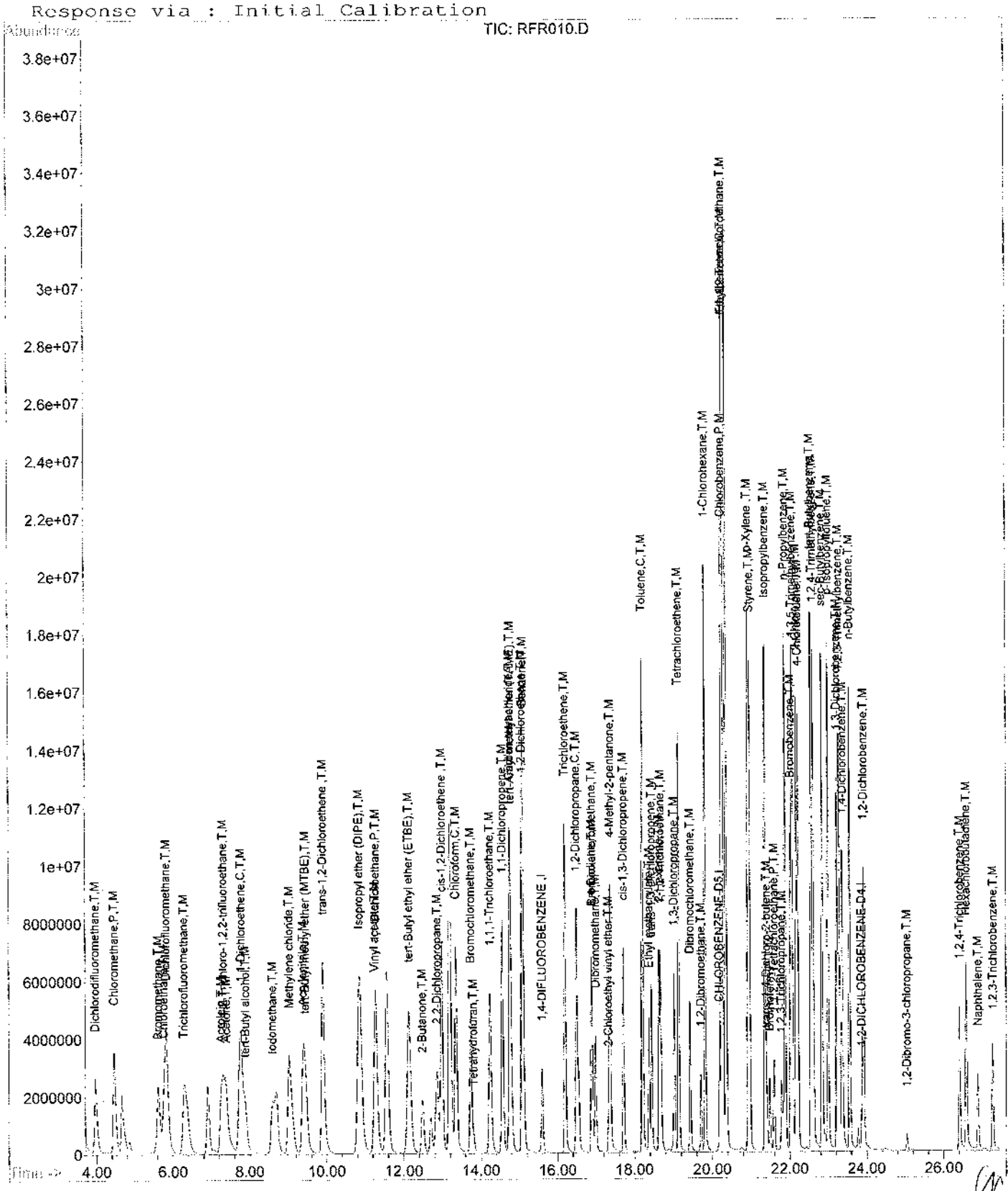
| Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|
| 53) 4-Methyl-2-pentanone | 17.37 | 43 | 12955213 | 206.57 | ug/l | 91 |
| 56) Toluene | 18.21 | 91 | 16788985 | 37.69 | ug/l | 87 |
| 57) Ethyl methacrylate | 18.38 | 69 | 3431277 | 49.45 | ug/l | 83 |
| 58) trans-1,3-Dichloropropene | 18.44 | 75 | 5348844 | 48.85 | ug/l | 99 |
| 59) 1,1,2-Trichloroethane | 18.67 | 97 | 2561791 | 46.65 | ug/l | 95 |
| 60) Tetrachloroethene | 19.13 | 164 | 4737304 | 49.66 | ug/l | 99 |
| 61) 2-Hexanone | 18.64 | 43 | 7995161 | 223.52 | ug/l | 94 |
| 62) 1,3-Dichloropropane | 19.02 | 76 | 4714943 | 44.23 | ug/l | 99 |
| 63) Dibromochloromethane | 19.43 | 129 | 3437714 | 48.80 | ug/l | 98 |
| 64) 1,2-Dibromoethane | 19.71 | 107 | 2325930 | 46.70 | ug/l | 99 |
| 65) 1-Chlorohexane | 19.81 | 91 | 7994796 | 47.23 | ug/l | 93 |
| 66) Chlorobenzene | 20.24 | 112 | 10653945 | 46.12 | ug/l | 94 |
| 67) Ethylbenzene | 20.27 | 91 | 16656523 | 37.36 | ug/l | 81 |
| 68) 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 4096293 | 48.84 | ug/l | 95 |
| 70) o-Xylene | 20.93 | 91 | 13648276 | 41.62 | ug/l | 87 |
| 71) Styrene | 20.98 | 104 | 10316482 | 47.66 | ug/l | 94 |
| 72) Isopropylbenzene | 21.37 | 105 | 15494732 | 41.36 | ug/l | 89 |
| 74) Bromoform | 21.48 | 173 | 1474633 | 50.35 | ug/l | 97 |
| 76) 1,1,2,2-Tetrachloroethane | 21.60 | 83 | 2463131 | 41.87 | ug/l | 95 |
| 77) trans-1,4-Dichloro-2-buten | 21.40 | 53 | 1037184 | 41.00 | ug/l | 85 |
| 78) n-Propylbenzene | 21.88 | 91 | 17156762 | 35.68 | ug/l | 83 |
| 79) 1,2,3-Trichloropropane | 21.78 | 110 | 546111 | 46.87 | ug/l | 92 |
| 80) Bromobenzene | 22.03 | 156 | 3866638 | 46.62 | ug/l | 99 |
| 81) 1,3,5-Trimethylbenzene | 22.08 | 105 | 12838416 | 44.05 | ug/l | 92 |
| 82) 2-Chlorotoluene | 22.18 | 91 | 11953961 | 42.29 | ug/l | 92 |
| 83) 4-Chlorotoluene | 22.22 | 91 | 11125851 | 44.42 | ug/l | 89 |
| 84) tert-Butylbenzene | 22.55 | 134 | 3542640 | 50.52 | ug/l | 88 |
| 85) 1,2,4-Trimethylbenzene | 22.60 | 105 | 12217410 | 47.30 | ug/l | 90 |
| 86) sec-Butylbenzene | 22.83 | 105 | 16222405 | 41.36 | ug/l | 89 |
| 87) p-Isopropyltoluene | 23.00 | 119 | 13255276 | 48.38 | ug/l | 93 |
| 88) 1,3-Dichlorobenzene | 23.23 | 146 | 6875292 | 47.66 | ug/l | 96 |
| 89) 1,2,3-Trimethylbenzene | 23.28 | 105 | 11450652 | 44.96 | ug/l | 92 |
| 90) 1,4-Dichlorobenzene | 23.38 | 146 | 6593974 | 49.19 | ug/l | 98 |
| 92) n-Butylbenzene | 23.56 | 91 | 12062916 | 45.50 | ug/l | 94 |
| 93) 1,2-Dichlorobenzene | 23.92 | 146 | 5726577 | 48.31 | ug/l | 99 |
| 94) 1,2-Dibromo-3-chloropropan | 25.04 | 157 | 277124 | 45.35 | ug/l | 97 |
| 95) 1,2,4-Trichlorobenzene | 26.42 | 180 | 2691192 | 50.69 | ug/l | 99 |
| 96) Hexachlorobutadiene | 26.58 | 225 | 2108096 | 48.25 | ug/l | 94 |
| 97) Naphthalene | 26.90 | 128 | 3322353 | 47.32 | ug/l | 98 |
| 98) 1,2,3-Trichlorobenzene | 27.29 | 180 | 1905215 | 49.03 | ug/l | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR010.D Vial: 10
Acq On : 17 Jun 2024 8:58 pm Operator: LPriet
Sample : VOF3F179 5.0/25 Inst : F3
Misc : 50ppb 8260/250ppb KET-AA/1250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:54 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR011.D Vial: 11
Acq On : 17 Jun 2024 9:31 pm Operator: J.Priet
Sample : VOF3F1710 10/50 Inst : F3
Misc : 100ppb 8260/500ppb KET-AA/2500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:55 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.60 | 114 | 3202576 | 10.00 | ug/l | 0.00 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 2305476 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 680245 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 0.00 | 111 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 40) 1,2-Dichloroethane-d4 | 0.00 | 65 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 55) Toluene-d8 | 0.00 | 98 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| 75) 4-Bromofluorobenzene | 0.00 | 95 | 0d | 0.00 | ug/l | |
| Spiked Amount 10.000 | | | Recovery = | 0.00% | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.96 | 85 | 13088331 | 86.01 | ug/l | 96 |
| 8) Chloroethane | 5.76 | 64 | 9579385 | 89.68 | ug/l | 96 |
| 9) Dichlorofluoromethane | 5.82 | 67 | 22576438 | 84.63 | ug/l | 93 |
| 10) Trichlorofluoromethane | 6.31 | 101 | 17433207 | 97.55 | ug/l | 98 |
| 11) Acrolein | 7.24 | 56 | 3920851 | 477.92 | ug/l | 96 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.33 | 151 | 8290600 | 109.26 | ug/l | 98 |
| 13) 1,1-Dichloroethene | 7.76 | 61 | 23154772 | 83.98 | ug/l | 90 |
| 14) Acetone | 7.39 | 43 | 8050927 | 501.70 | ug/l | 95 |
| 15) Iodomethane | 8.58 | 142 | 16899408 | 105.27 | ug/l | 99 |
| 18) Methylene chloride | 9.01 | 49 | 15038644 | 85.17 | ug/l | 88 |
| 19) tert-Butyl alcohol | 7.88 | 59 | 11267459 | 2731.35 | ug/l | 96 |
| 20) tert-Butyl methyl ether (M | 9.44 | 73 | 19122389 | 96.61 | ug/l | 93 |
| 21) trans-1,2-Dichloroethene | 9.90 | 96 | 12414531 | 90.57 | ug/l | 98 |
| 22) Acrylonitrile | 9.38 | 53 | 10014112 | 476.83 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 10.85 | 45 | 43603016 | 77.41 | ug/l | 86 |
| 24) 1,1-Dichloroethane | 11.27 | 63 | 23113189 | 83.67 | ug/l | 93 |
| 25) Vinyl acetate | 11.25 | 43 | 12868077 | 86.86 | ug/l | 95 |
| 26) tert-Butyl ethyl ether (ET | 12.14 | 59 | 29278813 | 87.39 | ug/l | 88 |
| 27) 2,2-Dichloropropane | 12.86 | 77 | 8911160 | 82.25 | ug/l | 96 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 10262056 | 90.17 | ug/l | 95 |
| 29) 2-Butanone | 12.48 | 43 | 12189602 | 437.15 | ug/l | 93 |
| 31) Bromochloromethane | 13.74 | 130 | 5308502 | 106.04 | ug/l | 99 |
| 32) Tetrahydrofuran | 13.81 | 42 | 1556501 | 93.75 | ug/l | 86 |
| 33) Chloroform | 13.36 | 83 | 18335066 | 80.89 | ug/l | 96 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 13862812 | 88.67 | ug/l | 95 |
| 37) 1,1-Dichloropropene | 14.56 | 110 | 5683290 | 101.28 | ug/l | 99 |
| 38) Carbon tetrachloride | 14.76 | 117 | 12298133 | 97.02 | ug/l | 99 |
| 43) 1,2-Dichloroethane | 15.06 | 62 | 9868365 | 81.98 | ug/l | 99 |
| 44) tert-Amyl methyl ether (TA | 14.78 | 73 | 18970024 | 92.54 | ug/l | 95 |
| 45) Trichloroethene | 16.19 | 130 | 10733427 | 96.18 | ug/l | 95 |
| 47) 1,2-Dichloropropane | 16.50 | 63 | 10821148 | 88.47 | ug/l | 96 |
| 48) 1,4-Dioxane | 16.90 | 88 | 696530 | 2283.10 | ug/l | 85 |
| 49) Dibromomethane | 17.00 | 93 | 4047184 | 99.69 | ug/l | 80 |
| 50) Bromodichloromethane | 16.90 | 83 | 11792572 | 84.46 | ug/l | 94 |
| 51) 2-Chloroethyl vinyl ether | 17.33 | 63 | 1965363 | 118.60 | ug/l | 98 |
| 52) cis-1,3-Dichloropropene | 17.72 | 75 | 13278959 | 89.16 | ug/l | 90 |
| 53) 4-Methyl-2-pentanone | 17.36 | 43 | 22011474 | 379.98 | ug/l | 83 |
| 57) Ethyl methacrylate | 18.38 | 69 | 6729845 | 102.05 | ug/l | 85 |
| 58) trans-1,3-Dichloropropene | 18.44 | 75 | 9422054 | 90.54 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR011.D Vial: 11
Acq On : 17 Jun 2024 9:31 pm Operator: LPriet
Sample : VOF3F1710 10/50 Inst : F3
Misc : 100ppb 8260/500ppb KET-AA/2500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:55 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

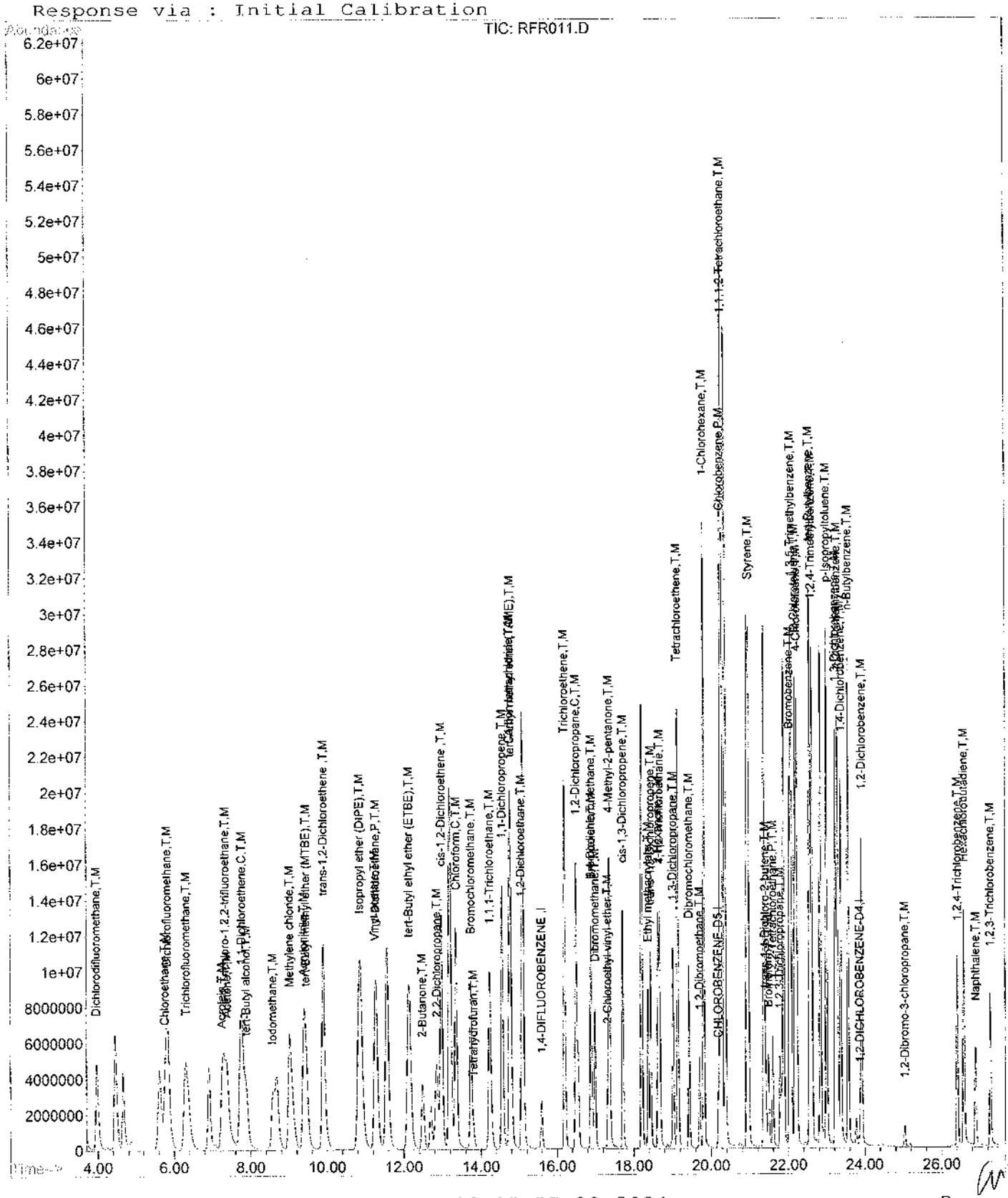
| Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|
| 59) 1,1,2-Trichloroethane | 18.67 | 97 | 5028429 | 96.35 ug/l | 94 |
| 60) Tetrachloroethene | 19.13 | 164 | 8444107 | 93.14 ug/l | 98 |
| 61) 2-Hexanone | 18.64 | 43 | 13979356 | 411.22 ug/l | 84 |
| 62) 1,3-Dichloropropane | 19.02 | 76 | 8594261 | 84.84 ug/l | 94 |
| 63) Dibromochloromethane | 19.43 | 129 | 6521231 | 97.40 ug/l | 97 |
| 64) 1,2-Dibromoethane | 19.71 | 107 | 4538737 | 95.88 ug/l | 99 |
| 65) 1-Chlorohexane | 19.81 | 91 | 13700848 | 85.16 ug/l | 84 |
| 66) Chlorobenzene | 20.24 | 112 | 16405326 | 74.73 ug/l | 80 |
| 68) 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 7733766 | 97.03 ug/l | 96 |
| 71) Styrene | 20.98 | 104 | 16525268 | 80.32 ug/l | 82 |
| 74) Bromoform | 21.49 | 173 | 3100005 | 113.10 ug/l | 98 |
| 76) 1,1,2,2-Tetrachloroethane | 21.60 | 83 | 5002702 | 90.85 ug/l | 95 |
| 77) trans-1,4-Dichloro-2-buten | 21.40 | 53 | 2307973 | 97.47 ug/l | 82 |
| 79) 1,2,3-Trichloropropane | 21.78 | 110 | 1104971 | 101.83 ug/l | 96 |
| 80) Bromobenzene | 22.03 | 156 | 7516303 | 96.82 ug/l | 96 |
| 81) 1,3,5-Trimethylbenzene | 22.08 | 105 | 18282900 | 67.02 ug/l | 74 |
| 82) 2-Chlorotoluene | 22.18 | 91 | 17913980 | 67.72 ug/l | 77 |
| 83) 4-Chlorotoluene | 22.23 | 91 | 16348032 | 69.74 ug/l | 73 |
| 84) tert-Butylbenzene | 22.56 | 134 | 6706298 | 102.19 ug/l | 88 |
| 85) 1,2,4-Trimethylbenzene | 22.60 | 105 | 17357398 | 71.80 ug/l | 71 |
| 87) p-Isopropyltoluene | 23.00 | 119 | 19177690 | 74.78 ug/l | 77 |
| 88) 1,3-Dichlorobenzene | 23.23 | 146 | 12239588 | 90.66 ug/l | 92 |
| 89) 1,2,3-Trimethylbenzene | 23.28 | 105 | 17996611 | 75.50 ug/l | 82 |
| 90) 1,4-Dichlorobenzene | 23.38 | 146 | 11472058 | 91.44 ug/l | 91 |
| 92) n-Butylbenzene | 23.56 | 91 | 18666614 | 75.23 ug/l | 80 |
| 93) 1,2-Dichlorobenzene | 23.92 | 146 | 10066502 | 90.74 ug/l | 97 |
| 94) 1,2-Dibromo-3-chloropropan | 25.04 | 157 | 603873 | 105.60 ug/l | 99 |
| 95) 1,2,4-Trichlorobenzene | 26.42 | 180 | 5624820 | 113.21 ug/l | 99 |
| 96) Hexachlorobutadiene | 26.58 | 225 | 4192375 | 102.38 ug/l | 95 |
| 97) Naphthalene | 26.90 | 128 | 7199470 | 109.56 ug/l | 97 |
| 98) 1,2,3-Trichlorobenzene | 27.27 | 180 | 4184515 | 115.05 ug/l | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR011.D Vial: 11
Acq On : 17 Jun 2024 9:31 pm Operator: LPriet
Sample : VOF3F1710 10/50 Inst : F3
Misc : 100ppb 8260/500ppb KET-AA/2500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 15:55 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



# SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :F3
IC_Beginning DateTime :06/17/24 16:35
Spike Amount :10 PPB
CC/CV File :RFR014
IC File :RFR007

Column Spec :ZB-624 ID :0.25MM
IC_Ending DateTime :06/17/24 21:31
HPChem Method :VOF3F17
Date_Time :06/17/24 23:09

| M | IDX | Parameters | CC_Con | CC%_D | CC_Resp | CCRRF | AvRRF | CC_Rtm | AvRtm | %_RSD | Co_X0 | Co_X1 | Co_X2 | Co_Cor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 10.000 | 0 | 3056009 | 1 | 1 | 15.598 | 15.598 | 0 | | | | |
| | 2 | Chlorotrifluoroethylene | | | | | | | | | | | | |
| | 3 | Dichlorodifluoromethane | 10.235 | 2.3 | 1486167 | 0.486 | 0.475 | 3.988 | 3.973 | 13.95 | | | | |
| | 4 | Chloromethane | 9.637 | -3.6 | 2202626 | 0.721 | 0.748 | 4.452 | 4.458 | 14.03 | | | | |
| | 5 | 2-Chloro-1,1,1-trifluoroethane | | | | | | | | | | | | |
| | 6 | Vinyl chloride | 9.300 | -7.0 | 1916968 | 0.627 | 0.674 | 4.685 | 4.687 | 12.47 | | | | |
| | 7 | Bromomethane | 9.737 | -2.6 | 965037 | 0.316 | 0.324 | 5.615 | 5.617 | 14.81 | | | | |
| | 8 | Chloroethane | 10.119 | 1.2 | 1031417 | 0.338 | 0.334 | 5.789 | 5.762 | 14.57 | | | | |
| | 9 | Dichlorofluoromethane | 9.953 | -0.5 | 2533813 | 0.829 | 0.833 | 5.847 | 5.823 | 9.54 | | | | |
| | 10 | Trichlorofluoromethane | 10.453 | 4.5 | 1782664 | 0.583 | 0.558 | 6.312 | 6.311 | 11.63 | | | | |
| 5 | 11 | Acrolein | 42.208 | -15.6 | 330431 | 0.022 | 0.026 | 7.241 | 7.247 | 14.42 | | | | |
| | 12 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 10.201 | 2.0 | 738662 | 0.242 | 0.237 | 7.328 | 7.313 | 4.79 | | | | |
| | 13 | 1,1-Dichloroethene | 9.732 | -2.7 | 2560495 | 0.838 | 0.861 | 7.764 | 7.749 | 10.61 | | | | |
| 5 | 14 | Acetone | 47.118 | -5.8 | 763826 | 0.050 | 0.072 | 7.387 | 7.389 | 42.89 | 0.0153 | 0.0498 | | 0.9980 |
| | 15 | Iodomethane | 10.188 | 1.9 | 1560696 | 0.511 | 0.501 | 8.578 | 8.580 | 4.79 | | | | |
| | 16 | Methyl acetate | 8.486 | -15.1 | 434014 | 0.142 | 0.167 | 8.578 | 8.565 | 3.90 | | | | |
| | 17 | Carbon disulfide | 9.484 | -5.2 | 3859627 | 1.263 | 1.332 | 9.130 | 9.124 | 11.11 | | | | |
| | 18 | Methylene chloride | 9.538 | -4.6 | 1607138 | 0.526 | 0.551 | 9.014 | 9.016 | 13.73 | | | | |
| 25 | 19 | tert-Butyl alcohol | 219.816 | -12.1 | 865295 | 0.011 | 0.013 | 7.880 | 7.897 | 14.17 | | | | |
| | 20 | tert-Butyl methyl ether (MTBE) | 9.128 | -8.7 | 1724083 | 0.564 | 0.618 | 9.437 | 9.446 | 9.48 | | | | |
| | 21 | trans-1,2-Dichloroethene | 10.112 | 1.1 | 1322747 | 0.433 | 0.428 | 9.920 | 9.906 | 10.99 | | | | |
| 5 | 22 | Acrylonitrile | 43.390 | -13.2 | 869555 | 0.057 | 0.066 | 9.376 | 9.378 | 6.94 | | | | |
| | 23 | Isopropyl ether (DIPE) | 9.154 | -8.5 | 4920270 | 1.610 | 1.759 | 10.847 | 10.862 | 12.72 | | | | |
| | 24 | 1,1-Dichloroethane | 9.562 | -4.4 | 2520661 | 0.825 | 0.863 | 11.269 | 11.275 | 9.51 | | | | |
| | 25 | Vinyl acetate | 8.008 | -19.9 | 1132098 | 0.370 | 0.463 | 11.249 | 11.256 | 9.17 | | | | |
| | 26 | tert-Butyl ethyl ether (ETBE) | 9.587 | -4.1 | 3065148 | 1.003 | 1.046 | 12.135 | 12.143 | 8.96 | | | | |
| | 27 | 2,2-Dichloropropane | 9.179 | -8.2 | 949054 | 0.311 | 0.338 | 12.861 | 12.860 | 14.08 | | | | |
| | 28 | cis-1,2-Dichloroethene | 9.647 | -3.5 | 1047680 | 0.343 | 0.355 | 12.981 | 12.981 | 10.88 | | | | |
| 5 | 29 | 2-Butanone | 41.750 | -16.5 | 1110922 | 0.073 | 0.087 | 12.478 | 12.493 | 11.29 | | | | |
| 25 | 30 | 2-Butanol | 203.377 | -18.6 | 862494 | 0.011 | 0.014 | 11.934 | 11.937 | 3.78 | | | | |
| | 31 | Bromochloromethane | 10.338 | 3.4 | 493844 | 0.162 | 0.156 | 13.740 | 13.740 | 4.99 | | | | |
| | 32 | Tetrahydrofuran | 9.096 | -9.0 | 144114 | 0.047 | 0.052 | 13.806 | 13.810 | 9.17 | | | | |
| | 33 | Chloroform | 9.028 | -9.7 | 1952883 | 0.639 | 0.708 | 13.345 | 13.348 | 14.17 | | | | |
| | 34 | Dibromofluoromethane | 9.638 | -3.6 | 918685 | 0.301 | 0.312 | 13.839 | 13.845 | 4.96 | | | | |
| | 35 | 1,1,1-Trichloroethane | 10.239 | 2.4 | 1527501 | 0.500 | 0.488 | 14.233 | 14.235 | 7.67 | | | | |
| | 36 | Cyclohexane | 9.086 | -9.1 | 1663374 | 0.544 | 0.599 | 14.266 | 14.270 | 13.97 | | | | |
| | 37 | 1,1-Dichloropropene | 10.135 | 1.4 | 542736 | 0.178 | 0.175 | 14.562 | 14.562 | 3.97 | | | | |
| | 38 | Carbon tetrachloride | 10.427 | 4.3 | 1261211 | 0.413 | 0.396 | 14.759 | 14.761 | 4.10 | | | | |
| 5 | 39 | tert-Amyl alcohol | | | | | | | | | | | | |
| | 40 | 1,2-Dichloroethane-d4 | 8.775 | -12.3 | 798552 | 0.261 | 0.298 | 14.875 | 14.877 | 9.66 | | | | |
| | 41 | 2,2,4-Trimethylpentane | | | | | | | | | | | | |
| | 42 | Benzene | 9.733 | -2.7 | 4567547 | 1.495 | 1.535 | 15.088 | 15.099 | 12.19 | | | | |
| | 43 | 1,2-Dichloroethane | 9.457 | -5.4 | 1086288 | 0.355 | 0.376 | 15.056 | 15.064 | 11.62 | | | | |
| | 44 | tert-Amyl methyl ether (TAME) | 9.548 | -4.5 | 1867930 | 0.611 | 0.640 | 14.776 | 14.777 | 8.92 | | | | |
| | 45 | Trichloroethene | 10.719 | 7.2 | 1141502 | 0.374 | 0.348 | 16.190 | 16.195 | 4.41 | | | | |
| | 46 | Methylcyclohexane | 9.136 | -8.6 | 1864202 | 0.610 | 0.668 | 16.289 | 16.295 | 12.80 | | | | |
| | 47 | 1,2-Dichloropropane | 9.577 | -4.2 | 1117844 | 0.366 | 0.382 | 16.503 | 16.499 | 8.66 | | | | |
| 20 | 48 | 1,4-Dioxane | 185.323 | -7.3 | 53951 | 0.001 | 0.001 | 16.914 | 16.904 | 8.35 | | | | |
| | 49 | Dibromomethane | 9.482 | -5.2 | 367341 | 0.120 | 0.127 | 16.996 | 16.994 | 3.51 | | | | |
| | 50 | Bromodichloromethane | 9.000 | -10.0 | 1199178 | 0.392 | 0.436 | 16.897 | 16.894 | 14.28 | | | | |
| | 51 | 2-Chloroethyl vinyl ether | 8.905 | -11.0 | 140812 | 0.046 | 0.052 | 17.325 | 17.325 | 10.70 | | | | |
| | 52 | cis-1,3-Dichloropropene | 9.673 | -3.3 | 1374766 | 0.450 | 0.465 | 17.719 | 17.719 | 6.84 | | | | |
| 5 | 53 | 4-Methyl-2-pentanone | 45.404 | -9.2 | 2509785 | 0.164 | 0.181 | 17.374 | 17.369 | 13.81 | | | | |
| | 54 | CHLOROBENZENE-DS | 10.000 | 0 | 2004158 | 1 | 1 | 20.186 | 20.186 | 0 | | | | |
| | 55 | Toluene-d8 | 10.623 | 6.2 | 3156545 | 1.575 | 1.483 | 18.081 | 18.088 | 11.42 | | | | |
| | 56 | Toluene | 10.628 | 6.3 | 3911347 | 1.952 | 1.836 | 18.213 | 18.212 | 13.71 | | | | |
| | 57 | Ethyl methacrylate | 9.322 | -6.8 | 534427 | 0.267 | 0.286 | 18.377 | 18.377 | 6.45 | | | | |
| | 58 | trans-1,3-Dichloropropene | 10.356 | 3.6 | 936838 | 0.467 | 0.451 | 18.443 | 18.443 | 6.88 | | | | |
| | 59 | 1,1,2-Trichloroethane | 9.987 | -0.1 | 453111 | 0.226 | 0.226 | 18.673 | 18.676 | 6.24 | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 60 | Tetrachloroethene | 10.909 | 9.1 | 859815 | 0.429 | 0.393 | 19.134 | 19.135 | 6.99 | | | |
| 5 | 61 | 2-Hexanone | 47.048 | -5.9 | 1390344 | 0.139 | 0.147 | 18.640 | 18.640 | 12.18 | | | |
| | 62 | 1,3-Dichloropropane | 9.983 | -0.2 | 879202 | 0.439 | 0.439 | 19.019 | 19.020 | 12.20 | | | |
| | 63 | Dibromochloromethane | 10.248 | 2.5 | 596433 | 0.298 | 0.290 | 19.430 | 19.431 | 7.40 | | | |
| | 64 | 1,2-Dibromoethane | 10.249 | 2.5 | 421796 | 0.210 | 0.205 | 19.709 | 19.709 | 7.18 | | | |
| | 65 | 1-Chlorohexane | 10.779 | 7.8 | 1507555 | 0.752 | 0.698 | 19.808 | 19.809 | 8.66 | | | |
| | 66 | Chlorobenzene | 11.080 | 10.8 | 2114590 | 1.055 | 0.952 | 20.236 | 20.235 | 10.77 | | | |
| | 67 | Ethylbenzene | 11.106 | 11.1 | 4091479 | 2.041 | 1.838 | 20.268 | 20.268 | 10.78 | | | |
| | 68 | 1,1,1,2-Tetrachloroethane | 10.661 | 6.6 | 738693 | 0.369 | 0.346 | 20.268 | 20.268 | 5.47 | | | |
| 2 | 69 | m-Xylene & p-Xylene | 22.445 | 12.2 | 6023717 | 1.503 | 1.339 | 20.351 | 20.352 | 11.13 | | | |
| | 70 | o-Xylene | 10.666 | 6.7 | 2889837 | 1.442 | 1.352 | 20.926 | 20.928 | 9.43 | | | |
| | 71 | Styrene | 10.553 | 5.5 | 1887409 | 0.942 | 0.892 | 20.976 | 20.975 | 10.08 | | | |
| | 72 | Isopropylbenzene | 11.517 | 15.2 | 3564698 | 1.779 | 1.544 | 21.370 | 21.368 | 7.88 | | | |
| | 73 | 1,2-DICHLOROBENZENE-D4 | 10.000 | 0 | 579354 | 1 | 1 | 23.870 | 23.871 | 0 | | | |
| | 74 | Bromoform | 10.378 | 3.8 | 242281 | 0.418 | 0.403 | 21.485 | 21.487 | 8.43 | | | |
| | 75 | 4-Bromofluorobenzene | 9.613 | -3.9 | 888658 | 1.534 | 1.595 | 21.732 | 21.729 | 6.45 | | | |
| | 76 | 1,1,2,2-Tetrachloroethane | 8.832 | -11.7 | 414246 | 0.715 | 0.809 | 21.600 | 21.600 | 10.86 | | | |
| | 77 | trans-1,4-Dichloro-2-butene | 9.127 | -8.7 | 184079 | 0.318 | 0.348 | 21.403 | 21.403 | 14.42 | | | |
| | 78 | n-Propylbenzene | 10.490 | 4.9 | 4020495 | 6.940 | 6.615 | 21.880 | 21.880 | 12.21 | | | |
| | 79 | 1,2,3-Trichloropropane | 9.738 | -2.6 | 93626 | 0.162 | 0.175 | 21.781 | 21.783 | 15.18 | 0.0069 | 0.1588 | 0.9989 |
| | 80 | Bromobenzene | 10.805 | 8.1 | 714439 | 1.233 | 1.141 | 22.028 | 22.029 | 7.22 | | | |
| | 81 | 1,3,5-Trimethylbenzene | 11.893 | 18.9 | 2763277 | 4.770 | 4.010 | 22.061 | 22.069 | 13.41 | | | |
| | 82 | 2-Chlorotoluene | 11.269 | 12.7 | 2539073 | 4.383 | 3.889 | 22.176 | 22.176 | 14.74 | | | |
| | 83 | 4-Chlorotoluene | 10.996 | 10.0 | 2195355 | 3.789 | 3.446 | 22.225 | 22.225 | 12.80 | | | |
| | 84 | tert-Butylbenzene | 10.405 | 4.0 | 581597 | 1.004 | 0.965 | 22.554 | 22.554 | 4.74 | | | |
| | 85 | 1,2,4-Trimethylbenzene | 11.681 | 16.8 | 2405146 | 4.151 | 3.554 | 22.604 | 22.605 | 11.08 | | | |
| | 86 | sec-Butylbenzene | 11.328 | 13.3 | 3542273 | 6.114 | 5.397 | 22.834 | 22.833 | 7.85 | | | |
| | 87 | p-Isopropyltoluene | 11.292 | 12.9 | 2466458 | 4.257 | 3.770 | 22.998 | 22.998 | 12.49 | | | |
| | 88 | 1,3-Dichlorobenzene | 10.544 | 5.4 | 1212499 | 2.093 | 1.985 | 23.228 | 23.230 | 6.54 | | | |
| | 89 | 1,2,3-Trimethylbenzene | 11.020 | 10.2 | 2237443 | 3.862 | 3.504 | 23.278 | 23.279 | 10.80 | | | |
| | 90 | 1,4-Dichlorobenzene | 10.267 | 2.7 | 1097112 | 1.894 | 1.844 | 23.360 | 23.373 | 7.54 | | | |
| | 91 | Benzyl Chloride | | | | | | | | | | | |
| | 92 | n-Butylbenzene | 10.764 | 7.6 | 2274979 | 3.927 | 3.648 | 23.557 | 23.559 | 13.25 | | | |
| | 93 | 1,2-Dichlorobenzene | 10.193 | 1.9 | 963171 | 1.662 | 1.631 | 23.919 | 23.919 | 6.48 | | | |
| | 94 | 1,2-Dibromo-3-chloropropane | 8.940 | -10.6 | 43543 | 0.075 | 0.084 | 25.037 | 25.039 | 10.32 | | | |
| | 95 | 1,2,4-Trichlorobenzene | 9.827 | -1.7 | 415885 | 0.718 | 0.730 | 26.419 | 26.418 | 14.07 | | | |
| | 96 | Hexachlorobutadiene | 9.124 | -8.8 | 314350 | 0.543 | 0.549 | 26.583 | 26.586 | 19.30 | -0.0074 | 0.6027 | 0.9988 |
| | 97 | Naphthalene | 10.018 | 0.2 | 560700 | 0.968 | 0.966 | 26.895 | 26.895 | 10.38 | | | |
| | 98 | 1,2,3-Trichlorobenzene | 10.436 | 4.4 | 323292 | 0.558 | 0.535 | 27.274 | 27.279 | 8.15 | | | |

Spike Amount = Nominal Amount * M

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR014.D  Vial: 14
Acq On : 17 Jun 2024 11:09 pm  Operator: LPriet
Sample : IVOF3F1701  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 94 | 0.00 |
| 2 | T,M | Chlorotrifluoroethylene | 10.000 | 0.000 | 100.0# | 0 | -4.06# |
| 3 | T,M | Dichlorodifluoromethane | 10.000 | 10.235 | -2.3 | 95 | 0.02 |
| 4 | P,T,M | Chloromethane | 10.000 | 9.638 | 3.6 | 90 | 0.00 |
| 5 | T,M | 2-Chloro-1,1,1-trifluoroeth | 10.000 | 0.000 | 100.0# | 0 | -4.65# |
| 6 | C,T,M | Vinyl chloride | 10.000 | 9.301 | 7.0 | 96 | 0.00 |
| 7 | T,M | Bromomethane | 10.000 | 9.737 | 2.6 | 100 | 0.00 |
| 8 | T,M | Chloroethane | 10.000 | 10.119 | -1.2 | 99 | 0.02 |
| 9 | T,M | Dichlorofluoromethane | 10.000 | 9.954 | 0.5 | 93 | 0.02 |
| 10 | T,M | Trichlorofluoromethane | 10.000 | 10.454 | -4.5 | 103 | 0.00 |
| 11 | T,M | Acrolein | 50.000 | 42.208 | 15.6 | 83 | 0.00 |
| 12 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 10.000 | 10.201 | -2.0 | 102 | 0.02 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 9.732 | 2.7 | 89 | 0.02 |
| 14 | T,M | Acetone | 50.000 | 47.118 | 5.8 | 81 | 0.00 |
| 15 | T,M | Iodomethane | 10.000 | 10.188 | -1.9 | 98 | 0.00 |
| 16 | T,M | Methyl acetate | 10.000 | 8.487 | 15.1 | 79 | 0.02 |
| 17 | T,M | Carbon disulfide | 10.000 | 9.485 | 5.2 | 105 | 0.02 |
| 18 | T,M | Methylene chloride | 10.000 | 9.538 | 4.6 | 88 | 0.00 |
| 19 | T,M | tert-Butyl alcohol | 250.000 | 219.816 | 12.1 | 85 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 9.128 | 8.7 | 90 | 0.00 |
| 21 | T,M | trans-1,2-Dichloroethene | 10.000 | 10.113 | -1.1 | 100 | 0.02 |
| 22 | T,M | Acrylonitrile | 50.000 | 43.391 | 13.2 | 84 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.154 | 8.5 | 84 | -0.02 |
| 24 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.563 | 4.4 | 87 | 0.00 |
| 25 | T,M | Vinyl acetate | 10.000 | 8.008 | 19.9 | 72 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.587 | 4.1 | 88 | 0.00 |
| 27 | T,M | 2,2-Dichloropropane | 10.000 | 9.180 | 8.2 | 86 | 0.00 |
| 28 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.647 | 3.5 | 94 | 0.00 |
| 29 | T,M | 2-Butanone | 50.000 | 41.751 | 16.5 | 77 | -0.02 |
| 30 | T,M | 2-Butanol | 250.000 | 203.378 | 18.6 | 77 | 0.00 |
| 31 | T,M | Bromochloromethane | 10.000 | 10.338 | -3.4 | 98 | 0.00 |
| 32 | T,M | Tetrahydrofuran | 10.000 | 9.096 | 9.0 | 79 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.029 | 9.7 | 87 | 0.00 |
| 34 | S | Dibromofluoromethane | 10.000 | 9.639 | 3.6 | 89 | -0.02 |
| 35 | T,M | 1,1,1-Trichloroethane | 10.000 | 10.239 | -2.4 | 96 | 0.00 |
| 36 | T,M | Cyclohexane | 10.000 | 9.086 | 9.1 | 91 | 0.00 |
| 37 | T,M | 1,1-Dichloropropene | 10.000 | 10.136 | -1.4 | 96 | 0.00 |
| 38 | T,M | Carbon tetrachloride | 10.000 | 10.427 | -4.3 | 98 | 0.00 |
| 39 | T,M | tert-Amyl alcohol | 50.000 | 0.000 | 100.0# | 0 | 0.02 |
| 40 | S | 1,2-Dichloroethane-d4 | 10.000 | 8.776 | 12.2 | 83 | 0.00 |
| 41 | T,M | 2,2,4-Trimethylpentane | 10.000 | 0.000 | 100.0# | 0 | 0.00 |
| 42 | T,M | Benzene | 10.000 | 9.734 | 2.7 | 92 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 9.457 | 5.4 | 88 | 0.00 |
| 44 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 9.549 | 4.5 | 93 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 10.720 | -7.2 | 97 | 0.00 |
| 46 | T,M | Methylcyclohexane | 10.000 | 9.136 | 8.6 | 92 | -0.02 |
| 47 | C,T,M | 1,2-Dichloropropane | 10.000 | 9.578 | 4.2 | 89 | 0.00 |
| 48 | T,M | 1,4-Dioxane | 200.000 | 185.323 | 7.3 | 88 | 0.02 |
| 49 | T,M | Dibromomethane | 10.000 | 9.482 | 5.2 | 90 | 0.00 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.000 | 10.0 | 89 | 0.00 |
| 51 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 8.905 | 11.0 | 85 | 0.00 |
| 52 | T,M | cis-1,3-Dichloropropene | 10.000 | 9.673 | 3.3 | 88 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 45.404 | 9.2 | 83 | 0.00 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR014.D  Vial: 14
Acq On : 17 Jun 2024 11:09 pm  Operator: LPriet
Sample : IVOF3F1701  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 54 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 94 | 0.00 |
| 55 | S | Toluene-d8 | 10.000 | 10.623 | -6.2 | 91 | 0.00 |
| 56 | C,T,M | Toluene | 10.000 | 10.628 | -6.3 | 92 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.322 | 6.8 | 87 | 0.00 |
| 58 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.356 | -3.6 | 88 | 0.00 |
| 59 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.988 | 0.1 | 95 | 0.00 |
| 60 | T,M | Tetrachloroethene | 10.000 | 10.909 | -9.1 | 97 | 0.00 |
| 61 | T,M | 2-Hexanone | 50.000 | 47.048 | 5.9 | 85 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 9.984 | 0.2 | 92 | 0.00 |
| 63 | T,M | Dibromochloromethane | 10.000 | 10.248 | -2.5 | 94 | 0.00 |
| 64 | T,M | 1,2-Dibromoethane | 10.000 | 10.250 | -2.5 | 94 | 0.00 |
| 65 | T,M | 1-Chlorohexane | 10.000 | 10.780 | -7.8 | 88 | 0.00 |
| 66 | P,M | Chlorobenzene | 10.000 | 11.081 | -10.8 | 96 | 0.00 |
| 67 | C,T,M | Ethylbenzene | 10.000 | 11.106 | -11.1 | 94 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.661 | -6.6 | 94 | 0.00 |
| 69 | T,M | m-Xylene & p-Xylene | 20.000 | 22.446 | -12.2 | 97 | 0.00 |
| 70 | T,M | o-Xylene | 10.000 | 10.666 | -6.7 | 87 | 0.00 |
| 71 | T,M | Styrene | 10.000 | 10.553 | -5.5 | 85 | 0.00 |
| 72 | T,M | Isopropylbenzene | 10.000 | 11.517 | -15.2 | 96 | 0.00 |
| 73 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 95 | 0.00 |
| 74 | P,T,M | Bromoform | 10.000 | 10.379 | -3.8 | 95 | 0.00 |
| 75 | S | 4-Bromofluorobenzene | 10.000 | 9.614 | 3.9 | 89 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.833 | 11.7 | 86 | 0.00 |
| 77 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 9.128 | 8.7 | 84 | 0.00 |
| 78 | T,M | n-Propylbenzene | 10.000 | 10.490 | -4.9 | 89 | 0.00 |
| 79 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.738 | 2.6 | 85 | 0.00 |
| 80 | T,M | Bromobenzene | 10.000 | 10.806 | -8.1 | 101 | 0.00 |
| 81 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 11.893 | -18.9 | 99 | 0.00 |
| 82 | T,M | 2-Chlorotoluene | 10.000 | 11.270 | -12.7 | 99 | 0.00 |
| 83 | T,M | 4-Chlorotoluene | 10.000 | 10.997 | -10.0 | 96 | 0.00 |
| 84 | T,M | tert-Butylbenzene | 10.000 | 10.405 | -4.0 | 99 | 0.00 |
| 85 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.681 | -16.8 | 105 | 0.00 |
| 86 | T,M | sec-Butylbenzene | 10.000 | 11.329 | -13.3 | 99 | 0.00 |
| 87 | T,M | p-Isopropyltoluene | 10.000 | 11.293 | -12.9 | 96 | 0.00 |
| 88 | T,M | 1,3-Dichlorobenzene | 10.000 | 10.545 | -5.4 | 97 | 0.00 |
| 89 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 11.021 | -10.2 | 99 | 0.00 |
| 90 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.268 | -2.7 | 99 | -0.02 |
| 91 | T,M | Benzyl Chloride | -1.000 | 0.000 | 0.0 | 0 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 10.765 | -7.7 | 93 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.194 | -1.9 | 97 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.940 | 10.6 | 89 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.828 | 1.7 | 97 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.125 | 8.8 | 88 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.019 | -0.2 | 98 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.436 | -4.4 | 100 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR014.D  Vial: 14
Acq On : 17 Jun 2024 11:09 pm  Operator: LPriet
Sample : IVOF3F1701  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 94 | 0.00 |
| 2 | T,M | Chlorotrifluoroethylene | 0.000 | 0.000 | 0.0 | 0# | -4.06# |
| 3 | T,M | Dichlorodifluoromethane | 0.475 | 0.486 | -2.3 | 95 | 0.02 |
| 4 | P,T,M | Chloromethane | 0.748 | 0.721 | 3.6 | 90 | 0.00 |
| 5 | T,M | 2-Chloro-1,1,1-trifluoroeth | 0.000 | 0.000 | 0.0 | 0# | -4.65# |
| 6 | C,T,M | Vinyl chloride | 0.674 | 0.627 | 7.0 | 96 | 0.00 |
| 7 | T,M | Bromomethane | 0.324 | 0.316 | 2.5 | 100 | 0.00 |
| 8 | T,M | Chloroethane | 0.334 | 0.338 | -1.2 | 99 | 0.02 |
| 9 | T,M | Dichlorofluoromethane | 0.833 | 0.829 | 0.5 | 93 | 0.02 |
| 10 | T,M | Trichlorofluoromethane | 0.558 | 0.583 | -4.5 | 103 | 0.00 |
| 11 | T,M | Acrolein | 0.026 | 0.022 | 15.4 | 83 | 0.00 |
| 12 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 0.237 | 0.242 | -2.1 | 102 | 0.02 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.861 | 0.838 | 2.7 | 89 | 0.02 |
| 14 | T,M | Acetone | 0.072 | 0.050 | 30.6# | 81 | 0.00 |
| 15 | T,M | Iodomethane | 0.501 | 0.511 | -2.0 | 98 | 0.00 |
| 16 | T,M | Methyl acetate | 0.167 | 0.142 | 15.0 | 79 | 0.02 |
| 17 | T,M | Carbon disulfide | 1.332 | 1.263 | 5.2 | 105 | 0.02 |
| 18 | T,M | Methylene chloride | 0.551 | 0.526 | 4.5 | 88 | 0.00 |
| 19 | T,M | tert-Butyl alcohol | 0.013 | 0.011 | 15.4 | 85 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 0.618 | 0.564 | 8.7 | 90 | 0.00 |
| 21 | T,M | trans-1,2-Dichloroethene | 0.428 | 0.433 | -1.2 | 100 | 0.02 |
| 22 | T,M | Acrylonitrile | 0.066 | 0.057 | 13.6 | 84 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.759 | 1.610 | 8.5 | 84 | -0.02 |
| 24 | P,T,M | 1,1-Dichloroethane | 0.863 | 0.825 | 4.4 | 87 | 0.00 |
| 25 | T,M | Vinyl acetate | 0.463 | 0.370 | 20.1 | 72 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.046 | 1.003 | 4.1 | 88 | 0.00 |
| 27 | T,M | 2,2-Dichloropropane | 0.338 | 0.311 | 8.0 | 86 | 0.00 |
| 28 | T,M | cis-1,2-Dichloroethene | 0.355 | 0.343 | 3.4 | 94 | 0.00 |
| 29 | T,M | 2-Butanone | 0.087 | 0.073 | 16.1 | 77 | -0.02 |
| 30 | T,M | 2-Butanol | 0.014 | 0.011 | 21.4# | 77 | 0.00 |
| 31 | T,M | Bromochloromethane | 0.156 | 0.162 | -3.8 | 98 | 0.00 |
| 32 | T,M | Tetrahydrofuran | 0.052 | 0.047 | 9.6 | 79 | 0.00 |
| 33 | C,T,M | Chloroform | 0.708 | 0.639 | 9.7 | 87 | 0.00 |
| 34 | S | Dibromofluoromethane | 0.312 | 0.301 | 3.5 | 89 | -0.02 |
| 35 | T,M | 1,1,1-Trichloroethane | 0.488 | 0.500 | -2.5 | 96 | 0.00 |
| 36 | T,M | Cyclohexane | 0.599 | 0.544 | 9.2 | 91 | 0.00 |
| 37 | T,M | 1,1-Dichloropropene | 0.175 | 0.178 | -1.7 | 96 | 0.00 |
| 38 | T,M | Carbon tetrachloride | 0.396 | 0.413 | -4.3 | 98 | 0.00 |
| 39 | T,M | tert-Amyl alcohol | 0.000 | 0.001 | 0.0 | 0# | 0.02 |
| 40 | S | 1,2-Dichloroethane-d4 | 0.298 | 0.261 | 12.4 | 83 | 0.00 |
| 41 | T,M | 2,2,4-Trimethylpentane | 0.000 | 0.039 | 0.0 | 0# | 0.00 |
| 42 | T,M | Benzene | 1.535 | 1.495 | 2.6 | 92 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.376 | 0.355 | 5.6 | 88 | 0.00 |
| 44 | T,M | tert-Amyl methyl ether (TAM | 0.640 | 0.611 | 4.5 | 93 | 0.00 |
| 45 | T,M | Trichloroethene | 0.348 | 0.374 | -7.5 | 97 | 0.00 |
| 46 | T,M | Methylcyclohexane | 0.668 | 0.610 | 8.7 | 92 | -0.02 |
| 47 | C,T,M | 1,2-Dichloropropane | 0.382 | 0.366 | 4.2 | 89 | 0.00 |
| 48 | T,M | 1,4-Dioxane | 0.001 | 0.001 | 0.0 | 88 | 0.02 |
| 49 | T,M | Dibromomethane | 0.127 | 0.120 | 5.5 | 90 | 0.00 |
| 50 | T,M | Bromodichloromethane | 0.436 | 0.392 | 10.1 | 89 | 0.00 |
| 51 | T,M | 2-Chloroethyl vinyl ether | 0.052 | 0.046 | 11.5 | 85 | 0.00 |
| 52 | T,M | cis-1,3-Dichloropropene | 0.465 | 0.450 | 3.2 | 88 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.181 | 0.164 | 9.4 | 83 | 0.00 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR014.D  Vial: 14
Acq On : 17 Jun 2024 11:09 pm  Operator: LPriet
Sample : IVOF3F1701  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 54 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 94 | 0.00 |
| 55 | S | Toluene-d8 | 1.483 | 1.575 | -6.2 | 91 | 0.00 |
| 56 | C,T,M | Toluene | 1.836 | 1.952 | -6.3 | 92 | 0.00 |
| 57 | T,M | Ethyl methacrylate | 0.286 | 0.267 | 6.6 | 87 | 0.00 |
| 58 | T,M | trans-1,3-Dichloropropene | 0.451 | 0.467 | -3.5 | 88 | 0.00 |
| 59 | T,M | 1,1,2-Trichloroethane | 0.226 | 0.226 | 0.0 | 95 | 0.00 |
| 60 | T,M | Tetrachloroethene | 0.393 | 0.429 | -9.2 | 97 | 0.00 |
| 61 | T,M | 2-Hexanone | 0.147 | 0.139 | 5.4 | 85 | 0.00 |
| 62 | T,M | 1,3-Dichloropropane | 0.439 | 0.439 | 0.0 | 92 | 0.00 |
| 63 | T,M | Dibromochloromethane | 0.290 | 0.298 | -2.8 | 94 | 0.00 |
| 64 | T,M | 1,2-Dibromoethane | 0.205 | 0.210 | -2.4 | 94 | 0.00 |
| 65 | T,M | 1-Chlorohexane | 0.698 | 0.752 | -7.7 | 88 | 0.00 |
| 66 | P,M | Chlorobenzene | 0.952 | 1.055 | -10.8 | 96 | 0.00 |
| 67 | C,T,M | Ethylbenzene | 1.838 | 2.041 | -11.0 | 94 | 0.00 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.346 | 0.369 | -6.6 | 94 | 0.00 |
| 69 | T,M | m-Xylene & p-Xylene | 1.339 | 1.503 | -12.2 | 97 | 0.00 |
| 70 | T,M | o-Xylene | 1.352 | 1.442 | -6.7 | 87 | 0.00 |
| 71 | T,M | Styrene | 0.892 | 0.942 | -5.6 | 85 | 0.00 |
| 72 | T,M | Isopropylbenzene | 1.544 | 1.779 | -15.2 | 96 | 0.00 |
| 73 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 95 | 0.00 |
| 74 | P,T,M | Bromoform | 0.403 | 0.418 | -3.7 | 95 | 0.00 |
| 75 | S | 4-Bromofluorobenzene | 1.595 | 1.534 | 3.8 | 89 | 0.00 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 0.809 | 0.715 | 11.6 | 86 | 0.00 |
| 77 | T,M | trans-1,4-Dichloro-2-butene | 0.348 | 0.318 | 8.6 | 84 | 0.00 |
| 78 | T,M | n-Propylbenzene | 6.615 | 6.940 | -4.9 | 89 | 0.00 |
| 79 | T,M | 1,2,3-Trichloropropane | 0.175 | 0.162 | 7.4 | 85 | 0.00 |
| 80 | T,M | Bromobenzene | 1.141 | 1.233 | -8.1 | 101 | 0.00 |
| 81 | T,M | 1,3,5-Trimethylbenzene | 4.010 | 4.770 | -19.0 | 99 | 0.00 |
| 82 | T,M | 2-Chlorotoluene | 3.889 | 4.383 | -12.7 | 99 | 0.00 |
| 83 | T,M | 4-Chlorotoluene | 3.446 | 3.789 | -10.0 | 96 | 0.00 |
| 84 | T,M | tert-Butylbenzene | 0.965 | 1.004 | -4.0 | 99 | 0.00 |
| 85 | T,M | 1,2,4-Trimethylbenzene | 3.554 | 4.151 | -16.8 | 105 | 0.00 |
| 86 | T,M | sec-Butylbenzene | 5.397 | 6.114 | -13.3 | 99 | 0.00 |
| 87 | T,M | p-Isopropyltoluene | 3.770 | 4.257 | -12.9 | 96 | 0.00 |
| 88 | T,M | 1,3-Dichlorobenzene | 1.985 | 2.093 | -5.4 | 97 | 0.00 |
| 89 | T,M | 1,2,3-Trimethylbenzene | 3.504 | 3.862 | -10.2 | 99 | 0.00 |
| 90 | T,M | 1,4-Dichlorobenzene | 1.844 | 1.894 | -2.7 | 99 | -0.02 |
| 91 | T,M | Benzyl Chloride | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.648 | 3.927 | -7.6 | 93 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 1.631 | 1.662 | -1.9 | 97 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.084 | 0.075 | 10.7 | 89 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 0.730 | 0.718 | 1.6 | 97 | 0.00 |
| 96 | T,M | Hexachlorobutadiene | 0.549 | 0.543 | 1.1 | 88 | 0.00 |
| 97 | T,M | Naphthalene | 0.966 | 0.968 | -0.2 | 98 | 0.00 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 0.535 | 0.558 | -4.3 | 100 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR014.D Vial: 14
Acq On : 17 Jun 2024 11:09 pm Operator: LPriet
Sample : IVOF3F1701 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 12:18 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.60 | 114 | 3056009 | 10.00 | ug/l | 0.00 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 2004158 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 579354 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.84 | 111 | 918685 | 9.64 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 96.40% | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 798552 | 8.78 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 87.80% | | |
| 55) Toluene-d8 | 18.08 | 98 | 3156545 | 10.62 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 106.20% | | |
| 75) 4-Bromofluorobenzene | 21.73 | 95 | 888658 | 9.61 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 96.10% | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.99 | 85 | 1486167 | 10.24 | ug/l | 100 |
| 4) Chloromethane | 4.45 | 50 | 2202626 | 9.64 | ug/l | 97 |
| 6) Vinyl chloride | 4.68 | 62 | 1916968 | 9.30 | ug/l | 100 |
| 7) Bromomethane | 5.61 | 94 | 965037 | 9.74 | ug/l | 95 |
| 8) Chloroethane | 5.79 | 64 | 1031417 | 10.12 | ug/l | 94 |
| 9) Dichlorofluoromethane | 5.85 | 67 | 2533813 | 9.95 | ug/l | 100 |
| 10) Trichlorofluoromethane | 6.31 | 101 | 1782664 | 10.45 | ug/l | 98 |
| 11) Acrolein | 7.24 | 56 | 330431 | 42.21 | ug/l | 97 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.33 | 151 | 738662 | 10.20 | ug/l | 97 |
| 13) 1,1-Dichloroethene | 7.76 | 61 | 2560495 | 9.73 | ug/l | 96 |
| 14) Acetone | 7.39 | 43 | 763826 | 47.12 | ug/l | 97 |
| 15) Iodomethane | 8.58 | 142 | 1560696 | 10.19 | ug/l | 100 |
| 16) Methyl acetate | 8.58 | 43 | 434014 | 8.49 | ug/l | 93 |
| 17) Carbon disulfide | 9.13 | 76 | 3859627 | 9.48 | ug/l | 100 |
| 18) Methylene chloride | 9.01 | 49 | 1607138 | 9.54 | ug/l | 97 |
| 19) tert-Butyl alcohol | 7.88 | 59 | 865295 | 219.82 | ug/l | 94 |
| 20) tert-Butyl methyl ether (M | 9.44 | 73 | 1724083 | 9.13 | ug/l | 94 |
| 21) trans-1,2-Dichloroethene | 9.92 | 96 | 1322747 | 10.11 | ug/l | 97 |
| 22) Acrylonitrile | 9.38 | 53 | 869555 | 43.39 | ug/l | 98 |
| 23) Isopropyl ether (DIPE) | 10.85 | 45 | 4920270 | 9.15 | ug/l | 97 |
| 24) 1,1-Dichloroethane | 11.27 | 63 | 2520661 | 9.56 | ug/l | 99 |
| 25) Vinyl acetate | 11.25 | 43 | 1132098 | 8.01 | ug/l | 98 |
| 26) tert-Butyl ethyl ether (ET | 12.14 | 59 | 3065148 | 9.59 | ug/l | 99 |
| 27) 2,2-Dichloropropane | 12.86 | 77 | 949054 | 9.18 | ug/l | 97 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 1047680 | 9.65 | ug/l | 99 |
| 29) 2-Butanone | 12.48 | 43 | 1110922 | 41.75 | ug/l | 98 |
| 30) 2-Butanol | 11.93 | 45 | 862494 | 203.38 | ug/l | 100 |
| 31) Bromochloromethane | 13.74 | 130 | 493844 | 10.34 | ug/l | 98 |
| 32) Tetrahydrofuran | 13.81 | 42 | 144114 | 9.10 | ug/l | 92 |
| 33) Chloroform | 13.35 | 83 | 1952883 | 9.03 | ug/l | 98 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 1527501 | 10.24 | ug/l | 98 |
| 36) Cyclohexane | 14.27 | 84 | 1663374 | 9.09 | ug/l | 99 |
| 37) 1,1-Dichloropropene | 14.56 | 110 | 542736 | 10.14 | ug/l | 97 |
| 38) Carbon tetrachloride | 14.76 | 117 | 1261211 | 10.43 | ug/l | 100 |
| 42) Benzene | 15.09 | 78 | 4567547 | 9.73 | ug/l | 99 |
| 43) 1,2-Dichloroethane | 15.06 | 62 | 1086288 | 9.46 | ug/l | 99 |
| 44) tert-Amyl methyl ether (TA | 14.78 | 73 | 1867930 | 9.55 | ug/l | 98 |
| 45) Trichloroethene | 16.19 | 130 | 1141502 | 10.72 | ug/l | 99 |
| 46) Methylcyclohexane | 16.29 | 83 | 1864202 | 9.14 | ug/l | 95 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F17\RFR014.D Vial: 14
Acq On : 17 Jun 2024 11:09 pm Operator: LPriet
Sample : IVOF3F1701 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 12:18 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 47) | 1,2-Dichloropropane | 16.50 | 63 | 1117844 | 9.58 ug/l | 100 |
| 48) | 1,4-Dioxane | 16.91 | 88 | 53951 | 185.32 ug/l | 99 |
| 49) | Dibromomethane | 17.00 | 93 | 367341 | 9.48 ug/l | 87 |
| 50) | Bromodichloromethane | 16.90 | 83 | 1199178 | 9.00 ug/l | 100 |
| 51) | 2-Chloroethyl vinyl ether | 17.32 | 63 | 140812 | 8.91 ug/l | 99 |
| 52) | cis-1,3-Dichloropropene | 17.72 | 75 | 1374766 | 9.67 ug/l | 98 |
| 53) | 4-Methyl-2-pentanone | 17.37 | 43 | 2509785 | 45.40 ug/l | 97 |
| 56) | Toluene | 18.21 | 91 | 3911347 | 10.63 ug/l | 99 |
| 57) | Ethyl methacrylate | 18.38 | 69 | 534427 | 9.32 ug/l | 88 |
| 58) | trans-1,3-Dichloropropene | 18.44 | 75 | 936838 | 10.36 ug/l | 99 |
| 59) | 1,1,2-Trichloroethane | 18.67 | 97 | 453111 | 9.99 ug/l | 93 |
| 60) | Tetrachloroethene | 19.13 | 164 | 859815 | 10.91 ug/l | 99 |
| 61) | 2-Hexanone | 18.64 | 43 | 1390344 | 47.05 ug/l | 97 |
| 62) | 1,3-Dichloropropane | 19.02 | 76 | 879202 | 9.98 ug/l | 97 |
| 63) | Dibromochloromethane | 19.43 | 129 | 596433 | 10.25 ug/l | 98 |
| 64) | 1,2-Dibromoethane | 19.71 | 107 | 421796 | 10.25 ug/l | 97 |
| 65) | 1-Chlorohexane | 19.81 | 91 | 1507555 | 10.78 ug/l | 95 |
| 66) | Chlorobenzene | 20.24 | 112 | 2114590 | 11.08 ug/l | 98 |
| 67) | Ethylbenzene | 20.27 | 91 | 4091479 | 11.11 ug/l | 98 |
| 68) | 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 738693 | 10.66 ug/l | 99 |
| 69) | m-Xylene & p-Xylene | 20.35 | 91 | 6023717 | 22.45 ug/l | 98 |
| 70) | o-Xylene | 20.93 | 91 | 2889837 | 10.67 ug/l | 99 |
| 71) | Styrene | 20.98 | 104 | 1887409 | 10.55 ug/l | 98 |
| 72) | Isopropylbenzene | 21.37 | 105 | 3564698 | 11.52 ug/l | 100 |
| 74) | Bromoform | 21.49 | 173 | 242281 | 10.38 ug/l | 97 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.60 | 83 | 414246 | 8.83 ug/l | 94 |
| 77) | trans-1,4-Dichloro-2-buten | 21.40 | 53 | 184079 | 9.13 ug/l | 93 |
| 78) | n-Propylbenzene | 21.88 | 91 | 4020495 | 10.49 ug/l | 98 |
| 79) | 1,2,3-Trichloropropane | 21.78 | 110 | 93626 | 9.74 ug/l | 98 |
| 80) | Bromobenzene | 22.03 | 156 | 714439 | 10.81 ug/l | 97 |
| 81) | 1,3,5-Trimethylbenzene | 22.06 | 105 | 2763277 | 11.89 ug/l | 100 |
| 82) | 2-Chlorotoluene | 22.18 | 91 | 2539073 | 11.27 ug/l | 99 |
| 83) | 4-Chlorotoluene | 22.23 | 91 | 2195355 | 11.00 ug/l | 98 |
| 84) | tert-Butylbenzene | 22.55 | 134 | 581597 | 10.41 ug/l | 96 |
| 85) | 1,2,4-Trimethylbenzene | 22.60 | 105 | 2405146 | 11.68 ug/l | 97 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 3542273 | 11.33 ug/l | 99 |
| 87) | p-Isopropyltoluene | 23.00 | 119 | 2466458 | 11.29 ug/l | 99 |
| 88) | 1,3-Dichlorobenzene | 23.23 | 146 | 1212499 | 10.54 ug/l | 98 |
| 89) | 1,2,3-Trimethylbenzene | 23.28 | 105 | 2237443 | 11.02 ug/l | 100 |
| 90) | 1,4-Dichlorobenzene | 23.36 | 146 | 1097112 | 10.27 ug/l | 97 |
| 92) | n-Butylbenzene | 23.56 | 91 | 2274979 | 10.76 ug/l | 98 |
| 93) | 1,2-Dichlorobenzene | 23.92 | 146 | 963171 | 10.19 ug/l | 98 |
| 94) | 1,2-Dibromo-3-chloropropan | 25.04 | 157 | 43543 | 8.94 ug/l | 99 |
| 95) | 1,2,4-Trichlorobenzene | 26.42 | 180 | 415885 | 9.83 ug/l | 99 |
| 96) | Hexachlorobutadiene | 26.58 | 225 | 314350 | 9.12 ug/l | 91 |
| 97) | Naphthalene | 26.90 | 128 | 560700 | 10.02 ug/l | 96 |
| 98) | 1,2,3-Trichlorobenzene | 27.27 | 180 | 323292 | 10.44 ug/l | 96 |

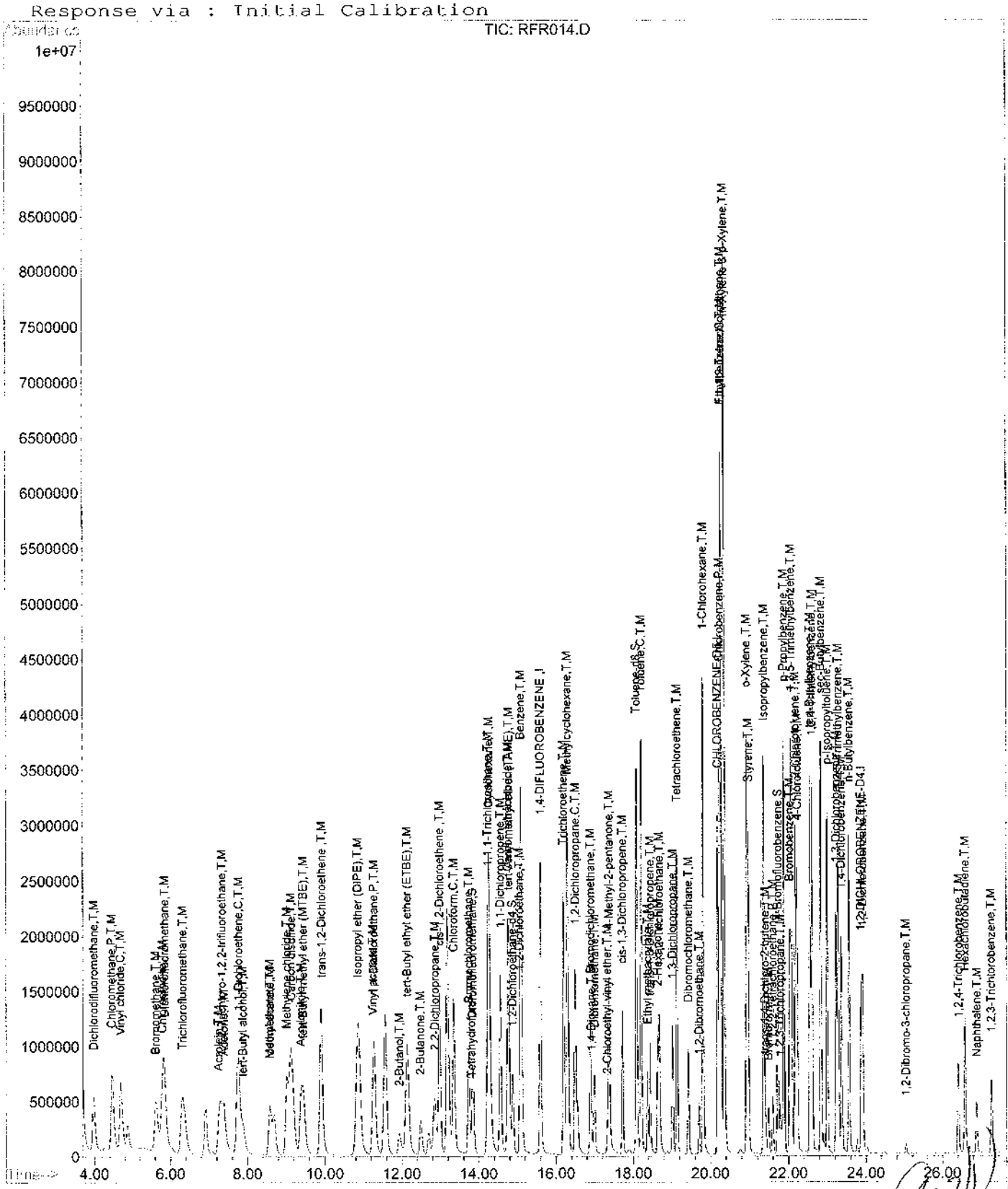
6/19/24

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F17\RFR014.D Vial: 14
Acq On : 17 Jun 2024 11:09 pm Operator: LPriet
Sample : IVOF3F1701 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 19 12:18 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



# DAILY CALIBRATIONS

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : TITAN 1-A
Lab Code : EMAX SDG No : 24F034
Lab File ID: RFR059 BFB Injection Date: 06/20/24
Instrument ID: F3 BFB Injection Time: 11:14

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 30.645 |
| 75 | 30 - 60% of mass 95 | 48.163 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 5.906 |
| 173 | Less than 2% of mass 174 | 0.655(.98)1 |
| 174 | Greater than 50% of mass 95 | 66.906 |
| 175 | 5 - 9% of mass 174 | 5.549(8.29)1 |
| 176 | 95 - 101% % of mass 174 | 63.616(95.08)1 |
| 177 | 5 - 9% % of mass 176 | 3.945(6.2)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD10 | CVOF3F1703 | RFR060 | 06/20/24 | 11:52 |
| 2 | LCD1W | VOF3F04C | RFR062 | 06/20/24 | 13:17 |
| 3 | MBLK1W | VOF3F04B | RFR064 | 06/20/24 | 14:23 |
| 4 | LCS1W | VOF3F04X | RFR065 | 06/20/24 | 14:56 |
| 5 | IDW-WATER_JUN24 | 24F034-01 | RFR071 | 06/20/24 | 18:14 |
| 6 | VSTD10 | EVOF3F1703 | RFR072 | 06/20/24 | 18:53 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: RFR007
Instrument ID: F3

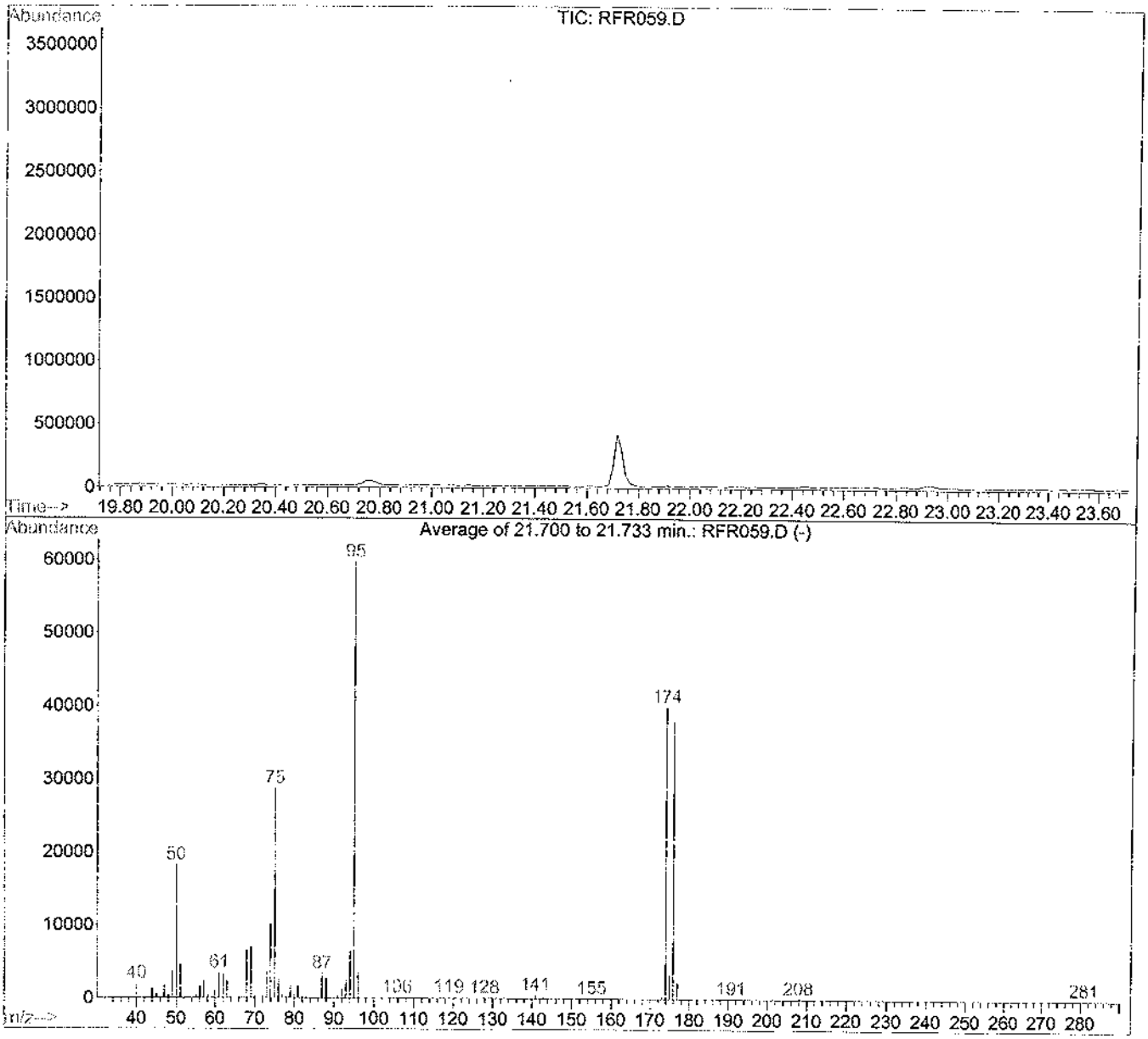
Project: TITAN 1-A
SDG No: 24F034
Date Analyzed: 06/17/24
Time Analyzed: 19:19

| | INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|---|
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| | 12 HOUR STD | 3250044 | 15.60 | 2141369 | 20.19 | 612864 | 23.87 |
| | UPPER LIMIT | 6500088 | 15.77 | 4282738 | 20.36 | 1225728 | 24.04 |
| | LOWER LIMIT | 1625022 | 15.43 | 1070685 | 20.02 | 306432 | 23.70 |
| | | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 | VSTD10 | 3174558 | 15.58 | 2106303 | 20.17 | 572013 | 23.87 |
| 2 | LCD1W | 3228516 | 15.58 | 2139311 | 20.17 | 588978 | 23.87 |
| 3 | MBLK1W | 3159956 | 15.58 | 1934356 | 20.17 | 499486 | 23.87 |
| 4 | LCS1W | 3049163 | 15.58 | 2016431 | 20.17 | 593739 | 23.87 |
| 5 | IDW-WATER_JUN24 | 2821227 | 15.58 | 1783157 | 20.19 | 446124 | 23.87 |
| 6 | VSTD10 | 3083263 | 15.60 | 2122708 | 20.19 | 557755 | 23.87 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Data File : C:\HPCHEM\1\DATA\24F20\RFR059.D
Acq On : 20 Jun 2024 11:14 am
Sample : BFBF3F04
Misc : T/CHK
MS Integration Params: RTE.P
Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL

Vial: 1
Operator: LPriet
Inst : F3
Multiplr: 1.00




AutoFind: Scans 907, 908, 909; Background Corrected with Scan 903

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 30.6 | 18342 | PASS |
| 75 | 95 | 30 | 60 | 48.2 | 28827 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 59853 | PASS |
| 96 | 95 | 5 | 9 | 5.9 | 3535 | PASS |
| 173 | 174 | 0.00 | 2 | 1.0 | 392 | PASS |
| 174 | 95 | 50 | 100 | 66.9 | 40045 | PASS |
| 175 | 174 | 5 | 9 | 8.3 | 3321 | PASS |
| 176 | 174 | 95 | 101 | 95.1 | 38076 | PASS |
| 177 | 176 | 5 | 9 | 6.2 | 2361 | PASS |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR060.D  Vial: 2
Acq On : 20 Jun 2024 11:52 am  Operator: LPriet
Sample : CVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 98 | -0.02 |
| 2 | T,M | Chlorotrifluoroethylene | 10.000 | 0.000 | 100.0# | 0 | -4.06# |
| 3 | T,M | Dichlorodifluoromethane | 10.000 | 9.585 | 4.1 | 93 | 0.00 |
| 4 | P,T,M | Chloromethane | 10.000 | 9.540 | 4.6 | 93 | 0.00 |
| 5 | T,M | 2-Chloro-1,1,1-trifluoroeth | 10.000 | 0.000 | 100.0# | 0 | -4.65# |
| 6 | C,T,M | Vinyl chloride | 10.000 | 8.839 | 11.6 | 95 | 0.00 |
| 7 | T,M | Bromomethane | 10.000 | 9.164 | 8.4 | 98 | 0.00 |
| 8 | T,M | Chloroethane | 10.000 | 9.683 | 3.2 | 98 | 0.00 |
| 9 | T,M | Dichlorofluoromethane | 10.000 | 10.119 | -1.2 | 98 | 0.00 |
| 10 | T,M | Trichlorofluoromethane | 10.000 | 9.770 | 2.3 | 100 | -0.04 |
| 11 | T,M | Acrolein | 50.000 | 41.927 | 16.1 | 86 | 0.00 |
| 12 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 10.000 | 9.776 | 2.2 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 10.261 | -2.6 | 97 | 0.00 |
| 14 | T,M | Acetone | 50.000 | 50.758 | -1.5 | 91 | -0.03 |
| 15 | T,M | Iodomethane | 10.000 | 9.891 | 1.1 | 99 | 0.00 |
| 16 | T,M | Methyl acetate | 10.000 | 8.763 | 12.4 | 84 | 0.00 |
| 17 | T,M | Carbon disulfide | 10.000 | 8.632 | 13.7 | 100 | 0.00 |
| 18 | T,M | Methylene chloride | 10.000 | 10.846 | -8.5 | 105 | 0.00 |
| 19 | T,M | tert-Butyl alcohol | 250.000 | 233.578 | 6.6 | 94 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 8.935 | 10.6 | 92 | 0.00 |
| 21 | T,M | trans-1,2-Dichloroethene | 10.000 | 9.569 | 4.3 | 98 | 0.00 |
| 22 | T,M | Acrylonitrile | 50.000 | 46.007 | 8.0 | 92 | -0.02 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.780 | 2.2 | 93 | -0.02 |
| 24 | P,T,M | 1,1-Dichloroethane | 10.000 | 10.383 | -3.8 | 98 | 0.00 |
| 25 | T,M | Vinyl acetate | 10.000 | 10.078 | -0.8 | 94 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 9.069 | 9.3 | 86 | 0.00 |
| 27 | T,M | 2,2-Dichloropropane | 10.000 | 10.264 | -2.6 | 100 | -0.02 |
| 28 | T,M | cis-1,2-Dichloroethene | 10.000 | 9.981 | 0.2 | 101 | -0.02 |
| 29 | T,M | 2-Butanone | 50.000 | 45.090 | 9.8 | 86 | -0.02 |
| 30 | T,M | 2-Butanol | 250.000 | 220.833 | 11.7 | 87 | -0.02 |
| 31 | T,M | Bromochloromethane | 10.000 | 9.578 | 4.2 | 94 | -0.02 |
| 32 | T,M | Tetrahydrofuran | 10.000 | 9.174 | 8.3 | 83 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 9.936 | 0.6 | 100 | 0.00 |
| 34 | S | Dibromofluoromethane | 10.000 | 9.522 | 4.8 | 92 | -0.02 |
| 35 | T,M | 1,1,1-Trichloroethane | 10.000 | 10.308 | -3.1 | 100 | -0.02 |
| 36 | T,M | Cyclohexane | 10.000 | 9.016 | 9.8 | 94 | -0.02 |
| 37 | T,M | 1,1-Dichloropropene | 10.000 | 10.153 | -1.5 | 100 | -0.02 |
| 38 | T,M | Carbon tetrachloride | 10.000 | 10.270 | -2.7 | 100 | -0.02 |
| 39 | T,M | tert-Amyl alcohol | 50.000 | 0.000 | 100.0# | 0 | 0.00 |
| 40 | S | 1,2-Dichloroethane-d4 | 10.000 | 9.905 | 1.0 | 97 | 0.00 |
| 41 | T,M | 2,2,4-Trimethylpentane | 10.000 | 0.000 | 100.0# | 0 | 0.00 |
| 42 | T,M | Benzene | 10.000 | 9.883 | 1.2 | 97 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 10.078 | -0.8 | 97 | 0.00 |
| 44 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 8.825 | 11.8 | 89 | -0.02 |
| 45 | T,M | Trichloroethene | 10.000 | 9.983 | 0.2 | 94 | 0.00 |
| 46 | T,M | Methylcyclohexane | 10.000 | 8.891 | 11.1 | 93 | -0.02 |
| 47 | C,T,M | 1,2-Dichloropropane | 10.000 | 9.873 | 1.3 | 95 | -0.02 |
| 48 | T,M | 1,4-Dioxane | 200.000 | 208.183 | -4.1 | 102 | 0.00 |
| 49 | T,M | Dibromomethane | 10.000 | 9.979 | 0.2 | 99 | -0.02 |
| 50 | T,M | Bromodichloromethane | 10.000 | 9.577 | 4.2 | 98 | -0.02 |
| 51 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 7.984 | 20.2# | 79 | 0.00 |
| 52 | T,M | cis-1,3-Dichloropropene | 10.000 | 9.816 | 1.8 | 93 | -0.02 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 45.057 | 9.9 | 86 | -0.02 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR060.D  Vial: 2
Acq On : 20 Jun 2024 11:52 am  Operator: LPriet
Sample : CVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 54 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 98 | -0.02 |
| 55 | S | Toluene-d8 | 10.000 | 10.267 | -2.7 | 92 | 0.00 |
| 56 | C,T,M | Toluene | 10.000 | 10.641 | -6.4 | 97 | -0.02 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 9.523 | 4.8 | 93 | -0.02 |
| 58 | T,M | trans-1,3-Dichloropropene | 10.000 | 10.113 | -1.1 | 91 | -0.02 |
| 59 | T,M | 1,1,2-Trichloroethane | 10.000 | 9.933 | 0.7 | 99 | 0.00 |
| 60 | T,M | Tetrachloroethene | 10.000 | 10.173 | -1.7 | 95 | 0.00 |
| 61 | T,M | 2-Hexanone | 50.000 | 47.824 | 4.4 | 91 | -0.02 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 10.003 | -0.0 | 97 | 0.00 |
| 63 | T,M | Dibromochloromethane | 10.000 | 9.886 | 1.1 | 96 | 0.00 |
| 64 | T,M | 1,2-Dibromoethane | 10.000 | 10.123 | -1.2 | 97 | -0.02 |
| 65 | T,M | 1-Chlorohexane | 10.000 | 10.885 | -8.8 | 94 | 0.00 |
| 66 | P,M | Chlorobenzene | 10.000 | 10.534 | -5.3 | 96 | 0.00 |
| 67 | C,T,M | Ethylbenzene | 10.000 | 10.781 | -7.8 | 96 | -0.02 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 10.224 | -2.2 | 95 | 0.00 |
| 69 | T,M | m-Xylene & p-Xylene | 20.000 | 20.792 | -4.0 | 95 | 0.00 |
| 70 | T,M | o-Xylene | 10.000 | 10.918 | -9.2 | 93 | 0.00 |
| 71 | T,M | Styrene | 10.000 | 10.700 | -7.0 | 90 | -0.02 |
| 72 | T,M | Isopropylbenzene | 10.000 | 10.854 | -8.5 | 95 | -0.02 |
| 73 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 93 | 0.00 |
| 74 | P,T,M | Bromoform | 10.000 | 10.716 | -7.2 | 97 | 0.00 |
| 75 | S | 4-Bromofluorobenzene | 10.000 | 9.611 | 3.9 | 88 | -0.02 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 10.302 | -3.0 | 99 | -0.02 |
| 77 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 10.310 | -3.1 | 94 | 0.00 |
| 78 | T,M | n-Propylbenzene | 10.000 | 11.201 | -12.0 | 94 | 0.00 |
| 79 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.969 | 0.3 | 85 | 0.00 |
| 80 | T,M | Bromobenzene | 10.000 | 11.616 | -16.2 | 107 | 0.00 |
| 81 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 11.915 | -19.1 | 98 | 0.00 |
| 82 | T,M | 2-Chlorotoluene | 10.000 | 13.330 | -33.3# | 115 | -0.02 |
| 83 | T,M | 4-Chlorotoluene | 10.000 | 9.421 | 5.8 | 81 | -0.02 |
| 84 | T,M | tert-Butylbenzene | 10.000 | 10.639 | -6.4 | 99 | -0.02 |
| 85 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 11.935 | -19.4 | 106 | 0.00 |
| 86 | T,M | sec-Butylbenzene | 10.000 | 11.365 | -13.7 | 98 | 0.00 |
| 87 | T,M | p-Isopropyltoluene | 10.000 | 11.649 | -16.5 | 98 | -0.02 |
| 88 | T,M | 1,3-Dichlorobenzene | 10.000 | 10.076 | -0.8 | 92 | 0.00 |
| 89 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.856 | -8.6 | 97 | 0.00 |
| 90 | T,M | 1,4-Dichlorobenzene | 10.000 | 10.483 | -4.8 | 100 | -0.02 |
| 91 | T,M | Benzyl Chloride | -1.000 | 0.000 | 0.0 | 0 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 10.702 | -7.0 | 91 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 10.259 | -2.6 | 97 | -0.02 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 9.424 | 5.8 | 92 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.687 | 3.1 | 94 | -0.02 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 10.874 | -8.7 | 103 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 10.445 | -4.5 | 101 | -0.02 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 10.545 | -5.4 | 100 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR060.D  Vial: 2
Acq On : 20 Jun 2024 11:52 am  Operator: LPriet
Sample : CVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 98 | -0.02 |
| 2 | T,M | Chlorotrifluoroethylene | 0.000 | 0.000 | 0.0 | 0# | -4.06# |
| 3 | T,M | Dichlorodifluoromethane | 0.475 | 0.455 | 4.2 | 93 | 0.00 |
| 4 | P,T,M | Chloromethane | 0.748 | 0.713 | 4.7 | 93 | 0.00 |
| 5 | T,M | 2-Chloro-1,1,1-trifluoroeth | 0.000 | 0.000 | 0.0 | 0# | -4.65# |
| 6 | C,T,M | Vinyl chloride | 0.674 | 0.596 | 11.6 | 95 | 0.00 |
| 7 | T,M | Bromomethane | 0.324 | 0.297 | 8.3 | 98 | 0.00 |
| 8 | T,M | Chloroethane | 0.334 | 0.323 | 3.3 | 98 | 0.00 |
| 9 | T,M | Dichlorofluoromethane | 0.833 | 0.843 | -1.2 | 98 | 0.00 |
| 10 | T,M | Trichlorofluoromethane | 0.558 | 0.545 | 2.3 | 100 | -0.04 |
| 11 | T,M | Acrolein | 0.026 | 0.021 | 19.2 | 86 | 0.00 |
| 12 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 0.237 | 0.232 | 2.1 | 102 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.861 | 0.883 | -2.6 | 97 | 0.00 |
| 14 | T,M | Acetone | 0.072 | 0.054 | 25.0# | 91 | -0.03 |
| 15 | T,M | Iodomethane | 0.501 | 0.496 | 1.0 | 99 | 0.00 |
| 16 | T,M | Methyl acetate | 0.167 | 0.147 | 12.0 | 84 | 0.00 |
| 17 | T,M | Carbon disulfide | 1.332 | 1.149 | 13.7 | 100 | 0.00 |
| 18 | T,M | Methylene chloride | 0.551 | 0.598 | -8.5 | 105 | 0.00 |
| 19 | T,M | tert-Butyl alcohol | 0.013 | 0.012 | 7.7 | 94 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 0.618 | 0.552 | 10.7 | 92 | 0.00 |
| 21 | T,M | trans-1,2-Dichloroethene | 0.428 | 0.410 | 4.2 | 98 | 0.00 |
| 22 | T,M | Acrylonitrile | 0.066 | 0.060 | 9.1 | 92 | -0.02 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.759 | 1.720 | 2.2 | 93 | -0.02 |
| 24 | P,T,M | 1,1-Dichloroethane | 0.863 | 0.896 | -3.8 | 98 | 0.00 |
| 25 | T,M | Vinyl acetate | 0.463 | 0.466 | -0.6 | 94 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.046 | 0.949 | 9.3 | 86 | 0.00 |
| 27 | T,M | 2,2-Dichloropropane | 0.338 | 0.347 | -2.7 | 100 | -0.02 |
| 28 | T,M | cis-1,2-Dichloroethene | 0.355 | 0.355 | 0.0 | 101 | -0.02 |
| 29 | T,M | 2-Butanone | 0.087 | 0.079 | 9.2 | 86 | -0.02 |
| 30 | T,M | 2-Butanol | 0.014 | 0.012 | 14.3 | 87 | -0.02 |
| 31 | T,M | Bromochloromethane | 0.156 | 0.150 | 3.8 | 94 | -0.02 |
| 32 | T,M | Tetrahydrofuran | 0.052 | 0.048 | 7.7 | 83 | 0.00 |
| 33 | C,T,M | Chloroform | 0.708 | 0.703 | 0.7 | 100 | 0.00 |
| 34 | S | Dibromofluoromethane | 0.312 | 0.297 | 4.8 | 92 | -0.02 |
| 35 | T,M | 1,1,1-Trichloroethane | 0.488 | 0.503 | -3.1 | 100 | -0.02 |
| 36 | T,M | Cyclohexane | 0.599 | 0.540 | 9.8 | 94 | -0.02 |
| 37 | T,M | 1,1-Dichloropropene | 0.175 | 0.178 | -1.7 | 100 | -0.02 |
| 38 | T,M | Carbon tetrachloride | 0.396 | 0.406 | -2.5 | 100 | -0.02 |
| 39 | T,M | tert-Amyl alcohol | 0.000 | 0.001 | 0.0 | 0# | 0.00 |
| 40 | S | 1,2-Dichloroethane-d4 | 0.298 | 0.295 | 1.0 | 97 | 0.00 |
| 41 | T,M | 2,2,4-Trimethylpentane | 0.000 | 0.037 | 0.0 | 0# | 0.00 |
| 42 | T,M | Benzene | 1.535 | 1.517 | 1.2 | 97 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.376 | 0.379 | -0.8 | 97 | 0.00 |
| 44 | T,M | tert-Amyl methyl ether (TAM | 0.640 | 0.565 | 11.7 | 89 | -0.02 |
| 45 | T,M | Trichloroethene | 0.348 | 0.348 | 0.0 | 94 | 0.00 |
| 46 | T,M | Methylcyclohexane | 0.668 | 0.594 | 11.1 | 93 | -0.02 |
| 47 | C,T,M | 1,2-Dichloropropane | 0.382 | 0.377 | 1.3 | 95 | -0.02 |
| 48 | T,M | 1,4-Dioxane | 0.001 | 0.001 | 0.0 | 102 | 0.00 |
| 49 | T,M | Dibromomethane | 0.127 | 0.127 | 0.0 | 99 | -0.02 |
| 50 | T,M | Bromodichloromethane | 0.436 | 0.418 | 4.1 | 98 | -0.02 |
| 51 | T,M | 2-Chloroethyl vinyl ether | 0.052 | 0.041 | 21.2# | 79 | 0.00 |
| 52 | T,M | cis-1,3-Dichloropropene | 0.465 | 0.457 | 1.7 | 93 | -0.02 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.181 | 0.163 | 9.9 | 86 | -0.02 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR060.D  Vial: 2
Acq On : 20 Jun 2024 11:52 am  Operator: LPriet
Sample : CVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 54 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 98 | -0.02 |
| 55 | S | Toluene-d8 | 1.483 | 1.522 | -2.6 | 92 | 0.00 |
| 56 | C,T,M | Toluene | 1.836 | 1.954 | -6.4 | 97 | -0.02 |
| 57 | T,M | Ethyl methacrylate | 0.286 | 0.272 | 4.9 | 93 | -0.02 |
| 58 | T,M | trans-1,3-Dichloropropene | 0.451 | 0.456 | -1.1 | 91 | -0.02 |
| 59 | T,M | 1,1,2-Trichloroethane | 0.226 | 0.225 | 0.4 | 99 | 0.00 |
| 60 | T,M | Tetrachloroethene | 0.393 | 0.400 | -1.8 | 95 | 0.00 |
| 61 | T,M | 2-Hexanone | 0.147 | 0.141 | 4.1 | 91 | -0.02 |
| 62 | T,M | 1,3-Dichloropropane | 0.439 | 0.440 | -0.2 | 97 | 0.00 |
| 63 | T,M | Dibromochloromethane | 0.290 | 0.287 | 1.0 | 96 | 0.00 |
| 64 | T,M | 1,2-Dibromoethane | 0.205 | 0.208 | -1.5 | 97 | -0.02 |
| 65 | T,M | 1-Chlorohexane | 0.698 | 0.760 | -8.9 | 94 | 0.00 |
| 66 | P,M | Chlorobenzene | 0.952 | 1.003 | -5.4 | 96 | 0.00 |
| 67 | C,T,M | Ethylbenzene | 1.838 | 1.982 | -7.8 | 96 | -0.02 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.346 | 0.353 | -2.0 | 95 | 0.00 |
| 69 | T,M | m-Xylene & p-Xylene | 1.339 | 1.392 | -4.0 | 95 | 0.00 |
| 70 | T,M | o-Xylene | 1.352 | 1.476 | -9.2 | 93 | 0.00 |
| 71 | T,M | Styrene | 0.892 | 0.955 | -7.1 | 90 | -0.02 |
| 72 | T,M | Isopropylbenzene | 1.544 | 1.676 | -8.5 | 95 | -0.02 |
| 73 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 93 | 0.00 |
| 74 | P,T,M | Bromoform | 0.403 | 0.432 | -7.2 | 97 | 0.00 |
| 75 | S | 4-Bromofluorobenzene | 1.595 | 1.533 | 3.9 | 88 | -0.02 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 0.809 | 0.834 | -3.1 | 99 | -0.02 |
| 77 | T,M | trans-1,4-Dichloro-2-butene | 0.348 | 0.359 | -3.2 | 94 | 0.00 |
| 78 | T,M | n-Propylbenzene | 6.615 | 7.410 | -12.0 | 94 | 0.00 |
| 79 | T,M | 1,2,3-Trichloropropane | 0.175 | 0.165 | 5.7 | 85 | 0.00 |
| 80 | T,M | Bromobenzene | 1.141 | 1.326 | -16.2 | 107 | 0.00 |
| 81 | T,M | 1,3,5-Trimethylbenzene | 4.010 | 4.778 | -19.2 | 98 | 0.00 |
| 82 | T,M | 2-Chlorotoluene | 3.889 | 5.184 | -33.3# | 115 | -0.02 |
| 83 | T,M | 4-Chlorotoluene | 3.446 | 3.246 | 5.8 | 81 | -0.02 |
| 84 | T,M | tert-Butylbenzene | 0.965 | 1.026 | -6.3 | 99 | -0.02 |
| 85 | T,M | 1,2,4-Trimethylbenzene | 3.554 | 4.242 | -19.4 | 106 | 0.00 |
| 86 | T,M | sec-Butylbenzene | 5.397 | 6.134 | -13.7 | 98 | 0.00 |
| 87 | T,M | p-Isopropyltoluene | 3.770 | 4.391 | -16.5 | 98 | -0.02 |
| 88 | T,M | 1,3-Dichlorobenzene | 1.985 | 2.000 | -0.8 | 92 | 0.00 |
| 89 | T,M | 1,2,3-Trimethylbenzene | 3.504 | 3.804 | -8.6 | 97 | 0.00 |
| 90 | T,M | 1,4-Dichlorobenzene | 1.844 | 1.933 | -4.8 | 100 | -0.02 |
| 91 | T,M | Benzyl Chloride | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.648 | 3.904 | -7.0 | 91 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 1.631 | 1.673 | -2.6 | 97 | -0.02 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.084 | 0.079 | 6.0 | 92 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 0.730 | 0.708 | 3.0 | 94 | -0.02 |
| 96 | T,M | Hexachlorobutadiene | 0.549 | 0.648 | -18.0 | 103 | 0.00 |
| 97 | T,M | Naphthalene | 0.966 | 1.009 | -4.5 | 101 | -0.02 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 0.535 | 0.564 | -5.4 | 100 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F20\RFR060.D Vial: 2
Acq On : 20 Jun 2024 11:52 am Operator: LPriet
Sample : CVOF3F1703 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 20 12:35 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.58 | 114 | 3174558 | 10.00 | ug/l | -0.02 |
| 54) CHLOROBENZENE-D5 | 20.17 | 117 | 2106303 | 10.00 | ug/l | -0.02 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 572013 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.84 | 111 | 942754 | 9.52 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = 95.20% | | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 936333 | 9.91 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 99.10% | | | |
| 55) Toluene-d8 | 18.08 | 98 | 3206125 | 10.27 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = 102.70% | | | |
| 75) 4-Bromofluorobenzene | 21.71 | 95 | 877108 | 9.61 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = 96.10% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.96 | 85 | 1445724 | 9.58 | ug/l | 100 |
| 4) Chloromethane | 4.45 | 50 | 2264972 | 9.54 | ug/l | 100 |
| 6) Vinyl chloride | 4.69 | 62 | 1892490 | 8.84 | ug/l | 98 |
| 7) Bromomethane | 5.62 | 94 | 943451 | 9.16 | ug/l | 97 |
| 8) Chloroethane | 5.76 | 64 | 1025213 | 9.68 | ug/l | 97 |
| 9) Dichlorofluoromethane | 5.82 | 67 | 2675770 | 10.12 | ug/l | 100 |
| 10) Trichlorofluoromethane | 6.28 | 101 | 1730682 | 9.77 | ug/l | 99 |
| 11) Acrolein | 7.24 | 56 | 340966 | 41.93 | ug/l | 96 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.30 | 151 | 735351 | 9.78 | ug/l | 100 |
| 13) 1,1-Dichloroethene | 7.74 | 61 | 2804359 | 10.26 | ug/l | 99 |
| 14) Acetone | 7.36 | 43 | 850996 | 50.76 | ug/l | 99 |
| 15) Iodomethane | 8.58 | 142 | 1574007 | 9.89 | ug/l | 100 |
| 16) Methyl acetate | 8.55 | 43 | 465501 | 8.76 | ug/l | 98 |
| 17) Carbon disulfide | 9.10 | 76 | 3648820 | 8.63 | ug/l | 100 |
| 18) Methylene chloride | 9.01 | 49 | 1898387 | 10.85 | ug/l | 97 |
| 19) tert-Butyl alcohol | 7.88 | 59 | 955136 | 233.58 | ug/l | 98 |
| 20) tert-Butyl methyl ether (M | 9.44 | 73 | 1753063 | 8.94 | ug/l | 99 |
| 21) trans-1,2-Dichloroethene | 9.90 | 96 | 1300212 | 9.57 | ug/l | 100 |
| 22) Acrylonitrile | 9.36 | 53 | 957755 | 46.01 | ug/l | 99 |
| 23) Isopropyl ether (DIPE) | 10.85 | 45 | 5460391 | 9.78 | ug/l | 98 |
| 24) 1,1-Dichloroethane | 11.27 | 63 | 2842874 | 10.38 | ug/l | 100 |
| 25) Vinyl acetate | 11.25 | 43 | 1480028 | 10.08 | ug/l | 100 |
| 26) tert-Butyl ethyl ether (ET | 12.13 | 59 | 3012031 | 9.07 | ug/l | 100 |
| 27) 2,2-Dichloropropane | 12.84 | 77 | 1102311 | 10.26 | ug/l | 96 |
| 28) cis-1,2-Dichloroethene | 12.96 | 96 | 1125918 | 9.98 | ug/l | 98 |
| 29) 2-Butanone | 12.48 | 43 | 1246311 | 45.09 | ug/l | 100 |
| 30) 2-Butanol | 11.91 | 45 | 972850 | 220.83 | ug/l | 99 |
| 31) Bromochloromethane | 13.72 | 130 | 475277 | 9.58 | ug/l | 100 |
| 32) Tetrahydrofuran | 13.80 | 42 | 150979 | 9.17 | ug/l | 91 |
| 33) Chloroform | 13.34 | 83 | 2232470 | 9.94 | ug/l | 99 |
| 35) 1,1,1-Trichloroethane | 14.22 | 97 | 1597430 | 10.31 | ug/l | 99 |
| 36) Cyclohexane | 14.25 | 84 | 1714527 | 9.02 | ug/l | 99 |
| 37) 1,1-Dichloropropene | 14.54 | 110 | 564756 | 10.15 | ug/l | 99 |
| 38) Carbon tetrachloride | 14.74 | 117 | 1290392 | 10.27 | ug/l | 97 |
| 42) Benzene | 15.09 | 78 | 4817270 | 9.88 | ug/l | 99 |
| 43) 1,2-Dichloroethane | 15.05 | 62 | 1202461 | 10.08 | ug/l | 98 |
| 44) tert-Amyl methyl ether (TA | 14.76 | 73 | 1793361 | 8.83 | ug/l | 98 |
| 45) Trichloroethene | 16.19 | 130 | 1104322 | 9.98 | ug/l | 97 |
| 46) Methylcyclohexane | 16.29 | 83 | 1884647 | 8.89 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F20\RFR060.D Vial: 2
Acq On : 20 Jun 2024 11:52 am Operator: LPriet
Sample : CVOF3F1703 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 20 12:35 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

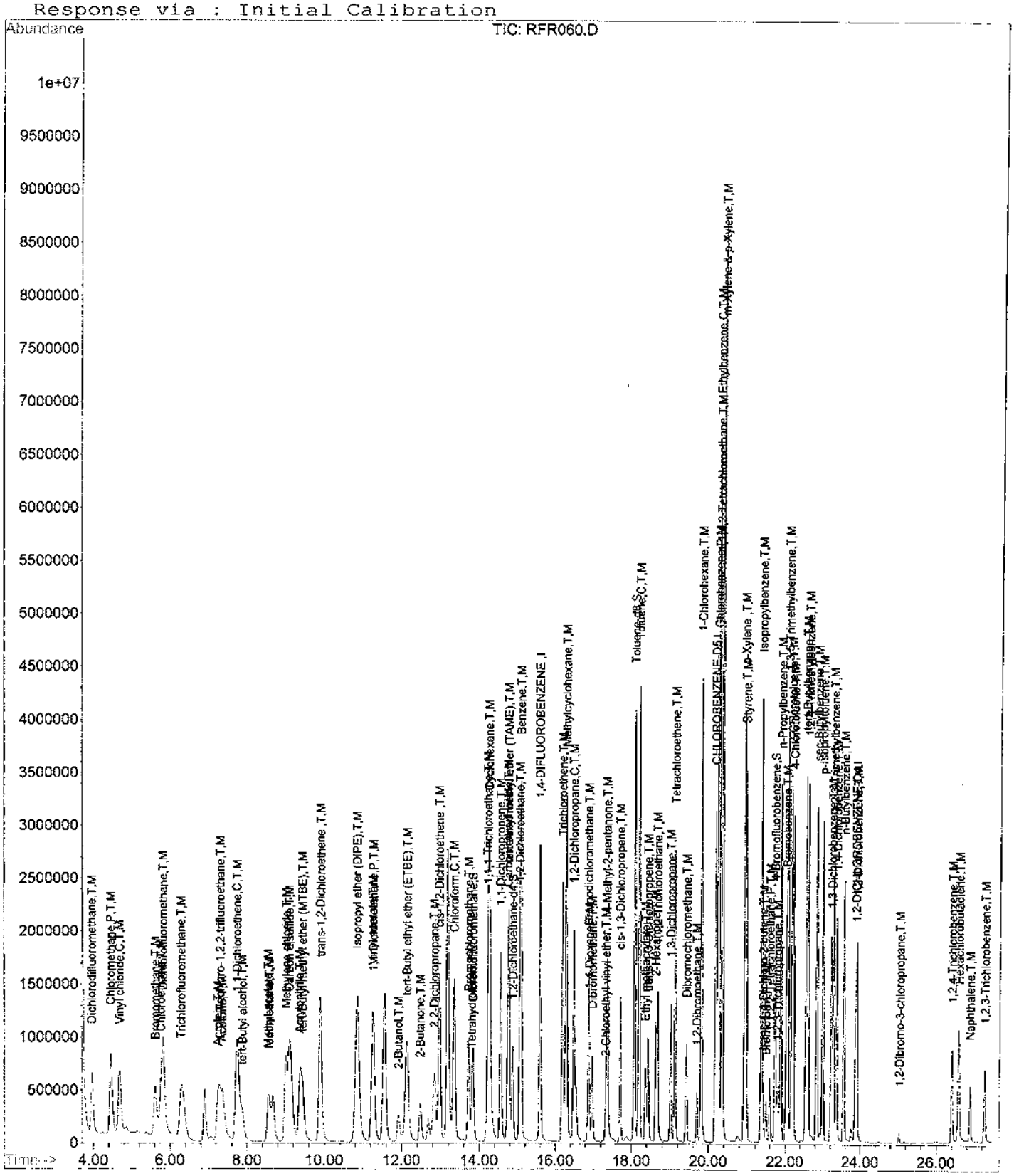
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 47) | 1,2-Dichloropropane | 16.49 | 63 | 1197039 | 9.87 | ug/l | 99 |
| 48) | 1,4-Dioxane | 16.90 | 88 | 62957 | 208.18 | ug/l | 97 |
| 49) | Dibromomethane | 16.98 | 93 | 401584 | 9.98 | ug/l | 91 |
| 50) | Bromodichloromethane | 16.88 | 83 | 1325525 | 9.58 | ug/l | 98 |
| 51) | 2-Chloroethyl vinyl ether | 17.32 | 63 | 131152 | 7.98 | ug/l | 98 |
| 52) | cis-1,3-Dichloropropene | 17.70 | 75 | 1449230 | 9.82 | ug/l | 97 |
| 53) | 4-Methyl-2-pentanone | 17.36 | 43 | 2587195 | 45.06 | ug/l | 99 |
| 56) | Toluene | 18.20 | 91 | 4115727 | 10.64 | ug/l | 99 |
| 57) | Ethyl methacrylate | 18.36 | 69 | 573760 | 9.52 | ug/l | 97 |
| 58) | trans-1,3-Dichloropropene | 18.43 | 75 | 961488 | 10.11 | ug/l | 95 |
| 59) | 1,1,2-Trichloroethane | 18.67 | 97 | 473612 | 9.93 | ug/l | 97 |
| 60) | Tetrachloroethene | 19.13 | 164 | 842674 | 10.17 | ug/l | 96 |
| 61) | 2-Hexanone | 18.62 | 43 | 1485297 | 47.82 | ug/l | 98 |
| 62) | 1,3-Dichloropropane | 19.02 | 76 | 925759 | 10.00 | ug/l | 100 |
| 63) | Dibromochloromethane | 19.43 | 129 | 604663 | 9.89 | ug/l | 98 |
| 64) | 1,2-Dibromoethane | 19.69 | 107 | 437821 | 10.12 | ug/l | 96 |
| 65) | 1-Chlorohexane | 19.81 | 91 | 1599938 | 10.89 | ug/l | 99 |
| 66) | Chlorobenzene | 20.23 | 112 | 2112696 | 10.53 | ug/l | 99 |
| 67) | Ethylbenzene | 20.25 | 91 | 4174163 | 10.78 | ug/l | 98 |
| 68) | 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 744530 | 10.22 | ug/l | 99 |
| 69) | m-Xylene & p-Xylene | 20.35 | 91 | 5864163 | 20.79 | ug/l | 95 |
| 70) | o-Xylene | 20.93 | 91 | 3108764 | 10.92 | ug/l | 99 |
| 71) | Styrene | 20.96 | 104 | 2011192 | 10.70 | ug/l | 98 |
| 72) | Isopropylbenzene | 21.35 | 105 | 3530654 | 10.85 | ug/l | 99 |
| 74) | Bromoform | 21.48 | 173 | 246983 | 10.72 | ug/l | 97 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.58 | 83 | 477023 | 10.30 | ug/l | 97 |
| 77) | trans-1,4-Dichloro-2-buten | 21.40 | 53 | 205286 | 10.31 | ug/l | 99 |
| 78) | n-Propylbenzene | 21.88 | 91 | 4238387 | 11.20 | ug/l | 100 |
| 79) | 1,2,3-Trichloropropane | 21.78 | 110 | 94540 | 9.97 | ug/l | 98 |
| 80) | Bromobenzene | 22.03 | 156 | 758249 | 11.62 | ug/l | 99 |
| 81) | 1,3,5-Trimethylbenzene | 22.06 | 105 | 2733190 | 11.91 | ug/l | 99 |
| 82) | 2-Chlorotoluene | 22.16 | 91 | 2965268 | 13.33 | ug/l | 98 |
| 83) | 4-Chlorotoluene | 22.21 | 91 | 1856923 | 9.42 | ug/l | 97 |
| 84) | tert-Butylbenzene | 22.54 | 134 | 587149 | 10.64 | ug/l | 92 |
| 85) | 1,2,4-Trimethylbenzene | 22.60 | 105 | 2426227 | 11.93 | ug/l | 90 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 3508621 | 11.37 | ug/l | 99 |
| 87) | p-Isopropyltoluene | 22.98 | 119 | 2511891 | 11.65 | ug/l | 99 |
| 88) | 1,3-Dichlorobenzene | 23.23 | 146 | 1143929 | 10.08 | ug/l | 99 |
| 89) | 1,2,3-Trimethylbenzene | 23.28 | 105 | 2176163 | 10.86 | ug/l | 99 |
| 90) | 1,4-Dichlorobenzene | 23.36 | 146 | 1105860 | 10.48 | ug/l | 99 |
| 92) | n-Butylbenzene | 23.56 | 91 | 2232931 | 10.70 | ug/l | 97 |
| 93) | 1,2-Dichlorobenzene | 23.90 | 146 | 957044 | 10.26 | ug/l | 98 |
| 94) | 1,2-Dibromo-3-chloropropan | 25.04 | 157 | 45318 | 9.42 | ug/l | 97 |
| 95) | 1,2,4-Trichlorobenzene | 26.40 | 180 | 404714 | 9.69 | ug/l | 98 |
| 96) | Hexachlorobutadiene | 26.58 | 225 | 370683 | 10.87 | ug/l | 94 |
| 97) | Naphthalene | 26.88 | 128 | 577157 | 10.45 | ug/l | 99 |
| 98) | 1,2,3-Trichlorobenzene | 27.27 | 180 | 322508 | 10.54 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR060.D Vial: 2
Acq On : 20 Jun 2024 11:52 am Operator: LPriet
Sample : CVOF3F1703 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 20 12:35 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR072.D  Vial: 14
Acq On : 20 Jun 2024 6:53 pm  Operator: LPriet
Sample : EVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 10.000 | 10.000 | 0.0 | 95 | 0.00 |
| 2 | T,M | Chlorotrifluoroethylene | 10.000 | 0.000 | 100.0# | 0 | -4.06# |
| 3 | T,M | Dichlorodifluoromethane | 10.000 | 8.972 | 10.3 | 84 | 0.00 |
| 4 | P,T,M | Chloromethane | 10.000 | 9.120 | 8.8 | 86 | 0.00 |
| 5 | T,M | 2-Chloro-1,1,1-trifluoroeth | 10.000 | 0.000 | 100.0# | 0 | -4.65# |
| 6 | C,T,M | Vinyl chloride | 10.000 | 8.190 | 18.1 | 85 | 0.00 |
| 7 | T,M | Bromomethane | 10.000 | 7.932 | 20.7# | 83 | 0.00 |
| 8 | T,M | Chloroethane | 10.000 | 9.006 | 9.9 | 89 | 0.00 |
| 9 | T,M | Dichlorofluoromethane | 10.000 | 9.233 | 7.7 | 87 | 0.00 |
| 10 | T,M | Trichlorofluoromethane | 10.000 | 8.791 | 12.1 | 88 | -0.04 |
| 11 | T,M | Acrolein | 50.000 | 42.297 | 15.4 | 84 | 0.00 |
| 12 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 10.000 | 8.925 | 10.7 | 90 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 10.000 | 9.323 | 6.8 | 86 | 0.00 |
| 14 | T,M | Acetone | 50.000 | 50.202 | -0.4 | 87 | 0.00 |
| 15 | T,M | Iodomethane | 10.000 | 8.719 | 12.8 | 85 | 0.00 |
| 16 | T,M | Methyl acetate | 10.000 | 9.730 | 2.7 | 91 | 0.00 |
| 17 | T,M | Carbon disulfide | 10.000 | 9.190 | 8.1 | 103 | 0.02 |
| 18 | T,M | Methylene chloride | 10.000 | 9.585 | 4.1 | 90 | 0.00 |
| 19 | T,M | tert-Butyl alcohol | 250.000 | 222.885 | 10.8 | 87 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 10.000 | 8.205 | 17.9 | 82 | 0.00 |
| 21 | T,M | trans-1,2-Dichloroethene | 10.000 | 8.495 | 15.1 | 85 | 0.00 |
| 22 | T,M | Acrylonitrile | 50.000 | 45.768 | 8.5 | 89 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 10.000 | 9.468 | 5.3 | 88 | -0.02 |
| 24 | P,T,M | 1,1-Dichloroethane | 10.000 | 9.292 | 7.1 | 85 | 0.00 |
| 25 | T,M | Vinyl acetate | 10.000 | 9.042 | 9.6 | 82 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 10.000 | 8.195 | 18.0 | 76 | 0.00 |
| 27 | T,M | 2,2-Dichloropropane | 10.000 | 8.795 | 12.1 | 84 | 0.00 |
| 28 | T,M | cis-1,2-Dichloroethene | 10.000 | 8.866 | 11.3 | 87 | 0.00 |
| 29 | T,M | 2-Butanone | 50.000 | 46.859 | 6.3 | 87 | -0.02 |
| 30 | T,M | 2-Butanol | 250.000 | 231.093 | 7.6 | 88 | -0.02 |
| 31 | T,M | Bromochloromethane | 10.000 | 8.821 | 11.8 | 84 | 0.00 |
| 32 | T,M | Tetrahydrofuran | 10.000 | 9.324 | 6.8 | 82 | 0.00 |
| 33 | C,T,M | Chloroform | 10.000 | 8.397 | 16.0 | 82 | 0.00 |
| 34 | S | Dibromofluoromethane | 10.000 | 9.858 | 1.4 | 92 | -0.02 |
| 35 | T,M | 1,1,1-Trichloroethane | 10.000 | 8.971 | 10.3 | 85 | 0.00 |
| 36 | T,M | Cyclohexane | 10.000 | 8.883 | 11.2 | 90 | 0.00 |
| 37 | T,M | 1,1-Dichloropropene | 10.000 | 9.167 | 8.3 | 88 | 0.00 |
| 38 | T,M | Carbon tetrachloride | 10.000 | 8.966 | 10.3 | 85 | 0.00 |
| 39 | T,M | tert-Amyl alcohol | 50.000 | 0.000 | 100.0# | 0 | 0.00 |
| 40 | S | 1,2-Dichloroethane-d4 | 10.000 | 10.088 | -0.9 | 96 | 0.00 |
| 41 | T,M | 2,2,4-Trimethylpentane | 10.000 | 0.000 | 100.0# | 0 | 0.02 |
| 42 | T,M | Benzene | 10.000 | 8.922 | 10.8 | 85 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 10.000 | 9.490 | 5.1 | 89 | 0.00 |
| 44 | T,M | tert-Amyl methyl ether (TAM | 10.000 | 8.174 | 18.3 | 80 | 0.00 |
| 45 | T,M | Trichloroethene | 10.000 | 8.861 | 11.4 | 81 | 0.00 |
| 46 | T,M | Methylcyclohexane | 10.000 | 8.805 | 12.0 | 89 | -0.02 |
| 47 | C,T,M | 1,2-Dichloropropane | 10.000 | 9.112 | 8.9 | 86 | -0.02 |
| 48 | T,M | 1,4-Dioxane | 200.000 | 176.171 | 11.9 | 84 | 0.00 |
| 49 | T,M | Dibromomethane | 10.000 | 8.411 | 15.9 | 81 | -0.02 |
| 50 | T,M | Bromodichloromethane | 10.000 | 8.494 | 15.1 | 85 | -0.02 |
| 51 | T,M | 2-Chloroethyl vinyl ether | 10.000 | 7.237 | 27.6# | 70 | 0.00 |
| 52 | T,M | cis-1,3-Dichloropropene | 10.000 | 9.216 | 7.8 | 85 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 50.000 | 46.879 | 6.2 | 87 | -0.02 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR072.D  Vial: 14
Acq On : 20 Jun 2024 6:53 pm  Operator: LPriet
Sample : EVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 54 | I | CHLOROBENZENE-D5 | 10.000 | 10.000 | 0.0 | 99 | 0.00 |
| 55 | S | Toluene-d8 | 10.000 | 10.072 | -0.7 | 91 | 0.00 |
| 56 | C,T,M | Toluene | 10.000 | 9.322 | 6.8 | 86 | -0.02 |
| 57 | T,M | Ethyl methacrylate | 10.000 | 8.554 | 14.5 | 84 | 0.00 |
| 58 | T,M | trans-1,3-Dichloropropene | 10.000 | 9.278 | 7.2 | 84 | 0.00 |
| 59 | T,M | 1,1,2-Trichloroethane | 10.000 | 8.494 | 15.1 | 86 | 0.00 |
| 60 | T,M | Tetrachloroethene | 10.000 | 8.343 | 16.6 | 79 | 0.00 |
| 61 | T,M | 2-Hexanone | 50.000 | 48.776 | 2.4 | 93 | -0.02 |
| 62 | T,M | 1,3-Dichloropropane | 10.000 | 8.921 | 10.8 | 87 | 0.00 |
| 63 | T,M | Dibromochloromethane | 10.000 | 8.610 | 13.9 | 84 | 0.00 |
| 64 | T,M | 1,2-Dibromoethane | 10.000 | 8.725 | 12.8 | 84 | -0.02 |
| 65 | T,M | 1-Chlorohexane | 10.000 | 9.088 | 9.1 | 79 | 0.00 |
| 66 | P,M | Chlorobenzene | 10.000 | 9.471 | 5.3 | 87 | 0.00 |
| 67 | C,T,M | Ethylbenzene | 10.000 | 9.990 | 0.1 | 89 | -0.02 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 10.000 | 9.210 | 7.9 | 86 | 0.00 |
| 69 | T,M | m-Xylene & p-Xylene | 20.000 | 19.041 | 4.8 | 87 | 0.00 |
| 70 | T,M | o-Xylene | 10.000 | 9.335 | 6.6 | 80 | 0.00 |
| 71 | T,M | Styrene | 10.000 | 9.086 | 9.1 | 77 | -0.02 |
| 72 | T,M | Isopropylbenzene | 10.000 | 9.919 | 0.8 | 88 | -0.02 |
| 73 | I | 1,2-DICHLOROBENZENE-D4 | 10.000 | 10.000 | 0.0 | 91 | 0.00 |
| 74 | P,T,M | Bromoform | 10.000 | 9.308 | 6.9 | 82 | 0.00 |
| 75 | S | 4-Bromofluorobenzene | 10.000 | 9.331 | 6.7 | 83 | -0.02 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 10.000 | 8.932 | 10.7 | 84 | -0.02 |
| 77 | T,M | trans-1,4-Dichloro-2-butene | 10.000 | 9.510 | 4.9 | 84 | 0.00 |
| 78 | T,M | n-Propylbenzene | 10.000 | 9.877 | 1.2 | 81 | 0.00 |
| 79 | T,M | 1,2,3-Trichloropropane | 10.000 | 9.630 | 3.7 | 80 | 0.00 |
| 80 | T,M | Bromobenzene | 10.000 | 9.261 | 7.4 | 83 | 0.00 |
| 81 | T,M | 1,3,5-Trimethylbenzene | 10.000 | 10.575 | -5.7 | 85 | 0.00 |
| 82 | T,M | 2-Chlorotoluene | 10.000 | 11.519 | -15.2 | 97 | 0.00 |
| 83 | T,M | 4-Chlorotoluene | 10.000 | 9.549 | 4.5 | 80 | -0.02 |
| 84 | T,M | tert-Butylbenzene | 10.000 | 9.449 | 5.5 | 86 | 0.00 |
| 85 | T,M | 1,2,4-Trimethylbenzene | 10.000 | 10.827 | -8.3 | 93 | 0.00 |
| 86 | T,M | sec-Butylbenzene | 10.000 | 10.831 | -8.3 | 91 | 0.00 |
| 87 | T,M | p-Isopropyltoluene | 10.000 | 10.031 | -0.3 | 82 | 0.00 |
| 88 | T,M | 1,3-Dichlorobenzene | 10.000 | 9.881 | 1.2 | 88 | 0.00 |
| 89 | T,M | 1,2,3-Trimethylbenzene | 10.000 | 10.338 | -3.4 | 90 | 0.00 |
| 90 | T,M | 1,4-Dichlorobenzene | 10.000 | 9.328 | 6.7 | 87 | -0.02 |
| 91 | T,M | Benzyl Chloride | -1.000 | 0.000 | 0.0 | 0 | 0.00 |
| 92 | T,M | n-Butylbenzene | 10.000 | 10.113 | -1.1 | 84 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 10.000 | 9.052 | 9.5 | 83 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 10.000 | 8.816 | 11.8 | 84 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 10.000 | 9.097 | 9.0 | 86 | -0.02 |
| 96 | T,M | Hexachlorobutadiene | 10.000 | 9.036 | 9.6 | 83 | 0.00 |
| 97 | T,M | Naphthalene | 10.000 | 9.093 | 9.1 | 86 | -0.02 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 10.000 | 9.066 | 9.3 | 84 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR072.D  Vial: 14
Acq On : 20 Jun 2024 6:53 pm  Operator: LPriet
Sample : EVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 95 | 0.00 |
| 2 | T,M | Chlorotrifluoroethylene | 0.000 | 0.000 | 0.0 | 0# | -4.06# |
| 3 | T,M | Dichlorodifluoromethane | 0.475 | 0.426 | 10.3 | 84 | 0.00 |
| 4 | P,T,M | Chloromethane | 0.748 | 0.682 | 8.8 | 86 | 0.00 |
| 5 | T,M | 2-Chloro-1,1,1-trifluoroeth | 0.000 | 0.000 | 0.0 | 0# | -4.65# |
| 6 | C,T,M | Vinyl chloride | 0.674 | 0.552 | 18.1 | 85 | 0.00 |
| 7 | T,M | Bromomethane | 0.324 | 0.257 | 20.7# | 83 | 0.00 |
| 8 | T,M | Chloroethane | 0.334 | 0.300 | 10.2 | 89 | 0.00 |
| 9 | T,M | Dichlorofluoromethane | 0.833 | 0.769 | 7.7 | 87 | 0.00 |
| 10 | T,M | Trichlorofluoromethane | 0.558 | 0.491 | 12.0 | 88 | -0.04 |
| 11 | T,M | Acrolein | 0.026 | 0.022 | 15.4 | 84 | 0.00 |
| 12 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 0.237 | 0.211 | 11.0 | 90 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.861 | 0.803 | 6.7 | 86 | 0.00 |
| 14 | T,M | Acetone | 0.072 | 0.053 | 26.4# | 87 | 0.00 |
| 15 | T,M | Iodomethane | 0.501 | 0.437 | 12.8 | 85 | 0.00 |
| 16 | T,M | Methyl acetate | 0.167 | 0.163 | 2.4 | 91 | 0.00 |
| 17 | T,M | Carbon disulfide | 1.332 | 1.224 | 8.1 | 103 | 0.02 |
| 18 | T,M | Methylene chloride | 0.551 | 0.528 | 4.2 | 90 | 0.00 |
| 19 | T,M | tert-Butyl alcohol | 0.013 | 0.011 | 15.4 | 87 | 0.00 |
| 20 | T,M | tert-Butyl methyl ether (MT | 0.618 | 0.507 | 18.0 | 82 | 0.00 |
| 21 | T,M | trans-1,2-Dichloroethene | 0.428 | 0.364 | 15.0 | 85 | 0.00 |
| 22 | T,M | Acrylonitrile | 0.066 | 0.060 | 9.1 | 89 | 0.00 |
| 23 | T,M | Isopropyl ether (DIPE) | 1.759 | 1.665 | 5.3 | 88 | -0.02 |
| 24 | P,T,M | 1,1-Dichloroethane | 0.863 | 0.801 | 7.2 | 85 | 0.00 |
| 25 | T,M | Vinyl acetate | 0.463 | 0.418 | 9.7 | 82 | 0.00 |
| 26 | T,M | tert-Butyl ethyl ether (ETB | 1.046 | 0.857 | 18.1 | 76 | 0.00 |
| 27 | T,M | 2,2-Dichloropropane | 0.338 | 0.298 | 11.8 | 84 | 0.00 |
| 28 | T,M | cis-1,2-Dichloroethene | 0.355 | 0.315 | 11.3 | 87 | 0.00 |
| 29 | T,M | 2-Butanone | 0.087 | 0.082 | 5.7 | 87 | -0.02 |
| 30 | T,M | 2-Butanol | 0.014 | 0.013 | 7.1 | 88 | -0.02 |
| 31 | T,M | Bromochloromethane | 0.156 | 0.138 | 11.5 | 84 | 0.00 |
| 32 | T,M | Tetrahydrofuran | 0.052 | 0.048 | 7.7 | 82 | 0.00 |
| 33 | C,T,M | Chloroform | 0.708 | 0.594 | 16.1 | 82 | 0.00 |
| 34 | S | Dibromofluoromethane | 0.312 | 0.307 | 1.6 | 92 | -0.02 |
| 35 | T,M | 1,1,1-Trichloroethane | 0.488 | 0.438 | 10.2 | 85 | 0.00 |
| 36 | T,M | Cyclohexane | 0.599 | 0.532 | 11.2 | 90 | 0.00 |
| 37 | T,M | 1,1-Dichloropropene | 0.175 | 0.161 | 8.0 | 88 | 0.00 |
| 38 | T,M | Carbon tetrachloride | 0.396 | 0.355 | 10.4 | 85 | 0.00 |
| 39 | T,M | tert-Amyl alcohol | 0.000 | 0.001 | 0.0 | 0# | 0.00 |
| 40 | S | 1,2-Dichloroethane-d4 | 0.298 | 0.300 | -0.7 | 96 | 0.00 |
| 41 | T,M | 2,2,4-Trimethylpentane | 0.000 | 0.039 | 0.0 | 0# | 0.02 |
| 42 | T,M | Benzene | 1.535 | 1.370 | 10.7 | 85 | 0.00 |
| 43 | T,M | 1,2-Dichloroethane | 0.376 | 0.357 | 5.1 | 89 | 0.00 |
| 44 | T,M | tert-Amyl methyl ether (TAM | 0.640 | 0.523 | 18.3 | 80 | 0.00 |
| 45 | T,M | Trichloroethene | 0.348 | 0.309 | 11.2 | 81 | 0.00 |
| 46 | T,M | Methylcyclohexane | 0.668 | 0.588 | 12.0 | 89 | -0.02 |
| 47 | C,T,M | 1,2-Dichloropropane | 0.382 | 0.348 | 8.9 | 86 | -0.02 |
| 48 | T,M | 1,4-Dioxane | 0.001 | 0.001 | 0.0 | 84 | 0.00 |
| 49 | T,M | Dibromomethane | 0.127 | 0.107 | 15.7 | 81 | -0.02 |
| 50 | T,M | Bromodichloromethane | 0.436 | 0.370 | 15.1 | 85 | -0.02 |
| 51 | T,M | 2-Chloroethyl vinyl ether | 0.052 | 0.037 | 28.8# | 70 | 0.00 |
| 52 | T,M | cis-1,3-Dichloropropene | 0.465 | 0.429 | 7.7 | 85 | 0.00 |
| 53 | T,M | 4-Methyl-2-pentanone | 0.181 | 0.170 | 6.1 | 87 | -0.02 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR072.D  Vial: 14
Acq On : 20 Jun 2024 6:53 pm  Operator: LPriet
Sample : EVOF3F1703  Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 54 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 99 | 0.00 |
| 55 | S | Toluene-d8 | 1.483 | 1.493 | -0.7 | 91 | 0.00 |
| 56 | C,T,M | Toluene | 1.836 | 1.712 | 6.8 | 86 | -0.02 |
| 57 | T,M | Ethyl methacrylate | 0.286 | 0.245 | 14.3 | 84 | 0.00 |
| 58 | T,M | trans-1,3-Dichloropropene | 0.451 | 0.419 | 7.1 | 84 | 0.00 |
| 59 | T,M | 1,1,2-Trichloroethane | 0.226 | 0.192 | 15.0 | 86 | 0.00 |
| 60 | T,M | Tetrachloroethene | 0.393 | 0.328 | 16.5 | 79 | 0.00 |
| 61 | T,M | 2-Hexanone | 0.147 | 0.144 | 2.0 | 93 | -0.02 |
| 62 | T,M | 1,3-Dichloropropane | 0.439 | 0.392 | 10.7 | 87 | 0.00 |
| 63 | T,M | Dibromochloromethane | 0.290 | 0.250 | 13.8 | 84 | 0.00 |
| 64 | T,M | 1,2-Dibromoethane | 0.205 | 0.179 | 12.7 | 84 | -0.02 |
| 65 | T,M | 1-Chlorohexane | 0.698 | 0.634 | 9.2 | 79 | 0.00 |
| 66 | P,M | Chlorobenzene | 0.952 | 0.902 | 5.3 | 87 | 0.00 |
| 67 | C,T,M | Ethylbenzene | 1.838 | 1.836 | 0.1 | 89 | -0.02 |
| 68 | T,M | 1,1,1,2-Tetrachloroethane | 0.346 | 0.318 | 8.1 | 86 | 0.00 |
| 69 | T,M | m-Xylene & p-Xylene | 1.339 | 1.275 | 4.8 | 87 | 0.00 |
| 70 | T,M | o-Xylene | 1.352 | 1.262 | 6.7 | 80 | 0.00 |
| 71 | T,M | Styrene | 0.892 | 0.811 | 9.1 | 77 | -0.02 |
| 72 | T,M | Isopropylbenzene | 1.544 | 1.532 | 0.8 | 88 | -0.02 |
| 73 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 91 | 0.00 |
| 74 | P,T,M | Bromoform | 0.403 | 0.375 | 6.9 | 82 | 0.00 |
| 75 | S | 4-Bromofluorobenzene | 1.595 | 1.489 | 6.6 | 83 | -0.02 |
| 76 | P,T,M | 1,1,2,2-Tetrachloroethane | 0.809 | 0.723 | 10.6 | 84 | -0.02 |
| 77 | T,M | trans-1,4-Dichloro-2-butene | 0.348 | 0.331 | 4.9 | 84 | 0.00 |
| 78 | T,M | n-Propylbenzene | 6.615 | 6.534 | 1.2 | 81 | 0.00 |
| 79 | T,M | 1,2,3-Trichloropropane | 0.175 | 0.160 | 8.6 | 80 | 0.00 |
| 80 | T,M | Bromobenzene | 1.141 | 1.057 | 7.4 | 83 | 0.00 |
| 81 | T,M | 1,3,5-Trimethylbenzene | 4.010 | 4.241 | -5.8 | 85 | 0.00 |
| 82 | T,M | 2-Chlorotoluene | 3.889 | 4.480 | -15.2 | 97 | 0.00 |
| 83 | T,M | 4-Chlorotoluene | 3.446 | 3.291 | 4.5 | 80 | -0.02 |
| 84 | T,M | tert-Butylbenzene | 0.965 | 0.912 | 5.5 | 86 | 0.00 |
| 85 | T,M | 1,2,4-Trimethylbenzene | 3.554 | 3.848 | -8.3 | 93 | 0.00 |
| 86 | T,M | sec-Butylbenzene | 5.397 | 5.846 | -8.3 | 91 | 0.00 |
| 87 | T,M | p-Isopropyltoluene | 3.770 | 3.781 | -0.3 | 82 | 0.00 |
| 88 | T,M | 1,3-Dichlorobenzene | 1.985 | 1.961 | 1.2 | 88 | 0.00 |
| 89 | T,M | 1,2,3-Trimethylbenzene | 3.504 | 3.623 | -3.4 | 90 | 0.00 |
| 90 | T,M | 1,4-Dichlorobenzene | 1.844 | 1.720 | 6.7 | 87 | -0.02 |
| 91 | T,M | Benzyl Chloride | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 92 | T,M | n-Butylbenzene | 3.648 | 3.689 | -1.1 | 84 | 0.00 |
| 93 | T,M | 1,2-Dichlorobenzene | 1.631 | 1.476 | 9.5 | 83 | 0.00 |
| 94 | T,M | 1,2-Dibromo-3-chloropropane | 0.084 | 0.074 | 11.9 | 84 | 0.00 |
| 95 | T,M | 1,2,4-Trichlorobenzene | 0.730 | 0.664 | 9.0 | 86 | -0.02 |
| 96 | T,M | Hexachlorobutadiene | 0.549 | 0.537 | 2.2 | 83 | 0.00 |
| 97 | T,M | Naphthalene | 0.966 | 0.878 | 9.1 | 86 | -0.02 |
| 98 | T,M | 1,2,3-Trichlorobenzene | 0.535 | 0.485 | 9.3 | 84 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F20\RFR072.D Vial: 14
Acq On : 20 Jun 2024 6:53 pm Operator: LPriet
Sample : EVOF3F1703 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 20 19:21 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 15.60 | 114 | 3083263 | 10.00 | ug/l | 0.00 |
| 54) CHLOROBENZENE-D5 | 20.19 | 117 | 2122708 | 10.00 | ug/l | 0.00 |
| 73) 1,2-DICHLOROBENZENE-D4 | 23.87 | 152 | 557755 | 10.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 34) Dibromofluoromethane | 13.84 | 111 | 947952 | 9.86 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 98.60% | | |
| 40) 1,2-Dichloroethane-d4 | 14.87 | 65 | 926126 | 10.09 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.90% | | |
| 55) Toluene-d8 | 18.08 | 98 | 3169761 | 10.07 | ug/l | 0.00 |
| Spiked Amount 10.000 | | | Recovery = | 100.70% | | |
| 75) 4-Bromofluorobenzene | 21.71 | 95 | 830352 | 9.33 | ug/l | -0.02 |
| Spiked Amount 10.000 | | | Recovery = | 93.30% | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) Dichlorodifluoromethane | 3.96 | 85 | 1314328 | 8.97 | ug/l | 99 |
| 4) Chloromethane | 4.45 | 50 | 2102949 | 9.12 | ug/l | 99 |
| 6) Vinyl chloride | 4.68 | 62 | 1703122 | 8.19 | ug/l | 99 |
| 7) Bromomethane | 5.61 | 94 | 793093 | 7.93 | ug/l | 98 |
| 8) Chloroethane | 5.76 | 64 | 926158 | 9.01 | ug/l | 98 |
| 9) Dichlorofluoromethane | 5.82 | 67 | 2371402 | 9.23 | ug/l | 99 |
| 10) Trichlorofluoromethane | 6.28 | 101 | 1512462 | 8.79 | ug/l | 99 |
| 11) Acrolein | 7.24 | 56 | 334077 | 42.30 | ug/l | 95 |
| 12) 1,1,2-Trichloro-1,2,2-trif | 7.30 | 151 | 651988 | 8.92 | ug/l | 99 |
| 13) 1,1-Dichloroethene | 7.74 | 61 | 2474625 | 9.32 | ug/l | 98 |
| 14) Acetone | 7.39 | 43 | 817982 | 50.20 | ug/l | 99 |
| 15) Iodomethane | 8.58 | 142 | 1347576 | 8.72 | ug/l | 100 |
| 16) Methyl acetate | 8.55 | 43 | 502014 | 9.73 | ug/l | 99 |
| 17) Carbon disulfide | 9.13 | 76 | 3773248 | 9.19 | ug/l | 100 |
| 18) Methylene chloride | 9.01 | 49 | 1629437 | 9.58 | ug/l | 98 |
| 19) tert-Butyl alcohol | 7.88 | 59 | 885199 | 222.88 | ug/l | 96 |
| 20) tert-Butyl methyl ether (M | 9.44 | 73 | 1563491 | 8.20 | ug/l | 99 |
| 21) trans-1,2-Dichloroethene | 9.90 | 96 | 1121061 | 8.49 | ug/l | 99 |
| 22) Acrylonitrile | 9.37 | 53 | 925373 | 45.77 | ug/l | 100 |
| 23) Isopropyl ether (DIPE) | 10.85 | 45 | 5134319 | 9.47 | ug/l | 99 |
| 24) 1,1-Dichloroethane | 11.27 | 63 | 2471107 | 9.29 | ug/l | 100 |
| 25) Vinyl acetate | 11.25 | 43 | 1289705 | 9.04 | ug/l | 99 |
| 26) tert-Butyl ethyl ether (ET | 12.13 | 59 | 2643545 | 8.20 | ug/l | 99 |
| 27) 2,2-Dichloropropane | 12.86 | 77 | 917340 | 8.79 | ug/l | 99 |
| 28) cis-1,2-Dichloroethene | 12.98 | 96 | 971411 | 8.87 | ug/l | 99 |
| 29) 2-Butanone | 12.48 | 43 | 1257959 | 46.86 | ug/l | 99 |
| 30) 2-Butanol | 11.91 | 45 | 988771 | 231.09 | ug/l | 99 |
| 31) Bromochloromethane | 13.74 | 130 | 425130 | 8.82 | ug/l | 97 |
| 32) Tetrahydrofuran | 13.80 | 42 | 149032 | 9.32 | ug/l | 94 |
| 33) Chloroform | 13.34 | 83 | 1832583 | 8.40 | ug/l | 99 |
| 35) 1,1,1-Trichloroethane | 14.23 | 97 | 1350233 | 8.97 | ug/l | 97 |
| 36) Cyclohexane | 14.27 | 84 | 1640752 | 8.88 | ug/l | 99 |
| 37) 1,1-Dichloropropene | 14.56 | 110 | 495261 | 9.17 | ug/l | 99 |
| 38) Carbon tetrachloride | 14.76 | 117 | 1094202 | 8.97 | ug/l | 97 |
| 42) Benzene | 15.09 | 78 | 4224146 | 8.92 | ug/l | 98 |
| 43) 1,2-Dichloroethane | 15.05 | 62 | 1099811 | 9.49 | ug/l | 97 |
| 44) tert-Amyl methyl ether (TA | 14.78 | 73 | 1613236 | 8.17 | ug/l | 98 |
| 45) Trichloroethene | 16.19 | 130 | 951950 | 8.86 | ug/l | 96 |
| 46) Methylcyclohexane | 16.29 | 83 | 1812781 | 8.81 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\24F20\RFR072.D Vial: 14
Acq On : 20 Jun 2024 6:53 pm Operator: LPriet
Sample : EVOF3F1703 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 20 19:21 2024 Quant Results File: VOF3F17.RES

Quant Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration
DataAcq Meth : VOF3F17

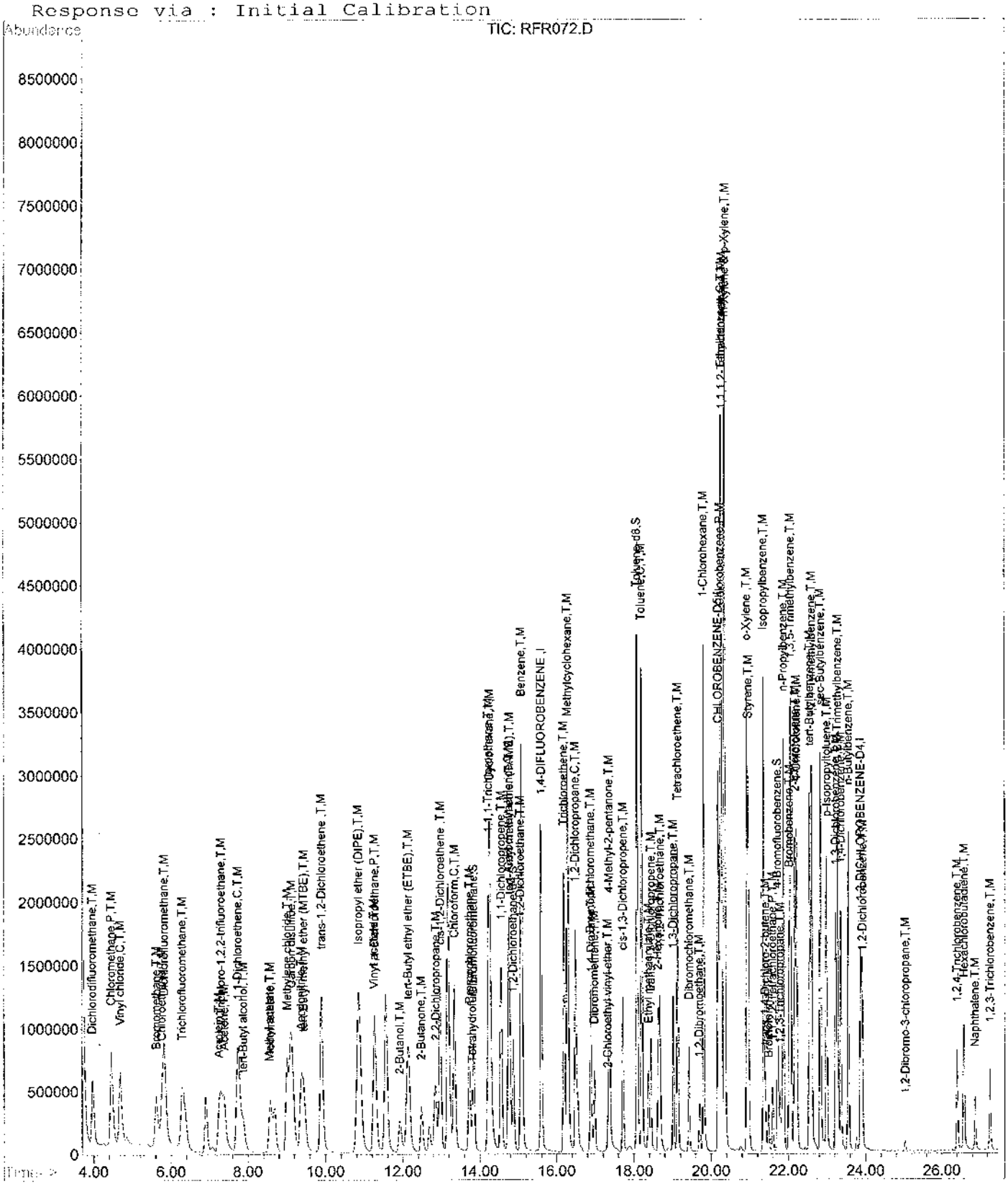
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 47) | 1,2-Dichloropropane | 16.49 | 63 | 1072989 | 9.11 | ug/l | 97 |
| 48) | 1,4-Dioxane | 16.90 | 88 | 51744 | 176.17 | ug/l | 97 |
| 49) | Dibromomethane | 16.98 | 93 | 328744 | 8.41 | ug/l | 91 |
| 50) | Bromodichloromethane | 16.88 | 83 | 1141850 | 8.49 | ug/l | 100 |
| 51) | 2-Chloroethyl vinyl ether | 17.32 | 63 | 115452 | 7.24 | ug/l | 100 |
| 52) | cis-1,3-Dichloropropene | 17.72 | 75 | 1321442 | 9.22 | ug/l | 98 |
| 53) | 4-Methyl-2-pentanone | 17.36 | 43 | 2614415 | 46.88 | ug/l | 100 |
| 56) | Toluene | 18.20 | 91 | 3633347 | 9.32 | ug/l | 99 |
| 57) | Ethyl methacrylate | 18.38 | 69 | 519378 | 8.55 | ug/l | 96 |
| 58) | trans-1,3-Dichloropropene | 18.44 | 75 | 888911 | 9.28 | ug/l | 97 |
| 59) | 1,1,2-Trichloroethane | 18.67 | 97 | 408135 | 8.49 | ug/l | 98 |
| 60) | Tetrachloroethene | 19.13 | 164 | 696443 | 8.34 | ug/l | 95 |
| 61) | 2-Hexanone | 18.62 | 43 | 1526662 | 48.78 | ug/l | 99 |
| 62) | 1,3-Dichloropropane | 19.02 | 76 | 832079 | 8.92 | ug/l | 99 |
| 63) | Dibromochloromethane | 19.43 | 129 | 530743 | 8.61 | ug/l | 99 |
| 64) | 1,2-Dibromoethane | 19.69 | 107 | 380319 | 8.73 | ug/l | 96 |
| 65) | 1-Chlorohexane | 19.81 | 91 | 1346107 | 9.09 | ug/l | 97 |
| 66) | Chlorobenzene | 20.23 | 112 | 1914341 | 9.47 | ug/l | 99 |
| 67) | Ethylbenzene | 20.25 | 91 | 3897941 | 9.99 | ug/l | 97 |
| 68) | 1,1,1,2-Tetrachloroethane | 20.27 | 131 | 675870 | 9.21 | ug/l | 99 |
| 69) | m-Xylene & p-Xylene | 20.35 | 91 | 5412070 | 19.04 | ug/l | 98 |
| 70) | o-Xylene | 20.93 | 91 | 2678711 | 9.33 | ug/l | 99 |
| 71) | Styrene | 20.96 | 104 | 1721171 | 9.09 | ug/l | 95 |
| 72) | Isopropylbenzene | 21.35 | 105 | 3251501 | 9.92 | ug/l | 99 |
| 74) | Bromoform | 21.48 | 173 | 209175 | 9.31 | ug/l | 96 |
| 76) | 1,1,2,2-Tetrachloroethane | 21.58 | 83 | 403293 | 8.93 | ug/l | 95 |
| 77) | trans-1,4-Dichloro-2-buten | 21.40 | 53 | 184640 | 9.51 | ug/l | 93 |
| 78) | n-Propylbenzene | 21.88 | 91 | 3644287 | 9.88 | ug/l | 100 |
| 79) | 1,2,3-Trichloropropane | 21.78 | 110 | 89173 | 9.63 | ug/l | 100 |
| 80) | Bromobenzene | 22.03 | 156 | 589473 | 9.26 | ug/l | 100 |
| 81) | 1,3,5-Trimethylbenzene | 22.06 | 105 | 2365381 | 10.57 | ug/l | 96 |
| 82) | 2-Chlorotoluene | 22.18 | 91 | 2498568 | 11.52 | ug/l | 96 |
| 83) | 4-Chlorotoluene | 22.21 | 91 | 1835324 | 9.55 | ug/l | 99 |
| 84) | tert-Butylbenzene | 22.55 | 134 | 508443 | 9.45 | ug/l | 61 |
| 85) | 1,2,4-Trimethylbenzene | 22.60 | 105 | 2146214 | 10.83 | ug/l | 96 |
| 86) | sec-Butylbenzene | 22.83 | 105 | 3260486 | 10.83 | ug/l | 98 |
| 87) | p-Isopropyltoluene | 23.00 | 119 | 2109129 | 10.03 | ug/l | 99 |
| 88) | 1,3-Dichlorobenzene | 23.23 | 146 | 1093832 | 9.88 | ug/l | 100 |
| 89) | 1,2,3-Trimethylbenzene | 23.28 | 105 | 2020708 | 10.34 | ug/l | 97 |
| 90) | 1,4-Dichlorobenzene | 23.36 | 146 | 959516 | 9.33 | ug/l | 97 |
| 92) | n-Butylbenzene | 23.56 | 91 | 2057479 | 10.11 | ug/l | 96 |
| 93) | 1,2-Dichlorobenzene | 23.92 | 146 | 823427 | 9.05 | ug/l | 97 |
| 94) | 1,2-Dibromo-3-chloropropan | 25.04 | 157 | 41338 | 8.82 | ug/l | 99 |
| 95) | 1,2,4-Trichlorobenzene | 26.40 | 180 | 370602 | 9.10 | ug/l | 98 |
| 96) | Hexachlorobutadiene | 26.58 | 225 | 299662 | 9.04 | ug/l | 96 |
| 97) | Naphthalene | 26.88 | 128 | 489903 | 9.09 | ug/l | 98 |
| 98) | 1,2,3-Trichlorobenzene | 27.27 | 180 | 270376 | 9.07 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\24F20\RFR072.D Vial: 14
Acq On : 20 Jun 2024 6:53 pm Operator: LPriet
Sample : EVOF3F1703 Inst : F3
Misc : 10ppb 8260/50ppb KET-AA/250ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 20 19:21 2024 Quant Results File: VOF3F17.RES

Method : C:\HPCHEM\1\METHODS\VOF3F17.M (RTE Integrator)
Title : METHOD 8260 25mL
Last Update : Wed Jun 19 12:15:14 2024
Response via : Initial Calibration



# ANALYTICAL LOGS

**Note:** For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

**Comments:**

| | |
|---|---|
| **Book #:** | AF3-030 |
| **Instrument No.:** | F3 |
| **Analytical Sequence:** | 24F17 |
| **Method File:** | VOF3F17 |
| **Analytical Batch:** | VOF3F176 |

| SOP # |
|---|
| ☑ EMAX-8260 Rev. No. 10 |
| ☐ EMAX-8260C Rev. No. 1 |
| ☐ EMAX-8260SIM Rev. No. 1 |
| ☐ EMAX-M8260SIM Rev. No. 0 |
| ☐ EMAX-TCPSIM Rev. No. 2 |
| ☐ EMAX-624 Rev. No. 6 |
| ☐ EMAX-624.1 Rev. No. 1 |
| |
| **PURGE AMOUNT** |
| ☐ 5-mL Purge |
| ☐ 10-mL Purge |
| ☑ 25-mL Purge |
| **SAMPLE MATRIX** |
| ☐ Soil (refer to sample weight log) |
| ☐ Water |
| ☐ pH <2. Outliers indicated on analytical sequence. |
| ☐ $Cl_2$ <5ppm. Outliers indicated on analytical sequence. |
| ☑ pH <2 and Cl2 are not applicable. |

**INITIAL CALIBRATION REFERENCE**

| | |
|---|---|
| DATE | 6/17/24 |
| ICAL ID | VOF3 F17 |

**STANDARDS**

| NAME | ID | Amount (µl) | Conc. (mg/L) |
|---|---|---|---|
| DCC GS2 GAS | SV1-43-99-02 | 5 | 250 |
| | -45-05-02 | | 250 |
| DCC 4ADD | -43-95-02 | | 250 |
| DCC 8260 | -45-01-03 | | 50 |
| DCC KET | -45-04-03 | ↓ | 250 |
| BFB | -45-01-02 | 1 | 50 |
| IS/SURR. IS | -43-95-01 | 1 | 250 |
| SS | | 5 | 250 |
| ICV/LCS GS2 GAS | -43-55-02 | 1 | 250 |
| | -43-76-03 | 1 | 250 |
| ICV/LCS 3ADD | -43-69-03 | 5 | 50 |
| ICV/LCS 8260 | -43-77-01 | 5 | LAP 6/18/24 250 |
| ICV/LCS 2-BUT KET | -43-48-03 | 12.5 | 500 |
| | -43-44-02 | 5 | 250 |
| Data File Folder | | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | N/A | MSV-03-04-12-4 |
| Chlorine strip | ↓ | -04-12-6 |
| Methanol | | -03-26 |
| $NaHSO_4$ | | -02-24 |
| Reagent Water | RW4-23-001 | |
| Sand | | |

| ELECTRONIC DATA ARCHIVAL | |
|---|---|
| Location | Date |
| HPCHEM_VOA/TOF3 | |

Analyzed By: LAP
Date: 6/17/24
Disposed By: LAP
Date Disposed: 6/18/24

# Injection Log

Directory: C:\HPCHEM\1\DATA\24F17

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | RFR001.D | 1. | BFBF3F01 | T/CHK | 17 Jun 2024 15:5 |
| 2 | 2 | RFR002.D | 1. | VOF3F171 0.03/0.15 | 0.3ppb 8260/1.5ppb KET-AA/7.5ppb TBA | 17 Jun 2024 16:3 |
| 3 | 3 | RFR003.D | 1. | VOF3F172 0.05/0.25 | 0.5ppb 8260/2.5ppb KET-AA/12.5ppb TBA | 17 Jun 2024 17:0 |
| 4 | 4 | RFR004.D | 1. | VOF3F173 0.1/0.5 | 1ppb 8260/5ppb KET-AA/25ppb TBA | 17 Jun 2024 17:4 |
| 5 | 5 | RFR005.D | 1. | VOF3F174 0.2/1.0 | 2ppb 8260/10ppb KET-AA/50ppb TBA | 17 Jun 2024 18:1 |
| 6 | 6 | RFR006.D | 1. | VOF3F175 0.5/2.5 | 5ppb 8260/25ppb KET-AA/125ppb TBA | 17 Jun 2024 18:4 |
| 7 | 7 | RFR007.D | 1. | VOF3F176 1.0/5.0 | 10ppb 8260/50ppb KET-AA/250ppb TBA | 17 Jun 2024 19:1 |
| 8 | 8 | RFR008.D | 1. | VOF3F177 2.0/10 | 20ppb 8260/100ppb KET-AA/500ppb TBA | 17 Jun 2024 19:52 |
| 9 | 9 | RFR009.D | 1. | VOF3F178 3.0/15 | 30ppb 8260/150ppb KET-AA/750ppb TBA | 17 Jun 2024 20:25 |
| 10 | 10 | RFR010.D | 1. | VOF3F179 5.0/25 | 50ppb 8260/250ppb KET-AA/1250ppb TBA | 17 Jun 2024 20:58 |
| 11 | 11 | RFR011.D | 1. | VOF3F1710 10/50 | 100ppb 8260/500ppb KET-AA/2500ppb TBA | 17 Jun 2024 21:31 |
| 12 | 12 | RFR012.D | 1. | RINSE | | 17 Jun 2024 22:03 |
| 13 | 13 | RFR013.D | 1. | RINSE | | 17 Jun 2024 22:36 |
| 14 | 14 | RFR014.D | 1. | IVOF3F1701 | 10ppb 8260/50ppb KET-AA/250ppb TBA | 17 Jun 2024 23:09 |
| 15 | 15 | RFR015.D | 1. | RINSE | | 17 Jun 2024 23:42 |
| 16 | 16 | RFR016.D | 1. | LOD1 0.02/0.10 | 0.2ppb 8260/4.0ppb KET-AA/5.0ppb TBA | 18 Jun 2024 00:15 |
| 17 | 17 | RFR017.D | 1. | LOD2 0.03/0.15 | 0.3ppb 8260/5.0ppb KET-AA/7.5ppb TBA | 18 Jun 2024 00:47 |
| 18 | 18 | RFR018.D | 1. | LOD3 | 0.4ppb 8260/4.0ppb KET-AA/10ppb TBA | 18 Jun 2024 01:20 |
| 19 | 19 | RFR019.D | 1. | LOQ | 80ppb 1,4-Dioxane | 18 Jun 2024 01:53 |

# Injection Log

Directory: C:\HPCHEM\1\DATA\24F20

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | RFR059.D | 1. | BFBF3F04 ✓ | T/CHK | 20 Jun 2024 11:14 |
| 2 | 2 | RFR060.D | 1. | CVOF3F1403 ✓ 2-chlorotoluene ↑RF | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 11:52 |
| 3 | 3 | RFR061.D | 1. | VOF3F04L | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 12:44 |
| 4 | 4 | RFR062.D | 1. | VOF3F04C ✓ | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 13:17 |
| 5 | 5 | RFR063.D | 1. | RINSE | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 13:50 |
| 6 | 6 | RFR064.D | 1. | VOF3F04B ✓ | 25mL | 20 Jun 2024 14:23 |
| 7 | 7 | RFR065.D | 1. | VOF3F04X ✓ | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 14:56 |
| 8 | 8 | RFR066.D | 1. | RINSE | | 20 Jun 2024 15:29 |
| 9 | 9 | RFR067.D | 1. | 24F036-11 ✓ | 25mL | 20 Jun 2024 16:03 |
| 10 | 10 | RFR068.D | 1. | 24F036-07 ✓ | 25mL | 20 Jun 2024 16:35 |
| 11 | 11 | RFR069.D | 1. | 24F036-10 ✓ | 25mL | 20 Jun 2024 17:08 |
| 12 | 12 | RFR070.D | 1. | 24F036-08 ✓ | 25mL | 20 Jun 2024 17:41 |
| 13 | 13 | RFR071.D | 1. | 24F034-01 ✓ | 25mL | 20 Jun 2024 18:14 |
| 14 | 14 | RFR072.D | 1. | RINSE ✓ | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 18:53 |
| 15 | 15 | RFR073.D | 1. | RINSE | | 20 Jun 2024 19:26 |
| 16 | 16 | RFR074.D | 1. | 24F064-08 No closing kr | 25mL | 20 Jun 2024 19:59 |
| 17 | 17 | RFR075.D | 1. | 24F064-09 | 25mL | 20 Jun 2024 20:32 |
| 18 | 18 | RFR076.D | 1. | 24F064-05 | 25mL | 20 Jun 2024 21:05 |
| 19 | 19 | RFR077.D | 1. | 24F064-07 | 25mL | 20 Jun 2024 21:38 |
| 20 | 20 | RFR078.D | 1. | 24F064-04 | 25mL | 20 Jun 2024 22:11 |
| 21 | 21 | RFR079.D | 1. | 24F064-10 | 25mL | 20 Jun 2024 22:43 |
| 22 | 22 | RFR080.D | 1. | 24F064-06 | 25mL | 20 Jun 2024 23:16 |
| 23 | | RFR081.D | 1. | | | |

**Note:** For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

**Comments:**

**Book #:** AF3-030
**Instrument No.:** F3
**Analytical Sequence:** 24F20
**Method File:** ~~V001E~~ V0F3F17
**Analytical Batch:** CV0F3F1703

| INITIAL CALIBRATION REFERENCE | | | |
|---|---|---|---|
| DATE | 6/17/24 | | |
| ICAL ID | VOF3 F17 | | |
| **STANDARDS** | | | |
| NAME | ID | Amount (µl) | Conc. (mg/L) |
| DCC CS2 GAS | SV1-43-93-02 -45-05-02 | 1 1 | |
| DCC 4ADD | -43-95-02 | 1 | |
| DCC 8260 | -45-01-03 | 5 | |
| DCC KET | -45-04-03 | 5 | |
| BFB | -45-01-02 | 1 | |
| IS/SURR. | -43-96-01 | 5 | 50/250 |
| ICV/LCS CS2 GAS | -43-55-02 -45-76-03 | 1 1 | |
| ICV/LCS 3ADD | -43-91-05 | 5 | |
| ICV/LCS 8260 | -43-77-01 | 5 | |
| ICV/LCS KET | -43-94-02 | 5 | |
| Data File Folder | 24F20 | | |
| | LOT # | Syringe Lot # | |
| pH strip | | MSV-03-04-12-4 | |
| Chlorine strip | | ↓ -6 | |
| Methanol | | | |
| $NaHSO_4$ | | | |
| Reagent Water | RW4-23-001 | | |
| Sand | | | |

| SOP # |
|---|
| ☑ EMAX-8260 Rev. No. 10 |
| ☐ EMAX-8260C Rev. No. 1 |
| ☐ EMAX-8260SIM Rev. No. 1 |
| ☐ EMAX-M8260SIM Rev. No. 0 |
| ☐ EMAX-TCPSIM Rev. No. 2 |
| ☐ EMAX-624 Rev. No. 6 |
| ☐ EMAX-624.1 Rev. No. 1 |
| **PURGE AMOUNT** |
| ☐ 5-mL Purge |
| ☐ 10-mL Purge |
| ☑ 25-mL Purge |
| **SAMPLE MATRIX** |
| ☐ Soil (refer to sample weight log) |
| ☑ Water |
| ☑ pH <2. Outliers indicated on analytical sequence. |
| ☑ $Cl_2$ <5ppm. Outliers indicated on analytical sequence. |
| ☐ pH <2 and Cl2 are not applicable. |

| ELECTRONIC DATA ARCHIVAL | |
|---|---|
| Location | Date |
| HPCHEM_VOA/TOF3 | |

Analyzed By: LAP
Date: 6/20/24
Disposed By: LAP
Date Disposed: 6/21/24

# Injection Log

Directory: C:\HPCHEM\1\DATA\24F20

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | RFR059.D | 1. | BFBF3F04 | T/CHK | 20 Jun 2024 11:14 |
| 2 | 2 | RFR060.D | 1. | CVOF3F1703 | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 11:52 |
| 3 | 3 | RFR061.D | 1. | VOF3F04L | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 12:44 |
| 4 | 4 | RFR062.D | 1. | VOF3F04C | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 13:17 |
| 5 | 5 | RFR063.D | 1. | RINSE | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 13:50 |
| 6 | 6 | RFR064.D | 1. | VOF3F04B | 25mL | 20 Jun 2024 14:23 |
| 7 | 7 | RFR065.D | 1. | VOF3F04X | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 14:56 |
| 8 | 8 | RFR066.D | 1. | RINSE | | 20 Jun 2024 15:29 |
| 9 | 9 | RFR067.D | 1. | 24F036-11 | 25mL | 20 Jun 2024 16:03 |
| 10 | 10 | RFR068.D | 1. | 24F036-07 | 25mL | 20 Jun 2024 16:35 |
| 11 | 11 | RFR069.D | 1. | 24F036-10 | 25mL | 20 Jun 2024 17:08 |
| 12 | 12 | RFR070.D | 1. | 24F036-08 | 25mL | 20 Jun 2024 17:41 |
| 13 | 13 | RFR071.D | 1. | 24F034-01 | 25mL | 20 Jun 2024 18:14 |
| 14 | 14 | RFR072.D | 1. | EVOF3F1703 | 10ppb 8260/50ppb KET-AA/250ppb TBA | 20 Jun 2024 18:53 |
| 15 | 15 | RFR073.D | 1. | RINSE | | 20 Jun 2024 19:26 |
| 16 | 16 | RFR074.D | 1. | 24F064-08 | 25mL | 20 Jun 2024 19:59 |
| 17 | 17 | RFR075.D | 1. | 24F064-09 | 25mL | 20 Jun 2024 20:32 |
| 18 | 18 | RFR076.D | 1. | 24F064-05 | 25mL | 20 Jun 2024 21:05 |
| 19 | 19 | RFR077.D | 1. | 24F064-07 | 25mL | 20 Jun 2024 21:38 |
| 20 | 20 | RFR078.D | 1. | 24F064-04 | 25mL | 20 Jun 2024 22:11 |
| 21 | 21 | RFR079.D | 1. | 24F064-10 | 25mL | 20 Jun 2024 22:43 |
| 22 | 22 | RFR080.D | 1. | 24F064-06 | 25mL | 20 Jun 2024 23:16 |
| 23 | | RFR081.D | 1. | | | |

# STANDARD LOGS

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-08-12 | custom VOA mix 38-23 | 2000ppm | 50mL | 50.25ppm |
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| | | | M 1/11/24 | |

| Standard ID | SV1-43-48-01 |
|---|---|
| Name | 624 (1°) |
| Final Volume | 2.0 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/11/24 |
| Exp. Date | 7/11/24 |
| Prepared By | M |

Syringe ID: MSV-03-03-01

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-10-19 | VOA calibration mix #1 | 5000ppm | 0.5mL | 250ppm |
| ↓ -13-16 | acrolein & acrylonitrile | ↓ | ↓ | ↓ |
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| | | | M 1/11/24 | |

| Standard ID | SV1-43-48-02 |
|---|---|
| Name | Kct-AA (1°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/11/24 |
| Exp. Date | 2/6/24 |
| Prepared By | M |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-14-14 | 2-butanol | 10000ppm | 1.0mL | 500ppm |
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| | | | M 1/15/24 | |

| Standard ID | SV1-43-48-03 |
|---|---|
| Name | 2-butanol (2°) |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/15/24 |
| Exp. Date | 7/15/24 |
| Prepared By | M |

Syringe ID: MSV-03-01-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-30-11-10 | carbon disulfide | 5000 ppm | 0.5 mL | 250 ppm |
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| | | | | LAP 1/22/24 |

| Standard ID | SV1-43-55-01 |
|---|---|
| Name | CS2 (1°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 1/22/24 |
| Exp. Date | 7/22/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-08-06 | carbon disulfide | 5000ppm | 0.5mL | 250ppm |
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| | | | | VL 1/22/24 |

| Standard ID | SV1-43-55-02 |
|---|---|
| Name | CS2 (2°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 1/22/24 |
| Exp. Date | 7/22/24 |
| Prepared By | VL |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-08-06 | Carbon disulfide | 5000ppm | 0.5mL | 250ppm |
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| | | | | ZL 1/22/24 |

| Standard ID | SV1-43-55-03 |
|---|---|
| Name | CS2 (2°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 1/22/24 |
| Exp. Date | 7/22/24 |
| Prepared By | ZL |

Syringe ID: MSV-03-01-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-14-15 | tert-amyl alcohol | 1000ppm | 0.5mL | 250ppm |
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| | | | N | 2/7/24 |

| Standard ID | SV1-43-69-01 |
|---|---|
| Name | TAA (2°) |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-02 |
| Prep. Date | 2/7/24 |
| Exp. Date | 8/7/24 |
| Prepared By | N |

Syringe ID: MSV-03-03-04

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-06-16 | 224-trimethylpentane | 1000ppm | 100uL | 50ppm |
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| | | | N | 2/7/24 |

| Standard ID | SV1-43-69-02 |
|---|---|
| Name | 224-TMP (2°) |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-02 |
| Prep. Date | 2/7/24 |
| Exp. Date | 8/7/24 |
| Prepared By | N |

Syringe ID: MSV-03-03-04

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-10-08 | methyl acetate | 1000ppm | 0.5mL | 50ppm |
| ↓ -14-20 | cyclohexane | ↓ | ↓ | ↓ |
| ↓ -14-11 | methylcyclohexane | | | |
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| | | | N | 2/7/24 |

| Standard ID | SV1-43-69-03 |
|---|---|
| Name | 3add (2°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-02 |
| Prep. Date | 2/7/24 |
| Exp. Date | 8/7/24 |
| Prepared By | N |

Syringe ID: MSV-03-03-04

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-14-05 | VOA Calibration Mix #1 | 5000ppm | 0.5mL | 250ppm |
| ↓ 38-15-04 | Acrolein + Acrylonitrile | ↓ | ↓ | ↓ |
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| | | | | DH 2/26/24 |

| Standard ID | SV1-43-76-01 |
|---|---|
| Name | Ket-AA (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-11-24-02 |
| Prep. Date | 2/26/24 |
| Exp. Date | 5/26/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-30-02-02 | VOA TUNING CMPD MIX | 5000ppm | 100uL | 50ppm |
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| | | | | EL 2/26/24 |

| Standard ID | SV1-43-76-02 |
|---|---|
| Name | BFB |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-01-24-01 |
| Prep. Date | 2/26/24 |
| Exp. Date | 8/26/24 |
| Prepared By | EL |

Syringe ID: MSV-03-02-25

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-13-17 | vinyl acetate | 2000ppm | 1.25mL | 250 ppm |
| ↓ -12-05 | 8260 gases | ↓ | ↓ | ↓ |
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| | | | | LAP 2/27/24 |

| Standard ID | SV1-43-76-03 |
|---|---|
| Name | GAS (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-11-24-02 |
| Prep. Date | 2/26/24 |
| Exp. Date | 8/26/24 |
| Prepared By | DH |

Syringe ID: MSV-03-03-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-09-20 | custom 8260 megamix | 2000 ppm | 250 µL | 50 ppm |
| -02-03 | cal oxy mix #1 | ↓ | ↓ | ↓ |
| -11-19 | 2-Cleve | ↓ | ↓ | ↓ |
| -10-02 | 1-chlorohexane | 1000 ppm | 0.5 mL | ↓ |
| -12-06 | 1,2,3-TMB | 2500 ppm | 200 µL | ↓ |
| ↓ -11-16 | TBA | 50,000 ppm | ↓ | 1000 ppm |
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| | | | | LAP 2/27/24 |

| Standard ID | SV1-43-77-01 |
|---|---|
| Name | 8260 (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-11-24-02 |
| Prep. Date | 2/26/24 |
| Exp. Date | 8/26/24 |
| Prepared By | DH |

Syringe ID: MSV-03-03-11
↓ -02-04

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-19 | VOC Gas Mix | 2000 ppm | 1.25 mL | 250 ppm |
| ↓ -14-09 | Vinyl Acetate | 2500 ppm | 1.0 mL | ↓ |
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| | | | IR | 2/27/24 |

| Standard ID | SV1-43-77-02 |
|---|---|
| Name | Gas (1°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 2/27/24 |
| Exp. Date | 8/27/24 |
| Prepared By | IR |

Syringe ID: MSV-03-01-13
-03-03-05

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-09-16 | 8260 IS | 2500 ppm | 200 µL | 50 ppm |
| ↓ -10-13 | 8260 A Surr | 2500 ppm | ↓ | ↓ |
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| | | | IR | 3/04/24 |

| Standard ID | SV1-43-77-03 |
|---|---|
| Name | IS/SS |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 03/04/24 |
| Exp. Date | 09/04/24 |
| Prepared By | IR |

Syringe ID: MSV-03-03-05

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-08-17 | 1,2,3 TCP-d5 | 1000 ppm | 5.0 µL | 2.5 ppm |
| ↓ -01-02 | Toluene-d8 | 2000 ppm | 2.5 µL | ↓ |
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| | | IR 5/07/24 | | |

| Standard ID | SV1-43-93-01 |
|---|---|
| Name | IS/SS 123707 |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-08-24-01 |
| Prep. Date | 5/07/24 |
| Exp. Date | 11/07/24 |
| Prepared By | IR |

Syringe ID: MSV-03-04-09-3

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-10 | Carbon Disulfide | 5000 ppm | 500 µL | 250 ppm |
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| | | | DH 5/8/24 | |

| Standard ID | SV1-43-93-02 |
|---|---|
| Name | CS2 (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/8/24 |
| Exp. Date | 11/8/24 |
| Prepared By | DH |

Syringe ID: MSV-03-08-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-14-05 | VOA Calibration Mix #1 | 5000 ppm | 0.5mL | 250 ppm |
| SV1-38-15-12 | Acrolein & Acrylonitrile | ↓ | ↓ | ↓ |
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| | | | DH 5/8/24 | |

| Standard ID | SV1-43-93-03 |
|---|---|
| Name | Ket-1A (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/8/24 |
| Exp. Date | 7/26/24 |
| Prepared By | DH |

Syringe ID: MSV-05-08-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-15-10 | 8260 gases | 2000 ppm | 1.25 mL | 250 ppm |
| ↓ -38-15-13 | vinyl acetate | ↓ | ↓ | ↓ |
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| | | | DH 5/8/24 | |

| Standard ID | SV1-43-94-01 |
|---|---|
| Name | GAS (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/8/24 |
| Exp. Date | 11/8/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11
↓ -03-04-23

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-15-09 | Ketones soln. | 2500 ppm | 1.0 mL | 250 ppm |
| SV1-38-15-14 | Acrolein & Acrylonitrile | ↓ | 1.25 mL | ↓ |
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| | | | DH 5/8/24 | |

| Standard ID | SV1-43-94-02 |
|---|---|
| Name | KET-AA (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/8/24 |
| Exp. Date | 7/31/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11
↓ ~~03-03~~ DH 5/8/24
MSV-0304-23

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-13-12 | 8260 IS Mix, 3-30 | 2500 ppm | 1.0 mL | 250 ppm |
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| | | | LAP 5/10/24 | |

| Standard ID | SV1-43-94-03 |
|---|---|
| Name | IS |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 5/10/24 |
| Exp. Date | 11/10/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-13-12 | 8260 IS Mix, 3730 | 2500 ppm | 1.0mL | 250 ppm |
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| | | | LAP 5/10/24 | |

| Standard ID | SV1-43-95-01 |
|---|---|
| Name | IS |
| Final Volume | 10mL |
| MeOH Solvent ID | SWLA-011-24-01 |
| Prep. Date | 5/10/24 |
| Exp. Date | 11/10/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-14-01 | Methyl acetate | 2500 ppm | 1.0 mL | 250 ppm |
| ↓ -12-13 | Methylcyclohexane | ↓ | ↓ | ↓ |
| -13-14 | cyclohexane | 2000 ppm | 1.25 mL | ↓ |
| ↓ -08-11 | 2-butanol | 50,000 ppm | ↓ | @250 ppm |
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| | | | LAP 5/11/24 | |

| Standard ID | SV1-43-95-02 |
|---|---|
| Name | 4 ADD (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWLA-011-24-01 |
| Prep. Date | 5/11/24 |
| Exp. Date | 11/11/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11
↓ -02-23

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-13-12 | 8260 IS Mix | 2500ppm | 200µL | DH 5/15/24 250ppm |
| ↓ 38-15-15 | 8260A Surr Mix | ↓ | ↓ | ↓ |
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| | | | | |
| | | | DH 5/12/24 | |

| Standard ID | SV1-43-95-03 |
|---|---|
| Name | IS/SS |
| Final Volume | 10mL |
| MeOH Solvent ID | SWAA-011-24-01 |
| Prep. Date | 5/13/24 |
| Exp. Date | 11/13/24 |
| Prepared By | DH |

Syringe ID: MSV-08-03-11
↓ -02-23

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

DH 5/15/24

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-15-12 | 8260 IS Mix | 2500ppm | 200µL | 250ppm |
| ↓ 38-15-15 | 8260A Surr Mix | ↓ | ↓ | ↓ |
| | | | DH 5/15/24 | |

| Standard ID | SV1-43-96-01 |
|---|---|
| Name | IS/SS |
| Final Volume | 10mL |
| MeOH Solvent ID | SWA-011-24-01 |
| Prep. Date | 5/13/24 |
| Exp. Date | 11/13/24 |
| Prepared By | DH |

Syringe ID: MSV-03-03-11 ↓ 02-023

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-13-02 | 8260 IS | 2500ppm | 40µL | 20ppm |
| | | | DH 5/16/24 | |

| Standard ID | SV1-43-96-02 |
|---|---|
| Name | IS (E2) |
| Final Volume | 5mL |
| MeOH Solvent ID | SWA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/5/24 |
| Prepared By | DH |

Syringe ID: MSV-03-02-24

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-10-13 | 8260A SU | 2500ppm | 1.0mL | 250ppm |
| | | | DH 5/16/24 | |

| Standard ID | SV1-43-96-03 |
|---|---|
| Name | SS |
| Final Volume | 10mL |
| MeOH Solvent ID | SWA-011-24-01 |
| Prep. Date | 5/16/24 |
| Exp. Date | 11/16/24 |
| Prepared By | DH |

Syringe ID: MSV-03-01-14

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-45

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVI-30-02-02 | VOA Tuning Compound Mix | 5000 ppm | 100 µL | 50 ppm |
| | | | | |
| | | | | |
| | | | |

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-45

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVI-38-06-03 | 524.2 Surr Std mix | 2000ppm | 250uL | 250ppm |
| | | | | |
| | | | | |
| | | | |

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-45

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-30-14-05 | VOA Calibration Mix #1 | 5000 ppm | 0.5 mL | 250 ppm |
| ↓ -10-03 | Acrolein & Acrylonitrile | ↓ | ↓ | ↓ |
| | | | | LAP 6/10/24 |

| Standard ID | SV1-45-05-01 |
|---|---|
| Name | KET-AA (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 6/10/24 |
| Exp. Date | 9/28/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-30-15-15 | VOC Gas Std. | 2000 ppm | 1.25 ml | 250 ppm |
| ↓ -18 | Vinyl acetate | 2500 ppm | 1.0 ml | ↓ |
| | | | | LAP 6/10/24 |

| Standard ID | SV1-45-05-02 |
|---|---|
| Name | GAS (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 6/10/24 |
| Exp. Date | 12/10/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-30-08-06 | Carbon Disulfide | 5000ppm | 0.5mL | 250 ppm |
| | | | | LAP 6/10/24 |

| Standard ID | SV1-45-05-03 |
|---|---|
| Name | CS2 (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SWIA-011-24-01 |
| Prep. Date | 6/10/24 |
| Exp. Date | 12/10/24 |
| Prepared By | LAP |

Syringe ID: MSV-03-03-11

Comments:

SV1-38-14-14

# SPEXertificate®

## Certificate of Reference Material

**Catalog Number:** S-615
**Description:** 2-Butanol
**Matrix:** P&T Methanol

**Lot No.** NSI231128601

**Manufactured Date:** 11/28/2023
**Expiration Date:** 11/30/2026

This **SPEXOrganics®** Certified Reference Material, CRM, was manufactured by NSI Lab Solutions (www.nsilabsolutions.com) and is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

**Certified Compounds:**

| Compound | CAS # | Labeled (ug/mL) | Purity | Certified† (ug/mL) | | Uncertainty (ug/mL) |
|---|---|---|---|---|---|---|
| 2-Butanol | 78-92-2 | 1000 | 100% | 1000 | ± | 7.05 |

SV-38-14-14

* - Isomer ratios (when applicable) are an uncertified parameter.

**Final Solution Verification:**

Final solution integrity verified Volumetrically and Analytically. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration is based on gravimetric or volumetric measurements. All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO/IEC 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request. All glassware used in the manufacturing of this standard is Class A. Volumetric pipettors are calibrated every four months by an ISO/IEC 17025 accredited calibration laboratory.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 11/28/2023

Certifying Officer: Kenneth Grzybowski

SVI-38-08-06

Agilent

# Certificate of Analysis

**Product Name:** Carbon Disulfide Standard

**Product Number:** EPA-1012-1 **Lot Issue Date:** 21-Sep-2020

**Lot Number:** 0006557585 **Expiration Date:** 30-Sep-2024

**Description:**
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

| Analyte | CAS# | Analyte Lot | Concentration ± Uncertainty |
|---|---|---|---|
| carbon disulfide | 000075-15-0 | RM08158 | 5023 ± 25 µg/mL |

**Matrix:** methanol (methyl alcohol)

**Storage Conditions:** Store Frozen (-25° to -10°C).

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Intended Use:**
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Hazards:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

**Expiration of Certification:**
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026
Page: 1 of 1
www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED TESTING LABORATORY
ISO 17025 Cert No. AT-1937

spex certiprep
ACCREDITED
Reference Materials Producer
Cert #2495.01

# SPEXertificate®
## Certificate of Reference Material

ACCREDITED
Chemical Testing
Cert #2495.02

**Catalog Number:** S-3893 **Lot No.** ND210224010

**Description:** Methyl acetate

**Matrix:** Methanol (Purge & Trap Grade)

**Ship Date:** January 5, 2023
**Expiration Date:** January 4, 2026

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

### Certified Compounds:

| Compound | CAS # | Labeled | Purity | Certified† | Uncertainty |
|---|---|---|---|---|---|
| Methyl acetate | 79-20-9 | 1000 µg/mL | 99.5% | 1015 µg/mL | ± 36 µg/mL |

SVI-38-10-08

* - isomer ratios (when applicable) are an uncertified parameter.

### Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: January 5, 2023

Certifying Officer: Shannon Mora
Shannon Macieira, Operations Manager


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SVI-38-14-20

# SPEXertificate®

## Certificate of Reference Material

**Catalog Number:** S-1015 **Lot No.** NSI231122602
**Description:** Cyclohexane
**Matrix:** Methanol (Purge & Trap Grade) **Manufactured Date:** 11/22/2023
**Expiration Date:** 11/30/2026

This **SPEXOrganics®** Certified Reference Material, CRM, was manufactured by NSI Lab Solutions (www.nsilabsolutions.com) and is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

**Certified Compounds:**

| Compound | CAS # | Labeled (ug/mL) | Purity | Certified† (ug/mL) | | Uncertainty (ug/mL) |
|---|---|---|---|---|---|---|
| Cyclohexane | 110-82-7 | 1000 | 100.0% | 999 | ± | 7.05 |

* - Isomer ratios (when applicable) are an uncertified parameter.

**Final Solution Verification:**

Final solution integrity verified Volumetrically and Analytically. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

**† Certified concentration is based on gravimetric or volumetric measurements.** All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO/IEC 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request. All glassware used in the manufacturing of this standard is Class A. Volumetric pipettors are calibrated every four months by an ISO/IEC 17025 accredited calibration laboratory.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 11/22/2023 Certifying Officer: Kenneth Grzybowski

SV1-38-14-11

# SPEXertificate®

## Certificate of Reference Material

**Catalog Number:** S-2470 **Lot No.** NSI231116202
**Description:** Methylcyclohexane
**Matrix:** P&T Methanol
**Manufactured Date:** 11/16/2023
**Expiration Date:** 11/30/2026

This **SPEXOrganics®** Certified Reference Material, CRM, was manufactured by NSI Lab Solutions (www.nsilabsolutions.com) and is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

**Certified Compounds:**

| Compound | CAS # | Labeled (ug/mL) | Purity | Certified† (ug/mL) | | Uncertainty (ug/mL) |
|---|---|---|---|---|---|---|
| Methylcyclohexane | 108-87-2 | 1000 | 98.0% | 1000 | ± | 7.05 |

SV1-38-14-11

* - Isomer ratios (when applicable) are an uncertified parameter.

**Final Solution Verification:**

Final solution integrity verified Volumetrically and Analytically. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration is based on gravimetric or volumetric measurements. All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO/IEC 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request. All glassware used in the manufacturing of this standard is Class A. Volumetric pipettors are calibrated every four months by an ISO/IEC 17025 accredited calibration laboratory.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 11/16/2023 Certifying Officer: Kenneth Grzybowski

125 Market Street
New Haven, CT 06513
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SVI - 38-13-17

# CERTIFICATE OF ANALYSIS

**Catalog No:** APP-9-211-20X
**Description:** Vinyl acetate
**Lot:** 223101241
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Oct 19, 2023
**Expiration:** Apr 19, 2024
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Freeze (<-10 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Vinyl acetate | 108-05-4 | 100.0 | 2039 | 2039 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/NO-001
Rev. 7/20

SV1-38-12-05

ibis scientific

Ibis Scientific, 7330 Smoke Ranch Rd., Suite B, Las Vegas, NV 89128 (855) 390-4202 

Date manufactured: 11/9/2021
Original issue date: 11/9/2021

# Certificate of Analysis

Date Received: _____

Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| 3200-G34 -120016-03 | 500823 | ≤ -10 °C | P/T Methanol | 8-Nov-2026 | **ISO 17034 - Method 8260 Gases, 2,000 mg/L, 2 x 0.6 mL** |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC), gas chromatography/mass spectrometry (GC/MS), or High Pressure Liquid Chromatography (HPLC) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a $k$ value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| bromomethane | 74-83-9 | 99.5 | 139.158.1.1P | 2006 ± 120 |
| chloroethane | 75-00-3 | 99.94 | 141.2.3P | 1997 ± 120 |
| chloromethane | 74-87-3 | 99.7 | 140.158.3P | 1999 ± 120 |
| dichlorodifluoromethane | 75-71-8 | 99 | 142.158.5P | 1987 ± 130 |
| trichlorofluoromethane | 75-69-4 | 99 | 144.1.3P | 2007 ± 120 |
| vinyl chloride | 75-01-4 | 99 | 143.158.5.2P | 1994 ± 130 |

Second Source standards are prepared according to NELAC requirements.

## Intended Use:

This certified reference material (CRM) is intended for use as a calibration standard or a quality control standard for chromatography instrumentation such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various USEPA, NIOSH, and ASTM methods.

Recommended storage container for ampouled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix
y = boiling point of the solvent

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened

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CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

*chromatographic*

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 575702 **Lot No.:** A0191824

**Description :** Custom Revised 8260 Megamix

Custom Revised 8260 Megamix 2,000 - 40,000µg/mL, P&T Methanol, 1mL/ampul

SVI-38-09-20

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** November 30, 2025 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Dichlorofluoromethane (CFC-21) | 75-43-4 | 12841600 | 99% | 2,000.0 µg/mL | +/- 69.1292 |
| 2 | Diethyl ether (ethyl ether) | 60-29-7 | SHBP5008 | 99% | 2,011.0 µg/mL | +/- 69.5094 |
| 3 | 1,1,2-Trichlorotrifluoroethane (CFC-113) | 76-13-1 | 00016133 | 99% | 2,008.0 µg/mL | +/- 69.4057 |
| 4 | 1,1-dichloroethene | 75-35-4 | SHBG8609V | 99% | 2,001.6 µg/mL | +/- 69.9029 |
| 5 | Iodomethane (methyl iodide) | 74-88-4 | RD220125 | 99% | 2,007.5 µg/mL | +/- 69.3884 |
| 6 | Allyl chloride ( 3-chloropropene ) | 107-05-1 | RP220405A | 99% | 2,011.0 µg/mL | +/- 69.5094 |
| 7 | Methylene chloride (dichloromethane) | 75-09-2 | SHBP1417 | 99% | 2,001.6 µg/mL | +/- 69.9056 |
| 8 | trans-1,2-Dichloroethene | 156-60-5 | MKBH9850V | 99% | 2,001.7 µg/mL | +/- 69.9064 |
| 9 | 1,1-Dichloroethane | 75-34-3 | 760200 | 99% | 2,001.1 µg/mL | +/- 69.8864 |
| 10 | Chloroprene (2-chloro-1,3-butadiene) | 126-99-8 | 220712JLM | 99% | 2,014.0 µg/mL | +/- 69.6131 |
| 11 | Propionitrile | 107-12-0 | BCCF4167 | 99% | 20,009.5 µg/mL | +/- 691.5748 |
| 12 | 2,2-Dichloropropane | 594-20-7 | RD220812 | 99% | 2,004.3 µg/mL | +/- 70.0110 |
| 13 | cis-1,2-Dichloroethene | 156-59-2 | MKCP7830 | 99% | 2,014.0 µg/mL | +/- 70.3516 |
| 14 | Methacrylonitrile | 126-98-7 | 1012014 | 99% | 20,031.5 µg/mL | +/- 692.3351 |
| 15 | Methyl acrylate | 96-33-3 | SHBG6616V | 99% | 2,007.0 µg/mL | +/- 69.3711 |
| 16 | Isobutanol (2-Methyl-1-propanol) | 78-83-1 | SHBP7066 | 99% | 40,013.5 µg/mL | +/- 1,382.9594 |

SVI-38-02-03

# RESTEK® CERTIFIED REFERENCE MATERIAL

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Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

## Certificate of Analysis

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30465 **Lot No.:** A0168072

**Description :** California Oxygenates Mixture #1

California Oxygenates Mixture #1 2000-10000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2026 **Storage:** 0°C or colder

**Ship:** Ambient

## CERTIFIED VALUES

| Elution Order | Compound | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) | |
|---|---|---|---|---|
| 1 | tert-Butanol (TBA)<br>**CAS #** 75-65-0 (Lot SHBL5806)<br>**Purity** 99% | 10,038.8 µg/mL | +/- 58.7794 µg/mL<br>+/- 215.0444 µg/mL<br>+/- 221.2897 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2 | Methyl-tert-butyl ether ( MTBE )<br>**CAS #** 1634-04-4 (Lot SHBL0822)<br>**Purity** 99% | 2,005.6 µg/mL | +/- 11.7700 µg/mL<br>+/- 42.9699 µg/mL<br>+/- 44.2174 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 3 | Diisopropyl ether ( DIPE )<br>**CAS #** 108-20-3 (Lot SHBH1927V)<br>**Purity** 99% | 2,009.6 µg/mL | +/- 11.7935 µg/mL<br>+/- 43.0556 µg/mL<br>+/- 44.3056 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 4 | Ethyl-tert-butyl ether (ETBE)<br>**CAS #** 637-92-3 (Lot MKCM3774)<br>**Purity** 99% | 2,006.0 µg/mL | +/- 11.7723 µg/mL<br>+/- 42.9785 µg/mL<br>+/- 44.2263 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 5 | tert-Amyl methyl ether (TAME)<br>**CAS #** 994-05-8 (Lot HMBG7745V)<br>**Purity** 99% | 2,007.2 µg/mL | +/- 11.7794 µg/mL<br>+/- 43.0042 µg/mL<br>+/- 44.2527 µg/mL | Gravimetric<br>Unstressed<br>Stressed |

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New Haven, CT 06513
USA

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www.AccuStandard.com

# CERTIFICATE OF ANALYSIS

**Catalog No:** M-601C-10X
**Description:** 2-Chloroethylvinyl ether
**Lot:** 223041132
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 11, 2023
**Expiration:** Apr 11, 2026
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Freeze (<-10 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ilac-MRA

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| 2-Chloroethylvinyl ether | 110-75-8 | 100.0 | 2005 | 2005 |

SVI-38-11-19

Uncontrolled Copy

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST. Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

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Rev. 7/20

SVL-38-10-02

ISO 17034

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# Reference Material Certificate

| | | | |
|---|---|---|---|
| **Product Name:** | 1-Chlorohexane Standard | **Lot Number:** | 0006668972 |
| **Product Number:** | EPA-1208-1 | **Lot Issue Date:** | 10-Mar-2022 |
| **Storage Conditions:** | Store at Room Temperature (15° to 30°C). | **Expiration Date:** | 30-Apr-2025 |

| | CERTIFIED VALUES | | | |
|---|---|---|---|---|
| Component Name | Concentration | Expanded Uncertainty | CAS# | Analyte Lot |
| 1-chlorohexane | 1003 | ± 5 µg/mL | 000544-10-5 | RM15291 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Expiration of Certification:**
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

Ibis Scientific, 7330 Smoke Ranch Rd., Suite B, Las Vegas, NV 89128 (855)390-4202



Date manufactured: 6/24/2022
Original issue date: 6/24/2022

# Certificate of Analysis

Date Received: _____

Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| 3200-44 | 503601 | ≤ -10 °C | P/T Methanol | 23-Jun-2027 | 1,2,3-Trimethylbenzene Solution, 2500 mg/L, 1 mL |

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 1,2,3-trimethylbenzene | 526-73-8 | 92.7 | 869.8.4.1P | 2536 ± 32.33 |

SVI-38-12-06

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# CERTIFIED REFERENCE MATERIAL

## Certificate of Analysis

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Certificate #3222.01

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Testing Laboratory
Certificate #3222.02

SV1-38-11-18

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30470 **Lot No.:** A0188432

**Description :** tert-Butanol Standard

tert-Butanol Std 50,000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** August 31, 2025 **Storage:** 0°C or colder

**Ship:** Ambient

## CERTIFIED VALUES

| Elution Order | Compound | | Grav. Conc. (weight/volume) | | Expanded Uncertainty (95% C.L., K=2) | | |
|---|---|---|---|---|---|---|---|
| 1 | tert-Butanol (TBA) | | 50,300.0 µg/mL | | +/- 294.5176 | µg/mL | Gravimetric |
| | **CAS #** 75-65-0 | (Lot 101619K21F-1) | | | +/- 1,077.4927 | µg/mL | Unstressed |
| | **Purity** 99% | | | | +/- 1,108.7850 | µg/mL | Stressed |

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 3/10/2023
Original issue date: 3/10/2023

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020200-04 | 498954 | ≤ -10 °C | P/T Methanol | 8-Mar-2028 | Carbon Disulfide Solution, 5,000 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| carbon disulfide | 75-15-0 | 99.9 | 200.24.1VP | 5075 ± 260 |

*Not a certified value

SVL-38-11-10

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVI-38-15-09

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Date Received: 2/8/24

**Quality System Audited & Registered by TUV USA to ISO 9001:2015**

# Certificate of Analysis

Rev 0 Page

| Catalog No.: | Lot No.: | Storage: | Solvent: | Exp. Date: | Description: |
|---|---|---|---|---|---|
| G34-3200-121020-17 | 480682 | ≤ -10 °C | P/T MeOH:Water 9:1 | 4/28/2027 | Ketones Solution, 2500 mg/L, 1 ml ISO17034 |

| Compound | CAS No | Purity (%) | Compound Lot No | Concentration, mg/L |
|---|---|---|---|---|
| acetone | 67-64-1 | 99.6 | 196.271.4P | 2498 ± 53.47 mg/L |
| 2-butanone (MEK) | 78-93-3 | 99.9 | 197.1.2P | 2498 ± 53.51 mg/L |
| 4-methyl-2-pentanone (MIBK) | 108-10-1 | 99.88 | 198.421.1.2P | 2500 ± 54.02 mg/L |
| 2-hexanone | 591-78-6 | 100 | 199.7.3P | 2501 ± 53.58 mg/L |

Melissa Workoff

Certified By: _____
Melissa Workoff

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values

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# Reference Material Certificate

## Product Information Sheet

| | | | |
|---|---|---|---|
| **Product Name:** | Acrolein and Acrylonitrile Standard | **Lot Number:** | 0006788822 |
| **Product Number:** | AMN-623-1 | **Lot Issue Date:** | 20-Mar-2024 |
| **Storage Conditions:** | Store Frozen (-25° to -10°C). SVI-38-15-14 | **Expiration Date:** | 31-Jul-2024 |

| Component Name | Concentration | | Uncertainty | CAS# | Analyte ID |
|---|---|---|---|---|---|
| acrolein | 2008 | ± | 10 µg/mL | 000107-02-8 | RM22126 |
| acrylonitrile | 2009 | ± | 10 µg/mL | 000107-13-1 | RM20527 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Expiration of Certification:**
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.



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SVI-38-13-12

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Date manufactured: 7/13/2022
Original issue date: 7/13/2022

# Certificate of Analysis

Date Received: 10/6/23



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -122455-05 | 484785 | -18°C +/- 4°C | P/T Methanol | 12-Jul-2027 | Method 8260 Internal Standard Mix, 3-30, 2,500 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| chlorobenzene-d5 | 3114-55-4 | 99.5 | 128.120.1P | 2504 ± 130 |
| 1,2-dichlorobenzene-$d_4$ | 2199-69-1 | 99.7 | 247.29.3P | 2514 ± 130 |
| 1,4-difluorobenzene | 540-36-3 | 99.3 | 129.158.1.2P | 2523 ± 140 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

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# CERTIFICATE OF ANALYSIS

SVI-38-14-01

**Catalog No:** S-6524-0.25X
**Description:** Methyl acetate
**Lot:** 223081092
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 7, 2023
**Expiration:** Aug 7, 2033
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Methyl acetate | 79-20-9 | 100.0 | 2506 | 2506 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

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# CERTIFICATE OF ANALYSIS

SV1-38-12-13

**Catalog No:** TK-102-09S-12.5X
**Description:** Methylcyclohexane
**Lot:** 222081023
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 2, 2022
**Expiration:** Aug 2, 2032
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity % (GC/FID) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Methylcyclohexane | 108-87-2 | 100.0 | 2538 | 2538 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



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SV1-38-13-19

# CERTIFICATE OF ANALYSIS

**Catalog No:** TK-102-08S-10X
**Description:** Cyclohexane
**Lot:** 221101280
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Oct 19, 2021
**Expiration:** Oct 19, 2031
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463

ISO MEA

| Component | CAS # | Purity % (GC/MS) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Cyclohexane | 110-82-7 | 100.0 | 2008 | 2008 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289671-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

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SVI-38-08-11

Date manufactured: 10/4/2022
Original issue date: 10/4/2022

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020354-09 | 489953 | ≤ -10 °C | P/T Methanol | 3-Oct-2027 | 2-Butanol Solution, 50000 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-butanol | 78-92-2 | 99.8 | 354.7.1P | 50000 ± 2600 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

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# CERTIFIED REFERENCE MATERIAL

SM-38-10-13

# Certificate of Analysis

***chromatographic plus***

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30240 **Lot No.:** A0192204

**Description :** 8260A Surrogate Mix

8260A Surrogate Mix 2,500µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** December 31, 2027 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2 |
|---|---|---|---|---|---|---|
| 1 | Dibromofluoromethane | 1868-53-7 | 022013 | 99% | 2,517.6 µg/mL | +/- 141.4279 |
| 2 | 1,2-Dichloroethane-d4 | 17060-07-0 | PR-32845 | 99% | 2,507.6 µg/mL | +/- 140.8661 |
| 3 | Toluene-d8 | 2037-26-5 | I-27008 | 99% | 2,511.4 µg/mL | +/- 141.0796 |
| 4 | 1-Bromo-4-fluorobenzene (BFB) | 460-00-4 | 184975 | 99% | 2,517.8 µg/mL | +/- 141.4391 |

* Expanded Uncertainty displayed in same units as Grav. Cor

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

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# CERTIFIED REFERENCE MATERIAL

## Certificate of Analysis

SV1-30-02-02

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Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30003 **Lot No.:** A0150458

**Description :** VOA Tuning Compound Mix

VOA Tuning Compound Mix 5,000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2024 **Storage:** 0°C or colder

CERTIFIED VALUES

| Elution Order | Compound | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) | | |
|---|---|---|---|---|---|
| 1 | 1-Bromo-4-fluorobenzene (BFB) | 5,030.0 µg/mL | +/- 29.5189 | µg/mL | Gravimetric |
| | **CAS #** 460-00-4 (Lot 20401KO) | | +/- 282.0557 | µg/mL | Unstressed |
| | **Purity** 99% | | +/- 288.6541 | µg/mL | Stressed |

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

SVI-38-13-10

CPI INTERNATIONAL

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(800)878-7654 Toll Free
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Date manufactured: 10/2/2023
Original issue date: 10/2/2023

# Certificate of Analysis

Date Received: 10/6/23



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -126047-01 | 510112 | ≤ -10 °C | P/T Methanol | 4-Apr-2025 | Custom Volatiles Mix, 73-6047, Various Concentrations, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-nitropropane | 79-46-9 | 97.7 | 219.1.2P | 1999 ± 51 |
| allyl chloride | 107-05-1 | 98.9 | 227.1.2P | 1990 ± 300 |
| benzene | 71-43-2 | 99.99 | 146.1.10VP | 2000 ± 51 |
| bromobenzene | 108-86-1 | 100 | 147.1.3P | 2003 ± 51 |
| bromochloromethane | 74-97-5 | 99 | 148.158.1.1P | 2001 ± 65 |
| bromodichloromethane | 75-27-4 | 99.2 | 149.1.12P | 1998 ± 51 |
| bromoform | 75-25-2 | 99.3 | 150.7.2P | 2001 ± 51 |
| n-butylbenzene | 104-51-8 | 99.2 | 151.7.3.2P | 1998 ± 51 |
| sec-butylbenzene | 135-98-8 | 99.5 | 152.1.2.1P | 1999 ± 51 |
| tert-butylbenzene | 98-06-6 | 99.9 | 153.29.1P | 1999 ± 51 |
| carbon tetrachloride | 56-23-5 | 100 | 154.9.1P | 2000 ± 51 |
| chlorobenzene | 108-90-7 | 99.9 | 155.29.1VP | 1999 ± 51 |
| 2-chloroethanol | 107-07-3 | 99.5 | 217.1.3P | 2000 ± 51 |
| chloroform | 67-66-3 | 99.8 | 156.7.1VP | 1996 ± 51 |
| chloroprene | 126-99-8 | 98.9 | 315.5.22P | 1982 ± 110 |
| 2-chlorotoluene | 95-49-8 | 99.5 | 157.7.1VP | 2001 ± 51 |
| 4-chlorotoluene | 106-43-4 | 99.9 | 158.9.3P | 2000 ± 51 |

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SV1-30-13-20

# CERTIFICATE OF ANALYSIS

**Catalog No:** OGAD-001
**Description:** Oxygenate Gasoline Additive Standard
**Lot:** 222081419
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 29, 2022
**Expiration:** Aug 29, 2025
**Sample Size:** 1 mL
**Components:** 5
**Storage Condition:** Refrig (0-5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity % (GC/MS) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| MtBE | 1634-04-4 | 99.8 | 2001 | 1997 |
| EtBE | 637-92-3 | 99.9 | 2004 | 2002 |
| Isopropyl ether | 108-20-3 | 100.0 | 2010 | 2010 |
| TAME | 994-05-8 | 99.0 | 2000 | 1980 |
| t-Butanol | 75-65-0 | 99.6 | 10005 | 9965 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORGANO-001
Rev. 7/20

SVI-38-B-08

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 8/24/2022
Original issue date: 8/24/2022

# Certificate of Analysis

Date Received: 10/6/23
 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020145-02 | 492308 | ≤ -10 °C | P/T Methanol | 23-Aug-2027 | 2-Chloroethyl Vinyl Ether Solution, 2,000 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-chloroethylvinyl ether | 110-75-8 | 99.8 | 145.1.5P | 2010 ± 110 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

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SVI - 38-13-18

# CERTIFICATE OF ANALYSIS

**Catalog No:** M-8010R-1-04-10X
**Description:** 1-Chlorohexane
**Lot:** 223031117
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Mar 8, 2023
**Expiration:** Mar 8, 2033
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| 1-Chlorohexane | 544-10-5 | 98.0 | 2024 | 1984 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

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Rev. 7/20

SVI-38-13-13

CPI INTERNATIONAL

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Santa Rosa, CA 95403

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(707)545-7901 Fax

Date manufactured: 6/24/2022
Original issue date: 6/24/2022

# Certificate of Analysis

Date Received: 10/6/23
 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020869-08 | 484154 | ≤ -10 °C | P/T Methanol | 23-Jun-2027 | 1,2,3-Trimethylbenzene Solution, 2,500 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 1,2,3-trimethylbenzene | 526-73-8 | 92.7 | 869.8.4.1P | 2536 ± 140 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

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SM - 38-12-11

Date manufactured: 11/16/2022
Original issue date: 11/16/2022

# Certificate of Analysis

Date Received:

 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020511-06 | 492310 | ≤ -10 °C | P/T Methanol | 15-Nov-2027 | t-Butyl Alcohol Solution, 50,000 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| tert-butyl alcohol | 75-65-0 | 100 | 511.7.2P | 50110 ± 2600 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SV1-38-14-05

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CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

*chromatographic plus*

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30006 **Lot No.:** A0198760

**Description :** VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2026 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Acetone | 67-64-1 | 27D1062005 | 99% | 5,000.2 µg/mL | +/- 172.7826 |
| 2 | 2-Butanone (MEK) | 78-93-3 | SHBL5543 | 99% | 5,006.0 µg/mL | +/- 172.9842 |
| 3 | 4-Methyl-2-pentanone (MIBK) | 108-10-1 | SHBN3601 | 99% | 5,009.5 µg/mL | +/- 173.1052 |
| 4 | 2-Hexanone | 591-78-6 | MKCQ6663 | 99% | 5,009.3 µg/mL | +/- 173.0994 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** P&T Methanol/Water (90:10)
**CAS #** 67-56-1/7732-18-5
**Purity** 99%

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# CERTIFICATE OF ANALYSIS

SVI-38-IL-08

**Catalog No:** M-603-M-5X
**Description:** Acrolein & Acrylonitrile
**Lot:** 224051425
**Solvent:** Methanol (90%)
Water (10%)
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** May 28, 2024
**Expiration:** Sep 28, 2024
**Sample Size:** 1 mL
**Components:** 2
**Storage Condition:** Freeze (<-10 °C)

**Certified Reference Material**

ANAB ACCREDITED ISO 17034 AR-1463

ilac-MRA

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Acrolein | 107-02-8 | 90.5 | 5550* | 5023 |
| Acrylonitrile | 107-13-1 | 99.8 | 5038 | 5028 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

* Weight compensated to 100% purity.

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4% and was determined in accordance with ISO 17034. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

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CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

*chromatographic plus*

SVA- 38-15-15

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30240 **Lot No.:** A0206374

**Description :** 8260A Surrogate Mix

8260A Surrogate Mix 2,500µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2029 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Dibromofluoromethane | 1868-53-7 | 022013 | 99% | 2,500.8 µg/mL | +/- 140.4813 |
| 2 | 1,2-Dichloroethane-d4 | 17060-07-0 | PR-33313 | 99% | 2,500.8 µg/mL | +/- 140.4813 |
| 3 | Toluene-d8 | 2037-26-5 | PR-34141 | 99% | 2,501.0 µg/mL | +/- 140.4953 |
| 4 | 1-Bromo-4-fluorobenzene (BFB) | 460-00-4 | 0000194533 | 99% | 2,500.5 µg/mL | +/- 140.4672 |

* Expanded Uncertainty displayed in same units as Grav. Conc

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

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SVI-38-15-18

Date manufactured: 11/16/2022
Original issue date: 11/16/2022

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020232-10 | 492307 | ≤ -10 °C | P/T Methanol | 20-Nov-2025 | Vinyl Acetate Solution, 2,500 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| vinyl acetate | 108-05-4 | 99.9 | 232.7.1P | 2496 ± 160 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

# RAW DATA
# VOLATILE ORGANICS
# (SOIL)

LABORATORY REPORT FOR

PARSONS

TITAN 1-A

METHOD SW5035A/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 24F034

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F034

METHOD SW5035A/8260B
VOLATILE ORGANICS BY GC/MS

One(1) soil sample was received on 06/07/24 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5035A/8260B and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There were two(2) CCVs (Data File IDs: RFP096 and RFP102) associated with this SDG. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VS02F05B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. VS02F05L/VS02F05C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met. The internal standard 1,2-Dichlorobenzene-d4 was outside of QC Limit, and all associated target analytes were not found in 24F034-02.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F034
Instrument ID : 02

SOIL

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| LCS1S | VS02F05L | 1 | NA | 06/10/2411:21 | 06/10/2411:21 | RFP097 | RAF137 | VS02F05 | Lab Control Sample (LCS) |
| LCD1S | VS02F05C | 1 | NA | 06/10/2411:45 | 06/10/2411:45 | RFP098 | RAF137 | VS02F05 | LCS Duplicate |
| MBLK1S | VS02F05B | 1 | NA | 06/10/2412:34 | 06/10/2412:34 | RFP100 | RAF137 | VS02F05 | Method Blank |
| IDW-SOIL_JUN24 | 24F034-02 | 1 | 10.5 | 06/10/2412:58 | 06/10/2412:58 | RFP101 | RAF137 | VS02F05 | Field Sample |

FN - Filename
% Moist - Percent Moisture

# SAMPLE RESULTS

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/06/24 11:20 |
| Project | : TITAN 1-A | Date Received: | 06/07/24 |
| Batch No. | : 24F034 | Date Extracted: | 06/10/24 12:58 |
| Sample ID | : IDW-SOIL_JUN24 | Date Analyzed: | 06/10/24 12:58 |
| Lab Samp ID: | 24F034-02 | Dilution Factor: | 1 |
| Lab File ID: | RFP101 | Matrix: | SOIL |
| Ext Btch ID: | VS02F05 | % Moisture: | 10.5 |
| Calib. Ref.: | RAP137 | Instrument ID: | 02 |

| PARAMETER(S) | RESULTS (ug/kg) | LOQ (ug/kg) | DL (ug/kg) | LOD (ug/kg) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 3.0 | 0.30 | 0.59 |
| 1,2-Dichloroethane | ND | 3.0 | 0.30 | 0.59 |
| 1,4-Dichlorobenzene | ND | 3.0 | 0.30 | 0.59 |
| 2-Butanone | ND | 12 | 3.0 | 5.9 |
| Benzene | ND | 3.0 | 0.30 | 0.59 |
| Carbon Tetrachloride | ND | 3.0 | 0.30 | 0.59 |
| Chlorobenzene | ND | 3.0 | 0.30 | 0.59 |
| Chloroform | ND | 3.0 | 0.30 | 0.59 |
| Tetrachloroethene | ND | 3.0 | 0.30 | 0.59 |
| Trichloroethene | ND | 3.0 | 0.30 | 0.59 |
| Vinyl Chloride | ND | 3.0 | 0.59 | 1.2 |
| Hexachlorobutadiene | ND | 3.0 | 0.59 | 1.2 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 29.2 | 29.7 | 99 | 71-136 |
| 4-Bromofluorobenzene | 35.4 | 29.7 | 119 | 79-119 |
| Toluene-d8 | 32.0 | 29.7 | 108 | 85-116 |
| Dibromofluoromethane | 27.0 | 29.7 | 91 | 78-119 |

Notes:
Sample Amount : 9.417g Final Volume : 5ml
Prepared by : IRagas Analyzed by : IRagas
Detection limits are reported relative to sample result significant figures.

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP101.D Vial: 7
Acq On : 10 Jun 2024 12:58 Operator: IRagas
Sample : 24F034-02 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 13:38 2024 Quant Results File: VO02A31.RES

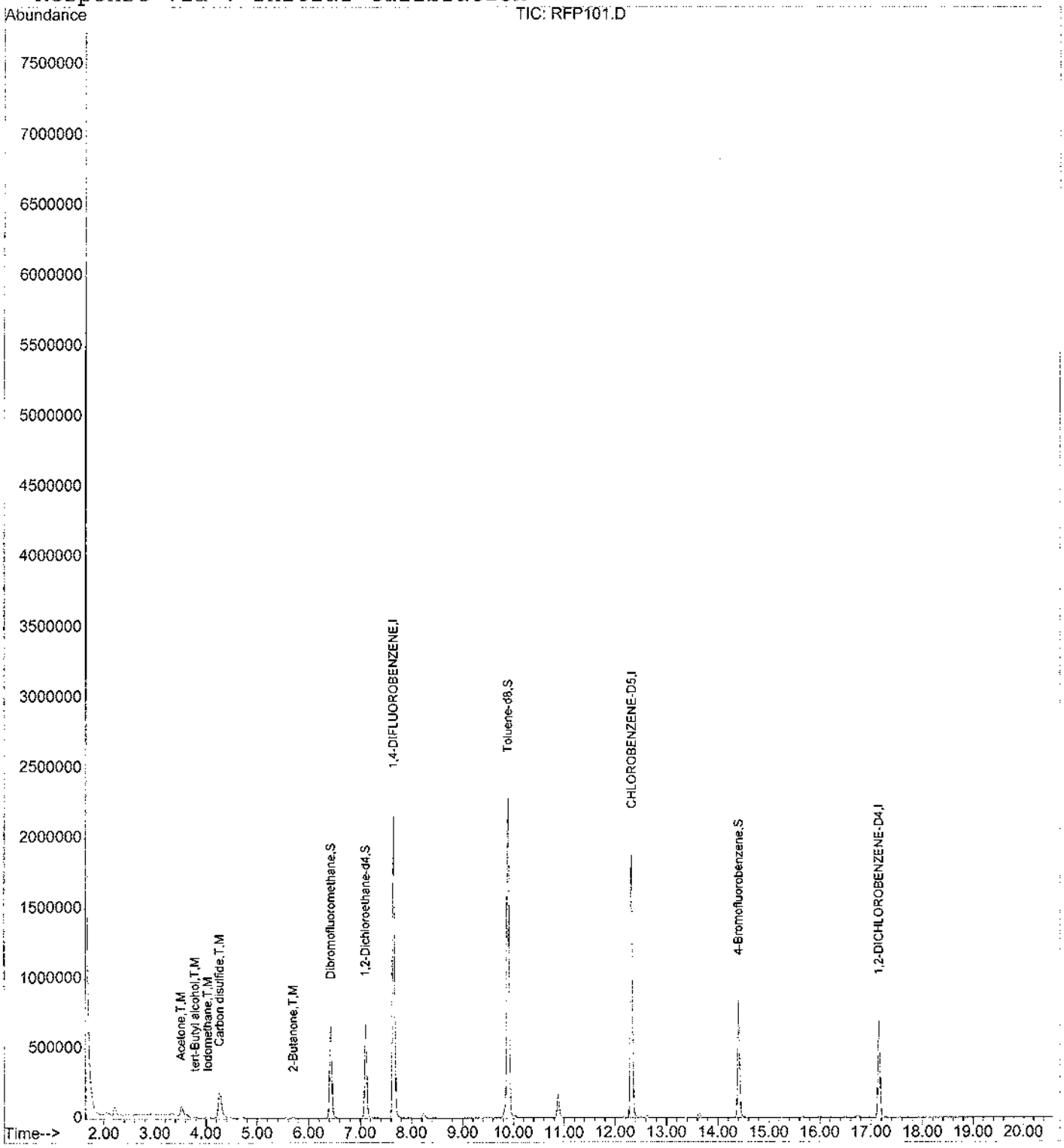
Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

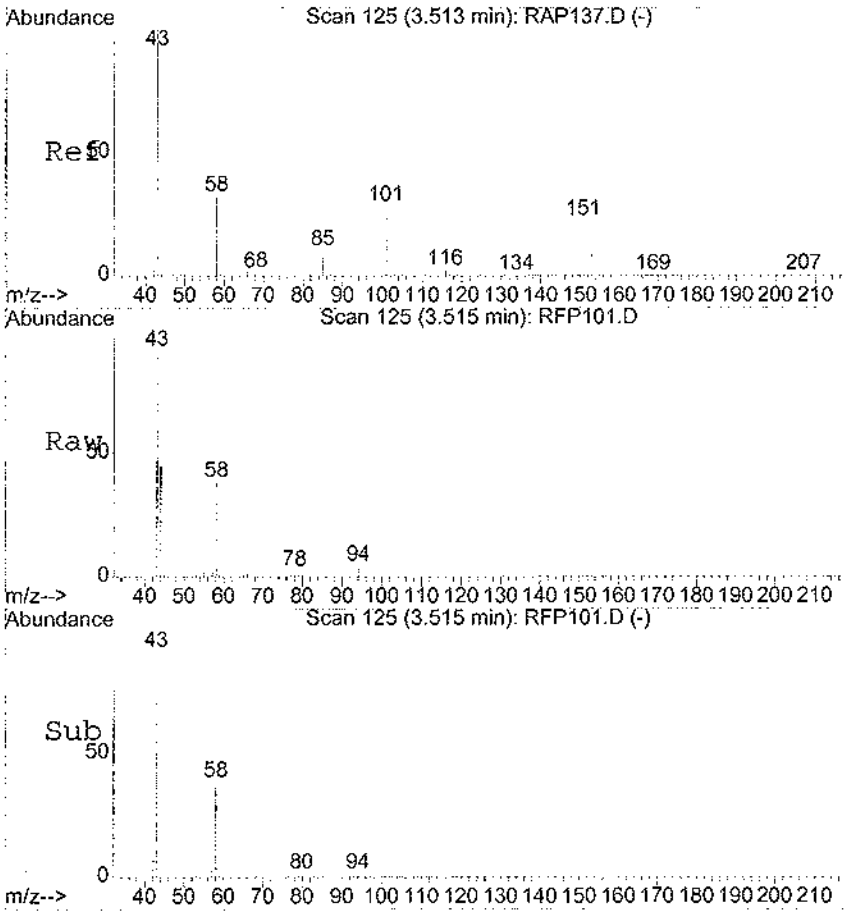
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 2969702 | 50.00 | ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 1959472 | 50.00 | ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 363450 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.43 | 111 | 692978 | 45.47 | ug/l | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 90.94% | | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 663465 | 49.29 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 98.58% | | |
| 58) Toluene-d8 | 9.90 | 98 | 2633818 | 53.94 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 107.88% | | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 537695 | 59.64 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 119.28% | | |
| **Target Compounds** | | | | | | Qvalue |
| 12) Acetone | 3.51 | 43 | 148572 | 43.37 | ug/l | 75 |
| 14) tert-Butyl alcohol | 3.79 | 59 | 10475 | 8.29 | ug/l | 97 |
| 16) Iodomethane | 4.04 | 142 | 18036 | 0.79 | ug/l | 97 |
| 20) Carbon disulfide | 4.27 | 76 | 668495 | 11.16 | ug/l | 98 |
| 29) 2-Butanone | 5.70 | 72 | 4013 | 3.05 | ug/l | 93 |

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\24F10\RFP101.D Vial: 7
Acq On : 10 Jun 2024 12:58 Operator: IRagas
Sample : 24F034-02 Inst : 02
Misc : Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 13:38 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration

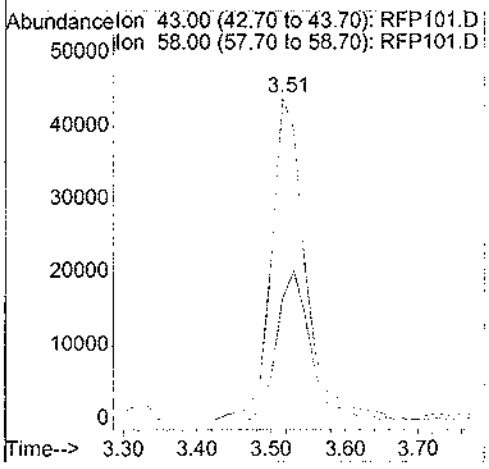


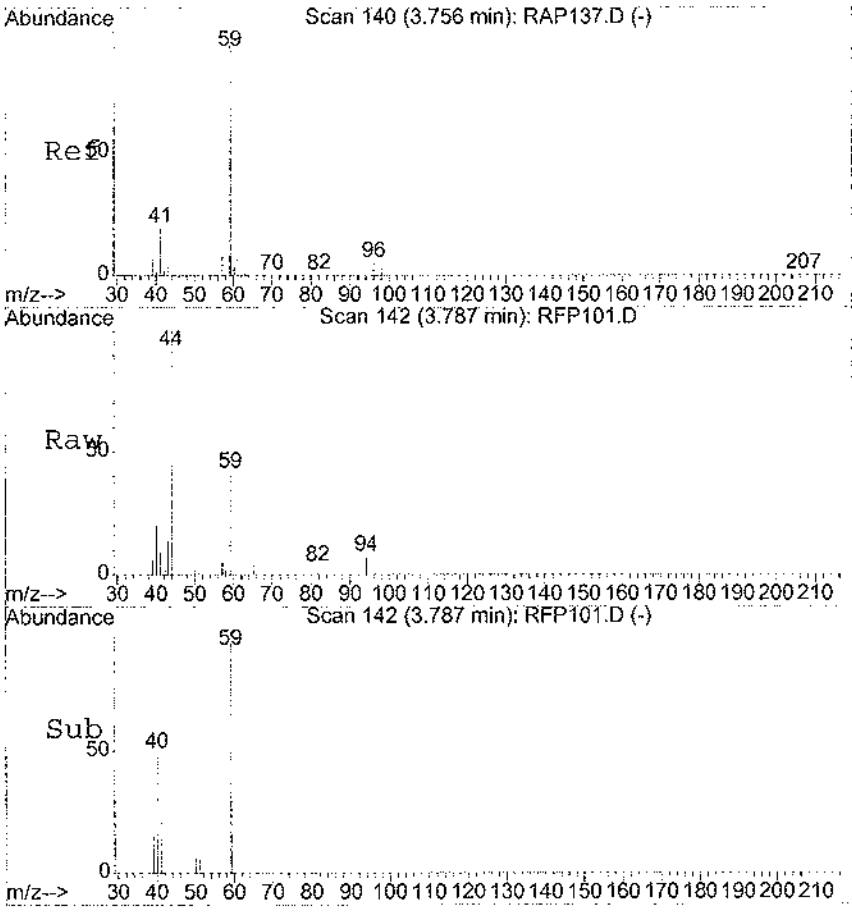



#12
Acetone
Concen: 43.37 ug/l
RT: 3.51 min Scan# 125
Delta R.T. 0.00 min
Lab File: RFP101.D
Acq: 10 Jun 2024 12:58

Tgt Ion: 43 Resp: 148572

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 46.3 | 2.2 | 62.2 |

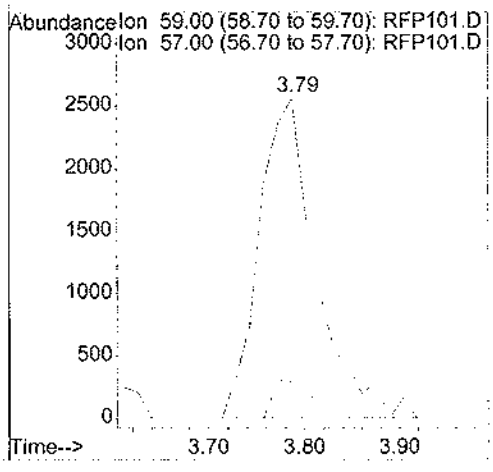


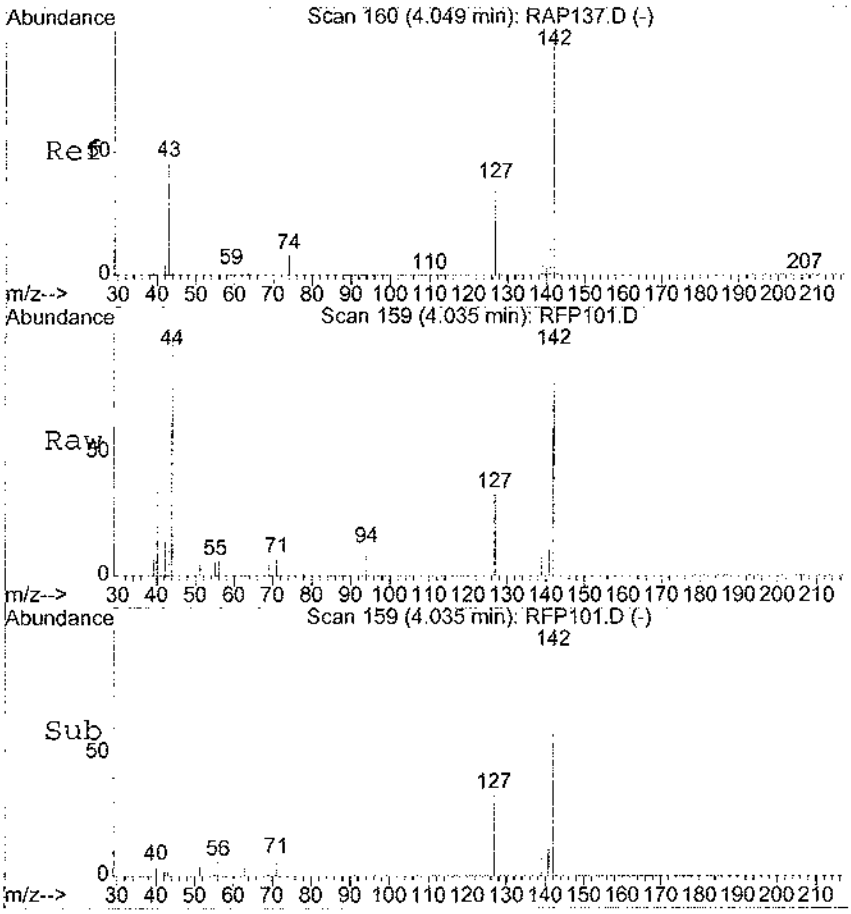




#14
tert-Butyl alcohol
Concen: 8.29 ug/l
RT: 3.79 min Scan# 142
Delta R.T. 0.03 min
Lab File: RFP101.D
Acq: 10 Jun 2024 12:58

Tgt Ion: 59 Resp: 10475

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 59 | 100 | | |
| 57 | 7.9 | 0.0 | 36.9 |

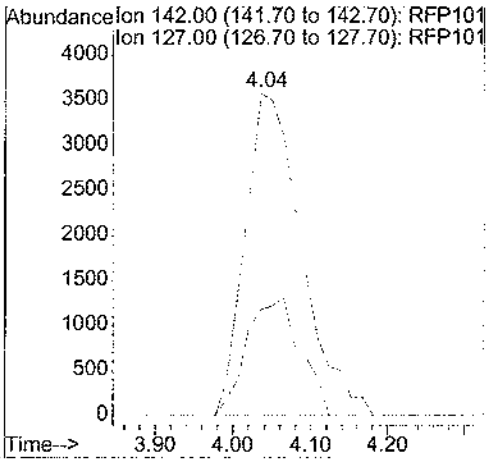


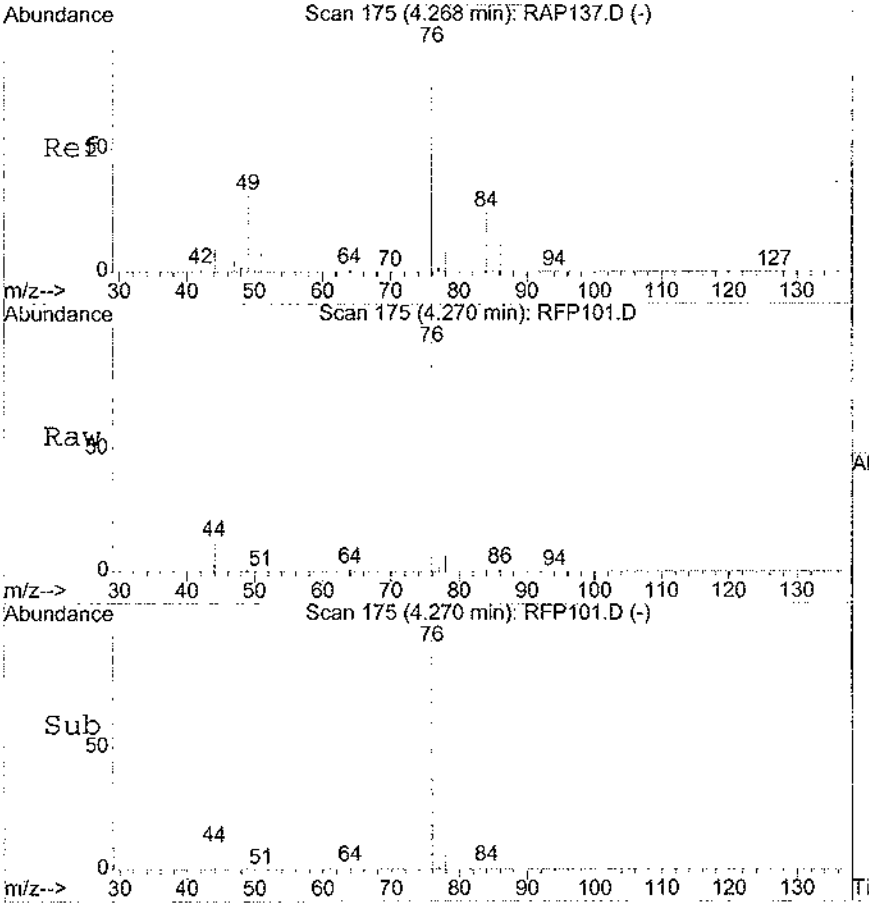



#16
Iodomethane
Concen: 0.79 ug/l
RT: 4.04 min Scan# 159
Delta R.T. -0.01 min
Lab File: RFP101.D
Acq: 10 Jun 2024 12:58

Tgt Ion:142 Resp: 18036

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 127 | 34.5 | 6.0 | 66.0 |

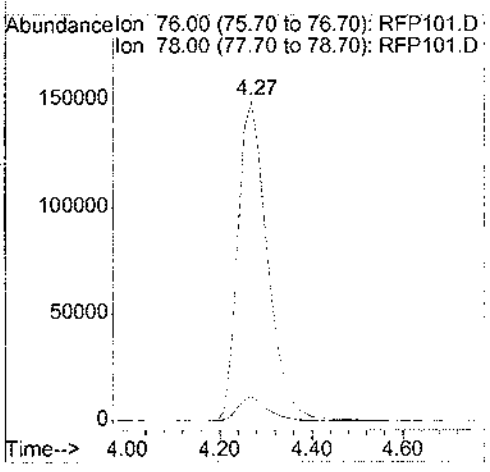


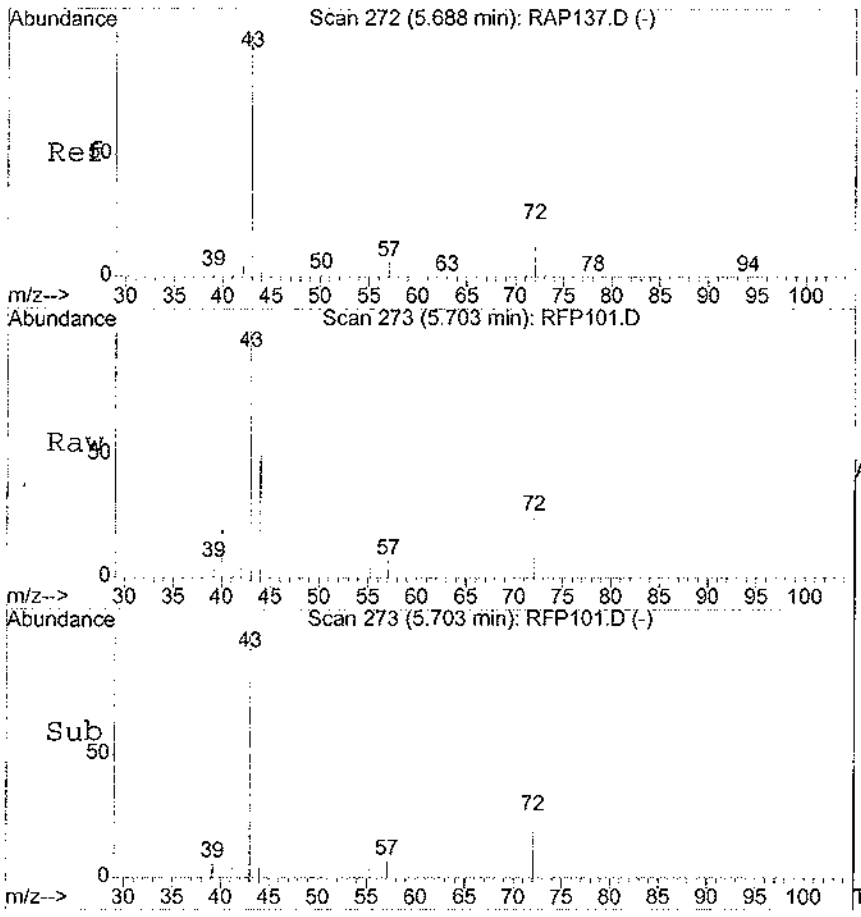




#20
Carbon disulfide
Concen: 11.16 ug/l
RT: 4.27 min Scan# 175
Delta R.T. 0.00 min
Lab File: RFP101.D
Acq: 10 Jun 2024 12:58

Tgt Ion: 76 Resp: 668495

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 7.5 | 0.0 | 38.3 |

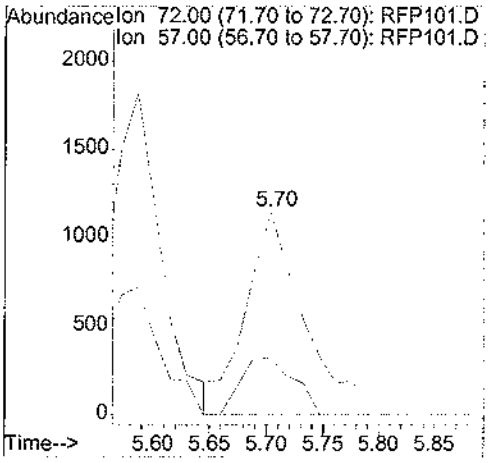





#29
2-Butanone
Concen: 3.05 ug/l
RT: 5.70 min Scan# 273
Delta R.T. 0.02 min
Lab File: RFP101.D
Acq: 10 Jun 2024 12:58

Tgt Ion: 72 Resp: 4013

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 57 | 26.1 | 0.0 | 59.9 |



# QC SUMMARIES

METHOD SW5035A/8260C
VOLATILE ORGANICS BY GC/MS

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/10/24 12:34 |
| Project | : TITAN 1-A | Date Received: | 06/10/24 |
| Batch No. | : 24F034 | Date Extracted: | 06/10/24 12:34 |
| Sample ID | : MBLK1S | Date Analyzed: | 06/10/24 12:34 |
| Lab Samp ID: | VS02F05B | Dilution Factor: | 1 |
| Lab File ID: | RFP100 | Matrix: | SOIL |
| Ext Btch ID: | VS02F05 | % Moisture: | NA |
| Calib. Ref.: | RAP137 | Instrument ID: | 02 |

| PARAMETER(S) | RESULTS (ug/kg) | LOQ (ug/kg) | DL (ug/kg) | LOD (ug/kg) |
|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 5.0 | 0.50 | 1.0 |
| 1,2-Dichloroethane | ND | 5.0 | 0.50 | 1.0 |
| 1,4-Dichlorobenzene | ND | 5.0 | 0.50 | 1.0 |
| 2-Butanone | ND | 20 | 5.0 | 10 |
| Benzene | ND | 5.0 | 0.50 | 1.0 |
| Carbon Tetrachloride | ND | 5.0 | 0.50 | 1.0 |
| Chlorobenzene | ND | 5.0 | 0.50 | 1.0 |
| Chloroform | ND | 5.0 | 0.50 | 1.0 |
| Tetrachloroethene | ND | 5.0 | 0.50 | 1.0 |
| Trichloroethene | ND | 5.0 | 0.50 | 1.0 |
| Vinyl Chloride | ND | 5.0 | 1.0 | 2.0 |
| Hexachlorobutadiene | ND | 5.0 | 1.0 | 2.0 |

| SURROGATE PARAMETER(S) | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 49.6 | 50.0 | 99 | 71-136 |
| 4-Bromofluorobenzene | 42.6 | 50.0 | 85 | 79-119 |
| Toluene-d8 | 47.2 | 50.0 | 94 | 85-116 |
| Dibromofluoromethane | 45.6 | 50.0 | 91 | 78-119 |

Notes:
Sample Amount : 5g Final Volume : 5ml
Prepared by : IRagas Analyzed by : IRagas
Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : SW5035A/8260C

| | | | |
|---|---|---|---|
| MATRIX | : SOIL | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK1S | LCS1S | LCD1S |
| LAB SAMPLE ID | : VS02F05B | VS02F05L | VS02F05C |
| LAB FILE ID | : RFP100 | RFP097 | RFP098 |
| DATE PREPARED | : 06/10/24 12:34 | 06/10/24 11:21 | 06/10/24 11:45 |
| DATE ANALYZED | : 06/10/24 12:34 | 06/10/24 11:21 | 06/10/24 11:45 |
| PREP BATCH | : VS02F05 | VS02F05 | VS02F05 |
| CALIBRATION REF: | RAP137 | RAP137 | RAP137 |

ACCESSION:

| PARAMETERS | MBResult (ug/kg) | SpikeAmt (ug/kg) | LCSResult (ug/kg) | LCSRec (%) | SpikeAmt (ug/kg) | LCDResult (ug/kg) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | ND | 50.0 | 44.9 | 90 | 50.0 | 44.6 | 89 | 1 | 70-131 | 20 |
| 1,2-Dichloroethane | ND | 50.0 | 50.3 | 101 | 50.0 | 50.3 | 101 | 0 | 73-128 | 20 |
| 1,4-Dichlorobenzene | ND | 50.0 | 48.6 | 97 | 50.0 | 48.2 | 96 | 1 | 75-120 | 20 |
| 2-Butanone | ND | 250 | 244 | 98 | 250 | 229 | 92 | 6 | 51-148 | 20 |
| Benzene | ND | 50.0 | 48.3 | 97 | 50.0 | 48.3 | 97 | 0 | 77-121 | 20 |
| Carbon Tetrachloride | ND | 50.0 | 45.0 | 90 | 50.0 | 44.0 | 88 | 2 | 70-135 | 20 |
| Chlorobenzene | ND | 50.0 | 48.9 | 98 | 50.0 | 49.0 | 98 | 0 | 79-120 | 20 |
| Chloroform | ND | 50.0 | 49.2 | 98 | 50.0 | 48.8 | 98 | 1 | 78-123 | 20 |
| Tetrachloroethene | ND | 50.0 | 41.6 | 83 | 50.0 | 41.5 | 83 | 0 | 73-128 | 20 |
| Trichloroethene | ND | 50.0 | 44.1 | 88 | 50.0 | 44.4 | 89 | 1 | 77-123 | 20 |
| Vinyl Chloride | ND | 50.0 | 52.3 | 105 | 50.0 | 53.8 | 108 | 3 | 56-135 | 20 |
| Hexachlorobutadiene | ND | 50.0 | 49.4 | 99 | 50.0 | 47.0 | 94 | 5 | 61-135 | 20 |

| SURROGATE PARAMETERS | SpikeAmt (ug/kg) | LCSResult (ug/kg) | LCSRec (%) | SpikeAmt (ug/kg) | LCDResult (ug/kg) | LCDRec (%) | QCLimit (%) |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 50.0 | 48.8 | 98 | 50.0 | 48.7 | 97 | 71-136 |
| 4-Bromofluorobenzene | 50.0 | 43.9 | 88 | 50.0 | 43.2 | 86 | 79-119 |
| Toluene-d8 | 50.0 | 47.2 | 94 | 50.0 | 47.6 | 95 | 85-116 |
| Dibromofluoromethane | 50.0 | 45.9 | 92 | 50.0 | 45.6 | 91 | 78-119 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

# QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP100.D Vial: 6
Acq On : 10 Jun 2024 12:34 Operator: IRagas
Sample : VS02F05B Inst : 02
Misc : 5.0g Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 13:44 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

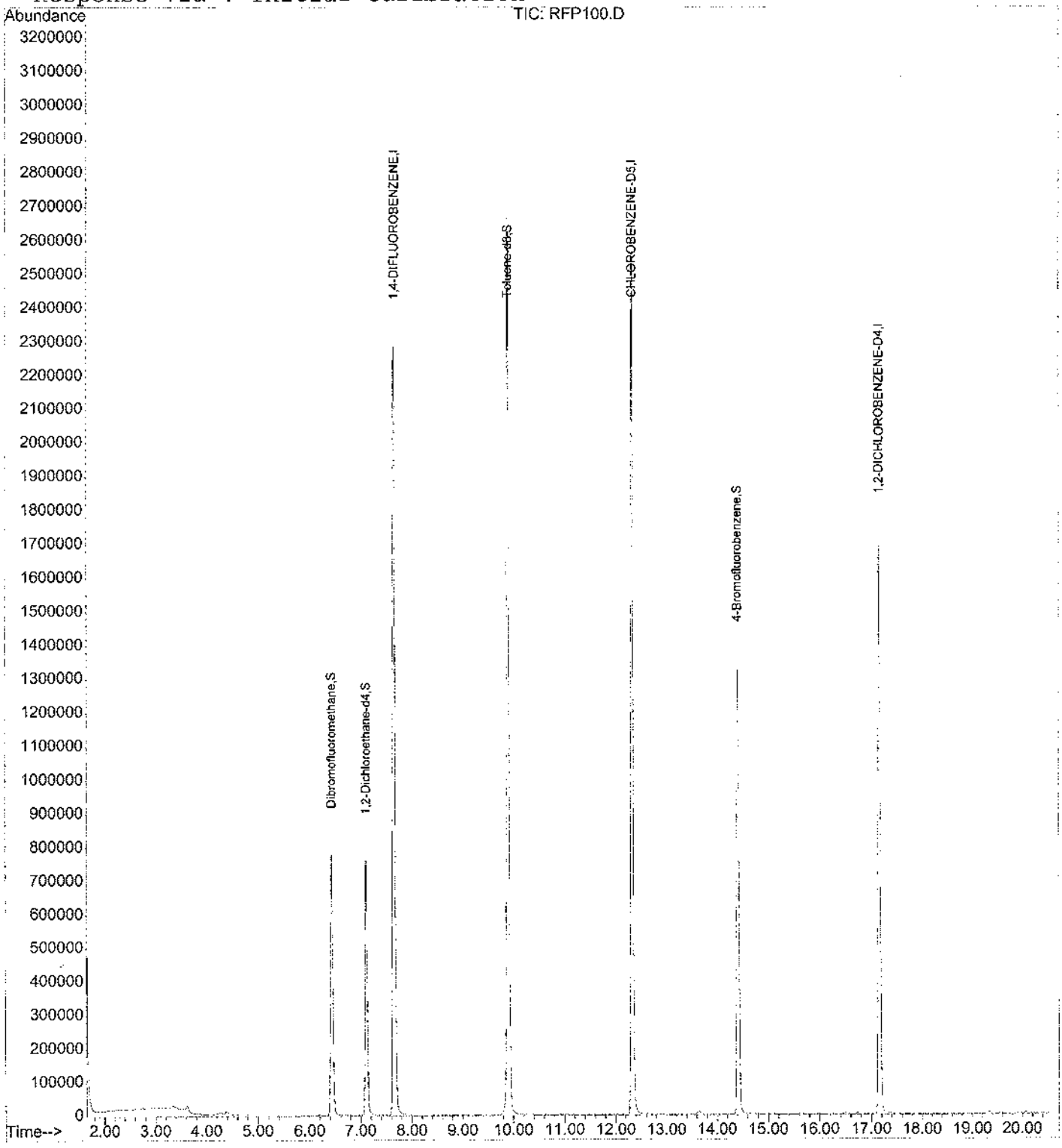
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.66 | 114 | 3345925 | 50.00 | ug/l | 0.01 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 2606901 | 50.00 | ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 862652 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.43 | 111 | 782508 | 45.57 | ug/l | 0.01 |
| Spiked Amount 50.000 | | | Recovery = | 91.14% | | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 752430 | 49.61 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 99.22% | | |
| 58) Toluene-d8 | 9.90 | 98 | 3064842 | 47.17 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 94.34% | | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 912101 | 42.62 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 85.24% | | |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\24F10\RFP100.D Vial: 6
Acq On : 10 Jun 2024 12:34 Operator: IRagas
Sample : VS02F05B Inst : 02
Misc : 5.0g Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 13:44 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP097.D Vial: 3
Acq On : 10 Jun 2024 11:21 Operator: IRagas
Sample : VS02F05L Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 11:41 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.68 | 114 | 3949127 | 50.00 | ug/l | 0.03 |
| 57) CHLOROBENZENE-D5 | 12.34 | 117 | 3106518 | 50.00 | ug/l | 0.01 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.17 | 152 | 1062865 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.45 | 111 | 930204 | 45.90 | ug/l | 0.03 |
| Spiked Amount 50.000 | | | Recovery = 91.80% | | | |
| 44) 1,2-Dichloroethane-d4 | 7.12 | 65 | 873380 | 48.79 | ug/l | 0.01 |
| Spiked Amount 50.000 | | | Recovery = 97.58% | | | |
| 58) Toluene-d8 | 9.92 | 98 | 3658041 | 47.25 | ug/l | 0.01 |
| Spiked Amount 50.000 | | | Recovery = 94.50% | | | |
| 80) 4-Bromofluorobenzene | 14.42 | 95 | 1158414 | 43.94 | ug/l | 0.01 |
| Spiked Amount 50.000 | | | Recovery = 87.88% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.76 | 85 | 933925 | 45.87 | ug/l | 99 |
| 3) Chloromethane | 2.01 | 50 | 1512653 | 53.24 | ug/l | 100 |
| 4) Vinyl chloride | 2.12 | 62 | 1261350 | 52.28 | ug/l | 98 |
| 5) Bromomethane | 2.63 | 94 | 893466 | 50.09 | ug/l | 99 |
| 6) Chloroethane | 2.71 | 64 | 826455 | 52.34 | ug/l | 99 |
| 7) Dichlorofluoromethane | 2.75 | 67 | 1778099 | 51.18 | ug/l | 99 |
| 8) Trichlorofluoromethane | 2.99 | 101 | 1060079 | 50.33 | ug/l | 99 |
| 9) sec-Propyl Alcohol | 3.29 | 45 | 739677 | 491.16 | ug/l | 98 |
| 10) Acrolein | 3.46 | 56 | 524341 | 253.32 | ug/l | 100 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.50 | 151 | 629048 | 46.61 | ug/l | 100 |
| 12) Acetone | 3.53 | 43 | 1051000 | 230.72 | ug/l | 99 |
| 13) 1,1-Dichloroethene | 3.70 | 61 | 1646610 | 44.89 | ug/l | 95 |
| 14) tert-Butyl alcohol | 3.77 | 59 | 884140 | 526.34 | ug/l | 97 |
| 15) Acetonitrile | 3.84 | 41 | 1017701 | 508.67 | ug/l | 99 |
| 16) Iodomethane | 4.08 | 142 | 1174088 | 38.75 | ug/l | 99 |
| 17) Methyl Acetate | 4.08 | 43 | 849373 | 54.89 | ug/l | 99 |
| 18) Allyl Chloride | 4.12 | 76 | 653608 | 45.33 | ug/l | 97 |
| 19) Methylene chloride | 4.27 | 49 | 1419442 | 46.43 | ug/l | 96 |
| 20) Carbon disulfide | 4.28 | 76 | 3740994 | 46.96 | ug/l | 100 |
| 21) Acrylonitrile | 4.42 | 53 | 1625921 | 253.12 | ug/l | 98 |
| 22) tert-Butyl methyl ether (M | 4.44 | 73 | 2977658 | 51.27 | ug/l | 99 |
| 23) trans-1,2-Dichloroethene | 4.62 | 96 | 1129689 | 43.53 | ug/l | 99 |
| 24) Isopropyl ether (DIPE) | 5.03 | 45 | 4936001 | 52.92 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 5.16 | 63 | 2224534 | 50.30 | ug/l | 100 |
| 26) Vinyl acetate | 5.18 | 43 | 2055882 | 51.06 | ug/l | 98 |
| 28) tert-Butyl ethyl ether (ET | 5.54 | 59 | 4136923 | 52.48 | ug/l | 98 |
| 29) 2-Butanone | 5.72 | 72 | 426390 | 244.06 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP097.D Vial: 3
Acq On : 10 Jun 2024 11:21 Operator: IRagas
Sample : VS02F05L Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 11:41 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 30) | Propionitrile | 5.81 | 54 | 1104513 | 519.82 ug/l | 100 |
| 31) | 2,2-Dichloropropane | 5.89 | 77 | 970925 | 56.46 ug/l | 98 |
| 32) | cis-1,2-Dichloroethene | 5.95 | 96 | 1289144 | 46.93 ug/l | 97 |
| 33) | Methylacrynonitrile | 6.07 | 52 | 1359061 | 514.84 ug/l | 98 |
| 34) | Isobutyl Alcohol | 6.10 | 43 | 773861 | 964.88 ug/l | 100 |
| 35) | Chloroform | 6.16 | 83 | 1932520 | 49.19 ug/l | 99 |
| 36) | Bromochloromethane | 6.38 | 130 | 623936 | 44.06 ug/l | 99 |
| 37) | Tetrahydrofuran | 6.42 | 42 | 227354 | 46.63 ug/l | 99 |
| 39) | 1,1,1-Trichloroethane | 6.68 | 97 | 1218295 | 48.90 ug/l | 98 |
| 40) | Cyclohexane | 6.70 | 84 | 1837300 | 51.85 ug/l | 99 |
| 41) | 1,1-Dichloropropene | 6.90 | 110 | 485793 | 42.90 ug/l | 99 |
| 42) | Carbon tetrachloride | 7.03 | 119 | 955850 | 45.00 ug/l | 99 |
| 43) | tert-Amyl methyl ether (TA | 7.06 | 87 | 647531 | 48.52 ug/l | 99 |
| 45) | 1,2-Dichloroethane | 7.25 | 62 | 1134410 | 50.30 ug/l | 99 |
| 46) | Benzene | 7.27 | 78 | 4852004 | 48.34 ug/l | 99 |
| 47) | Trichloroethene | 8.13 | 130 | 1055811 | 44.06 ug/l | 97 |
| 48) | Methylcyclohexane | 8.20 | 83 | 2267725 | 53.35 ug/l | 99 |
| 49) | 1,2-Dichloropropane | 8.39 | 63 | 1205882 | 49.72 ug/l | 100 |
| 50) | Methyl Methacrylate | 8.50 | 69 | 660632 | 48.46 ug/l | 96 |
| 51) | Bromodichloromethane | 8.73 | 83 | 1358678 | 49.51 ug/l | 100 |
| 52) | 1,4-Dioxane | 8.77 | 88 | 116400 | 945.77 ug/l | 95 |
| 53) | Dibromomethane | 8.80 | 93 | 541958 | 45.73 ug/l | 97 |
| 55) | 4-Methyl-2-pentanone | 9.24 | 43 | 4920871 | 264.03 ug/l | 100 |
| 56) | cis-1,3-Dichloropropene | 9.55 | 75 | 1915449 | 49.60 ug/l | 99 |
| 59) | Toluene | 10.05 | 91 | 4725010 | 48.34 ug/l | 99 |
| 60) | Ethyl methacrylate | 10.34 | 69 | 1321937 | 50.42 ug/l | 99 |
| 61) | trans-1,3-Dichloropropene | 10.34 | 75 | 1515833 | 49.38 ug/l | 100 |
| 62) | 1,1,2-Trichloroethane | 10.57 | 97 | 823322 | 49.03 ug/l | 99 |
| 63) | 2-Hexanone | 10.60 | 43 | 3197569 | 262.52 ug/l | 99 |
| 64) | 1,3-Dichloropropane | 10.98 | 76 | 1520539 | 48.77 ug/l | 100 |
| 65) | Tetrachloroethene | 11.07 | 164 | 789762 | 41.63 ug/l | 99 |
| 66) | Dibromochloromethane | 11.39 | 129 | 855018 | 47.66 ug/l | 100 |
| 67) | 1,2-Dibromoethane | 11.72 | 107 | 739008 | 45.69 ug/l | 100 |
| 68) | 1-Chlorohexane | 12.01 | 91 | 1724492 | 48.73 ug/l | 100 |
| 69) | Chlorobenzene | 12.40 | 112 | 2746098 | 48.93 ug/l | 100 |
| 70) | 1,1,1,2-Tetrachloroethane | 12.49 | 131 | 903495 | 46.98 ug/l | 99 |
| 71) | Ethylbenzene | 12.51 | 91 | 5192244 | 50.22 ug/l | 99 |
| 72) | m-Xylene & p-Xylene | 12.64 | 91 | 7657328 | 98.86 ug/l | 99 |
| 73) | o-Xylene | 13.37 | 91 | 3820999 | 51.98 ug/l | 98 |
| 74) | Styrene | 13.44 | 104 | 3041517 | 52.36 ug/l | 99 |
| 75) | Isopropylbenzene | 14.00 | 105 | 4627894 | 51.72 ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP097.D Vial: 3
Acq On : 10 Jun 2024 11:21 Operator: IRagas
Sample : VS02F05L Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 11:41 2024 Quant Results File: VO02A31.RES

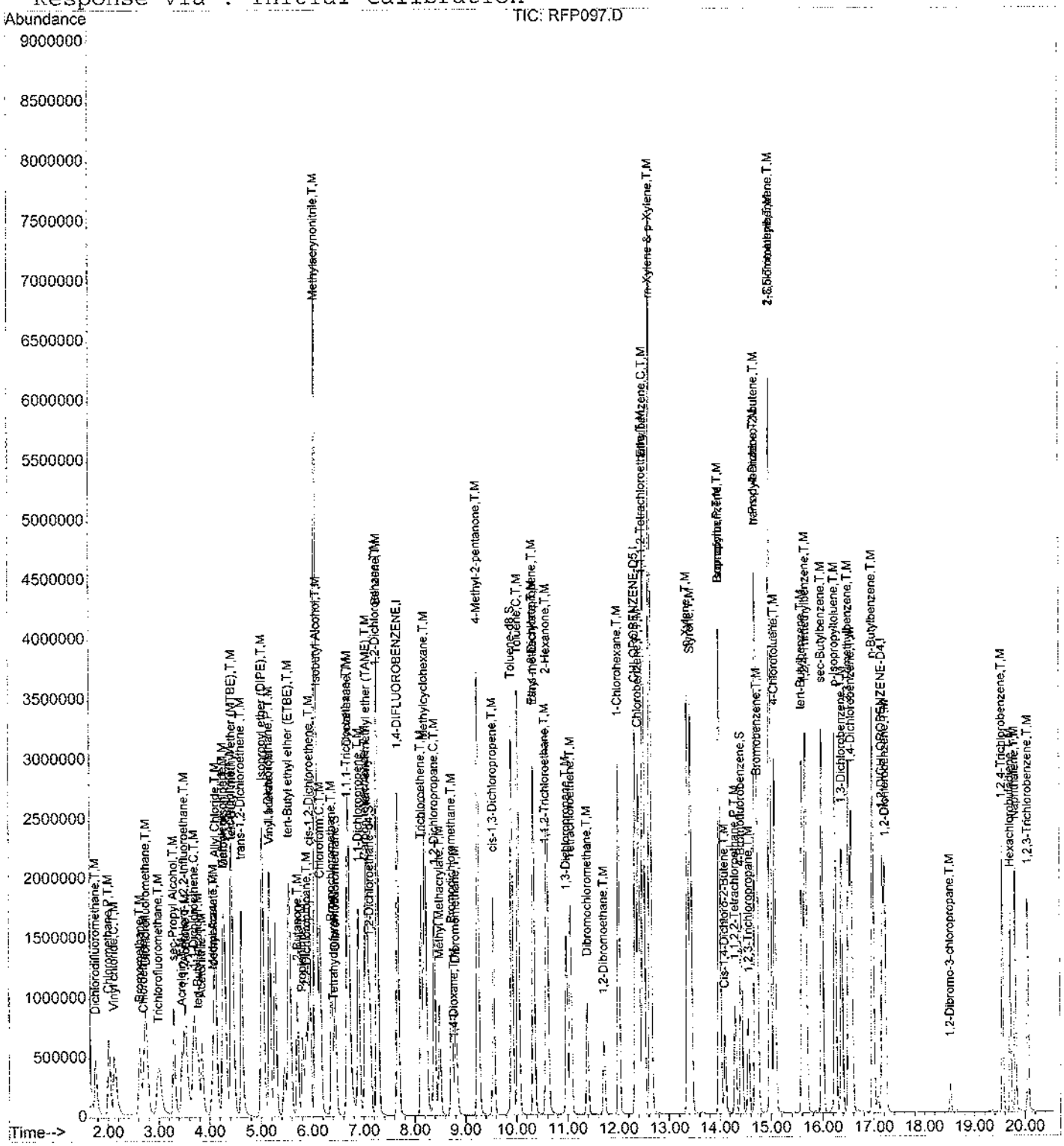
Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 76) | Cis-1,4-Dichloro-2-Butene | 14.10 | 53 | 264178 | 47.64 | ug/l | 98 |
| 78) | Bromoform | 14.00 | 173 | 428960 | 42.46 | ug/l | 99 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.30 | 83 | 958681 | 49.09 | ug/l | 99 |
| 81) | 1,2,3-Trichloropropane | 14.57 | 110 | 221241 | 47.83 | ug/l | 99 |
| 82) | trans-1,4-Dichloro-2-buten | 14.70 | 53 | 229913 | 46.64 | ug/l | 100 |
| 83) | n-Propylbenzene | 14.70 | 91 | 5771665 | 50.33 | ug/l | 99 |
| 84) | Bromobenzene | 14.74 | 156 | 996393 | 44.31 | ug/l | 98 |
| 85) | 1,3,5-Trimethylbenzene | 14.99 | 105 | 3512635 | 49.12 | ug/l | 99 |
| 86) | 2-Chlorotoluene | 14.99 | 91 | 3541750 | 48.56 | ug/l | 96 |
| 87) | 4-Chlorotoluene | 15.08 | 91 | 3224606 | 50.68 | ug/l | 99 |
| 88) | tert-Butylbenzene | 15.61 | 134 | 695072 | 47.33 | ug/l | 96 |
| 89) | 1,2,4-Trimethylbenzene | 15.68 | 105 | 3427875 | 50.35 | ug/l | 98 |
| 90) | sec-Butylbenzene | 15.99 | 105 | 4651168 | 51.13 | ug/l | 99 |
| 91) | p-Isopropyltoluene | 16.25 | 119 | 3566193 | 51.65 | ug/l | 99 |
| 92) | 1,3-Dichlorobenzene | 16.38 | 146 | 1836869 | 48.43 | ug/l | 99 |
| 93) | 1,2,3-Trimethylbenzene | 16.51 | 105 | 3295459 | 51.03 | ug/l | 99 |
| 94) | 1,4-Dichlorobenzene | 16.57 | 146 | 1824093 | 48.58 | ug/l | 99 |
| 95) | n-Butylbenzene | 16.98 | 91 | 3513035 | 54.73 | ug/l | 99 |
| 96) | 1,2-Dichlorobenzene | 17.23 | 146 | 1604031 | 48.74 | ug/l | 100 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.52 | 157 | 109377 | 51.45 | ug/l | 100 |
| 98) | 1,2,4-Trichlorobenzene | 19.56 | 180 | 900870 | 53.01 | ug/l | 99 |
| 99) | Hexachlorobutadiene | 19.72 | 225 | 415012 | 49.41 | ug/l | 99 |
| 100) | Naphthalene | 19.82 | 128 | 1903564 | 58.15 | ug/l | 99 |
| 101) | 1,2,3-Trichlorobenzene | 20.07 | 180 | 792869 | 54.19 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\24F10\RFP097.D Vial: 3
Acq On : 10 Jun 2024 11:21 Operator: IRagas
Sample : VS02F05L Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 11:41 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP098.D Vial: 4
Acq On : 10 Jun 2024 11:45 Operator: IRagas
Sample : VS02F05C Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 12:06 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.66 | 114 | 3752826 | 50.00 | ug/l | 0.01 |
| 57) CHLOROBENZENE-D5 | 12.34 | 117 | 2960214 | 50.00 | ug/l | 0.01 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.17 | 152 | 1008836 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.43 | 111 | 877671 | 45.57 | ug/l | 0.01 |
| Spiked Amount 50.000 | | | Recovery = 91.14% | | | |
| 44) 1,2-Dichloroethane-d4 | 7.12 | 65 | 827765 | 48.66 | ug/l | 0.01 |
| Spiked Amount 50.000 | | | Recovery = 97.32% | | | |
| 58) Toluene-d8 | 9.91 | 98 | 3510247 | 47.58 | ug/l | 0.01 |
| Spiked Amount 50.000 | | | Recovery = 95.16% | | | |
| 80) 4-Bromofluorobenzene | 14.42 | 95 | 1080271 | 43.17 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 86.34% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.75 | 85 | 881472 | 45.56 | ug/l | 99 |
| 3) Chloromethane | 2.01 | 50 | 1448974 | 53.67 | ug/l | 100 |
| 4) Vinyl chloride | 2.13 | 62 | 1233867 | 53.81 | ug/l | 99 |
| 5) Bromomethane | 2.61 | 94 | 848838 | 50.08 | ug/l | 100 |
| 6) Chloroethane | 2.70 | 64 | 774973 | 51.65 | ug/l | 99 |
| 7) Dichlorofluoromethane | 2.75 | 67 | 1642972 | 49.76 | ug/l | 100 |
| 8) Trichlorofluoromethane | 2.97 | 101 | 1001510 | 50.04 | ug/l | 99 |
| 9) sec-Propyl Alcohol | 3.29 | 45 | 681381 | 476.12 | ug/l | 98 |
| 10) Acrolein | 3.46 | 56 | 452167 | 229.88 | ug/l | 97 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.52 | 151 | 578654 | 45.12 | ug/l | 99 |
| 12) Acetone | 3.52 | 43 | 938372 | 216.77 | ug/l | 97 |
| 13) 1,1-Dichloroethene | 3.68 | 61 | 1554049 | 44.58 | ug/l | 97 |
| 14) tert-Butyl alcohol | 3.77 | 59 | 782654 | 490.30 | ug/l | 99 |
| 15) Acetonitrile | 3.84 | 41 | 826479 | 434.70 | ug/l | 99 |
| 16) Iodomethane | 4.08 | 142 | 1099655 | 38.19 | ug/l | 99 |
| 17) Methyl Acetate | 4.08 | 43 | 751013 | 51.08 | ug/l | 98 |
| 18) Allyl Chloride | 4.12 | 76 | 621619 | 45.37 | ug/l | 100 |
| 19) Methylene chloride | 4.25 | 49 | 1311014 | 45.12 | ug/l | 98 |
| 20) Carbon disulfide | 4.28 | 76 | 3570357 | 47.17 | ug/l | 100 |
| 21) Acrylonitrile | 4.41 | 53 | 1476345 | 241.85 | ug/l | 100 |
| 22) tert-Butyl methyl ether (M | 4.44 | 73 | 2796585 | 50.67 | ug/l | 99 |
| 23) trans-1,2-Dichloroethene | 4.62 | 96 | 1049465 | 42.56 | ug/l | 100 |
| 24) Isopropyl ether (DIPE) | 5.01 | 45 | 4602514 | 51.92 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 5.16 | 63 | 2101463 | 50.00 | ug/l | 100 |
| 26) Vinyl acetate | 5.16 | 43 | 1883493 | 49.23 | ug/l | 99 |
| 28) tert-Butyl ethyl ether (ET | 5.54 | 59 | 3880076 | 51.80 | ug/l | 98 |
| 29) 2-Butanone | 5.70 | 72 | 380598 | 229.24 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP098.D Vial: 4
Acq On : 10 Jun 2024 11:45 Operator: IRagas
Sample : VS02F05C Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 12:06 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 30) | Propionitrile | 5.80 | 54 | 1000415 | 495.45 | ug/l | 99 |
| 31) | 2,2-Dichloropropane | 5.88 | 77 | 885542 | 54.19 | ug/l | 98 |
| 32) | cis-1,2-Dichloroethene | 5.95 | 96 | 1225427 | 46.95 | ug/l | 97 |
| 33) | Methylacrynonitrile | 6.07 | 52 | 1277485 | 509.25 | ug/l | 97 |
| 34) | Isobutyl Alcohol | 6.10 | 43 | 690875 | 907.85 | ug/l | 98 |
| 35) | Chloroform | 6.16 | 83 | 1821531 | 48.79 | ug/l | 99 |
| 36) | Bromochloromethane | 6.37 | 130 | 592261 | 44.01 | ug/l | 100 |
| 37) | Tetrahydrofuran | 6.42 | 42 | 210531 | 45.44 | ug/l | 99 |
| 39) | 1,1,1-Trichloroethane | 6.68 | 97 | 1121822 | 47.38 | ug/l | 98 |
| 40) | Cyclohexane | 6.70 | 84 | 1665386 | 49.45 | ug/l | 100 |
| 41) | 1,1-Dichloropropene | 6.90 | 110 | 450509 | 41.87 | ug/l | 99 |
| 42) | Carbon tetrachloride | 7.03 | 119 | 887434 | 43.97 | ug/l | 98 |
| 43) | tert-Amyl methyl ether (TA | 7.06 | 87 | 606762 | 47.84 | ug/l | 98 |
| 45) | 1,2-Dichloroethane | 7.25 | 62 | 1079010 | 50.35 | ug/l | 99 |
| 46) | Benzene | 7.27 | 78 | 4611790 | 48.35 | ug/l | 99 |
| 47) | Trichloroethene | 8.13 | 130 | 1011214 | 44.41 | ug/l | 98 |
| 48) | Methylcyclohexane | 8.20 | 83 | 2029024 | 50.24 | ug/l | 98 |
| 49) | 1,2-Dichloropropane | 8.38 | 63 | 1155812 | 50.15 | ug/l | 99 |
| 50) | Methyl Methacrylate | 8.48 | 69 | 621960 | 48.01 | ug/l | 96 |
| 51) | Bromodichloromethane | 8.72 | 83 | 1297245 | 49.74 | ug/l | 99 |
| 52) | 1,4-Dioxane | 8.76 | 88 | 99783 | 853.16 | ug/l | 97 |
| 53) | Dibromomethane | 8.80 | 93 | 522885 | 46.43 | ug/l | 97 |
| 55) | 4-Methyl-2-pentanone | 9.24 | 43 | 4558043 | 257.36 | ug/l | 100 |
| 56) | cis-1,3-Dichloropropene | 9.55 | 75 | 1823286 | 49.69 | ug/l | 99 |
| 59) | Toluene | 10.03 | 91 | 4479830 | 48.10 | ug/l | 99 |
| 60) | Ethyl methacrylate | 10.34 | 69 | 1251293 | 50.08 | ug/l | 98 |
| 61) | trans-1,3-Dichloropropene | 10.32 | 75 | 1454745 | 49.73 | ug/l | 100 |
| 62) | 1,1,2-Trichloroethane | 10.57 | 97 | 795737 | 49.72 | ug/l | 99 |
| 63) | 2-Hexanone | 10.60 | 43 | 2965965 | 255.54 | ug/l | 99 |
| 64) | 1,3-Dichloropropane | 10.98 | 76 | 1458424 | 49.09 | ug/l | 100 |
| 65) | Tetrachloroethene | 11.06 | 164 | 749659 | 41.47 | ug/l | 99 |
| 66) | Dibromochloromethane | 11.38 | 129 | 822773 | 48.13 | ug/l | 100 |
| 67) | 1,2-Dibromoethane | 11.71 | 107 | 697886 | 45.28 | ug/l | 99 |
| 68) | 1-Chlorohexane | 12.01 | 91 | 1606556 | 47.64 | ug/l | 100 |
| 69) | Chlorobenzene | 12.40 | 112 | 2622415 | 49.04 | ug/l | 99 |
| 70) | 1,1,1,2-Tetrachloroethane | 12.48 | 131 | 864975 | 47.20 | ug/l | 100 |
| 71) | Ethylbenzene | 12.50 | 91 | 4954380 | 50.29 | ug/l | 98 |
| 72) | m-Xylene & p-Xylene | 12.64 | 91 | 7335809 | 99.39 | ug/l | 98 |
| 73) | o-Xylene | 13.37 | 91 | 3640945 | 51.98 | ug/l | 97 |
| 74) | Styrene | 13.43 | 104 | 2873186 | 51.91 | ug/l | 99 |
| 75) | Isopropylbenzene | 14.00 | 105 | 4444696 | 52.12 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP098.D Vial: 4
Acq On : 10 Jun 2024 11:45 Operator: IRagas
Sample : VS02F05C Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 12:06 2024 Quant Results File: VO02A31.RES

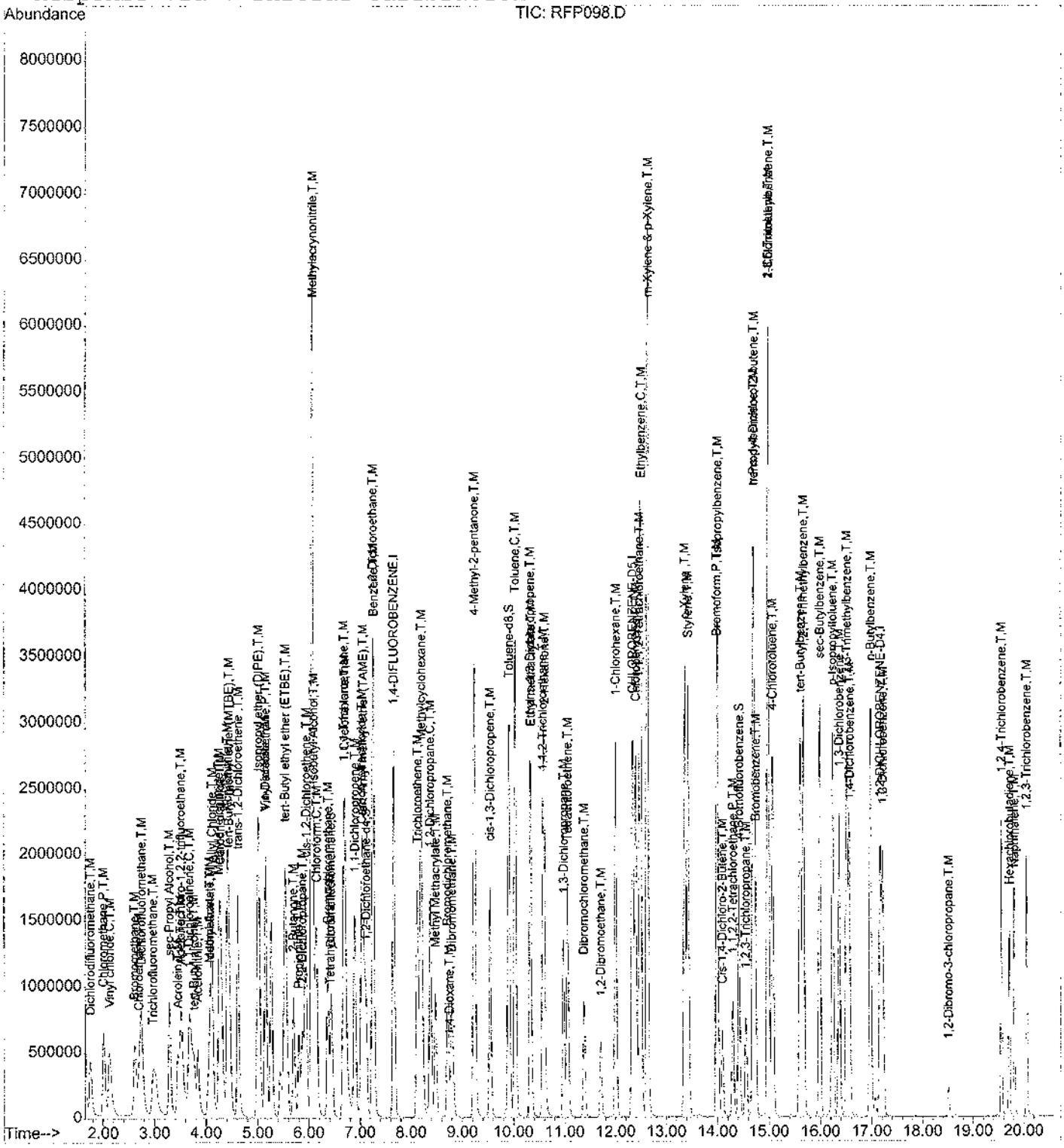
Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 76) | Cis-1,4-Dichloro-2-Butene | 14.10 | 53 | 239004 | 45.30 | ug/l | 100 |
| 78) | Bromoform | 13.98 | 173 | 414916 | 43.27 | ug/l | 99 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.30 | 83 | 922460 | 49.76 | ug/l | 99 |
| 81) | 1,2,3-Trichloropropane | 14.55 | 110 | 203734 | 46.41 | ug/l | 97 |
| 82) | trans-1,4-Dichloro-2-buten | 14.70 | 53 | 215777 | 46.14 | ug/l | 98 |
| 83) | n-Propylbenzene | 14.70 | 91 | 5407238 | 49.68 | ug/l | 99 |
| 84) | Bromobenzene | 14.74 | 156 | 957836 | 44.88 | ug/l | 98 |
| 85) | 1,3,5-Trimethylbenzene | 14.98 | 105 | 3328354 | 49.04 | ug/l | 99 |
| 86) | 2-Chlorotoluene | 14.98 | 91 | 3318314 | 47.93 | ug/l | 98 |
| 87) | 4-Chlorotoluene | 15.06 | 91 | 3079375 | 50.99 | ug/l | 98 |
| 88) | tert-Butylbenzene | 15.61 | 134 | 664731 | 47.69 | ug/l | 96 |
| 89) | 1,2,4-Trimethylbenzene | 15.66 | 105 | 3237174 | 50.09 | ug/l | 99 |
| 90) | sec-Butylbenzene | 15.99 | 105 | 4395929 | 50.91 | ug/l | 98 |
| 91) | p-Isopropyltoluene | 16.23 | 119 | 3341705 | 50.99 | ug/l | 99 |
| 92) | 1,3-Dichlorobenzene | 16.37 | 146 | 1732573 | 48.13 | ug/l | 99 |
| 93) | 1,2,3-Trimethylbenzene | 16.51 | 105 | 3102303 | 50.61 | ug/l | 99 |
| 94) | 1,4-Dichlorobenzene | 16.57 | 146 | 1718210 | 48.21 | ug/l | 99 |
| 95) | n-Butylbenzene | 16.98 | 91 | 3251861 | 53.37 | ug/l | 99 |
| 96) | 1,2-Dichlorobenzene | 17.21 | 146 | 1514376 | 48.48 | ug/l | 100 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.52 | 157 | 103352 | 51.22 | ug/l | 99 |
| 98) | 1,2,4-Trichlorobenzene | 19.56 | 180 | 840338 | 52.10 | ug/l | 99 |
| 99) | Hexachlorobutadiene | 19.72 | 225 | 374866 | 47.02 | ug/l | 99 |
| 100) | Naphthalene | 19.82 | 128 | 1785237 | 57.46 | ug/l | 100 |
| 101) | 1,2,3-Trichlorobenzene | 20.05 | 180 | 742989 | 53.50 | ug/l | 98 |

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\24F10\RFP098.D Vial: 4
Acq On : 10 Jun 2024 11:45 Operator: IRagas
Sample : VS02F05C Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 12:06 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



# INITIAL CALIBRATION(S)

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc. Project : ICAL
Lab Code : EMAX SDG No : ICAL
Lab File ID: RAP131 BFB Injection Date: 01/31/24
Instrument ID: 02 BFB Injection Time: 13:23

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 16.147 |
| 75 | 30 - 60% of mass 95 | 42.283 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 5.704 |
| 173 | Less than 2% of mass 174 | 0.000(0)1 |
| 174 | Greater than 50% of mass 95 | 80.139 |
| 175 | 5 - 9% of mass 174 | 5.417(6.76)1 |
| 176 | 95 - 101% % of mass 174 | 78.659(98.15)1 |
| 177 | 5 - 9% % of mass 176 | 4.668(5.93)2 |

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following Calibration Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD001 | V002A311 | RAP132 | 01/31/24 | 13:50 |
| 2 | VSTD002 | V002A312 | RAP133 | 01/31/24 | 14:28 |
| 3 | VSTD005 | V002A313 | RAP134 | 01/31/24 | 14:53 |
| 4 | VSTD010 | V002A314 | RAP135 | 01/31/24 | 15:17 |
| 5 | VSTD020 | V002A315 | RAP136 | 01/31/24 | 15:42 |
| 6 | VSTD050 | V002A316 | RAP137 | 01/31/24 | 16:06 |
| 7 | VSTD100 | V002A317 | RAP138 | 01/31/24 | 16:31 |
| 8 | VSTD200 | V002A318 | RAP139 | 01/31/24 | 16:55 |
| 9 | VSTD300 | V002A319 | RAP140 | 01/31/24 | 17:20 |
| 10 | VSTD500 | V002A3110 | RAP141 | 01/31/24 | 17:44 |
| 11 | VSTD050 | IV002A311 | RAP144 | 01/31/24 | 18:58 |

SV
3/20/24

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :02
Beginning DateTime :01/31/24 13:50
Spike Units :PPB
IC File :RAP137

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :01/31/24 17:44
HPChem Method :VO02A31

| M | IDX | Parameters | 1<br>13:50<br>RAP132 | 2<br>14:28<br>RAP133 | 5<br>14:53<br>RAP134 | 10<br>15:17<br>RAP135 | 20<br>15:42<br>RAP136 | 50<br>16:06<br>RAP137 | 100<br>16:31<br>RAP138 | 200<br>16:55<br>RAP139 | 300<br>17:20<br>RAP140 | 500<br>17:44<br>RAP141 | Av_RRF | %_RSD | Av_Rt_M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 7.6504 |
| | 2 | Dichlorodifluoromethane | 0.213 | 0.224 | 0.233 | 0.266 | 0.279 | 0.281 | 0.276 | 0.273 | 0.268 | 0.265 | 0.258 | 9.62 | 1.7457 |
| | 3 | Chloromethane | 0.327 | 0.344 | 0.323 | 0.377 | 0.388 | 0.389 | 0.372 | 0.364 | 0.363 | 0.349 | 0.360 | 6.51 | 2.0005 |
| | 4 | Vinyl chloride | ------ | 0.273 | 0.293 | 0.335 | 0.339 | 0.329 | 0.303 | 0.266 | ------ | ------ | 0.305 | 9.79 | 2.1123 |
| | 5 | Bromomethane | 0.245 | 0.211 | 0.210 | 0.222 | 0.229 | 0.234 | 0.229 | 0.226 | 0.227 | 0.225 | 0.226 | 4.52 | 2.6051 |
| | 6 | Chloroethane | ------ | 0.165 | 0.168 | 0.202 | 0.211 | 0.216 | 0.213 | 0.207 | 0.213 | 0.205 | 0.200 | 9.82 | 2.6924 |
| | 7 | Dichlorofluoromethane | 0.398 | 0.405 | 0.416 | 0.449 | 0.468 | 0.474 | 0.462 | 0.446 | 0.452 | 0.430 | 0.440 | 6.01 | 2.7333 |
| | 8 | Trichlorofluoromethane | 0.206 | 0.227 | 0.236 | 0.284 | 0.292 | 0.299 | 0.289 | 0.281 | 0.281 | 0.272 | 0.267 | 11.95 | 2.9761 |
| 10 | 9 | sec-Propyl Alcohol | ------ | ------ | 0.021 | 0.019 | 0.019 | 0.020 | 0.018 | 0.019 | 0.018 | 0.017 | 0.019 | 5.59 | 3.2857 |
| 5 | 10 | Acrolein | 0.027 | 0.023 | 0.023 | 0.025 | 0.027 | 0.030 | 0.026 | 0.029 | 0.026 | 0.026 | 0.026 | 8.53 | 3.4405 |
| | 11 | 1,1,2-Trichloro-1,2,2-trifluoroethane | ------ | 0.153 | 0.143 | 0.171 | 0.178 | 0.185 | 0.185 | 0.173 | 0.183 | 0.166 | 0.171 | 8.55 | 3.4848 |
| 5 | 12 | Acetone | ------ | 0.070 | 0.059 | 0.060 | 0.058 | 0.062 | 0.053 | 0.054 | 0.052 | 0.050 | 0.058 | 10.36 | 3.5150 |
| | 13 | 1,1-Dichloroethene | 0.382 | 0.391 | 0.442 | 0.472 | 0.507 | 0.512 | 0.498 | 0.482 | 0.493 | 0.464 | 0.464 | 9.93 | 3.6798 |
| 10 | 14 | tert-Butyl alcohol | ------ | 0.016 | 0.017 | 0.020 | 0.022 | 0.024 | 0.023 | 0.024 | 0.023 | 0.023 | 0.021 | 14.57 | 3.7638 |
| 10 | 15 | Acetonitrile | ------ | 0.021 | 0.021 | 0.024 | 0.028 | 0.029 | 0.026 | 0.026 | 0.027 | 0.025 | 0.025 | 10.50 | 3.8354 |
| | 16 | Iodomethane | ------ | 0.302 | 0.339 | 0.379 | 0.405 | 0.416 | 0.414 | 0.399 | 0.413 | 0.388 | 0.384 | 10.16 | 4.0516 |
| | 17 | Methyl Acetate | 0.218 | 0.198 | 0.182 | 0.184 | 0.191 | 0.209 | 0.194 | 0.200 | 0.194 | 0.189 | 0.196 | 5.56 | 4.0676 |
| | 18 | Allyl Chloride | ------ | 0.144 | 0.163 | 0.176 | 0.187 | 0.197 | 0.195 | 0.192 | 0.199 | 0.190 | 0.183 | 10.07 | 4.1069 |
| | 19 | Methylene chloride | 0.380 | 0.361 | 0.359 | 0.392 | 0.402 | 0.411 | 0.397 | 0.388 | 0.394 | ------ | 0.387 | 4.55 | 4.2581 |
| | 20 | Carbon disulfide | 0.798 | 0.835 | 0.952 | 1.075 | 1.064 | 1.117 | 1.113 | 1.074 | 1.049 | ------ | 1.009 | 11.83 | 4.2663 |
| 5 | 21 | Acrylonitrile | ------ | 0.066 | 0.071 | 0.081 | 0.084 | 0.092 | 0.085 | 0.088 | 0.084 | 0.080 | 0.081 | 10.07 | 4.4045 |
| | 22 | tert-Butyl methyl ether (MTBE) | ------ | 0.605 | 0.664 | 0.737 | 0.760 | 0.803 | 0.767 | 0.792 | 0.769 | 0.720 | 0.735 | 8.72 | 4.4338 |
| | 23 | trans-1,2-Dichloroethene | 0.267 | 0.295 | 0.312 | 0.333 | 0.346 | 0.356 | 0.347 | 0.347 | 0.349 | 0.334 | 0.329 | 8.71 | 4.6062 |
| | 24 | Isopropyl ether (DIPE) | 0.956 | 1.051 | 1.122 | 1.240 | 1.276 | 1.315 | 1.262 | 1.229 | 1.178 | ------ | 1.181 | 9.95 | 5.0110 |
| | 25 | 1,1-Dichloroethane | 0.462 | 0.503 | 0.544 | 0.587 | 0.598 | 0.609 | 0.589 | 0.585 | 0.581 | 0.541 | 0.560 | 8.39 | 5.1477 |
| | 26 | Vinyl acetate | ------ | 0.395 | 0.422 | 0.503 | 0.534 | 0.575 | 0.549 | 0.568 | 0.544 | 0.509 | 0.510 | 12.16 | 5.1542 |
| 10 | 27 | 2-Butanol | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| | 28 | tert-Butyl ethyl ether (ETBE) | ------ | 0.827 | 0.916 | 1.007 | 1.046 | 1.102 | 1.057 | 1.067 | 1.032 | 0.929 | 0.998 | 8.91 | 5.5315 |
| 5 | 29 | 2-Butanone | ------ | 0.016 | 0.017 | 0.021 | 0.023 | 0.025 | 0.024 | 0.025 | 0.024 | 0.024 | 0.022 | 14.91 | 5.6941 |
| 10 | 30 | Propionitrile | ------ | 0.021 | 0.023 | 0.026 | 0.028 | 0.030 | 0.028 | 0.030 | 0.028 | 0.028 | 0.027 | 11.20 | 5.7965 |
| | 31 | 2,2-Dichloropropane | 0.199 | 0.211 | 0.229 | 0.235 | 0.240 | 0.241 | 0.229 | 0.210 | 0.203 | 0.180 | 0.218 | 9.26 | 5.8649 |
| | 32 | cis-1,2-Dichloroethene | 0.298 | 0.308 | 0.327 | 0.357 | 0.366 | 0.373 | 0.363 | 0.367 | 0.365 | 0.353 | 0.348 | 7.71 | 5.9322 |
| 10 | 33 | Methylacrynonitrile | ------ | 0.027 | 0.029 | 0.035 | 0.035 | 0.037 | 0.034 | 0.036 | 0.034 | ------ | 0.033 | 10.30 | 6.0550 |
| 20 | 34 | Isobutyl Alcohol | ------ | 0.006 | 0.007 | 0.008 | 0.009 | 0.011 | 0.011 | 0.011 | 0.010 | 0.010 | 0.009 | 20.66 | 6.0892 |
| | 35 | Chloroform | 0.438 | 0.454 | 0.481 | 0.513 | 0.518 | 0.537 | 0.516 | 0.522 | 0.513 | 0.482 | 0.497 | 6.48 | 6.1430 |
| | 36 | Bromochloromethane | ------ | 0.142 | 0.159 | 0.176 | 0.185 | 0.195 | 0.186 | 0.193 | 0.191 | 0.187 | 0.179 | 9.87 | 6.3624 |
| | 37 | Tetrahydrofuran | ------ | 0.059 | 0.054 | 0.056 | 0.060 | 0.067 | 0.062 | 0.068 | 0.065 | 0.065 | 0.062 | 8.10 | 6.4014 |
| | 38 | Dibromofluoromethane | ------ | 0.203 | 0.233 | 0.263 | 0.264 | 0.276 | 0.273 | 0.269 | 0.269 | 0.261 | 0.257 | 9.28 | 6.4275 |
| | 39 | 1,1,1-Trichloroethane | 0.261 | 0.271 | 0.299 | 0.326 | 0.334 | 0.348 | 0.340 | 0.329 | 0.333 | 0.314 | 0.315 | 9.34 | 6.6713 |
| | 40 | Cyclohexane | ------ | 0.375 | 0.390 | 0.447 | 0.453 | 0.484 | 0.478 | 0.469 | 0.481 | 0.462 | 0.449 | 8.87 | 6.6860 |
| | 41 | 1,1-Dichloropropene | ------ | 0.118 | 0.126 | 0.137 | 0.142 | 0.153 | 0.150 | 0.156 | 0.155 | 0.153 | 0.143 | 9.68 | 6.8860 |
| | 42 | Carbon tetrachloride | ------ | 0.223 | 0.240 | 0.264 | 0.275 | 0.290 | 0.285 | 0.285 | 0.287 | 0.273 | 0.269 | 8.62 | 7.0178 |
| | 43 | tert-Amyl methyl ether (TAME) | ------ | ------ | 0.131 | 0.154 | 0.165 | 0.179 | 0.175 | 0.183 | 0.183 | 0.182 | 0.169 | 10.95 | 7.0502 |
| | 44 | 1,2-Dichloroethane-d4 | ------ | 0.187 | 0.202 | 0.230 | 0.235 | 0.245 | 0.240 | 0.237 | 0.235 | 0.228 | 0.227 | 8.52 | 7.1088 |
| | 45 | 1,2-Dichloroethane | 0.229 | 0.251 | 0.269 | 0.294 | 0.304 | 0.316 | 0.302 | 0.306 | 0.299 | 0.286 | 0.286 | 9.66 | 7.2377 |
| | 46 | Benzene | 1.079 | 1.165 | 1.225 | 1.335 | 1.362 | 1.414 | 1.365 | 1.306 | 1.187 | ------ | 1.271 | 8.81 | 7.2535 |
| | 47 | Trichloroethene | 0.241 | 0.272 | 0.280 | 0.303 | 0.319 | 0.333 | 0.324 | 0.326 | 0.324 | 0.312 | 0.303 | 9.84 | 8.1172 |
| | 48 | Methylcyclohexane | 0.422 | 0.488 | 0.500 | 0.553 | 0.562 | 0.605 | 0.581 | 0.570 | 0.567 | 0.533 | 0.538 | 10.06 | 8.1919 |
| | 49 | 1,2-Dichloropropane | 0.240 | 0.262 | 0.279 | 0.308 | 0.325 | 0.340 | 0.332 | 0.333 | 0.332 | 0.320 | 0.307 | 11.29 | 8.3705 |
| | 50 | Methyl Methacrylate | ------ | ------ | 0.130 | 0.152 | 0.168 | 0.188 | 0.179 | 0.192 | 0.186 | 0.185 | 0.173 | 12.40 | 8.4717 |
| | 51 | Bromodichloromethane | 0.298 | 0.302 | 0.309 | 0.354 | 0.359 | 0.383 | 0.371 | 0.375 | 0.370 | 0.354 | 0.347 | 9.23 | 8.7115 |
| 20 | 52 | 1,4-Dioxane | ------ | ------ | 0.001 | 0.001 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 14.14 | 8.7516 |
| | 53 | Dibromomethane | ------ | 0.121 | 0.131 | 0.144 | 0.151 | 0.163 | 0.157 | 0.163 | 0.162 | 0.158 | 0.150 | 10.15 | 8.7919 |
| | 54 | 2-Chloroethyl vinyl ether | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 0.000 | 0.00 | 0.0000 |
| 5 | 55 | 4-Methyl-2-pentanone | 0.207 | 0.195 | 0.204 | 0.243 | 0.254 | 0.283 | 0.260 | 0.255 | 0.223 | ------ | 0.236 | 12.81 | 9.2326 |
| | 56 | cis-1,3-Dichloropropene | ------ | 0.401 | 0.426 | 0.485 | 0.507 | 0.537 | 0.525 | 0.532 | 0.513 | 0.476 | 0.489 | 9.73 | 9.5383 |
| | 57 | CHLOROBENZENE-D5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 12.3323 |
| | 58 | Toluene-d8 | 0.971 | 1.239 | 1.210 | 1.341 | 1.322 | 1.351 | 1.297 | 1.275 | 1.207 | ------ | 1.246 | 9.31 | 9.9025 |
| | 59 | Toluene | 1.302 | 1.475 | 1.571 | 1.689 | 1.658 | 1.737 | 1.647 | 1.612 | 1.468 | ------ | 1.573 | 8.67 | 10.0213 |
| | 60 | Ethyl methacrylate | ------ | ------ | 0.303 | 0.381 | 0.407 | 0.455 | 0.436 | 0.476 | 0.463 | 0.455 | 0.422 | 13.62 | 10.3267 |
| | 61 | trans-1,3-Dichloropropene | ------ | 0.372 | 0.423 | 0.478 | 0.495 | 0.542 | 0.518 | 0.554 | 0.540 | 0.524 | 0.494 | 12.32 | 10.3189 |
| | 62 | 1,1,2-Trichloroethane | 0.210 | 0.233 | 0.236 | 0.275 | 0.283 | 0.299 | 0.280 | 0.298 | 0.294 | 0.295 | 0.270 | 11.88 | 10.5628 |
| 5 | 63 | 2-Hexanone | ------ | 0.149 | 0.161 | 0.191 | 0.202 | 0.232 | 0.215 | 0.226 | 0.207 | 0.182 | 0.196 | 14.47 | 10.5937 |
| | 64 | 1,3-Dichloropropane | ------ | 0.420 | 0.445 | 0.502 | 0.520 | 0.542 | 0.509 | 0.538 | 0.527 | 0.514 | 0.502 | 8.33 | 10.9710 |
| | 65 | Tetrachloroethene | 0.248 | 0.292 | 0.277 | 0.310 | 0.303 | 0.327 | 0.312 | 0.328 | 0.327 | 0.329 | 0.305 | 8.75 | 11.0473 |
| | 66 | Dibromochloromethane | 0.224 | 0.226 | 0.248 | 0.286 | 0.296 | 0.320 | 0.310 | 0.330 | 0.324 | 0.324 | 0.289 | 14.40 | 11.3707 |
| | 67 | 1,2-Dibromoethane | ------ | ------ | 0.219 | 0.247 | 0.256 | 0.275 | 0.262 | 0.279 | 0.271 | 0.272 | 0.260 | 7.54 | 11.6970 |
| | 68 | 1-Chlorohexane | 0.449 | 0.514 | 0.503 | 0.586 | 0.573 | 0.627 | 0.609 | 0.632 | 0.612 | 0.590 | 0.570 | 10.70 | 11.9971 |
| | 69 | Chlorobenzene | 0.731 | 0.829 | 0.875 | 0.947 | 0.962 | 0.996 | 0.962 | 0.969 | 0.924 | 0.838 | 0.903 | 9.21 | 12.3923 |
| | 70 | 1,1,1,2-Tetrachloroethane | ------ | 0.245 | 0.269 | 0.302 | 0.311 | 0.335 | 0.326 | 0.339 | 0.331 | 0.329 | 0.310 | 10.50 | 12.4719 |
| | 71 | Ethylbenzene | 1.465 | 1.582 | 1.568 | 1.746 | 1.760 | 1.867 | 1.784 | 1.707 | 1.497 | ------ | 1.664 | 8.41 | 12.4947 |
| 2 | 72 | m-Xylene & p-Xylene | 1.113 | 1.213 | 1.207 | 1.312 | 1.303 | 1.395 | 1.299 | 1.131 | ------ | ------ | 1.247 | 7.81 | 12.6264 |
| | 73 | o-Xylene | 1.038 | 1.105 | 1.126 | 1.268 | 1.264 | 1.338 | 1.289 | 1.236 | 1.167 | 1.001 | 1.183 | 9.58 | 13.3582 |
| | 74 | Styrene | 0.736 | 0.765 | 0.838 | 0.963 | 0.999 | 1.073 | 1.047 | 1.049 | 0.993 | 0.886 | 0.935 | 13.00 | 13.4241 |
| | 75 | Isopropylbenzene | 1.249 | 1.318 | 1.351 | 1.520 | 1.498 | 1.624 | 1.553 | 1.497 | 1.353 | ------ | 1.440 | 8.73 | 13.9875 |
| | 76 | Cis-1,4-Dichloro-2-Butene | ------ | 0.050 | 0.058 | 0.069 | 0.081 | 0.092 | 0.088 | 0.095 | 0.091 | 0.091 | 0.080 | 20.77 | 14.0916 |
| | 77 | 1,2-DICHLOROBENZENE-D4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 17.1635 |
| | 78 | Bromoform | ------ | ------ | 0.371 | 0.413 | 0.439 | 0.491 | 0.491 | 0.531 | 0.518 | 0.548 | 0.475 | 13.01 | 13.9746 |
| | 79 | 1,1,2,2-Tetrachloroethane | 0.707 | 0.791 | 0.844 | 0.924 | 0.950 | 1.006 | 0.958 | 1.025 | 0.977 | 1.006 | 0.919 | 11.45 | 14.2949 |
| | 80 | 4-Bromofluorobenzene | 0.972 | 1.265 | 1.142 | 1.242 | 1.260 | 1.303 | 1.303 | 1.312 | 1.295 | 1.310 | 1.240 | 8.65 | 14.4134 |
| | 81 | 1,2,3-Trichloropropane | 0.178 | 0.187 | 0.195 | 0.212 | 0.220 | 0.233 | 0.229 | 0.245 | 0.234 | 0.242 | 0.218 | 10.90 | 14.5481 |
| | 82 | trans-1,4-Dichloro-2-butene | ------ | ------ | 0.151 | 0.187 | 0.201 | 0.231 | 0.227 | 0.255 | 0.238 | 0.243 | 0.217 | 15.94 | 14.6899 |
| | 83 | n-Propylbenzene | 4.580 | 5.425 | 5.197 | 5.805 | 5.554 | 6.017 | 5.815 | 5.401 | 4.754 | ------ | 5.394 | 8.97 | 14.6900 |
| | 84 | Bromobenzene | ------ | 0.903 | 0.932 | 1.036 | 1.044 | 1.102 | 1.089 | 1.144 | 1.122 | 1.150 | 1.058 | 8.42 | 14.7323 |
| | 85 | 1,3,5-Trimethylbenzene | 2.812 | 3.301 | 3.185 | 3.584 | 3.468 | 3.766 | 3.657 | 3.566 | 3.287 | 3.016 | 3.364 | 8.95 | 14.9711 |
| | 86 | 2-Chlorotoluene | 2.933 | 3.353 | 3.404 | 3.661 | 3.433 | 3.694 | 3.588 | 3.704 | 3.414 | 3.129 | 3.431 | 7.32 | 14.9740 |
| | 87 | 4-Chlorotoluene | 2.415 | 2.853 | 2.772 | 3.066 | 3.128 | 3.364 | 3.299 | 3.198 | 3.024 | 2.812 | 2.993 | 9.54 | 15.0633 |
| | 88 | tert-Butylbenzene | ------ | 0.601 | 0.583 | 0.691 | 0.689 | 0.747 | 0.731 | 0.732 | 0.711 | 0.732 | 0.691 | 8.62 | 15.5974 |
| | 89 | 1,2,4-Trimethylbenzene | 2.669 | 3.025 | 3.043 | 3.339 | 3.313 | 3.583 | 3.505 | 3.411 | 3.191 | 2.950 | 3.203 | 8.81 | 15.6589 |
| | 90 | sec-Butylbenzene | 3.519 | 4.122 | 4.086 | 4.536 | 4.413 | 4.785 | 4.625 | 4.416 | 4.013 | ------ | 4.279 | 9.01 | 15.9779 |
| | 91 | p-Isopropyltoluene | 2.683 | 3.116 | 2.949 | 3.388 | 3.398 | 3.731 | 3.561 | 3.451 | 3.211 | 2.990 | 3.248 | 9.79 | 16.2341 |
| | 92 | 1,3-Dichlorobenzene | 1.454 | 1.656 | 1.638 | 1.834 | 1.831 | 1.949 | 1.895 | 1.901 | 1.850 | 1.834 | 1.784 | 8.59 | 16.3585 |
| | 93 | 1,2,3-Trimethylbenzene | 2.559 | 2.787 | 2.887 | 3.195 | 3.186 | 3.421 | 3.272 | 3.190 | 3.041 | 2.844 | 3.038 | 8.67 | 16.5049 |
| | 94 | 1,4-Dichlorobenzene | 1.433 | 1.643 | 1.631 | 1.813 | 1.778 | 1.941 | 1.886 | 1.874 | 1.843 | 1.822 | 1.766 | 8.70 | 16.5590 |
| | 95 | n-Butylbenzene | 2.414 | 2.807 | 2.655 | 3.091 | 3.095 | 3.494 | 3.381 | 3.291 | 3.107 | 2.863 | 3.020 | 11.13 | 16.9732 |
| | 96 | 1,2-Dichlorobenzene | 1.270 | 1.474 | 1.471 | 1.610 | 1.583 | 1.679 | 1.618 | 1.606 | 1.589 | 1.583 | 1.548 | 7.52 | 17.2074 |
| | 97 | 1,2-Dibromo-3-chloropropane | ------ | ------ | 0.081 | 0.089 | 0.104 | 0.113 | 0.113 | ------ | ------ | ------ | 0.100 | 14.39 | 18.5096 |
| | 98 | 1,2,4-Trichlorobenzene | 0.630 | 0.743 | 0.668 | 0.789 | 0.794 | 0.885 | 0.854 | 0.856 | 0.877 | 0.898 | 0.799 | 11.68 | 19.5534 |
| | 99 | Hexachlorobutadiene | ------ | 0.379 | 0.343 | 0.382 | 0.383 | 0.418 | 0.412 | 0.419 | 0.382 | 0.438 | 0.395 | 7.32 | 19.7100 |
| | 100 | Naphthalene | 1.218 | 1.274 | 1.289 | 1.498 | 1.543 | 1.753 | 1.668 | 1.753 | 1.735 | 1.670 | 1.540 | 13.71 | 19.8125 |
| | 101 | 1,2,3-Trichlorobenzene | 0.543 | 0.618 | 0.608 | 0.682 | 0.692 | 0.755 | 0.716 | 0.749 | 0.741 | 0.777 | 0.688 | 11.05 | 20.0598 |

Spike Amount = Nominal Amount * M
Ave_%RSD : 10.1 Max_%RSD : 20.8

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = x0 + x1 * Amt_Ratio

| IDX | Parameter | x0 | x1 | CCP |
|---|---|---|---|---|
| 34 | Isobutyl Alcohol | -0.00475 | 0.01040 | 0.9984 |
| 76 | Cis-1,4-Dichloro-2-Butene | -0.00250 | 0.09187 | 0.9996 |
| 82 | trans-1,4-Dichloro-2-butene | -0.01123 | 0.24395 | 0.9995 |

Sm
2/7/24

# Compound List Report 02

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
Total Cpnds : 101

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 114 | 7.65 | 1.000 | A | 1 | A | B |
| 2 | T | Dichlorodifluoromethane | 85 | 1.75 | 0.229 | A | 1 | A | B |
| 3 | T | Chloromethane | 50 | 2.01 | 0.262 | A | 1 | A | B |
| 4 | T | Vinyl chloride | 62 | 2.11 | 0.276 | A | 1 | A | B |
| 5 | T | Bromomethane | 94 | 2.61 | 0.341 | A | 1 | A | B |
| 6 | T | Chloroethane | 64 | 2.70 | 0.353 | A | 1 | A | B |
| 7 | T | Dichlorofluoromethane | 67 | 2.73 | 0.357 | A | 1 | A | B |
| 8 | T | Trichlorofluoromethane | 101 | 2.97 | 0.388 | A | 1 | A | B |
| 9 | T | sec-Propyl Alcohol | 45 | 3.29 | 0.430 | A | 1 | A | B |
| 10 | T | Acrolein | 56 | 3.44 | 0.449 | A | 1 | A | B |
| 11 | T | 1,1,2-Trichloro-1,2,2-trifluor | 151 | 3.48 | 0.455 | A | 1 | A | B |
| 12 | T | Acetone | 43 | 3.51 | 0.459 | A | 1 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 3.68 | 0.481 | A | 2 | A | B |
| 14 | T | tert-Butyl alcohol | 59 | 3.76 | 0.491 | A | 1 | A | B |
| 15 | T | Acetonitrile | 41 | 3.83 | 0.501 | A | 1 | A | B |
| 16 | T | Iodomethane | 142 | 4.05 | 0.529 | A | 1 | A | B |
| 17 | T | Methyl Acetate | 43 | 4.06 | 0.531 | A | 1 | A | B |
| 18 | T | Allyl Chloride | 76 | 4.11 | 0.537 | A | 1 | A | B |
| 19 | T | Methylene chloride | 49 | 4.25 | 0.556 | A | 2 | A | B |
| 20 | T | Carbon disulfide | 76 | 4.27 | 0.558 | A | 1 | A | B |
| 21 | T | Acrylonitrile | 53 | 4.40 | 0.575 | A | 2 | A | B |
| 22 | T | tert-Butyl methyl ether (MTBE) | 73 | 4.43 | 0.579 | A | 1 | A | B |
| 23 | T | trans-1,2-Dichloroethene | 96 | 4.60 | 0.602 | A | 1 | A | B |
| 24 | T | Isopropyl ether (DIPE) | 45 | 5.00 | 0.654 | A | 1 | A | B |
| 25 | T | 1,1-Dichloroethane | 63 | 5.15 | 0.673 | A | 2 | A | B |
| 26 | T | Vinyl acetate | 43 | 5.15 | 0.673 | A | 1 | A | B |
| 27 | T | 2-Butanol | 45 | 5.42 | 0.709 | A | 1 | A | B |
| 28 | T | tert-Butyl ethyl ether (ETBE) | 59 | 5.53 | 0.723 | A | 1 | A | B |
| 29 | T | 2-Butanone | 72 | 5.69 | 0.744 | A | 1 | A | B |
| 30 | T | Propionitrile | 54 | 5.79 | 0.757 | A | 1 | A | B |
| 31 | T | 2,2-Dichloropropane | 77 | 5.86 | 0.767 | A | 2 | A | B |
| 32 | T | cis-1,2-Dichloroethene | 96 | 5.94 | 0.776 | A | 2 | A | B |
| 33 | T | Methylacrynonitrile | 52 | 6.05 | 0.791 | A | 1 | A | B |
| 34 | T | Isobutyl Alcohol | 43 | 6.08 | 0.795 | L | 1 | A | B |
| 35 | T | Chloroform | 83 | 6.14 | 0.803 | A | 2 | A | B |
| 36 | T | Bromochloromethane | 130 | 6.36 | 0.832 | A | 1 | A | B |
| 37 | T | Tetrahydrofuran | 42 | 6.41 | 0.837 | A | 2 | A | B |
| 38 | S | Dibromofluoromethane | 111 | 6.42 | 0.839 | A | 1 | A | B |
| 39 | T | 1,1,1-Trichloroethane | 97 | 6.67 | 0.872 | A | 2 | A | B |
| 40 | T | Cyclohexane | 84 | 6.68 | 0.874 | A | 1 | A | B |
| 41 | T | 1,1-Dichloropropene | 110 | 6.89 | 0.900 | A | 1 | A | B |
| 42 | T | Carbon tetrachloride | 119 | 7.00 | 0.916 | A | 1 | A | B |
| 43 | T | tert-Amyl methyl ether (TAME) | 87 | 7.05 | 0.922 | A | 1 | A | B |
| 44 | S | 1,2-Dichloroethane-d4 | 65 | 7.11 | 0.929 | A | 1 | A | B |
| 45 | T | 1,2-Dichloroethane | 62 | 7.24 | 0.946 | A | 1 | A | B |
| 46 | T | Benzene | 78 | 7.25 | 0.948 | A | 2 | A | B |
| 47 | T | Trichloroethene | 130 | 8.12 | 1.061 | A | 3 | A | B |
| 48 | T | Methylcyclohexane | 83 | 8.19 | 1.071 | A | 2 | A | B |
| 49 | T | 1,2-Dichloropropane | 63 | 8.37 | 1.094 | A | 1 | A | B |
| 50 | T | Methyl Methacrylate | 69 | 8.47 | 1.107 | A | 1 | A | B |
| 51 | T | Bromodichloromethane | 83 | 8.70 | 1.138 | A | 1 | A | B |
| 52 | T | 1,4-Dioxane | 88 | 8.75 | 1.143 | A | 1 | A | B |
| 53 | T | Dibromomethane | 93 | 8.79 | 1.149 | A | 2 | A | B |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 54 | T | 2-Chloroethyl vinyl ether | 63 | 9.21 | 1.205 | A | 1 | A | B |
| 55 | T | 4-Methyl-2-pentanone | 43 | 9.23 | 1.207 | A | 3 | A | B |
| 56 | T | cis-1,3-Dichloropropene | 75 | 9.54 | 1.247 | A | 2 | A | B |
| 57 | I | CHLOROBENZENE-D5 | 117 | 12.33 | 1.000 | A | 2 | A | B |
| 58 | S | Toluene-d8 | 98 | 9.90 | 0.803 | A | 1 | A | B |
| 59 | T | Toluene | 91 | 10.02 | 0.812 | A | 1 | A | B |
| 60 | T | Ethyl methacrylate | 69 | 10.33 | 0.837 | A | 1 | A | B |
| 61 | T | trans-1,3-Dichloropropene | 75 | 10.31 | 0.836 | A | 1 | A | B |
| 62 | T | 1,1,2-Trichloroethane | 97 | 10.56 | 0.856 | A | 2 | A | B |
| 63 | T | 2-Hexanone | 43 | 10.59 | 0.859 | A | 1 | A | B |
| 64 | T | 1,3-Dichloropropane | 76 | 10.97 | 0.890 | A | 1 | A | B |
| 65 | T | Tetrachloroethene | 164 | 11.04 | 0.896 | A | 3 | A | B |
| 66 | T | Dibromochloromethane | 129 | 11.37 | 0.922 | A | 1 | A | B |
| 67 | T | 1,2-Dibromoethane | 107 | 11.69 | 0.948 | A | 1 | A | B |
| 68 | T | 1-Chlorohexane | 91 | 12.00 | 0.973 | A | 1 | A | B |
| 69 | T | Chlorobenzene | 112 | 12.39 | 1.005 | A | 1 | A | B |
| 70 | T | 1,1,1,2-Tetrachloroethane | 131 | 12.46 | 1.011 | A | 1 | A | B |
| 71 | T | Ethylbenzene | 91 | 12.49 | 1.013 | A | 1 | A | B |
| 72 | T | m-Xylene & p-Xylene | 91 | 12.63 | 1.024 | A | 1 | A | B |
| 73 | T | o-Xylene | 91 | 13.36 | 1.083 | A | 1 | A | B |
| 74 | T | Styrene | 104 | 13.42 | 1.088 | A | 2 | A | B |
| 75 | T | Isopropylbenzene | 105 | 13.99 | 1.134 | A | 3 | A | B |
| 76 | T | Cis-1,4-Dichloro-2-Butene | 53 | 14.09 | 1.142 | L | 2 | A | B |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 152 | 17.16 | 1.000 | A | 1 | A | B |
| 78 | T | Bromoform | 173 | 13.97 | 0.814 | A | 2 | A | B |
| 79 | T | 1,1,2,2-Tetrachloroethane | 83 | 14.29 | 0.833 | A | 1 | A | B |
| 80 | S | 4-Bromofluorobenzene | 95 | 14.41 | 0.840 | A | 2 | A | B |
| 81 | T | 1,2,3-Trichloropropane | 110 | 14.54 | 0.847 | A | 1 | A | B |
| 82 | T | trans-1,4-Dichloro-2-butene | 53 | 14.69 | 0.856 | L | 1 | A | B |
| 83 | T | n-Propylbenzene | 91 | 14.69 | 0.856 | A | 2 | A | B |
| 84 | T | Bromobenzene | 156 | 14.73 | 0.858 | A | 1 | A | B |
| 85 | T | 1,3,5-Trimethylbenzene | 105 | 14.97 | 0.872 | A | 2 | A | B |
| 86 | T | 2-Chlorotoluene | 91 | 14.97 | 0.872 | A | 1 | A | B |
| 87 | T | 4-Chlorotoluene | 91 | 15.05 | 0.877 | A | 1 | A | B |
| 88 | T | tert-Butylbenzene | 134 | 15.60 | 0.909 | A | 1 | A | B |
| 89 | T | 1,2,4-Trimethylbenzene | 105 | 15.65 | 0.912 | A | 1 | A | B |
| 90 | T | sec-Butylbenzene | 105 | 15.98 | 0.931 | A | 1 | A | B |
| 91 | T | p-Isopropyltoluene | 119 | 16.23 | 0.945 | A | 2 | A | B |
| 92 | T | 1,3-Dichlorobenzene | 146 | 16.36 | 0.953 | A | 2 | A | B |
| 93 | T | 1,2,3-Trimethylbenzene | 105 | 16.50 | 0.962 | A | 2 | A | B |
| 94 | T | 1,4-Dichlorobenzene | 146 | 16.55 | 0.964 | A | 2 | A | B |
| 95 | T | n-Butylbenzene | 91 | 16.97 | 0.989 | A | 2 | A | B |
| 96 | T | 1,2-Dichlorobenzene | 146 | 17.21 | 1.003 | A | 1 | A | B |
| 97 | T | 1,2-Dibromo-3-chloropropane | 157 | 18.51 | 1.078 | A | 1 | A | B |
| 98 | T | 1,2,4-Trichlorobenzene | 180 | 19.55 | 1.139 | A | 2 | A | B |
| 99 | T | Hexachlorobutadiene | 225 | 19.71 | 1.148 | A | 2 | A | B |
| 100 | T | Naphthalene | 128 | 19.81 | 1.154 | A | 1 | A | B |
| 101 | T | 1,2,3-Trichlorobenzene | 180 | 20.06 | 1.169 | A | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

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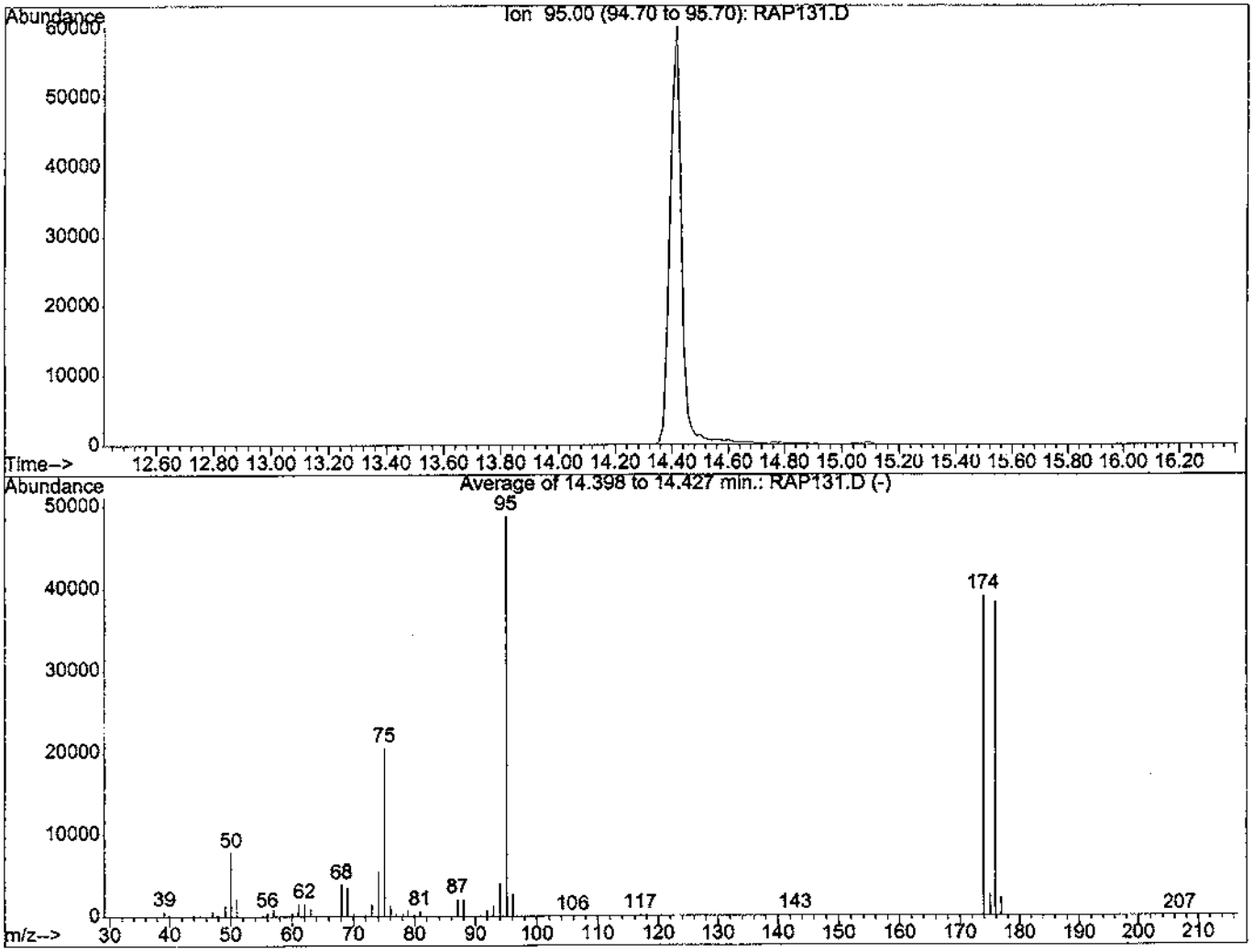
VO02A31.M Fri Feb 02 12:59:00 2024

SM 2/7/24

BFB

Data File : D:\HPCHEM\1\DATA\24A31\RAP131.D
Acq On : 31 Jan 2024 13:23
Sample : BFB02A16
Misc : T/CHK
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL

Vial: 1
Operator: IRagas
Inst : 02
Multiplr: 1.00




AutoFind: Scans 867, 868, 869; Background Corrected with Scan 861

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 16.1 | 7887 | PASS |
| 75 | 95 | 30 | 60 | 42.3 | 20653 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 48845 | PASS |
| 96 | 95 | 5 | 9 | 5.7 | 2786 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 100 | 80.1 | 39144 | PASS |
| 175 | 174 | 5 | 9 | 6.8 | 2646 | PASS |
| 176 | 174 | 95 | 101 | 98.2 | 38421 | PASS |
| 177 | 176 | 5 | 9 | 5.9 | 2280 | PASS |

RAP131.D VO02A31.M Thu Feb 01 18:48:56 2024

2/1/24

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP132.D Vial: 2
Acq On : 31 Jan 2024 13:50 Operator: IRagas
Sample : VO02A311 0.02uL Inst : 02
Misc : 1ppb 8260\5ppb KET-AA\10ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:40 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 2830115 | 50.00 | ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 2226999 | 50.00 | ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 727904 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.44 | 111 | 9190 | 0.63 | ug/l | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 1.26% | | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 8523 | 0.66 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.32% | | |
| 58) Toluene-d8 | 9.90 | 98 | 43266 | 0.78 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.56% | | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 14148 | 0.78 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.56% | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.74 | 85 | 12051 | 0.83 | ug/l | 98 |
| 3) Chloromethane | 2.00 | 50 | 18507 | 0.91 | ug/l | 97 |
| 4) Vinyl chloride | 2.12 | 62 | 14741 | 0.85 | ug/l | 97 |
| 5) Bromomethane | 2.60 | 94 | 13859 | 1.08 | ug/l | 81 |
| 6) Chloroethane | 2.69 | 64 | 8214 | 0.73 | ug/l | 92 |
| 7) Dichlorofluoromethane | 2.74 | 67 | 22555 | 0.91 | ug/l | 98 |
| 8) Trichlorofluoromethane | 2.98 | 101 | 11671 | 0.77 | ug/l | 94 |
| 9) sec-Propyl Alcohol | 3.30 | 45 | 17356 | 16.08 | ug/l | 89 |
| 10) Acrolein | 3.45 | 56 | 7536 | 5.08 | ug/l | 68 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.49 | 151 | 6768 | 0.70 | ug/l | 91 |
| 12) Acetone | 3.52 | 43 | 32109 | 9.84 | ug/l | 91 |
| 13) 1,1-Dichloroethene | 3.68 | 61 | 21612 | 0.82 | ug/l | 88 |
| 14) tert-Butyl alcohol | 3.77 | 59 | 9947 | 8.26 | ug/l | 90 |
| 15) Acetonitrile | 3.85 | 41 | 9293 | 6.48 | ug/l | 65 |
| 16) Iodomethane | 4.07 | 142 | 15999 | 0.74 | ug/l | 97 |
| 17) Methyl Acetate | 4.07 | 43 | 12313 | 1.11 | ug/l | 84 |
| 18) Allyl Chloride | 4.12 | 76 | 7498 | 0.73 | ug/l | 83 |
| 19) Methylene chloride | 4.26 | 49 | 21535 | 0.98 | ug/l | 97 |
| 20) Carbon disulfide | 4.27 | 76 | 45163 | 0.79 | ug/l | 95 |
| 21) Acrylonitrile | 4.42 | 53 | 16064 | 3.49 | ug/l | 94 |
| 22) tert-Butyl methyl ether (M | 4.45 | 73 | 30703 | 0.74 | ug/l | 97 |
| 23) trans-1,2-Dichloroethene | 4.61 | 96 | 15119 | 0.81 | ug/l | 93 |
| 24) Isopropyl ether (DIPE) | 5.02 | 45 | 54119 | 0.81 | ug/l | 96 |
| 25) 1,1-Dichloroethane | 5.15 | 63 | 26177 | 0.83 | ug/l | 99 |
| 26) Vinyl acetate | 5.16 | 43 | 19728 | 0.68 | ug/l | 99 |
| 28) tert-Butyl ethyl ether (ET | 5.54 | 59 | 42400 | 0.75 | ug/l | 95 |
| 29) 2-Butanone | 5.70 | 72 | 4546 | 3.63 | ug/l | 86 |

(#) = qualifier out of range (m) = manual integration



Su 2/11/24

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP132.D Vial: 2
Acq On : 31 Jan 2024 13:50 Operator: IRagas
Sample : VO02A311 0.02uL Inst : 02
Misc : 1ppb 8260\5ppb KET-AA\10ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:40 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 30) | Propionitrile | 5.81 | 54 | 11400 | 7.49 ug/l | 96 |
| 31) | 2,2-Dichloropropane | 5.87 | 77 | 11270 | 0.91 ug/l | 99 |
| 32) | cis-1,2-Dichloroethene | 5.94 | 96 | 16866 | 0.86 ug/l | 92 |
| 33) | Methylacrynonitrile | 6.06 | 52 | 13543 | 7.16 ug/l | 100 |
| 34) | Isobutyl Alcohol | 6.10 | 43 | 9213 | 38.48 ug/l | 89 |
| 35) | Chloroform | 6.14 | 83 | 24775 | 0.88 ug/l | 97 |
| 36) | Bromochloromethane | 6.36 | 130 | 7586 | 0.75 ug/l | 100 |
| 39) | 1,1,1-Trichloroethane | 6.67 | 97 | 14766 | 0.83 ug/l | 99 |
| 40) | Cyclohexane | 6.68 | 84 | 18609 | 0.73 ug/l | 93 |
| 41) | 1,1-Dichloropropene | 6.89 | 110 | 5917 | 0.73 ug/l | 98 |
| 42) | Carbon tetrachloride | 7.02 | 119 | 11307 | 0.74 ug/l | 95 |
| 43) | tert-Amyl methyl ether (TA | 7.05 | 87 | 6722 | 0.70 ug/l | 92 |
| 45) | 1,2-Dichloroethane | 7.24 | 62 | 12947 | 0.80 ug/l | 98 |
| 46) | Benzene | 7.26 | 78 | 61061 | 0.85 ug/l | 97 |
| 47) | Trichloroethene | 8.12 | 130 | 13627 | 0.79 ug/l | 96 |
| 48) | Methylcyclohexane | 8.19 | 83 | 23890 | 0.78 ug/l | 94 |
| 49) | 1,2-Dichloropropane | 8.38 | 63 | 13560 | 0.78 ug/l | 99 |
| 50) | Methyl Methacrylate | 8.49 | 69 | 6522 | 0.67 ug/l | 87 |
| 51) | Bromodichloromethane | 8.72 | 83 | 16842 | 0.86 ug/l | 98 |
| 52) | 1,4-Dioxane | 8.78 | 88 | 846 | 9.59 ug/l | 76 |
| 53) | Dibromomethane | 8.79 | 93 | 6286 | 0.74 ug/l | 97 |
| 55) | 4-Methyl-2-pentanone | 9.25 | 43 | 58491 | 4.38 ug/l | 92 |
| 56) | cis-1,3-Dichloropropene | 9.54 | 75 | 19203 | 0.69 ug/l | 98 |
| 59) | Toluene | 10.02 | 91 | 57976 | 0.83 ug/l | 100 |
| 60) | Ethyl methacrylate | 10.33 | 69 | 11431 | 0.61 ug/l | 99 |
| 61) | trans-1,3-Dichloropropene | 10.33 | 75 | 14009 | 0.64 ug/l | 91 |
| 62) | 1,1,2-Trichloroethane | 10.56 | 97 | 9339 | 0.78 ug/l | 99 |
| 63) | 2-Hexanone | 10.61 | 43 | 33654 | 3.85 ug/l | 94 |
| 64) | 1,3-Dichloropropane | 10.97 | 76 | 16367 | 0.73 ug/l | 98 |
| 65) | Tetrachloroethene | 11.05 | 164 | 11026 | 0.81 ug/l | 97 |
| 66) | Dibromochloromethane | 11.37 | 129 | 9955 | 0.77 ug/l | 97 |
| 67) | 1,2-Dibromoethane | 11.70 | 107 | 8255 | 0.71 ug/l | 93 |
| 68) | 1-Chlorohexane | 12.00 | 91 | 19995 | 0.79 ug/l | 100 |
| 69) | Chlorobenzene | 12.39 | 112 | 32560 | 0.81 ug/l | 99 |
| 70) | 1,1,1,2-Tetrachloroethane | 12.47 | 131 | 10044 | 0.73 ug/l | 90 |
| 71) | Ethylbenzene | 12.50 | 91 | 65260 | 0.88 ug/l | 100 |
| 72) | m-Xylene & p-Xylene | 12.63 | 91 | 99163 | 1.79 ug/l | 95 |
| 73) | o-Xylene | 13.36 | 91 | 46223 | 0.88 ug/l | 92 |
| 74) | Styrene | 13.43 | 104 | 32779 | 0.79 ug/l | 94 |
| 75) | Isopropylbenzene | 13.99 | 105 | 55618 | 0.87 ug/l | 96 |
| 76) | Cis-1,4-Dichloro-2-Butene | 14.09 | 53 | 1977 | 1.84 ug/l | 88 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP132.D Vial: 2
Acq On : 31 Jan 2024 13:50 Operator: IRagas
Sample : VO02A311 0.02uL Inst : 02
Misc : 1ppb 8260\5ppb KET-AA\10ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:40 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 78) | Bromoform | 13.97 | 173 | 4069 | 0.59 | ug/l | 93 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.30 | 83 | 10286 | 0.77 | ug/l | 92 |
| 81) | 1,2,3-Trichloropropane | 14.56 | 110 | 2591 | 0.82 | ug/l | 77 |
| 83) | n-Propylbenzene | 14.69 | 91 | 66676 | 0.85 | ug/l | 95 |
| 84) | Bromobenzene | 14.73 | 156 | 10783 | 0.70 | ug/l | 96 |
| 85) | 1,3,5-Trimethylbenzene | 14.97 | 105 | 40933 | 0.84 | ug/l | 96 |
| 86) | 2-Chlorotoluene | 14.98 | 91 | 42695 | 0.85 | ug/l | 97 |
| 87) | 4-Chlorotoluene | 15.07 | 91 | 35153 | 0.81 | ug/l | 99 |
| 88) | tert-Butylbenzene | 15.60 | 134 | 7249 | 0.72 | ug/l | 94 |
| 89) | 1,2,4-Trimethylbenzene | 15.66 | 105 | 38849 | 0.83 | ug/l | 100 |
| 90) | sec-Butylbenzene | 15.98 | 105 | 51225 | 0.82 | ug/l | 95 |
| 91) | p-Isopropyltoluene | 16.24 | 119 | 39062 | 0.83 | ug/l | 96 |
| 92) | 1,3-Dichlorobenzene | 16.36 | 146 | 21166 | 0.81 | ug/l | 95 |
| 93) | 1,2,3-Trimethylbenzene | 16.51 | 105 | 37254 | 0.84 | ug/l | 94 |
| 94) | 1,4-Dichlorobenzene | 16.56 | 146 | 20858 | 0.81 | ug/l | 99 |
| 95) | n-Butylbenzene | 16.97 | 91 | 35148 | 0.80 | ug/l | 96 |
| 96) | 1,2-Dichlorobenzene | 17.21 | 146 | 18484 | 0.82 | ug/l | 90 |
| 98) | 1,2,4-Trichlorobenzene | 19.56 | 180 | 9175 | 0.79 | ug/l | 99 |
| 100) | Naphthalene | 19.81 | 128 | 17727 | 0.79 | ug/l | 94 |
| 101) | 1,2,3-Trichlorobenzene | 20.06 | 180 | 7903 | 0.79 | ug/l | 84 |

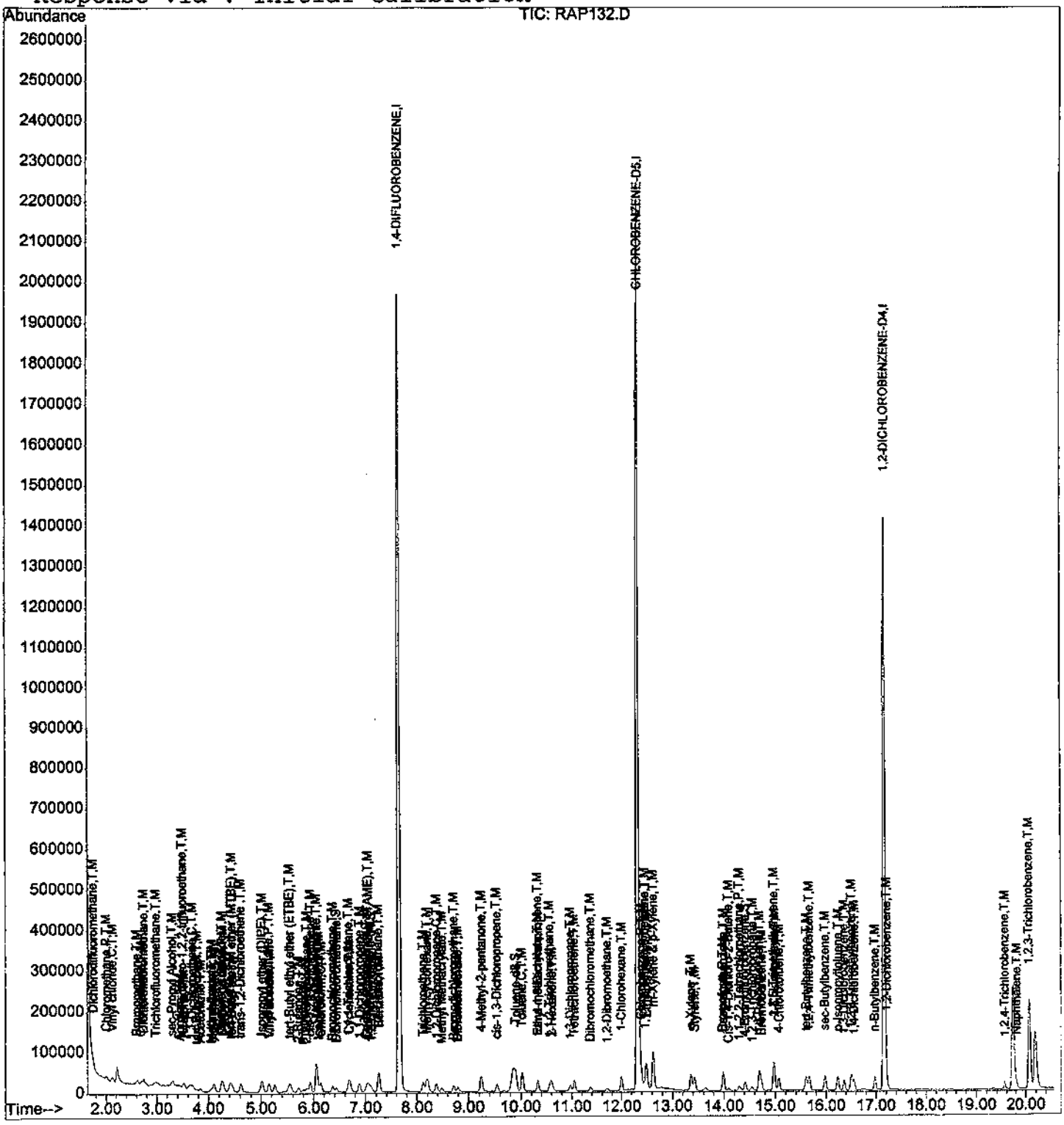
SG

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP132.D Vial: 2
Acq On : 31 Jan 2024 13:50 Operator: IRagas
Sample : VO02A311 0.02uL Inst : 02
Misc : 1ppb 8260\5ppb KET-AA\10ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:40 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP133.D Vial: 3
Acq On : 31 Jan 2024 14:28 Operator: IRagas
Sample : VO02A312 0.04uL Inst : 02
Misc : 2ppb 8260\10ppb KET-AA\20ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:41 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 2958773 | 50.00 | ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 2248120 | 50.00 | ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 684228 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.44 | 111 | 23970 | 1.58 | ug/l | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 3.16% | | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 22091 | 1.65 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 3.30% | | |
| 58) Toluene-d8 | 9.90 | 98 | 111433 | 1.99 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 3.98% | | |
| 80) 4-Bromofluorobenzene | 14.43 | 95 | 34609 | 2.04 | ug/l | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 4.08% | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.75 | 85 | 26473 | 1.74 | ug/l | 96 |
| 3) Chloromethane | 2.00 | 50 | 40733 | 1.91 | ug/l | 94 |
| 4) Vinyl chloride | 2.12 | 62 | 32347 | 1.79 | ug/l | 98 |
| 5) Bromomethane | 2.60 | 94 | 24963 | 1.87 | ug/l | 93 |
| 6) Chloroethane | 2.70 | 64 | 19487 | 1.65 | ug/l | 90 |
| 7) Dichlorofluoromethane | 2.74 | 67 | 47883 | 1.84 | ug/l | 99 |
| 8) Trichlorofluoromethane | 2.98 | 101 | 26811 | 1.70 | ug/l | 99 |
| 9) sec-Propyl Alcohol | 3.30 | 45 | 37706 | 33.42 | ug/l | 94 |
| 10) Acrolein | 3.45 | 56 | 13629 | 8.79 | ug/l | 88 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.49 | 151 | 18164 | 1.80 | ug/l | 98 |
| 12) Acetone | 3.52 | 43 | 41203 | 12.07 | ug/l | 92 |
| 13) 1,1-Dichloroethene | 3.68 | 61 | 46267 | 1.68 | ug/l | 97 |
| 14) tert-Butyl alcohol | 3.77 | 59 | 18530 | 14.72 | ug/l | 93 |
| 15) Acetonitrile | 3.85 | 41 | 25303 | 16.88 | ug/l | 97 |
| 16) Iodomethane | 4.07 | 142 | 35752 | 1.57 | ug/l | 99 |
| 17) Methyl Acetate | 4.08 | 43 | 23428 | 2.02 | ug/l | 89 |
| 18) Allyl Chloride | 4.11 | 76 | 17006 | 1.57 | ug/l | 88 |
| 19) Methylene chloride | 4.26 | 49 | 42739 | 1.87 | ug/l | 98 |
| 20) Carbon disulfide | 4.27 | 76 | 98812 | 1.66 | ug/l | 96 |
| 21) Acrylonitrile | 4.42 | 53 | 38937 | 8.09 | ug/l | 96 |
| 22) tert-Butyl methyl ether (M | 4.45 | 73 | 71611 | 1.65 | ug/l | 100 |
| 23) trans-1,2-Dichloroethene | 4.61 | 96 | 34869 | 1.79 | ug/l | 98 |
| 24) Isopropyl ether (DIPE) | 5.02 | 45 | 124366 | 1.78 | ug/l | 95 |
| 25) 1,1-Dichloroethane | 5.15 | 63 | 59517 | 1.80 | ug/l | 95 |
| 26) Vinyl acetate | 5.16 | 43 | 46773 | 1.55 | ug/l | 98 |
| 28) tert-Butyl ethyl ether (ET | 5.54 | 59 | 97887 | 1.66 | ug/l | 98 |
| 29) 2-Butanone | 5.70 | 72 | 9619 | 7.35 | ug/l | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP133.D Vial: 3
Acq On : 31 Jan 2024 14:28 Operator: IRagas
Sample : VO02A312 0.04uL Inst : 02
Misc : 2ppb 8260\10ppb KET-AA\20ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:41 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|
| 30) Propionitrile | 5.81 | 54 | 25207 | 15.83 ug/l | 99 |
| 31) 2,2-Dichloropropane | 5.87 | 77 | 24948 | 1.94 ug/l | 97 |
| 32) cis-1,2-Dichloroethene | 5.94 | 96 | 36492 | 1.77 ug/l | 94 |
| 33) Methylacrynonitrile | 6.06 | 52 | 31840 | 16.10 ug/l | 95 |
| 34) Isobutyl Alcohol | 6.10 | 43 | 13754 | 45.18 ug/l | 71 |
| 35) Chloroform | 6.14 | 83 | 53787 | 1.83 ug/l | 97 |
| 36) Bromochloromethane | 6.36 | 130 | 16817 | 1.58 ug/l | 94 |
| 37) Tetrahydrofuran | 6.42 | 42 | 6992 | 1.91 ug/l | 92 |
| 39) 1,1,1-Trichloroethane | 6.68 | 97 | 32068 | 1.72 ug/l | 98 |
| 40) Cyclohexane | 6.70 | 84 | 44348 | 1.67 ug/l | 94 |
| 41) 1,1-Dichloropropene | 6.89 | 110 | 13984 | 1.65 ug/l | 96 |
| 42) Carbon tetrachloride | 7.02 | 119 | 26362 | 1.66 ug/l | 96 |
| 43) tert-Amyl methyl ether (TA | 7.05 | 87 | 13972 | 1.40 ug/l | 88 |
| 45) 1,2-Dichloroethane | 7.24 | 62 | 29760 | 1.76 ug/l | 95 |
| 46) Benzene | 7.26 | 78 | 137913 | 1.83 ug/l | 97 |
| 47) Trichloroethene | 8.12 | 130 | 32166 | 1.79 ug/l | 97 |
| 48) Methylcyclohexane | 8.19 | 83 | 57782 | 1.81 ug/l | 99 |
| 49) 1,2-Dichloropropane | 8.38 | 63 | 31047 | 1.71 ug/l | 97 |
| 50) Methyl Methacrylate | 8.49 | 69 | 13166 | 1.29 ug/l | 88 |
| 51) Bromodichloromethane | 8.72 | 83 | 35794 | 1.74 ug/l | 100 |
| 52) 1,4-Dioxane | 8.76 | 88 | 2955 | 32.05 ug/l | 95 |
| 53) Dibromomethane | 8.79 | 93 | 14337 | 1.61 ug/l | 98 |
| 55) 4-Methyl-2-pentanone | 9.23 | 43 | 115173 | 8.25 ug/l | 95 |
| 56) cis-1,3-Dichloropropene | 9.54 | 75 | 47419 | 1.64 ug/l | 99 |
| 59) Toluene | 10.02 | 91 | 132643 | 1.88 ug/l | 96 |
| 60) Ethyl methacrylate | 10.33 | 69 | 24889 | 1.31 ug/l | 96 |
| 61) trans-1,3-Dichloropropene | 10.33 | 75 | 33490 | 1.51 ug/l | 95 |
| 62) 1,1,2-Trichloroethane | 10.56 | 97 | 20956 | 1.72 ug/l | 98 |
| 63) 2-Hexanone | 10.61 | 43 | 66900 | 7.59 ug/l | 95 |
| 64) 1,3-Dichloropropane | 10.97 | 76 | 37780 | 1.67 ug/l | 100 |
| 65) Tetrachloroethene | 11.06 | 164 | 26217 | 1.91 ug/l | 99 |
| 66) Dibromochloromethane | 11.38 | 129 | 20329 | 1.57 ug/l | 96 |
| 67) 1,2-Dibromoethane | 11.70 | 107 | 16983 | 1.45 ug/l | 99 |
| 68) 1-Chlorohexane | 12.00 | 91 | 46209 | 1.80 ug/l | 98 |
| 69) Chlorobenzene | 12.39 | 112 | 74554 | 1.84 ug/l | 100 |
| 70) 1,1,1,2-Tetrachloroethane | 12.48 | 131 | 22061 | 1.59 ug/l | 97 |
| 71) Ethylbenzene | 12.50 | 91 | 142233 | 1.90 ug/l | 98 |
| 72) m-Xylene & p-Xylene | 12.63 | 91 | 218106 | 3.89 ug/l | 97 |
| 73) o-Xylene | 13.36 | 91 | 99357 | 1.87 ug/l | 97 |
| 74) Styrene | 13.43 | 104 | 68811 | 1.64 ug/l | 99 |
| 75) Isopropylbenzene | 13.99 | 105 | 118519 | 1.83 ug/l | 98 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP133.D Vial: 3
Acq On : 31 Jan 2024 14:28 Operator: IRagas
Sample : VO02A312 0.04uL Inst : 02
Misc : 2ppb 8260\10ppb KET-AA\20ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:41 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

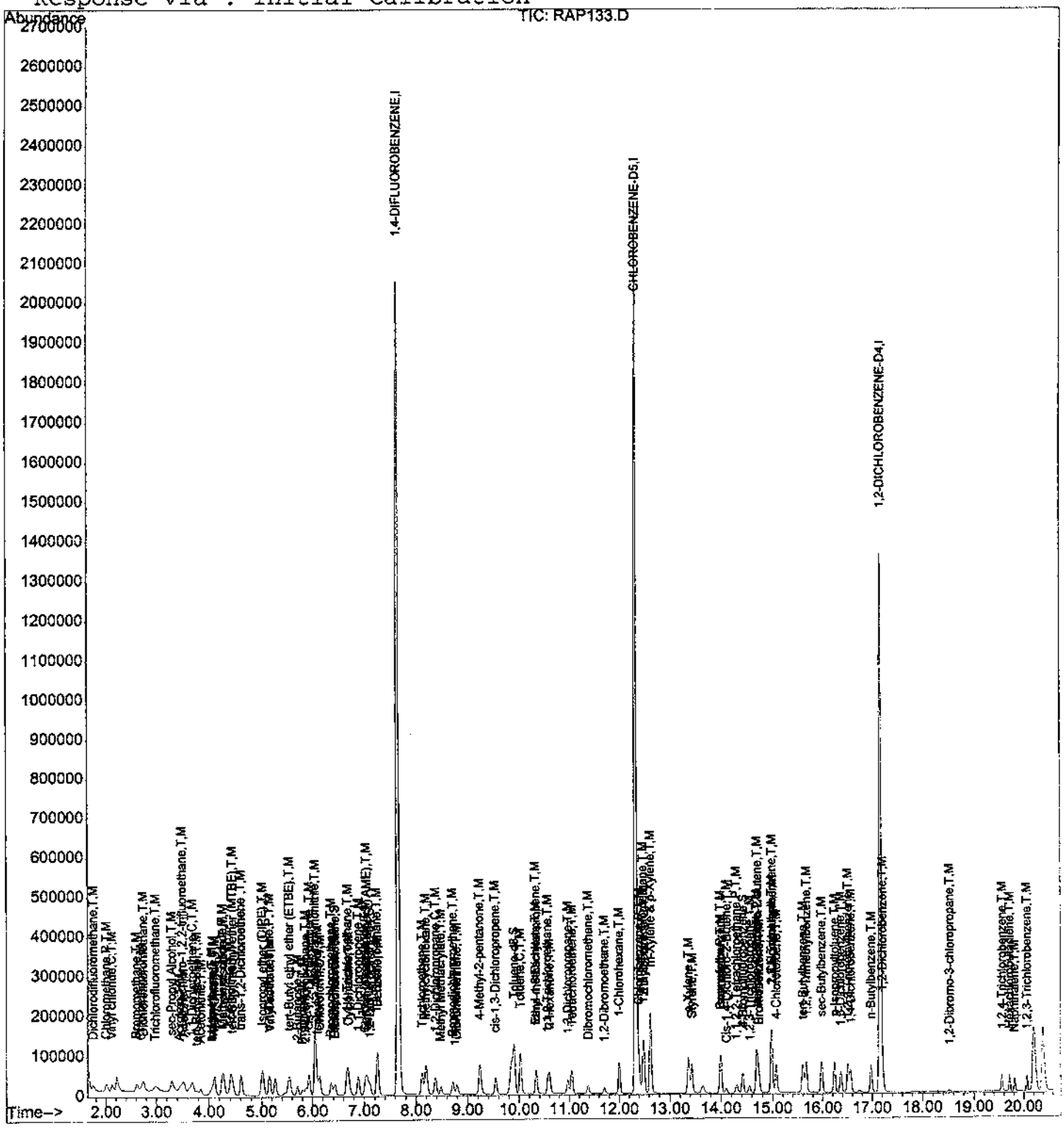
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 76) | Cis-1,4-Dichloro-2-Butene | 14.11 | 53 | 4528 | 2.46 | ug/l | 95 |
| 78) | Bromoform | 13.99 | 173 | 8219 | 1.26 | ug/l | 95 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.30 | 83 | 21641 | 1.72 | ug/l | 92 |
| 81) | 1,2,3-Trichloropropane | 14.56 | 110 | 5107 | 1.72 | ug/l | 91 |
| 82) | trans-1,4-Dichloro-2-buten | 14.71 | 53 | 4120 | 3.54 | ug/l | 89 |
| 83) | n-Propylbenzene | 14.69 | 91 | 148478 | 2.01 | ug/l | 98 |
| 84) | Bromobenzene | 14.73 | 156 | 24708 | 1.71 | ug/l | 96 |
| 85) | 1,3,5-Trimethylbenzene | 14.98 | 105 | 90341 | 1.96 | ug/l | 98 |
| 86) | 2-Chlorotoluene | 14.98 | 91 | 91769 | 1.95 | ug/l | 97 |
| 87) | 4-Chlorotoluene | 15.07 | 91 | 78077 | 1.91 | ug/l | 100 |
| 88) | tert-Butylbenzene | 15.60 | 134 | 16458 | 1.74 | ug/l | 100 |
| 89) | 1,2,4-Trimethylbenzene | 15.67 | 105 | 82790 | 1.89 | ug/l | 100 |
| 90) | sec-Butylbenzene | 15.98 | 105 | 112811 | 1.93 | ug/l | 99 |
| 91) | p-Isopropyltoluene | 16.24 | 119 | 85283 | 1.92 | ug/l | 97 |
| 92) | 1,3-Dichlorobenzene | 16.36 | 146 | 45331 | 1.86 | ug/l | 97 |
| 93) | 1,2,3-Trimethylbenzene | 16.51 | 105 | 76269 | 1.83 | ug/l | 100 |
| 94) | 1,4-Dichlorobenzene | 16.56 | 146 | 44971 | 1.86 | ug/l | 97 |
| 95) | n-Butylbenzene | 16.97 | 91 | 76814 | 1.86 | ug/l | 98 |
| 96) | 1,2-Dichlorobenzene | 17.21 | 146 | 40349 | 1.90 | ug/l | 95 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.53 | 157 | 1976 | 1.44 | ug/l | 96 |
| 98) | 1,2,4-Trichlorobenzene | 19.56 | 180 | 20329 | 1.86 | ug/l | 98 |
| 99) | Hexachlorobutadiene | 19.71 | 225 | 10365 | 1.92 | ug/l | 91 |
| 100) | Naphthalene | 19.81 | 128 | 34873 | 1.65 | ug/l | 96 |
| 101) | 1,2,3-Trichlorobenzene | 20.06 | 180 | 16927 | 1.80 | ug/l | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP133.D Vial: 3
Acq On : 31 Jan 2024 14:28 Operator: IRagas
Sample : VO02A312 0.04uL Inst : 02
Misc : 2ppb 8260\10ppb KET-AA\20ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:41 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP134.D Vial: 4
Acq On : 31 Jan 2024 14:53 Operator: IRagas
Sample : VO02A313 0.10uL Inst : 02
Misc : 5ppb 8260\25ppb KET-AA\50ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:42 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 2827279 | 50.00 | ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 2138542 | 50.00 | ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 650819 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.44 | 111 | 65804 | 4.54 | ug/l | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 9.08% | | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 57161 | 4.46 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 8.92% | | |
| 58) Toluene-d8 | 9.91 | 98 | 258771 | 4.86 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 9.72% | | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 74337 | 4.60 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 9.20% | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.75 | 85 | 65978 | 4.53 | ug/l | 99 |
| 3) Chloromethane | 2.00 | 50 | 91327 | 4.49 | ug/l | 98 |
| 4) Vinyl chloride | 2.12 | 62 | 82813 | 4.79 | ug/l | 97 |
| 5) Bromomethane | 2.60 | 94 | 59317 | 4.65 | ug/l | 92 |
| 6) Chloroethane | 2.70 | 64 | 47428 | 4.20 | ug/l | 98 |
| 7) Dichlorofluoromethane | 2.74 | 67 | 117607 | 4.73 | ug/l | 98 |
| 8) Trichlorofluoromethane | 2.98 | 101 | 66749 | 4.43 | ug/l | 98 |
| 9) sec-Propyl Alcohol | 3.30 | 45 | 59359 | 55.06 | ug/l | 86 |
| 10) Acrolein | 3.45 | 56 | 32429 | 21.88 | ug/l | 88 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.49 | 151 | 40517 | 4.19 | ug/l | 99 |
| 12) Acetone | 3.52 | 43 | 83620 | 25.64 | ug/l | 93 |
| 13) 1,1-Dichloroethene | 3.67 | 61 | 124948 | 4.76 | ug/l | 98 |
| 14) tert-Butyl alcohol | 3.77 | 59 | 48601 | 40.41 | ug/l | 96 |
| 15) Acetonitrile | 3.85 | 41 | 59397 | 41.47 | ug/l | 97 |
| 16) Iodomethane | 4.05 | 142 | 95776 | 4.41 | ug/l | 96 |
| 17) Methyl Acetate | 4.08 | 43 | 51596 | 4.66 | ug/l | 95 |
| 18) Allyl Chloride | 4.11 | 76 | 46200 | 4.48 | ug/l | 96 |
| 19) Methylene chloride | 4.26 | 49 | 101393 | 4.63 | ug/l | 98 |
| 20) Carbon disulfide | 4.27 | 76 | 269064 | 4.72 | ug/l | 98 |
| 21) Acrylonitrile | 4.42 | 53 | 100107 | 21.77 | ug/l | 98 |
| 22) tert-Butyl methyl ether (M | 4.45 | 73 | 187829 | 4.52 | ug/l | 98 |
| 23) trans-1,2-Dichloroethene | 4.61 | 96 | 88269 | 4.75 | ug/l | 99 |
| 24) Isopropyl ether (DIPE) | 5.02 | 45 | 317171 | 4.75 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 5.15 | 63 | 153752 | 4.86 | ug/l | 97 |
| 26) Vinyl acetate | 5.16 | 43 | 119264 | 4.14 | ug/l | 97 |
| 28) tert-Butyl ethyl ether (ET | 5.54 | 59 | 259018 | 4.59 | ug/l | 98 |
| 29) 2-Butanone | 5.70 | 72 | 24122 | 19.29 | ug/l | 92 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP134.D Vial: 4
Acq On : 31 Jan 2024 14:53 Operator: IRagas
Sample : VO02A313 0.10uL Inst : 02
Misc : 5ppb 8260\25ppb KET-AA\50ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:42 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 30) | Propionitrile | 5.81 | 54 | 64328 | 42.29 ug/l | 98 |
| 31) | 2,2-Dichloropropane | 5.87 | 77 | 64715 | 5.26 ug/l | 96 |
| 32) | cis-1,2-Dichloroethene | 5.94 | 96 | 92497 | 4.70 ug/l | 98 |
| 33) | Methylacrynonitrile | 6.06 | 52 | 83337 | 44.10 ug/l | 94 |
| 34) | Isobutyl Alcohol | 6.10 | 43 | 38031 | 87.50 ug/l | 93 |
| 35) | Chloroform | 6.14 | 83 | 136112 | 4.84 ug/l | 98 |
| 36) | Bromochloromethane | 6.36 | 130 | 44989 | 4.44 ug/l | 99 |
| 37) | Tetrahydrofuran | 6.41 | 42 | 15215 | 4.36 ug/l | 94 |
| 39) | 1,1,1-Trichloroethane | 6.67 | 97 | 84565 | 4.74 ug/l | 99 |
| 40) | Cyclohexane | 6.69 | 84 | 110251 | 4.35 ug/l | 94 |
| 41) | 1,1-Dichloropropene | 6.89 | 110 | 35498 | 4.38 ug/l | 99 |
| 42) | Carbon tetrachloride | 7.02 | 119 | 67798 | 4.46 ug/l | 98 |
| 43) | tert-Amyl methyl ether (TA | 7.05 | 87 | 37005 | 3.87 ug/l | 96 |
| 45) | 1,2-Dichloroethane | 7.24 | 62 | 76007 | 4.71 ug/l | 97 |
| 46) | Benzene | 7.26 | 78 | 346269 | 4.82 ug/l | 98 |
| 47) | Trichloroethene | 8.12 | 130 | 79199 | 4.62 ug/l | 99 |
| 48) | Methylcyclohexane | 8.19 | 83 | 141286 | 4.64 ug/l | 98 |
| 49) | 1,2-Dichloropropane | 8.37 | 63 | 78909 | 4.54 ug/l | 99 |
| 50) | Methyl Methacrylate | 8.49 | 69 | 36887 | 3.78 ug/l | 100 |
| 51) | Bromodichloromethane | 8.72 | 83 | 87427 | 4.45 ug/l | 99 |
| 52) | 1,4-Dioxane | 8.76 | 88 | 6548 | 74.31 ug/l | 89 |
| 53) | Dibromomethane | 8.79 | 93 | 36907 | 4.35 ug/l | 95 |
| 55) | 4-Methyl-2-pentanone | 9.23 | 43 | 288150 | 21.60 ug/l | 97 |
| 56) | cis-1,3-Dichloropropene | 9.54 | 75 | 120575 | 4.36 ug/l | 97 |
| 59) | Toluene | 10.02 | 91 | 335979 | 4.99 ug/l | 98 |
| 60) | Ethyl methacrylate | 10.33 | 69 | 64783 | 3.59 ug/l | 92 |
| 61) | trans-1,3-Dichloropropene | 10.33 | 75 | 90415 | 4.28 ug/l | 98 |
| 62) | 1,1,2-Trichloroethane | 10.56 | 97 | 50510 | 4.37 ug/l | 97 |
| 63) | 2-Hexanone | 10.59 | 43 | 171947 | 20.51 ug/l | 97 |
| 64) | 1,3-Dichloropropane | 10.97 | 76 | 95072 | 4.43 ug/l | 100 |
| 65) | Tetrachloroethene | 11.05 | 164 | 59292 | 4.54 ug/l | 97 |
| 66) | Dibromochloromethane | 11.38 | 129 | 52991 | 4.29 ug/l | 100 |
| 67) | 1,2-Dibromoethane | 11.71 | 107 | 46909 | 4.21 ug/l | 97 |
| 68) | 1-Chlorohexane | 12.00 | 91 | 107575 | 4.42 ug/l | 98 |
| 69) | Chlorobenzene | 12.39 | 112 | 187063 | 4.84 ug/l | 98 |
| 70) | 1,1,1,2-Tetrachloroethane | 12.48 | 131 | 57480 | 4.34 ug/l | 98 |
| 71) | Ethylbenzene | 12.50 | 91 | 335330 | 4.71 ug/l | 99 |
| 72) | m-Xylene & p-Xylene | 12.63 | 91 | 516448 | 9.69 ug/l | 98 |
| 73) | o-Xylene | 13.36 | 91 | 240849 | 4.76 ug/l | 99 |
| 74) | Styrene | 13.43 | 104 | 179312 | 4.48 ug/l | 99 |
| 75) | Isopropylbenzene | 13.99 | 105 | 288962 | 4.69 ug/l | 98 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP134.D Vial: 4
Acq On : 31 Jan 2024 14:53 Operator: IRagas
Sample : VO02A313 0.10uL Inst : 02
Misc : 5ppb 8260\25ppb KET-AA\50ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:42 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 76) | Cis-1,4-Dichloro-2-Butene | 14.09 | 53 | 12305 | 4.49 | ug/l | 94 |
| 78) | Bromoform | 13.99 | 173 | 24162 | 3.91 | ug/l | 97 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.30 | 83 | 54899 | 4.59 | ug/l | 99 |
| 81) | 1,2,3-Trichloropropane | 14.56 | 110 | 12715 | 4.49 | ug/l | 99 |
| 82) | trans-1,4-Dichloro-2-buten | 14.69 | 53 | 9822 | 5.39 | ug/l | 91 |
| 83) | n-Propylbenzene | 14.69 | 91 | 338244 | 4.82 | ug/l | 98 |
| 84) | Bromobenzene | 14.74 | 156 | 60635 | 4.40 | ug/l | 99 |
| 85) | 1,3,5-Trimethylbenzene | 14.97 | 105 | 207297 | 4.73 | ug/l | 99 |
| 86) | 2-Chlorotoluene | 14.98 | 91 | 221517 | 4.96 | ug/l | 95 |
| 87) | 4-Chlorotoluene | 15.07 | 91 | 180383 | 4.63 | ug/l | 99 |
| 88) | tert-Butylbenzene | 15.60 | 134 | 37918 | 4.22 | ug/l | 100 |
| 89) | 1,2,4-Trimethylbenzene | 15.66 | 105 | 198021 | 4.75 | ug/l | 98 |
| 90) | sec-Butylbenzene | 15.98 | 105 | 265896 | 4.77 | ug/l | 98 |
| 91) | p-Isopropyltoluene | 16.24 | 119 | 191897 | 4.54 | ug/l | 97 |
| 92) | 1,3-Dichlorobenzene | 16.36 | 146 | 106613 | 4.59 | ug/l | 98 |
| 93) | 1,2,3-Trimethylbenzene | 16.51 | 105 | 187860 | 4.75 | ug/l | 97 |
| 94) | 1,4-Dichlorobenzene | 16.56 | 146 | 106161 | 4.62 | ug/l | 100 |
| 95) | n-Butylbenzene | 16.97 | 91 | 172783 | 4.40 | ug/l | 97 |
| 96) | 1,2-Dichlorobenzene | 17.21 | 146 | 95741 | 4.75 | ug/l | 99 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.51 | 157 | 5298 | 4.07 | ug/l | 97 |
| 98) | 1,2,4-Trichlorobenzene | 19.56 | 180 | 43481 | 4.18 | ug/l | 96 |
| 99) | Hexachlorobutadiene | 19.71 | 225 | 22316 | 4.34 | ug/l | 96 |
| 100) | Naphthalene | 19.81 | 128 | 83869 | 4.18 | ug/l | 96 |
| 101) | 1,2,3-Trichlorobenzene | 20.06 | 180 | 39601 | 4.42 | ug/l | 97 |

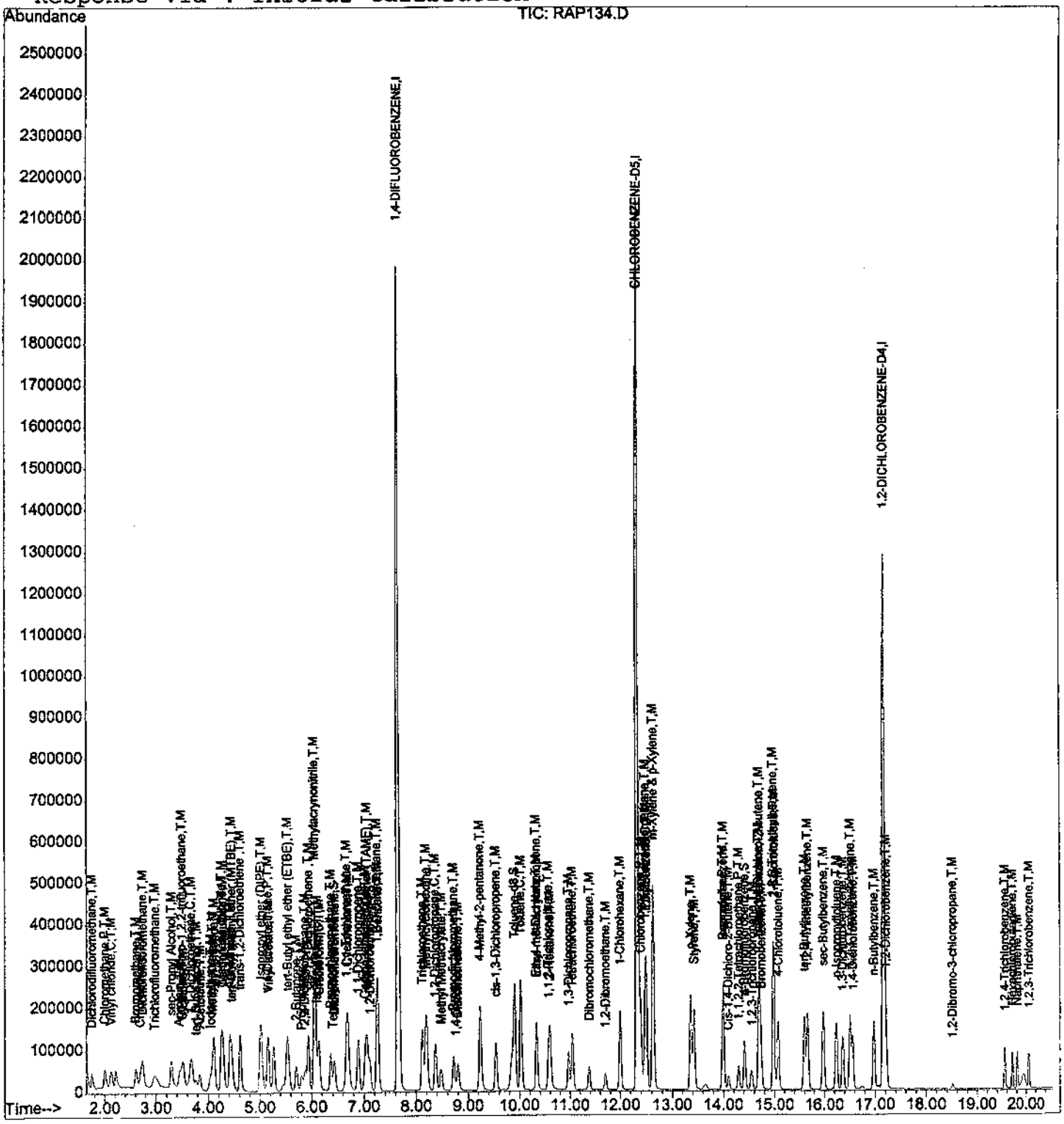
SU

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP134.D Vial: 4
Acq On : 31 Jan 2024 14:53 Operator: IRagas
Sample : VO02A313 0.10uL Inst : 02
Misc : 5ppb 8260\25ppb KET-AA\50ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:42 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP135.D Vial: 5
Acq On : 31 Jan 2024 15:17 Operator: IRagas
Sample : VO02A314 0.20uL Inst : 02
Misc : 10ppb 8260\50ppb KET-AA\100ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:50 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 2694609 | 50.00 | ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 2072489 | 50.00 | ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 655014 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.44 | 111 | 141716 | 10.25 | ug/l | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 20.50% | | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 123817 | 10.14 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 20.28% | | |
| 58) Toluene-d8 | 9.90 | 98 | 555890 | 10.76 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 21.52% | | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 162700 | 10.01 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 20.02% | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.74 | 85 | 143477 | 10.33 | ug/l | 97 |
| 3) Chloromethane | 2.00 | 50 | 203330 | 10.49 | ug/l | 96 |
| 4) Vinyl chloride | 2.12 | 62 | 180502 | 10.96 | ug/l | 97 |
| 5) Bromomethane | 2.60 | 94 | 119883 | 9.85 | ug/l | 100 |
| 6) Chloroethane | 2.69 | 64 | 108688 | 10.09 | ug/l | 98 |
| 7) Dichlorofluoromethane | 2.74 | 67 | 242099 | 10.21 | ug/l | 99 |
| 8) Trichlorofluoromethane | 2.98 | 101 | 152971 | 10.64 | ug/l | 96 |
| 9) sec-Propyl Alcohol | 3.28 | 45 | 104935 | 102.12 | ug/l | 91 |
| 10) Acrolein | 3.45 | 56 | 67781 | 47.99 | ug/l | 98 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.49 | 151 | 91993 | 9.99 | ug/l | 98 |
| 12) Acetone | 3.52 | 43 | 162942 | 52.42 | ug/l | 98 |
| 13) 1,1-Dichloroethene | 3.68 | 61 | 254519 | 10.17 | ug/l | 99 |
| 14) tert-Butyl alcohol | 3.77 | 59 | 105430 | 91.98 | ug/l | 96 |
| 15) Acetonitrile | 3.84 | 41 | 131486 | 96.32 | ug/l | 98 |
| 16) Iodomethane | 4.05 | 142 | 204198 | 9.88 | ug/l | 98 |
| 17) Methyl Acetate | 4.06 | 43 | 99060 | 9.38 | ug/l | 98 |
| 18) Allyl Chloride | 4.11 | 76 | 94967 | 9.65 | ug/l | 97 |
| 19) Methylene chloride | 4.25 | 49 | 211100 | 10.12 | ug/l | 99 |
| 20) Carbon disulfide | 4.27 | 76 | 579383 | 10.66 | ug/l | 99 |
| 21) Acrylonitrile | 4.40 | 53 | 219215 | 50.01 | ug/l | 100 |
| 22) tert-Butyl methyl ether (M | 4.43 | 73 | 397257 | 10.02 | ug/l | 99 |
| 23) trans-1,2-Dichloroethene | 4.61 | 96 | 179592 | 10.14 | ug/l | 99 |
| 24) Isopropyl ether (DIPE) | 5.02 | 45 | 668241 | 10.50 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 5.15 | 63 | 316450 | 10.49 | ug/l | 98 |
| 26) Vinyl acetate | 5.16 | 43 | 271145 | 9.87 | ug/l | 100 |
| 28) tert-Butyl ethyl ether (ET | 5.53 | 59 | 542505 | 10.09 | ug/l | 98 |
| 29) 2-Butanone | 5.70 | 72 | 57880 | 48.55 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration
RAP135.D VO02A31.M Wed Feb 07 11:39:47 2024 Page 1

Sm 2/7/24

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP135.D Vial: 5
Acq On : 31 Jan 2024 15:17 Operator: IRagas
Sample : VO02A314 0.20uL Inst : 02
Misc : 10ppb 8260\50ppb KET-AA\100ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:50 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 30) | Propionitrile | 5.79 | 54 | 141540 | 97.63 ug/l | 100 |
| 31) | 2,2-Dichloropropane | 5.86 | 77 | 126815 | 10.81 ug/l | 99 |
| 32) | cis-1,2-Dichloroethene | 5.94 | 96 | 192560 | 10.27 ug/l | 98 |
| 33) | Methylacrynonitrile | 6.05 | 52 | 187118 | 103.88 ug/l | 99 |
| 34) | Isobutyl Alcohol | 6.08 | 43 | 91357 | 185.82 ug/l | 100 |
| 35) | Chloroform | 6.14 | 83 | 276388 | 10.31 ug/l | 99 |
| 36) | Bromochloromethane | 6.36 | 130 | 94737 | 9.80 ug/l | 99 |
| 37) | Tetrahydrofuran | 6.41 | 42 | 30054 | 9.03 ug/l | 97 |
| 39) | 1,1,1-Trichloroethane | 6.67 | 97 | 175658 | 10.33 ug/l | 99 |
| 40) | Cyclohexane | 6.68 | 84 | 240891 | 9.96 ug/l | 98 |
| 41) | 1,1-Dichloropropene | 6.89 | 110 | 73716 | 9.54 ug/l | 99 |
| 42) | Carbon tetrachloride | 7.02 | 119 | 142431 | 9.83 ug/l | 100 |
| 43) | tert-Amyl methyl ether (TA | 7.05 | 87 | 82919 | 9.11 ug/l | 99 |
| 45) | 1,2-Dichloroethane | 7.24 | 62 | 158610 | 10.31 ug/l | 98 |
| 46) | Benzene | 7.25 | 78 | 719416 | 10.50 ug/l | 98 |
| 47) | Trichloroethene | 8.12 | 130 | 163466 | 10.00 ug/l | 98 |
| 48) | Methylcyclohexane | 8.19 | 83 | 298187 | 10.28 ug/l | 98 |
| 49) | 1,2-Dichloropropane | 8.37 | 63 | 166162 | 10.04 ug/l | 99 |
| 50) | Methyl Methacrylate | 8.47 | 69 | 81814 | 8.80 ug/l | 94 |
| 51) | Bromodichloromethane | 8.72 | 83 | 190589 | 10.18 ug/l | 100 |
| 52) | 1,4-Dioxane | 8.76 | 88 | 14748 | 175.62 ug/l | 97 |
| 53) | Dibromomethane | 8.79 | 93 | 77683 | 9.61 ug/l | 98 |
| 55) | 4-Methyl-2-pentanone | 9.23 | 43 | 654528 | 51.47 ug/l | 98 |
| 56) | cis-1,3-Dichloropropene | 9.54 | 75 | 261149 | 9.91 ug/l | 99 |
| 59) | Toluene | 10.02 | 91 | 700055 | 10.74 ug/l | 99 |
| 60) | Ethyl methacrylate | 10.33 | 69 | 157850 | 9.02 ug/l | 98 |
| 61) | trans-1,3-Dichloropropene | 10.33 | 75 | 198270 | 9.68 ug/l | 99 |
| 62) | 1,1,2-Trichloroethane | 10.56 | 97 | 113875 | 10.16 ug/l | 100 |
| 63) | 2-Hexanone | 10.59 | 43 | 395225 | 48.64 ug/l | 98 |
| 64) | 1,3-Dichloropropane | 10.97 | 76 | 208153 | 10.01 ug/l | 97 |
| 65) | Tetrachloroethene | 11.05 | 164 | 128349 | 10.14 ug/l | 99 |
| 66) | Dibromochloromethane | 11.37 | 129 | 118490 | 9.90 ug/l | 99 |
| 67) | 1,2-Dibromoethane | 11.70 | 107 | 102438 | 9.49 ug/l | 99 |
| 68) | 1-Chlorohexane | 12.00 | 91 | 243095 | 10.30 ug/l | 97 |
| 69) | Chlorobenzene | 12.39 | 112 | 392375 | 10.48 ug/l | 99 |
| 70) | 1,1,1,2-Tetrachloroethane | 12.47 | 131 | 125054 | 9.75 ug/l | 97 |
| 71) | Ethylbenzene | 12.49 | 91 | 723772 | 10.49 ug/l | 100 |
| 72) | m-Xylene & p-Xylene | 12.63 | 91 | 1087398 | 21.04 ug/l | 100 |
| 73) | o-Xylene | 13.36 | 91 | 525467 | 10.72 ug/l | 99 |
| 74) | Styrene | 13.43 | 104 | 399205 | 10.30 ug/l | 98 |
| 75) | Isopropylbenzene | 13.99 | 105 | 629863 | 10.55 ug/l | 98 |

(#) = qualifier out of range (m) = manual integration

RAP135.D VO02A31.M Wed Feb 07 11:39:48 2024 Page 2

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP135.D Vial: 5
Acq On : 31 Jan 2024 15:17 Operator: IRagas
Sample : VO02A314 0.20uL Inst : 02
Misc : 10ppb 8260\50ppb KET-AA\100ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:50 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

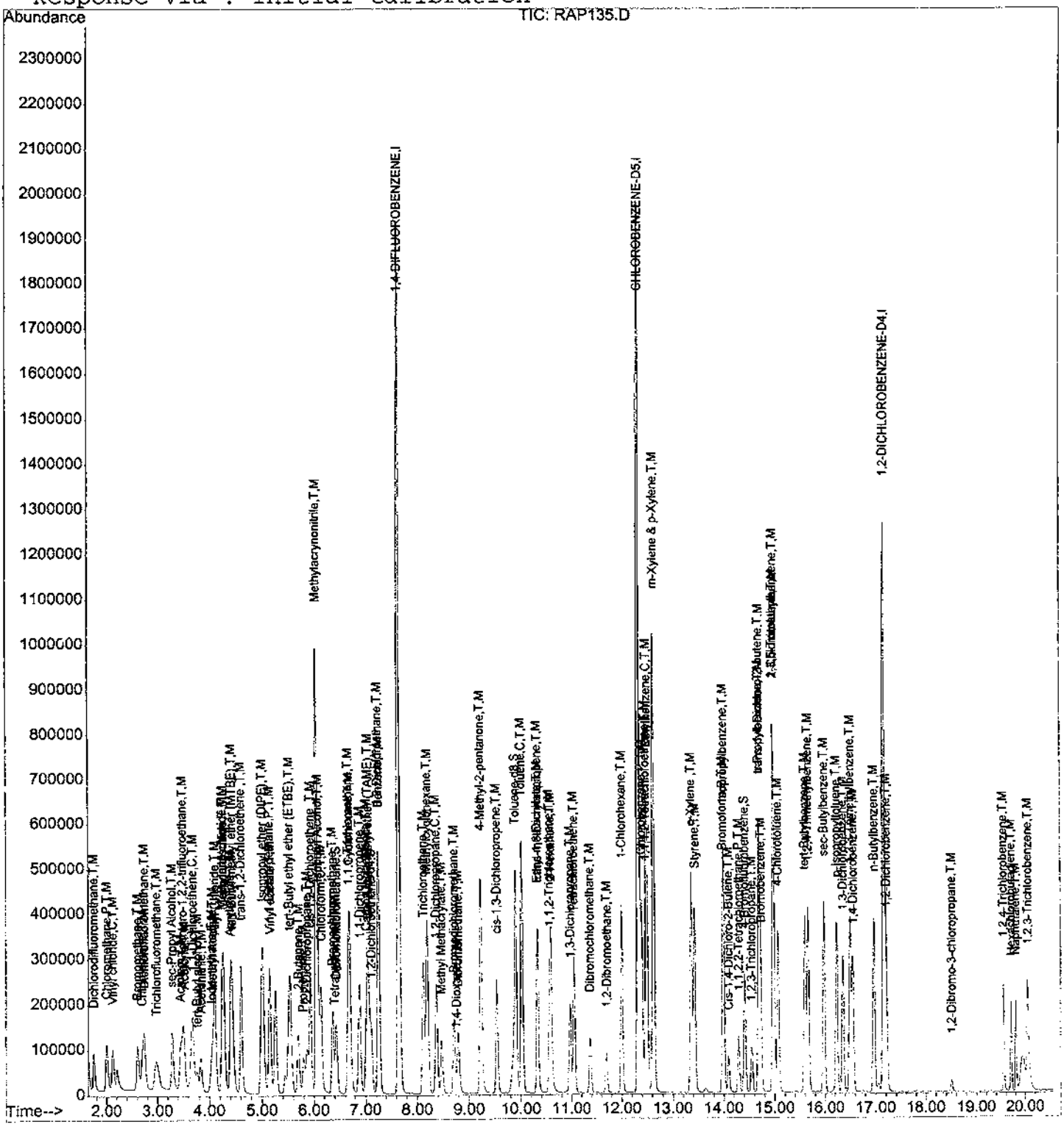
| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 76) | Cis-1,4-Dichloro-2-Butene | 14.09 | 53 | 28771 | 8.92 ug/l | 99 |
| 78) | Bromoform | 13.97 | 173 | 54039 | 8.68 ug/l | 99 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.29 | 83 | 121050 | 10.06 ug/l | 99 |
| 81) | 1,2,3-Trichloropropane | 14.54 | 110 | 27828 | 9.76 ug/l | 99 |
| 82) | trans-1,4-Dichloro-2-buten | 14.69 | 53 | 24455 | 9.95 ug/l | 96 |
| 83) | n-Propylbenzene | 14.69 | 91 | 760496 | 10.76 ug/l | 99 |
| 84) | Bromobenzene | 14.73 | 156 | 135656 | 9.79 ug/l | 99 |
| 85) | 1,3,5-Trimethylbenzene | 14.97 | 105 | 469453 | 10.65 ug/l | 99 |
| 86) | 2-Chlorotoluene | 14.97 | 91 | 479612 | 10.67 ug/l | 98 |
| 87) | 4-Chlorotoluene | 15.06 | 91 | 401713 | 10.25 ug/l | 99 |
| 88) | tert-Butylbenzene | 15.60 | 134 | 90465 | 10.00 ug/l | 96 |
| 89) | 1,2,4-Trimethylbenzene | 15.66 | 105 | 437459 | 10.43 ug/l | 99 |
| 90) | sec-Butylbenzene | 15.98 | 105 | 594268 | 10.60 ug/l | 98 |
| 91) | p-Isopropyltoluene | 16.23 | 119 | 443837 | 10.43 ug/l | 99 |
| 92) | 1,3-Dichlorobenzene | 16.36 | 146 | 240195 | 10.28 ug/l | 98 |
| 93) | 1,2,3-Trimethylbenzene | 16.50 | 105 | 418595 | 10.52 ug/l | 100 |
| 94) | 1,4-Dichlorobenzene | 16.56 | 146 | 237549 | 10.27 ug/l | 99 |
| 95) | n-Butylbenzene | 16.97 | 91 | 404892 | 10.23 ug/l | 99 |
| 96) | 1,2-Dichlorobenzene | 17.21 | 146 | 210888 | 10.40 ug/l | 98 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.51 | 157 | 11634 | 8.88 ug/l | 98 |
| 98) | 1,2,4-Trichlorobenzene | 19.55 | 180 | 103357 | 9.87 ug/l | 99 |
| 99) | Hexachlorobutadiene | 19.71 | 225 | 50077 | 9.67 ug/l | 95 |
| 100) | Naphthalene | 19.81 | 128 | 196204 | 9.73 ug/l | 99 |
| 101) | 1,2,3-Trichlorobenzene | 20.06 | 180 | 89355 | 9.91 ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP135.D Vial: 5
Acq On : 31 Jan 2024 15:17 Operator: IRagas
Sample : VO02A314 0.20uL Inst : 02
Misc : 10ppb 8260\50ppb KET-AA\100ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:50 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP136.D Vial: 6
Acq On : 31 Jan 2024 15:42 Operator: IRagas
Sample : VO02A315 0.40uL Inst : 02
Misc : 20ppb 8260\100ppb KET-AA\200ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:51 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 2759764 | 50.00 | ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 2168278 | 50.00 | ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 705635 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.43 | 111 | 291228 | 20.56 | ug/l | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 41.12% | | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 259630 | 20.75 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 41.50% | | |
| 58) Toluene-d8 | 9.90 | 98 | 1146867 | 21.22 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 42.44% | | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 355560 | 20.31 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 40.62% | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.75 | 85 | 308107 | 21.65 | ug/l | 98 |
| 3) Chloromethane | 2.01 | 50 | 428123 | 21.56 | ug/l | 99 |
| 4) Vinyl chloride | 2.11 | 62 | 374597 | 22.22 | ug/l | 100 |
| 5) Bromomethane | 2.61 | 94 | 252956 | 20.29 | ug/l | 100 |
| 6) Chloroethane | 2.68 | 64 | 232661 | 21.09 | ug/l | 98 |
| 7) Dichlorofluoromethane | 2.73 | 67 | 516395 | 21.27 | ug/l | 100 |
| 8) Trichlorofluoromethane | 2.97 | 101 | 322179 | 21.89 | ug/l | 99 |
| 9) sec-Propyl Alcohol | 3.29 | 45 | 214654 | 203.96 | ug/l | 96 |
| 10) Acrolein | 3.44 | 56 | 147163 | 101.74 | ug/l | 96 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.48 | 151 | 196884 | 20.87 | ug/l | 100 |
| 12) Acetone | 3.51 | 43 | 322588 | 101.33 | ug/l | 99 |
| 13) 1,1-Dichloroethene | 3.68 | 61 | 560143 | 21.85 | ug/l | 98 |
| 14) tert-Butyl alcohol | 3.76 | 59 | 239277 | 203.83 | ug/l | 98 |
| 15) Acetonitrile | 3.83 | 41 | 305312 | 218.37 | ug/l | 98 |
| 16) Iodomethane | 4.05 | 142 | 446791 | 21.10 | ug/l | 98 |
| 17) Methyl Acetate | 4.06 | 43 | 210537 | 19.47 | ug/l | 99 |
| 18) Allyl Chloride | 4.11 | 76 | 206237 | 20.47 | ug/l | 99 |
| 19) Methylene chloride | 4.25 | 49 | 443879 | 20.78 | ug/l | 99 |
| 20) Carbon disulfide | 4.27 | 76 | 1174238 | 21.09 | ug/l | 99 |
| 21) Acrylonitrile | 4.40 | 53 | 464156 | 103.40 | ug/l | 99 |
| 22) tert-Butyl methyl ether (M | 4.43 | 73 | 838681 | 20.66 | ug/l | 100 |
| 23) trans-1,2-Dichloroethene | 4.61 | 96 | 381651 | 21.04 | ug/l | 98 |
| 24) Isopropyl ether (DIPE) | 5.02 | 45 | 1408445 | 21.61 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 5.15 | 63 | 659630 | 21.34 | ug/l | 100 |
| 26) Vinyl acetate | 5.16 | 43 | 589177 | 20.94 | ug/l | 99 |
| 28) tert-Butyl ethyl ether (ET | 5.53 | 59 | 1154597 | 20.96 | ug/l | 99 |
| 29) 2-Butanone | 5.69 | 72 | 124973 | 102.36 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP136.D Vial: 6
Acq On : 31 Jan 2024 15:42 Operator: IRagas
Sample : VO02A315 0.40uL Inst : 02
Misc : 20ppb 8260\100ppb KET-AA\200ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:51 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 30) | Propionitrile | 5.79 | 54 | 304587 | 205.13 ug/l | 99 |
| 31) | 2,2-Dichloropropane | 5.86 | 77 | 264940 | 22.05 ug/l | 99 |
| 32) | cis-1,2-Dichloroethene | 5.94 | 96 | 404056 | 21.05 ug/l | 97 |
| 33) | Methylacrynonitrile | 6.05 | 52 | 390273 | 211.56 ug/l | 100 |
| 34) | Isobutyl Alcohol | 6.08 | 43 | 198981 | 369.45 ug/l | 98 |
| 35) | Chloroform | 6.14 | 83 | 571792 | 20.83 ug/l | 99 |
| 36) | Bromochloromethane | 6.36 | 130 | 204284 | 20.64 ug/l | 100 |
| 37) | Tetrahydrofuran | 6.41 | 42 | 65831 | 19.32 ug/l | 99 |
| 39) | 1,1,1-Trichloroethane | 6.67 | 97 | 368645 | 21.17 ug/l | 99 |
| 40) | Cyclohexane | 6.68 | 84 | 499687 | 20.18 ug/l | 99 |
| 41) | 1,1-Dichloropropene | 6.89 | 110 | 156608 | 19.79 ug/l | 99 |
| 42) | Carbon tetrachloride | 7.02 | 119 | 303292 | 20.43 ug/l | 99 |
| 43) | tert-Amyl methyl ether (TA | 7.05 | 87 | 182026 | 19.52 ug/l | 99 |
| 45) | 1,2-Dichloroethane | 7.24 | 62 | 335533 | 21.29 ug/l | 99 |
| 46) | Benzene | 7.25 | 78 | 1504066 | 21.44 ug/l | 100 |
| 47) | Trichloroethene | 8.12 | 130 | 352035 | 21.02 ug/l | 99 |
| 48) | Methylcyclohexane | 8.19 | 83 | 620522 | 20.89 ug/l | 98 |
| 49) | 1,2-Dichloropropane | 8.37 | 63 | 358258 | 21.14 ug/l | 98 |
| 50) | Methyl Methacrylate | 8.47 | 69 | 185932 | 19.52 ug/l | 99 |
| 51) | Bromodichloromethane | 8.72 | 83 | 396362 | 20.67 ug/l | 99 |
| 52) | 1,4-Dioxane | 8.75 | 88 | 36458 | 423.89 ug/l | 98 |
| 53) | Dibromomethane | 8.79 | 93 | 166552 | 20.11 ug/l | 98 |
| 55) | 4-Methyl-2-pentanone | 9.23 | 43 | 1402876 | 107.71 ug/l | 99 |
| 56) | cis-1,3-Dichloropropene | 9.54 | 75 | 559304 | 20.73 ug/l | 99 |
| 59) | Toluene | 10.02 | 91 | 1438263 | 21.08 ug/l | 100 |
| 60) | Ethyl methacrylate | 10.33 | 69 | 352605 | 19.27 ug/l | 99 |
| 61) | trans-1,3-Dichloropropene | 10.31 | 75 | 429322 | 20.04 ug/l | 99 |
| 62) | 1,1,2-Trichloroethane | 10.56 | 97 | 245498 | 20.94 ug/l | 99 |
| 63) | 2-Hexanone | 10.59 | 43 | 874127 | 102.82 ug/l | 100 |
| 64) | 1,3-Dichloropropane | 10.97 | 76 | 450729 | 20.71 ug/l | 100 |
| 65) | Tetrachloroethene | 11.04 | 164 | 263129 | 19.87 ug/l | 99 |
| 66) | Dibromochloromethane | 11.37 | 129 | 256804 | 20.51 ug/l | 99 |
| 67) | 1,2-Dibromoethane | 11.70 | 107 | 222286 | 19.69 ug/l | 98 |
| 68) | 1-Chlorohexane | 12.00 | 91 | 497134 | 20.12 ug/l | 99 |
| 69) | Chlorobenzene | 12.39 | 112 | 833994 | 21.29 ug/l | 99 |
| 70) | 1,1,1,2-Tetrachloroethane | 12.46 | 131 | 269329 | 20.06 ug/l | 99 |
| 71) | Ethylbenzene | 12.49 | 91 | 1526489 | 21.15 ug/l | 99 |
| 72) | m-Xylene & p-Xylene | 12.63 | 91 | 2260671 | 41.82 ug/l | 100 |
| 73) | o-Xylene | 13.36 | 91 | 1096232 | 21.37 ug/l | 99 |
| 74) | Styrene | 13.42 | 104 | 866056 | 21.36 ug/l | 99 |
| 75) | Isopropylbenzene | 13.99 | 105 | 1299086 | 20.80 ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP136.D Vial: 6
Acq On : 31 Jan 2024 15:42 Operator: IRagas
Sample : VO02A315 0.40uL Inst : 02
Misc : 20ppb 8260\100ppb KET-AA\200ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:51 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

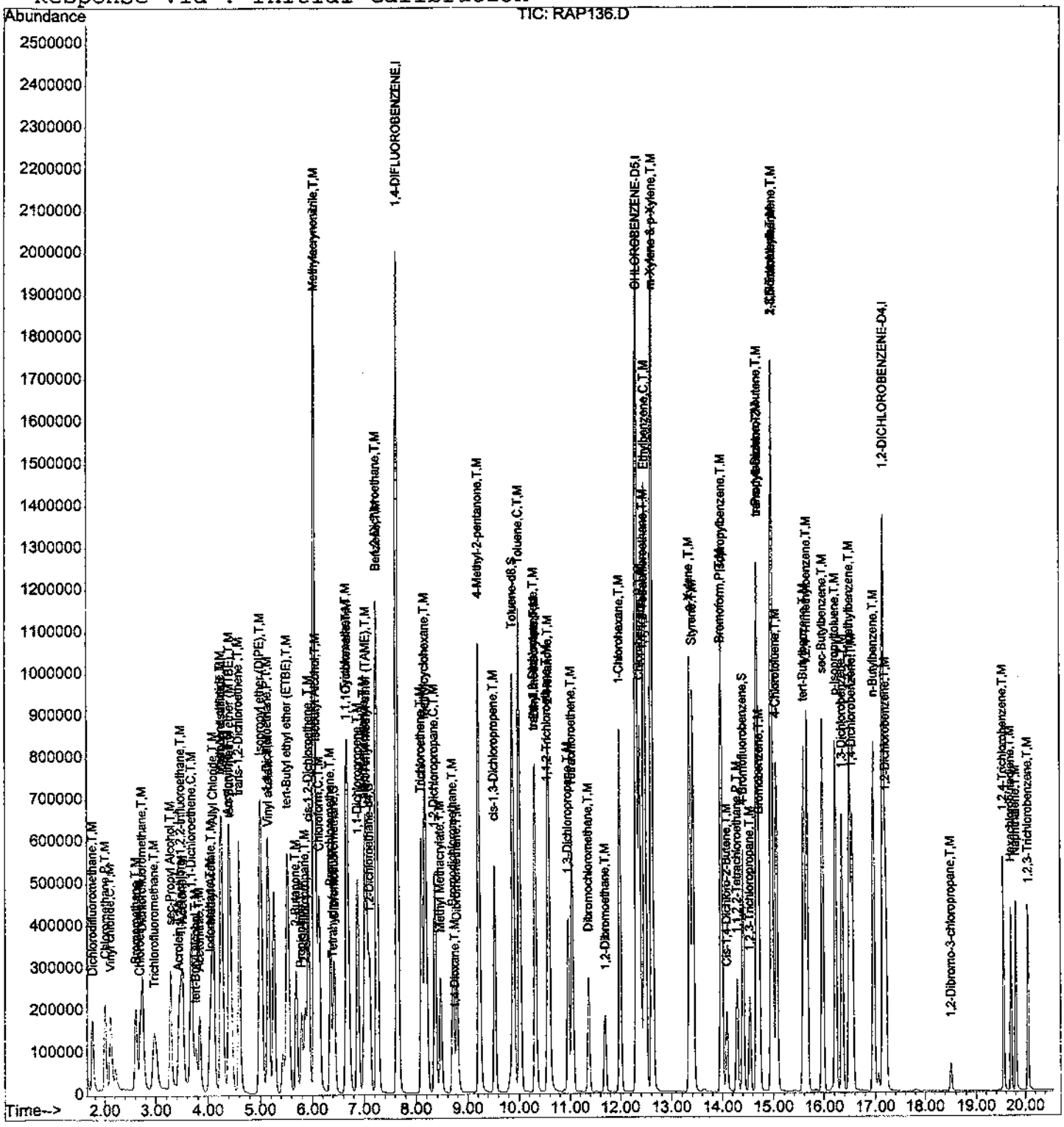
| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 76) | Cis-1,4-Dichloro-2-Butene | 14.09 | 53 | 70059 | 18.94 ug/l | 97 |
| 78) | Bromoform | 13.97 | 173 | 124016 | 18.49 ug/l | 97 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.29 | 83 | 268244 | 20.69 ug/l | 99 |
| 81) | 1,2,3-Trichloropropane | 14.54 | 110 | 62042 | 20.20 ug/l | 99 |
| 82) | trans-1,4-Dichloro-2-buten | 14.69 | 53 | 56830 | 18.81 ug/l | 99 |
| 83) | n-Propylbenzene | 14.69 | 91 | 1567770 | 20.59 ug/l | 99 |
| 84) | Bromobenzene | 14.73 | 156 | 294781 | 19.75 ug/l | 97 |
| 85) | 1,3,5-Trimethylbenzene | 14.97 | 105 | 978782 | 20.62 ug/l | 99 |
| 86) | 2-Chlorotoluene | 14.97 | 91 | 968950 | 20.01 ug/l | 100 |
| 87) | 4-Chlorotoluene | 15.05 | 91 | 882920 | 20.90 ug/l | 99 |
| 88) | tert-Butylbenzene | 15.60 | 134 | 194522 | 19.95 ug/l | 97 |
| 89) | 1,2,4-Trimethylbenzene | 15.66 | 105 | 935010 | 20.69 ug/l | 100 |
| 90) | sec-Butylbenzene | 15.98 | 105 | 1245681 | 20.63 ug/l | 99 |
| 91) | p-Isopropyltoluene | 16.23 | 119 | 959073 | 20.92 ug/l | 100 |
| 92) | 1,3-Dichlorobenzene | 16.36 | 146 | 516697 | 20.52 ug/l | 99 |
| 93) | 1,2,3-Trimethylbenzene | 16.50 | 105 | 899298 | 20.97 ug/l | 100 |
| 94) | 1,4-Dichlorobenzene | 16.55 | 146 | 501745 | 20.13 ug/l | 100 |
| 95) | n-Butylbenzene | 16.97 | 91 | 873596 | 20.50 ug/l | 99 |
| 96) | 1,2-Dichlorobenzene | 17.21 | 146 | 446945 | 20.46 ug/l | 99 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.51 | 157 | 29232 | 20.71 ug/l | 96 |
| 98) | 1,2,4-Trichlorobenzene | 19.55 | 180 | 224199 | 19.87 ug/l | 100 |
| 99) | Hexachlorobutadiene | 19.71 | 225 | 108173 | 19.40 ug/l | 99 |
| 100) | Naphthalene | 19.81 | 128 | 435537 | 20.04 ug/l | 100 |
| 101) | 1,2,3-Trichlorobenzene | 20.06 | 180 | 195370 | 20.11 ug/l | 98 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP136.D Vial: 6
Acq On : 31 Jan 2024 15:42 Operator: IRagas
Sample : VO02A315 0.40uL Inst : 02
Misc : 20ppb 8260\100ppb KET-AA\200ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:51 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP137.D Vial: 7
Acq On : 31 Jan 2024 16:06 Operator: IRagas
Sample : VO02A316 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:51 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 2861301 | 50.00 ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 2252084 | 50.00 ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 744411 | 50.00 ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | |
| 38) Dibromofluoromethane | 6.42 | 111 | 788356 | 53.69 ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 107.38% | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 700537 | 54.01 ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 108.02% | |
| 58) Toluene-d8 | 9.90 | 98 | 3043446 | 54.23 ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 108.46% | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 969727 | 52.51 ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 105.02% | |
| **Target Compounds** | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.75 | 85 | 804199 | 54.51 ug/l | 100 |
| 3) Chloromethane | 2.01 | 50 | 1114224 | 54.13 ug/l | 100 |
| 4) Vinyl chloride | 2.11 | 62 | 941960 | 53.88 ug/l | 100 |
| 5) Bromomethane | 2.61 | 94 | 668596 | 51.73 ug/l | 100 |
| 6) Chloroethane | 2.70 | 64 | 616838 | 53.92 ug/l | 100 |
| 7) Dichlorofluoromethane | 2.73 | 67 | 1355538 | 53.85 ug/l | 100 |
| 8) Trichlorofluoromethane | 2.97 | 101 | 856933 | 56.16 ug/l | 100 |
| 9) sec-Propyl Alcohol | 3.29 | 45 | 562925 | 515.91 ug/l | 100 |
| 10) Acrolein | 3.44 | 56 | 431808 | 287.93 ug/l | 100 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.48 | 151 | 529838 | 54.18 ug/l | 100 |
| 12) Acetone | 3.51 | 43 | 881661 | 267.13 ug/l | 100 |
| 13) 1,1-Dichloroethene | 3.68 | 61 | 1464420 | 55.10 ug/l | 100 |
| 14) tert-Butyl alcohol | 3.76 | 59 | 686783 | 564.29 ug/l | 98 |
| 15) Acetonitrile | 3.83 | 41 | 822929 | 567.69 ug/l | 100 |
| 16) Iodomethane | 4.05 | 142 | 1190092 | 54.21 ug/l | 100 |
| 17) Methyl Acetate | 4.06 | 43 | 597585 | 53.30 ug/l | 100 |
| 18) Allyl Chloride | 4.11 | 76 | 563189 | 53.91 ug/l | 100 |
| 19) Methylene chloride | 4.25 | 49 | 1175300 | 53.06 ug/l | 100 |
| 20) Carbon disulfide | 4.27 | 76 | 3196199 | 55.38 ug/l | 100 |
| 21) Acrylonitrile | 4.40 | 53 | 1310289 | 281.53 ug/l | 100 |
| 22) tert-Butyl methyl ether (M | 4.43 | 73 | 2297810 | 54.60 ug/l | 100 |
| 23) trans-1,2-Dichloroethene | 4.60 | 96 | 1017717 | 54.13 ug/l | 100 |
| 24) Isopropyl ether (DIPE) | 5.00 | 45 | 3762495 | 55.67 ug/l | 100 |
| 25) 1,1-Dichloroethane | 5.15 | 63 | 1743270 | 54.41 ug/l | 100 |
| 26) Vinyl acetate | 5.15 | 43 | 1645085 | 56.39 ug/l | 100 |
| 28) tert-Butyl ethyl ether (ET | 5.53 | 59 | 3153595 | 55.22 ug/l | 100 |
| 29) 2-Butanone | 5.69 | 72 | 362727 | 286.55 ug/l | 98 |

(#) = qualifier out of range (m) = manual integration

SG 2/7/24

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP137.D Vial: 7
Acq On : 31 Jan 2024 16:06 Operator: IRagas
Sample : VO02A316 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:51 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 30) | Propionitrile | 5.79 | 54 | 860644 | 559.04 ug/l | 100 |
| 31) | 2,2-Dichloropropane | 5.86 | 77 | 689803 | 55.36 ug/l | 100 |
| 32) | cis-1,2-Dichloroethene | 5.94 | 96 | 1068258 | 53.68 ug/l | 100 |
| 33) | Methylacrynonitrile | 6.05 | 52 | 1062490 | 555.51 ug/l | 100 |
| 34) | Isobutyl Alcohol | 6.08 | 43 | 611683 | 1050.55 ug/l | 100 |
| 35) | Chloroform | 6.14 | 83 | 1537306 | 54.00 ug/l | 100 |
| 36) | Bromochloromethane | 6.36 | 130 | 557149 | 54.30 ug/l | 100 |
| 37) | Tetrahydrofuran | 6.41 | 42 | 192253 | 54.42 ug/l | 100 |
| 39) | 1,1,1-Trichloroethane | 6.67 | 97 | 994736 | 55.10 ug/l | 100 |
| 40) | Cyclohexane | 6.68 | 84 | 1385428 | 53.96 ug/l | 100 |
| 41) | 1,1-Dichloropropene | 6.89 | 110 | 438723 | 53.47 ug/l | 100 |
| 42) | Carbon tetrachloride | 7.01 | 119 | 829137 | 53.88 ug/l | 100 |
| 43) | tert-Amyl methyl ether (TA | 7.05 | 87 | 513321 | 53.09 ug/l | 100 |
| 45) | 1,2-Dichloroethane | 7.24 | 62 | 903142 | 55.27 ug/l | 100 |
| 46) | Benzene | 7.25 | 78 | 4046020 | 55.63 ug/l | 100 |
| 47) | Trichloroethene | 8.12 | 130 | 952033 | 54.83 ug/l | 100 |
| 48) | Methylcyclohexane | 8.19 | 83 | 1729804 | 56.17 ug/l | 100 |
| 49) | 1,2-Dichloropropane | 8.37 | 63 | 972511 | 55.34 ug/l | 100 |
| 50) | Methyl Methacrylate | 8.47 | 69 | 537698 | 54.44 ug/l | 100 |
| 51) | Bromodichloromethane | 8.70 | 83 | 1095555 | 55.10 ug/l | 100 |
| 52) | 1,4-Dioxane | 8.75 | 88 | 104775 | 1174.97 ug/l | 100 |
| 53) | Dibromomethane | 8.79 | 93 | 466039 | 54.27 ug/l | 100 |
| 55) | 4-Methyl-2-pentanone | 9.23 | 43 | 4050102 | 299.93 ug/l | 100 |
| 56) | cis-1,3-Dichloropropene | 9.54 | 75 | 1535864 | 54.89 ug/l | 100 |
| 59) | Toluene | 10.02 | 91 | 3912132 | 55.21 ug/l | 100 |
| 60) | Ethyl methacrylate | 10.33 | 69 | 1024081 | 53.88 ug/l | 100 |
| 61) | trans-1,3-Dichloropropene | 10.31 | 75 | 1219596 | 54.80 ug/l | 100 |
| 62) | 1,1,2-Trichloroethane | 10.56 | 97 | 673568 | 55.32 ug/l | 100 |
| 63) | 2-Hexanone | 10.59 | 43 | 2613747 | 296.00 ug/l | 100 |
| 64) | 1,3-Dichloropropane | 10.97 | 76 | 1220595 | 54.01 ug/l | 100 |
| 65) | Tetrachloroethene | 11.04 | 164 | 737021 | 53.59 ug/l | 100 |
| 66) | Dibromochloromethane | 11.37 | 129 | 721595 | 55.48 ug/l | 100 |
| 67) | 1,2-Dibromoethane | 11.69 | 107 | 619450 | 52.83 ug/l | 100 |
| 68) | 1-Chlorohexane | 12.00 | 91 | 1412937 | 55.07 ug/l | 100 |
| 69) | Chlorobenzene | 12.39 | 112 | 2243082 | 55.14 ug/l | 100 |
| 70) | 1,1,1,2-Tetrachloroethane | 12.46 | 131 | 753465 | 54.04 ug/l | 100 |
| 71) | Ethylbenzene | 12.49 | 91 | 4204416 | 56.10 ug/l | 100 |
| 72) | m-Xylene & p-Xylene | 12.63 | 91 | 6285151 | 111.93 ug/l | 100 |
| 73) | o-Xylene | 13.36 | 91 | 3012979 | 56.54 ug/l | 100 |
| 74) | Styrene | 13.42 | 104 | 2416307 | 57.38 ug/l | 100 |
| 75) | Isopropylbenzene | 13.99 | 105 | 3658119 | 56.39 ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP137.D Vial: 7
Acq On : 31 Jan 2024 16:06 Operator: IRagas
Sample : VO02A316 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:51 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 76) | Cis-1,4-Dichloro-2-Butene | 14.09 | 53 | 207364 | 51.47 ug/l | 100 |
| 78) | Bromoform | 13.97 | 173 | 365331 | 51.63 ug/l | 100 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.29 | 83 | 748946 | 54.75 ug/l | 100 |
| 81) | 1,2,3-Trichloropropane | 14.54 | 110 | 173777 | 53.64 ug/l | 100 |
| 82) | trans-1,4-Dichloro-2-buten | 14.69 | 53 | 171988 | 49.65 ug/l | 100 |
| 83) | n-Propylbenzene | 14.69 | 91 | 4479078 | 55.77 ug/l | 100 |
| 84) | Bromobenzene | 14.73 | 156 | 820418 | 52.09 ug/l | 100 |
| 85) | 1,3,5-Trimethylbenzene | 14.97 | 105 | 2803288 | 55.97 ug/l | 100 |
| 86) | 2-Chlorotoluene | 14.97 | 91 | 2749669 | 53.83 ug/l | 100 |
| 87) | 4-Chlorotoluene | 15.05 | 91 | 2504173 | 56.20 ug/l | 100 |
| 88) | tert-Butylbenzene | 15.60 | 134 | 556088 | 54.07 ug/l | 100 |
| 89) | 1,2,4-Trimethylbenzene | 15.65 | 105 | 2667568 | 55.94 ug/l | 100 |
| 90) | sec-Butylbenzene | 15.98 | 105 | 3562112 | 55.91 ug/l | 100 |
| 91) | p-Isopropyltoluene | 16.23 | 119 | 2777667 | 57.44 ug/l | 100 |
| 92) | 1,3-Dichlorobenzene | 16.36 | 146 | 1450817 | 54.62 ug/l | 100 |
| 93) | 1,2,3-Trimethylbenzene | 16.50 | 105 | 2546285 | 56.29 ug/l | 100 |
| 94) | 1,4-Dichlorobenzene | 16.55 | 146 | 1444661 | 54.93 ug/l | 100 |
| 95) | n-Butylbenzene | 16.97 | 91 | 2601265 | 57.86 ug/l | 100 |
| 96) | 1,2-Dichlorobenzene | 17.21 | 146 | 1249657 | 54.21 ug/l | 100 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.51 | 157 | 84422 | 56.70 ug/l | 100 |
| 98) | 1,2,4-Trichlorobenzene | 19.55 | 180 | 659147 | 55.38 ug/l | 100 |
| 99) | Hexachlorobutadiene | 19.71 | 225 | 311205 | 52.90 ug/l | 100 |
| 100) | Naphthalene | 19.81 | 128 | 1304816 | 56.91 ug/l | 100 |
| 101) | 1,2,3-Trichlorobenzene | 20.06 | 180 | 562040 | 54.85 ug/l | 100 |

(#) = qualifier out of range (m) = manual integration
RAP137.D VO02A31.M Fri Feb 02 12:54:46 2024 Page 3

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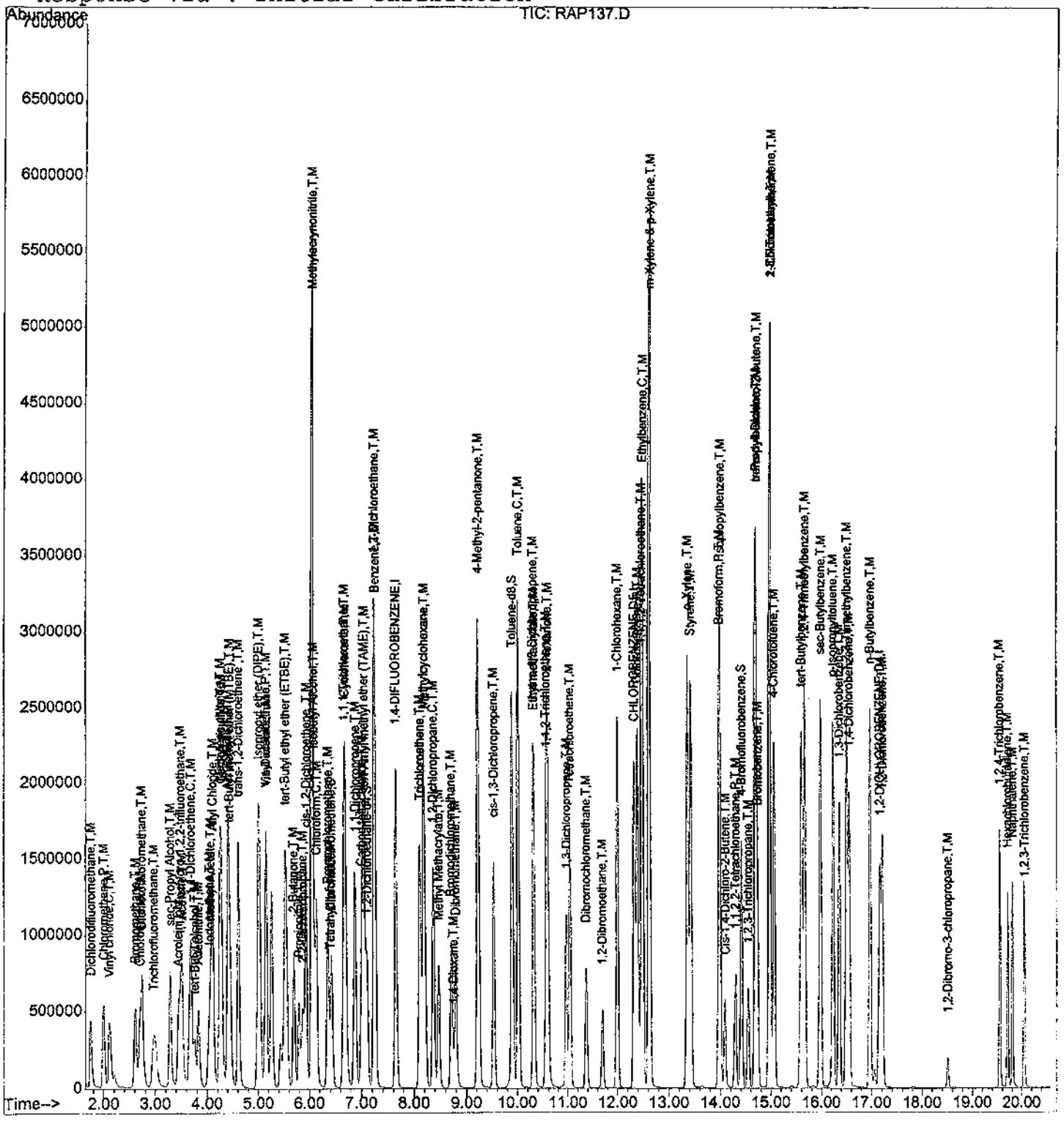
Quantitation Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP137.D Vial: 7
Acq On : 31 Jan 2024 16:06 Operator: IRagas
Sample : VO02A316 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:51 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration





2/7/24

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP138.D Vial: 8
Acq On : 31 Jan 2024 16:31 Operator: IRagas
Sample : VO02A317 2.00uL Inst : 02
Misc : 100ppb 8260\500ppb KET-AA\1000ppb TBA-2B Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:52 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 2965634 | 50.00 | ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.32 | 117 | 2367575 | 50.00 | ug/l | -0.01 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 766752 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.42 | 111 | 1617197 | 106.27 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 212.54% | | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 1422914 | 105.85 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 211.70% | | |
| 58) Toluene-d8 | 9.89 | 98 | 6140987 | 104.08 | ug/l | -0.01 |
| Spiked Amount 50.000 | | | Recovery = | 208.16% | | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 1998872 | 105.09 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 210.18% | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.74 | 85 | 1634199 | 106.88 | ug/l | 100 |
| 3) Chloromethane | 2.00 | 50 | 2208635 | 103.52 | ug/l | 100 |
| 4) Vinyl chloride | 2.11 | 62 | 1797296 | 99.20 | ug/l | 99 |
| 5) Bromomethane | 2.60 | 94 | 1358674 | 101.43 | ug/l | 100 |
| 6) Chloroethane | 2.69 | 64 | 1265645 | 106.74 | ug/l | 99 |
| 7) Dichlorofluoromethane | 2.72 | 67 | 2738384 | 104.96 | ug/l | 100 |
| 8) Trichlorofluoromethane | 2.97 | 101 | 1713233 | 108.32 | ug/l | 100 |
| 9) sec-Propyl Alcohol | 3.28 | 45 | 1091570 | 965.20 | ug/l | 95 |
| 10) Acrolein | 3.43 | 56 | 783350 | 503.96 | ug/l | 98 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.48 | 151 | 1098216 | 108.36 | ug/l | 99 |
| 12) Acetone | 3.51 | 43 | 1569721 | 458.86 | ug/l | 99 |
| 13) 1,1-Dichloroethene | 3.67 | 61 | 2953468 | 107.22 | ug/l | 99 |
| 14) tert-Butyl alcohol | 3.76 | 59 | 1386279 | 1098.96 | ug/l | 97 |
| 15) Acetonitrile | 3.83 | 41 | 1566226 | 1042.44 | ug/l | 100 |
| 16) Iodomethane | 4.05 | 142 | 2453102 | 107.80 | ug/l | 100 |
| 17) Methyl Acetate | 4.06 | 43 | 1149109 | 98.89 | ug/l | 100 |
| 18) Allyl Chloride | 4.11 | 76 | 1155776 | 106.74 | ug/l | 99 |
| 19) Methylene chloride | 4.26 | 49 | 2353133 | 102.49 | ug/l | 100 |
| 20) Carbon disulfide | 4.26 | 76 | 6603825 | 110.40 | ug/l | 100 |
| 21) Acrylonitrile | 4.40 | 53 | 2530382 | 524.56 | ug/l | 100 |
| 22) tert-Butyl methyl ether (M | 4.43 | 73 | 4550271 | 104.32 | ug/l | 100 |
| 23) trans-1,2-Dichloroethene | 4.61 | 96 | 2058413 | 105.62 | ug/l | 100 |
| 24) Isopropyl ether (DIPE) | 5.00 | 45 | 7487044 | 106.88 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 5.15 | 63 | 3493333 | 105.19 | ug/l | 100 |
| 26) Vinyl acetate | 5.15 | 43 | 3254176 | 107.63 | ug/l | 100 |
| 28) tert-Butyl ethyl ether (ET | 5.53 | 59 | 6267007 | 105.87 | ug/l | 100 |
| 29) 2-Butanone | 5.69 | 72 | 697750 | 531.82 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration
RAP138.D VO02A31.M Fri Feb 02 12:54:59 2024 Page 1

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP138.D Vial: 8
Acq On : 31 Jan 2024 16:31 Operator: IRagas
Sample : VO02A317 2.00uL Inst : 02
Misc : 100ppb 8260\500ppb KET-AA\1000ppb TBA-2B Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:52 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 30) | Propionitrile | 5.79 | 54 | 1673075 | 1048.53 ug/l | 100 |
| 31) | 2,2-Dichloropropane | 5.87 | 77 | 1355788 | 104.99 ug/l | 99 |
| 32) | cis-1,2-Dichloroethene | 5.92 | 96 | 2151991 | 104.33 ug/l | 99 |
| 33) | Methylacrynonitrile | 6.06 | 52 | 2031057 | 1024.56 ug/l | 100 |
| 34) | Isobutyl Alcohol | 6.08 | 43 | 1270029 | 2081.60 ug/l | 98 |
| 35) | Chloroform | 6.14 | 83 | 3058392 | 103.66 ug/l | 98 |
| 36) | Bromochloromethane | 6.36 | 130 | 1104550 | 103.86 ug/l | 100 |
| 37) | Tetrahydrofuran | 6.39 | 42 | 368938 | 100.77 ug/l | 97 |
| 39) | 1,1,1-Trichloroethane | 6.67 | 97 | 2018104 | 107.86 ug/l | 100 |
| 40) | Cyclohexane | 6.68 | 84 | 2834625 | 106.52 ug/l | 100 |
| 41) | 1,1-Dichloropropene | 6.87 | 110 | 890621 | 104.73 ug/l | 100 |
| 42) | Carbon tetrachloride | 7.01 | 119 | 1687508 | 105.80 ug/l | 99 |
| 43) | tert-Amyl methyl ether (TA | 7.05 | 87 | 1038572 | 103.63 ug/l | 98 |
| 45) | 1,2-Dichloroethane | 7.23 | 62 | 1791989 | 105.81 ug/l | 99 |
| 46) | Benzene | 7.24 | 78 | 8096589 | 107.41 ug/l | 99 |
| 47) | Trichloroethene | 8.10 | 130 | 1922412 | 106.83 ug/l | 100 |
| 48) | Methylcyclohexane | 8.19 | 83 | 3447156 | 108.00 ug/l | 99 |
| 49) | 1,2-Dichloropropane | 8.37 | 63 | 1969230 | 108.12 ug/l | 99 |
| 50) | Methyl Methacrylate | 8.47 | 69 | 1062216 | 103.76 ug/l | 98 |
| 51) | Bromodichloromethane | 8.70 | 83 | 2201594 | 106.83 ug/l | 100 |
| 52) | 1,4-Dioxane | 8.75 | 88 | 196445 | 2125.48 ug/l | 100 |
| 53) | Dibromomethane | 8.79 | 93 | 933745 | 104.91 ug/l | 99 |
| 55) | 4-Methyl-2-pentanone | 9.23 | 43 | 7716423 | 551.33 ug/l | 99 |
| 56) | cis-1,3-Dichloropropene | 9.54 | 75 | 3110974 | 107.28 ug/l | 99 |
| 59) | Toluene | 10.02 | 91 | 7797148 | 104.67 ug/l | 100 |
| 60) | Ethyl methacrylate | 10.31 | 69 | 2066034 | 103.39 ug/l | 99 |
| 61) | trans-1,3-Dichloropropene | 10.31 | 75 | 2451988 | 104.80 ug/l | 99 |
| 62) | 1,1,2-Trichloroethane | 10.56 | 97 | 1325815 | 103.59 ug/l | 99 |
| 63) | 2-Hexanone | 10.59 | 43 | 5092491 | 548.59 ug/l | 99 |
| 64) | 1,3-Dichloropropane | 10.96 | 76 | 2411995 | 101.52 ug/l | 100 |
| 65) | Tetrachloroethene | 11.05 | 164 | 1478434 | 102.26 ug/l | 99 |
| 66) | Dibromochloromethane | 11.37 | 129 | 1466773 | 107.28 ug/l | 100 |
| 67) | 1,2-Dibromoethane | 11.69 | 107 | 1241163 | 100.70 ug/l | 99 |
| 68) | 1-Chlorohexane | 12.00 | 91 | 2883951 | 106.92 ug/l | 100 |
| 69) | Chlorobenzene | 12.39 | 112 | 4553604 | 106.47 ug/l | 100 |
| 70) | 1,1,1,2-Tetrachloroethane | 12.47 | 131 | 1541329 | 105.16 ug/l | 99 |
| 71) | Ethylbenzene | 12.49 | 91 | 8447049 | 107.20 ug/l | 99 |
| 72) | m-Xylene & p-Xylene | 12.63 | 91 | 12301614 | 208.39 ug/l | 97 |
| 73) | o-Xylene | 13.36 | 91 | 6102937 | 108.94 ug/l | 100 |
| 74) | Styrene | 13.42 | 104 | 4958327 | 112.00 ug/l | 100 |
| 75) | Isopropylbenzene | 13.99 | 105 | 7352362 | 107.81 ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\24A31\RAP138.D Vial: 8
Acq On : 31 Jan 2024 16:31 Operator: IRagas
Sample : VO02A317 2.00uL Inst : 02
Misc : 100ppb 8260\500ppb KET-AA\1000ppb TBA-2B Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:52 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 76) | Cis-1,4-Dichloro-2-Butene | 14.09 | 53 | 416690 | 97.14 | ug/l | 97 |
| 78) | Bromoform | 13.97 | 173 | 752483 | 103.25 | ug/l | 99 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.30 | 83 | 1469757 | 104.32 | ug/l | 99 |
| 81) | 1,2,3-Trichloropropane | 14.54 | 110 | 351334 | 105.29 | ug/l | 100 |
| 82) | trans-1,4-Dichloro-2-buten | 14.69 | 53 | 348465 | 95.45 | ug/l | 98 |
| 83) | n-Propylbenzene | 14.69 | 91 | 8916822 | 107.79 | ug/l | 99 |
| 84) | Bromobenzene | 14.72 | 156 | 1669493 | 102.92 | ug/l | 99 |
| 85) | 1,3,5-Trimethylbenzene | 14.97 | 105 | 5608730 | 108.72 | ug/l | 100 |
| 86) | 2-Chlorotoluene | 14.97 | 91 | 5502891 | 104.58 | ug/l | 99 |
| 87) | 4-Chlorotoluene | 15.06 | 91 | 5058278 | 110.21 | ug/l | 97 |
| 88) | tert-Butylbenzene | 15.60 | 134 | 1120999 | 105.82 | ug/l | 99 |
| 89) | 1,2,4-Trimethylbenzene | 15.66 | 105 | 5374628 | 109.43 | ug/l | 100 |
| 90) | sec-Butylbenzene | 15.98 | 105 | 7092118 | 108.07 | ug/l | 100 |
| 91) | p-Isopropyltoluene | 16.23 | 119 | 5461407 | 109.65 | ug/l | 99 |
| 92) | 1,3-Dichlorobenzene | 16.36 | 146 | 2906112 | 106.22 | ug/l | 100 |
| 93) | 1,2,3-Trimethylbenzene | 16.51 | 105 | 5017190 | 107.69 | ug/l | 99 |
| 94) | 1,4-Dichlorobenzene | 16.55 | 146 | 2892028 | 106.77 | ug/l | 100 |
| 95) | n-Butylbenzene | 16.97 | 91 | 5184849 | 111.96 | ug/l | 99 |
| 96) | 1,2-Dichlorobenzene | 17.21 | 146 | 2480622 | 104.48 | ug/l | 100 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.51 | 157 | 173078 | 112.85 | ug/l | 97 |
| 98) | 1,2,4-Trichlorobenzene | 19.55 | 180 | 1309230 | 106.79 | ug/l | 99 |
| 99) | Hexachlorobutadiene | 19.71 | 225 | 631137 | 104.16 | ug/l | 100 |
| 100) | Naphthalene | 19.81 | 128 | 2557151 | 108.28 | ug/l | 100 |
| 101) | 1,2,3-Trichlorobenzene | 20.05 | 180 | 1098638 | 104.09 | ug/l | 99 |

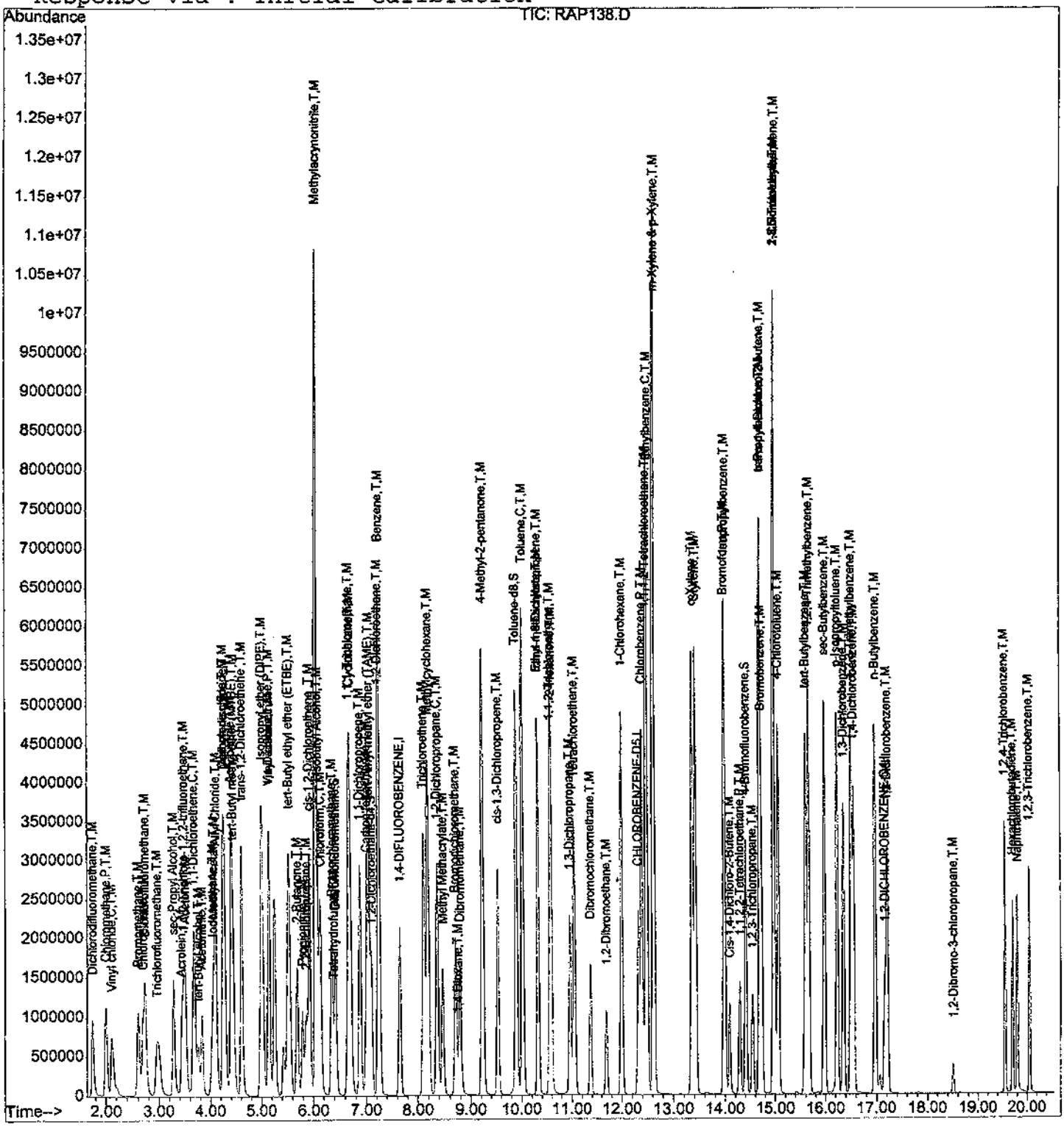
SG

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP138.D Vial: 8
Acq On : 31 Jan 2024 16:31 Operator: IRagas
Sample : VO02A317 2.00uL Inst : 02
Misc : 100ppb 8260\500ppb KET-AA\1000ppb TBA-2B Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:52 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP139.D Vial: 9
Acq On : 31 Jan 2024 16:55 Operator: IRagas
Sample : VO02A318 4.00uL Inst : 02
Misc : 200ppb 8260\1000ppb KET-AA\2000ppb TBA-2 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:54 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 3083217 | 50.00 | ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 2377364 | 50.00 | ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 754556 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.42 | 111 | 3319393 | 209.80 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 419.60% | | | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 2928075 | 209.51 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 419.02% | | | |
| 58) Toluene-d8 | 9.90 | 98 | 12127770 | 204.70 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 409.40% | | | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 3958444 | 211.48 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 422.96% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.74 | 85 | 3362359 | 211.52 | ug/l | 99 |
| 3) Chloromethane | 2.00 | 50 | 4485697 | 202.22 | ug/l | 100 |
| 4) Vinyl chloride | 2.09 | 62 | 3275984 | 173.91 | ug/l | 100 |
| 5) Bromomethane | 2.60 | 94 | 2793239 | 200.58 | ug/l | 100 |
| 6) Chloroethane | 2.69 | 64 | 2552871 | 207.09 | ug/l | 99 |
| 7) Dichlorofluoromethane | 2.74 | 67 | 5498344 | 202.71 | ug/l | 99 |
| 8) Trichlorofluoromethane | 2.98 | 101 | 3467244 | 210.87 | ug/l | 100 |
| 9) sec-Propyl Alcohol | 3.28 | 45 | 2300254 | 1956.39 | ug/l | 96 |
| 10) Acrolein | 3.43 | 56 | 1776437 | 1099.26 | ug/l | 96 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.48 | 151 | 2129148 | 202.06 | ug/l | 99 |
| 12) Acetone | 3.51 | 43 | 3337400 | 938.39 | ug/l | 99 |
| 13) 1,1-Dichloroethene | 3.68 | 61 | 5949814 | 207.77 | ug/l | 99 |
| 14) tert-Butyl alcohol | 3.76 | 59 | 2979302 | 2271.73 | ug/l | 98 |
| 15) Acetonitrile | 3.83 | 41 | 3206026 | 2052.47 | ug/l | 100 |
| 16) Iodomethane | 4.05 | 142 | 4915645 | 207.78 | ug/l | 100 |
| 17) Methyl Acetate | 4.06 | 43 | 2471712 | 204.61 | ug/l | 99 |
| 18) Allyl Chloride | 4.11 | 76 | 2370246 | 210.55 | ug/l | 98 |
| 19) Methylene chloride | 4.27 | 49 | 4789005 | 200.63 | ug/l | 99 |
| 20) Carbon disulfide | 4.27 | 76 | 13239664 | 212.89 | ug/l | 99 |
| 21) Acrylonitrile | 4.40 | 53 | 5434589 | 1083.64 | ug/l | 99 |
| 22) tert-Butyl methyl ether (M | 4.43 | 73 | 9772523 | 215.51 | ug/l | 99 |
| 23) trans-1,2-Dichloroethene | 4.61 | 96 | 4283922 | 211.44 | ug/l | 100 |
| 24) Isopropyl ether (DIPE) | 5.02 | 45 | 15162361 | 208.20 | ug/l | 97 |
| 25) 1,1-Dichloroethane | 5.15 | 63 | 7209964 | 208.82 | ug/l | 99 |
| 26) Vinyl acetate | 5.15 | 43 | 6879998 | 218.87 | ug/l | 99 |
| 28) tert-Butyl ethyl ether (ET | 5.53 | 59 | 13158352 | 213.81 | ug/l | 98 |
| 29) 2-Butanone | 5.69 | 72 | 1524723 | 1117.81 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP139.D Vial: 9
Acq On : 31 Jan 2024 16:55 Operator: IRagas
Sample : VO02A318 4.00uL Inst : 02
Misc : 200ppb 8260\1000ppb KET-AA\2000ppb TBA-2 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:54 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 30) | Propionitrile | 5.79 | 54 | 3670211 | 2212.42 | ug/l | 100 |
| 31) | 2,2-Dichloropropane | 5.86 | 77 | 2587949 | 192.76 | ug/l | 98 |
| 32) | cis-1,2-Dichloroethene | 5.92 | 96 | 4530593 | 211.26 | ug/l | 98 |
| 33) | Methylacrynonitrile | 6.05 | 52 | 4391609 | 2130.85 | ug/l | 96 |
| 34) | Isobutyl Alcohol | 6.08 | 43 | 2783957 | 4363.63 | ug/l | 97 |
| 35) | Chloroform | 6.14 | 83 | 6438399 | 209.89 | ug/l | 98 |
| 36) | Bromochloromethane | 6.36 | 130 | 2383831 | 215.59 | ug/l | 100 |
| 37) | Tetrahydrofuran | 6.39 | 42 | 838977 | 220.40 | ug/l | 97 |
| 39) | 1,1,1-Trichloroethane | 6.67 | 97 | 4053007 | 208.35 | ug/l | 99 |
| 40) | Cyclohexane | 6.68 | 84 | 5783306 | 209.03 | ug/l | 99 |
| 41) | 1,1-Dichloropropene | 6.87 | 110 | 1927276 | 218.00 | ug/l | 100 |
| 42) | Carbon tetrachloride | 7.02 | 119 | 3510900 | 211.72 | ug/l | 99 |
| 43) | tert-Amyl methyl ether (TA | 7.05 | 87 | 2258917 | 216.80 | ug/l | 97 |
| 45) | 1,2-Dichloroethane | 7.23 | 62 | 3768725 | 214.05 | ug/l | 99 |
| 46) | Benzene | 7.25 | 78 | 16104927 | 205.50 | ug/l | 97 |
| 47) | Trichloroethene | 8.12 | 130 | 4024901 | 215.13 | ug/l | 100 |
| 48) | Methylcyclohexane | 8.19 | 83 | 7031033 | 211.88 | ug/l | 99 |
| 49) | 1,2-Dichloropropane | 8.37 | 63 | 4109952 | 217.04 | ug/l | 100 |
| 50) | Methyl Methacrylate | 8.47 | 69 | 2363478 | 222.08 | ug/l | 100 |
| 51) | Bromodichloromethane | 8.70 | 83 | 4620474 | 215.65 | ug/l | 99 |
| 52) | 1,4-Dioxane | 8.75 | 88 | 385929 | 4016.40 | ug/l | 97 |
| 53) | Dibromomethane | 8.79 | 93 | 2016087 | 217.88 | ug/l | 99 |
| 55) | 4-Methyl-2-pentanone | 9.23 | 43 | 15717980 | 1080.20 | ug/l | 96 |
| 56) | cis-1,3-Dichloropropene | 9.54 | 75 | 6556158 | 217.46 | ug/l | 99 |
| 59) | Toluene | 10.02 | 91 | 15326705 | 204.91 | ug/l | 95 |
| 60) | Ethyl methacrylate | 10.33 | 69 | 4531042 | 225.82 | ug/l | 99 |
| 61) | trans-1,3-Dichloropropene | 10.31 | 75 | 5272370 | 224.42 | ug/l | 98 |
| 62) | 1,1,2-Trichloroethane | 10.56 | 97 | 2837591 | 220.79 | ug/l | 99 |
| 63) | 2-Hexanone | 10.59 | 43 | 10762551 | 1154.62 | ug/l | 96 |
| 64) | 1,3-Dichloropropane | 10.97 | 76 | 5114314 | 214.37 | ug/l | 99 |
| 65) | Tetrachloroethene | 11.05 | 164 | 3115367 | 214.60 | ug/l | 99 |
| 66) | Dibromochloromethane | 11.37 | 129 | 3141481 | 228.81 | ug/l | 100 |
| 67) | 1,2-Dibromoethane | 11.69 | 107 | 2652498 | 214.31 | ug/l | 99 |
| 68) | 1-Chlorohexane | 12.00 | 91 | 6009493 | 221.88 | ug/l | 99 |
| 69) | Chlorobenzene | 12.39 | 112 | 9218326 | 214.65 | ug/l | 98 |
| 70) | 1,1,1,2-Tetrachloroethane | 12.47 | 131 | 3222347 | 218.95 | ug/l | 99 |
| 71) | Ethylbenzene | 12.49 | 91 | 16230736 | 205.14 | ug/l | 94 |
| 72) | m-Xylene & p-Xylene | 12.63 | 91 | 21501617 | 362.74 | ug/l | 87 |
| 73) | o-Xylene | 13.36 | 91 | 11754339 | 208.96 | ug/l | 97 |
| 74) | Styrene | 13.42 | 104 | 9973038 | 224.35 | ug/l | 98 |
| 75) | Isopropylbenzene | 13.99 | 105 | 14235188 | 207.87 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP139.D Vial: 9
Acq On : 31 Jan 2024 16:55 Operator: IRagas
Sample : VO02A318 4.00uL Inst : 02
Misc : 200ppb 8260\1000ppb KET-AA\2000ppb TBA-2 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:54 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

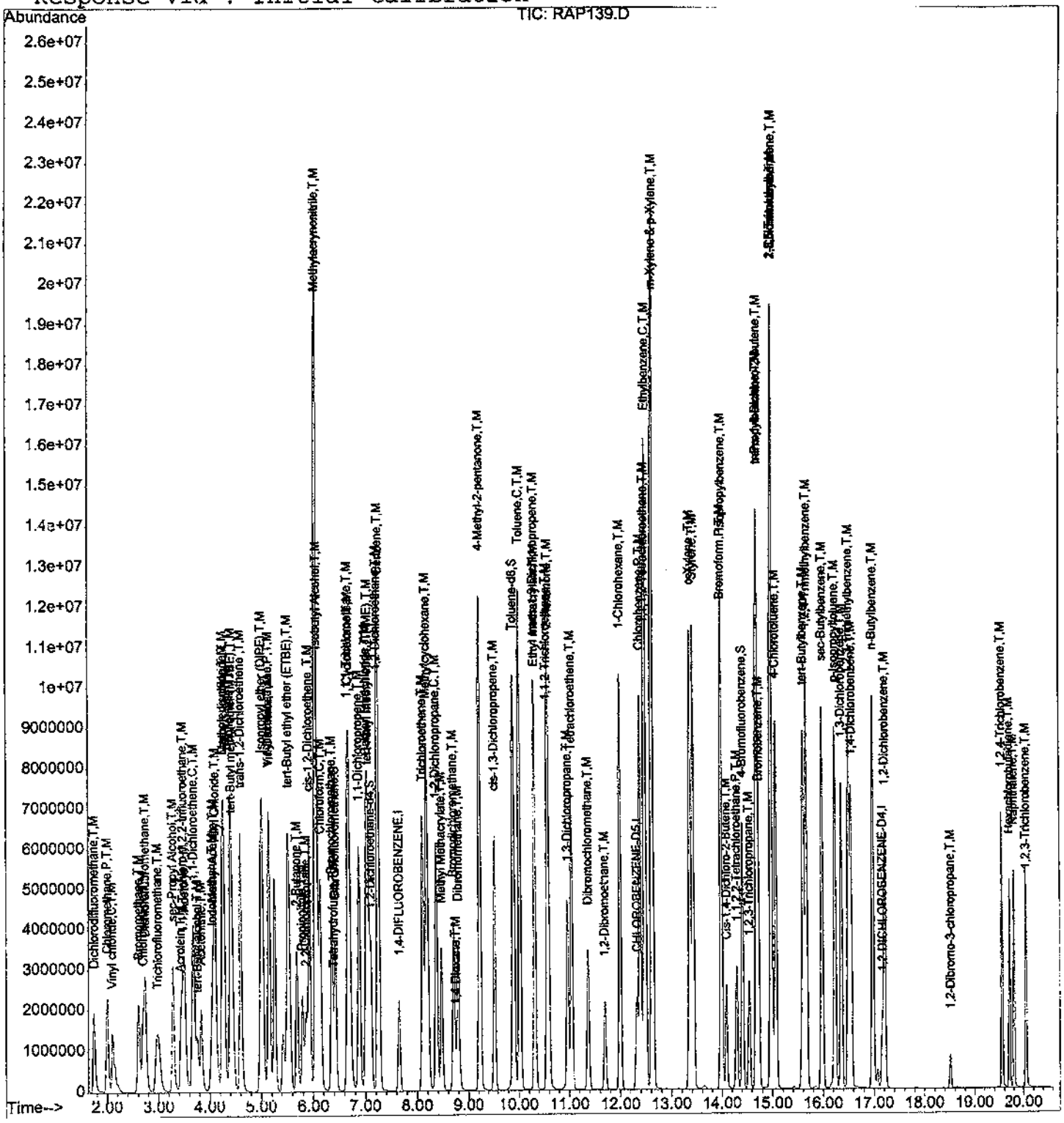
| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 76) | Cis-1,4-Dichloro-2-Butene | 14.09 | 53 | 906452 | 208.85 ug/l | 97 |
| 78) | Bromoform | 13.97 | 173 | 1601830 | 223.35 ug/l | 99 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.29 | 83 | 3093396 | 223.10 ug/l | 100 |
| 81) | 1,2,3-Trichloropropane | 14.54 | 110 | 739539 | 225.21 ug/l | 98 |
| 82) | trans-1,4-Dichloro-2-buten | 14.69 | 53 | 768181 | 210.96 ug/l | 98 |
| 83) | n-Propylbenzene | 14.69 | 91 | 16301736 | 200.25 ug/l | 96 |
| 84) | Bromobenzene | 14.73 | 156 | 3452103 | 216.25 ug/l | 99 |
| 85) | 1,3,5-Trimethylbenzene | 14.97 | 105 | 10762759 | 212.00 ug/l | 98 |
| 86) | 2-Chlorotoluene | 14.97 | 91 | 11178859 | 215.89 ug/l | 99 |
| 87) | 4-Chlorotoluene | 15.06 | 91 | 9651314 | 213.68 ug/l | 96 |
| 88) | tert-Butylbenzene | 15.60 | 134 | 2209333 | 211.92 ug/l | 99 |
| 89) | 1,2,4-Trimethylbenzene | 15.66 | 105 | 10293904 | 212.98 ug/l | 98 |
| 90) | sec-Butylbenzene | 15.98 | 105 | 13328636 | 206.39 ug/l | 98 |
| 91) | p-Isopropyltoluene | 16.23 | 119 | 10417012 | 212.53 ug/l | 98 |
| 92) | 1,3-Dichlorobenzene | 16.36 | 146 | 5737293 | 213.09 ug/l | 99 |
| 93) | 1,2,3-Trimethylbenzene | 16.50 | 105 | 9628977 | 210.02 ug/l | 99 |
| 94) | 1,4-Dichlorobenzene | 16.56 | 146 | 5655712 | 212.17 ug/l | 98 |
| 95) | n-Butylbenzene | 16.97 | 91 | 9932614 | 217.95 ug/l | 98 |
| 96) | 1,2-Dichlorobenzene | 17.21 | 146 | 4847556 | 207.48 ug/l | 100 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.51 | 157 | 374739 | 248.29 ug/l | 99 |
| 98) | 1,2,4-Trichlorobenzene | 19.55 | 180 | 2583655 | 214.15 ug/l | 100 |
| 99) | Hexachlorobutadiene | 19.71 | 225 | 1265175 | 212.18 ug/l | 100 |
| 100) | Naphthalene | 19.81 | 128 | 5290270 | 227.64 ug/l | 99 |
| 101) | 1,2,3-Trichlorobenzene | 20.06 | 180 | 2260275 | 217.61 ug/l | 98 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP139.D Vial: 9
Acq On : 31 Jan 2024 16:55 Operator: IRagas
Sample : VO02A318 4.00uL Inst : 02
Misc : 200ppb 8260\1000ppb KET-AA\2000ppb TBA-2 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:54 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP140.D Vial: 10
Acq On : 31 Jan 2024 17:20 Operator: IRagas
Sample : VO02A319 6.00uL Inst : 02
Misc : 300ppb 8260\1500ppb KET-AA\3000ppb TBA-2 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:56 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 3080665 | 50.00 | ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 2336058 | 50.00 | ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 741869 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.42 | 111 | 4977358 | 314.85 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 629.70% | | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 4352315 | 311.68 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 623.36% | | |
| 58) Toluene-d8 | 9.90 | 98 | 16918273 | 290.60 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 581.20% | | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 5765063 | 313.26 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 626.52% | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.74 | 85 | 4951695 | 311.76 | ug/l | 98 |
| 3) Chloromethane | 2.00 | 50 | 6714335 | 302.94 | ug/l | 99 |
| 4) Vinyl chloride | 2.09 | 62 | 4288480 | 227.85 | ug/l | 100 |
| 5) Bromomethane | 2.60 | 94 | 4199126 | 301.78 | ug/l | 100 |
| 6) Chloroethane | 2.68 | 64 | 3944043 | 320.21 | ug/l | 98 |
| 7) Dichlorofluoromethane | 2.72 | 67 | 8348221 | 308.03 | ug/l | 99 |
| 8) Trichlorofluoromethane | 2.98 | 101 | 5191316 | 315.98 | ug/l | 100 |
| 9) sec-Propyl Alcohol | 3.28 | 45 | 3404696 | 2898.13 | ug/l | 96 |
| 10) Acrolein | 3.43 | 56 | 2431934 | 1506.13 | ug/l | 97 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.48 | 151 | 3385877 | 321.59 | ug/l | 99 |
| 12) Acetone | 3.51 | 43 | 4825410 | 1357.90 | ug/l | 98 |
| 13) 1,1-Dichloroethene | 3.67 | 61 | 9113363 | 318.50 | ug/l | 99 |
| 14) tert-Butyl alcohol | 3.76 | 59 | 4274518 | 3262.04 | ug/l | 97 |
| 15) Acetonitrile | 3.83 | 41 | 4984239 | 3193.51 | ug/l | 99 |
| 16) Iodomethane | 4.05 | 142 | 7630054 | 322.78 | ug/l | 100 |
| 17) Methyl Acetate | 4.06 | 43 | 3594966 | 297.84 | ug/l | 98 |
| 18) Allyl Chloride | 4.11 | 76 | 3670280 | 326.30 | ug/l | 98 |
| 19) Methylene chloride | 4.27 | 49 | 7281595 | 305.31 | ug/l | 99 |
| 20) Carbon disulfide | 4.25 | 76 | 19397080 | 312.16 | ug/l | 98 |
| 21) Acrylonitrile | 4.40 | 53 | 7798317 | 1556.25 | ug/l | 99 |
| 22) tert-Butyl methyl ether (M | 4.43 | 73 | 14223365 | 313.92 | ug/l | 98 |
| 23) trans-1,2-Dichloroethene | 4.61 | 96 | 6443898 | 318.31 | ug/l | 99 |
| 24) Isopropyl ether (DIPE) | 5.00 | 45 | 21768490 | 299.16 | ug/l | 95 |
| 25) 1,1-Dichloroethane | 5.15 | 63 | 10739838 | 311.31 | ug/l | 98 |
| 26) Vinyl acetate | 5.15 | 43 | 10057077 | 320.20 | ug/l | 98 |
| 28) tert-Butyl ethyl ether (ET | 5.53 | 59 | 19080247 | 310.29 | ug/l | 97 |
| 29) 2-Butanone | 5.69 | 72 | 2216318 | 1626.18 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP140.D Vial: 10
Acq On : 31 Jan 2024 17:20 Operator: IRagas
Sample : VO02A319 6.00uL Inst : 02
Misc : 300ppb 8260\1500ppb KET-AA\3000ppb TBA-2 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:56 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|
| 30) Propionitrile | 5.79 | 54 | 5267324 | 3177.80 ug/l | 99 |
| 31) 2,2-Dichloropropane | 5.86 | 77 | 3758742 | 280.19 ug/l | 97 |
| 32) cis-1,2-Dichloroethene | 5.92 | 96 | 6744186 | 314.74 ug/l | 97 |
| 33) Methylacrynonitrile | 6.06 | 52 | 6273440 | 3046.45 ug/l | 91 |
| 34) Isobutyl Alcohol | 6.08 | 43 | 3878782 | 6075.71 ug/l | 98 |
| 35) Chloroform | 6.14 | 83 | 9485484 | 309.49 ug/l | 97 |
| 36) Bromochloromethane | 6.36 | 130 | 3525745 | 319.13 ug/l | 100 |
| 37) Tetrahydrofuran | 6.39 | 42 | 1202781 | 316.24 ug/l | 97 |
| 39) 1,1,1-Trichloroethane | 6.67 | 97 | 6152380 | 316.53 ug/l | 99 |
| 40) Cyclohexane | 6.68 | 84 | 8881698 | 321.29 ug/l | 99 |
| 41) 1,1-Dichloropropene | 6.89 | 110 | 2861022 | 323.88 ug/l | 100 |
| 42) Carbon tetrachloride | 7.02 | 119 | 5302641 | 320.03 ug/l | 99 |
| 43) tert-Amyl methyl ether (TA | 7.05 | 87 | 3377902 | 324.46 ug/l | 98 |
| 45) 1,2-Dichloroethane | 7.24 | 62 | 5523483 | 313.97 ug/l | 98 |
| 46) Benzene | 7.26 | 78 | 21935916 | 280.14 ug/l | 92 |
| 47) Trichloroethene | 8.12 | 130 | 5990593 | 320.47 ug/l | 100 |
| 48) Methylcyclohexane | 8.19 | 83 | 10478842 | 316.05 ug/l | 99 |
| 49) 1,2-Dichloropropane | 8.37 | 63 | 6130029 | 323.99 ug/l | 100 |
| 50) Methyl Methacrylate | 8.47 | 69 | 3445850 | 324.04 ug/l | 100 |
| 51) Bromodichloromethane | 8.70 | 83 | 6839617 | 319.49 ug/l | 99 |
| 52) 1,4-Dioxane | 8.75 | 88 | 653003 | 6801.50 ug/l | 99 |
| 53) Dibromomethane | 8.79 | 93 | 2991167 | 323.52 ug/l | 99 |
| 55) 4-Methyl-2-pentanone | 9.23 | 43 | 20640776 | 1419.69 ug/l | 92 |
| 56) cis-1,3-Dichloropropene | 9.54 | 75 | 9474600 | 314.52 ug/l | 97 |
| 59) Toluene | 10.02 | 91 | 20573614 | 279.92 ug/l | 91 |
| 60) Ethyl methacrylate | 10.33 | 69 | 6491544 | 329.25 ug/l | 98 |
| 61) trans-1,3-Dichloropropene | 10.31 | 75 | 7571736 | 328.00 ug/l | 98 |
| 62) 1,1,2-Trichloroethane | 10.56 | 97 | 4122545 | 326.44 ug/l | 99 |
| 63) 2-Hexanone | 10.59 | 43 | 14508619 | 1584.03 ug/l | 94 |
| 64) 1,3-Dichloropropane | 10.97 | 76 | 7380918 | 314.84 ug/l | 99 |
| 65) Tetrachloroethene | 11.05 | 164 | 4587419 | 321.59 ug/l | 99 |
| 66) Dibromochloromethane | 11.37 | 129 | 4540499 | 336.56 ug/l | 100 |
| 67) 1,2-Dibromoethane | 11.69 | 107 | 3798838 | 312.36 ug/l | 99 |
| 68) 1-Chlorohexane | 12.00 | 91 | 8582272 | 322.47 ug/l | 98 |
| 69) Chlorobenzene | 12.39 | 112 | 12949612 | 306.86 ug/l | 97 |
| 70) 1,1,1,2-Tetrachloroethane | 12.48 | 131 | 4644499 | 321.15 ug/l | 100 |
| 71) Ethylbenzene | 12.49 | 91 | 20989304 | 269.98 ug/l | 87 |
| 73) o-Xylene | 13.36 | 91 | 16352692 | 295.85 ug/l | 94 |
| 74) Styrene | 13.42 | 104 | 13918444 | 318.64 ug/l | 96 |
| 75) Isopropylbenzene | 13.99 | 105 | 18964926 | 281.83 ug/l | 94 |
| 76) Cis-1,4-Dichloro-2-Butene | 14.09 | 53 | 1280304 | 299.61 ug/l | 95 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP140.D Vial: 10
Acq On : 31 Jan 2024 17:20 Operator: IRagas
Sample : VO02A319 6.00uL Inst : 02
Misc : 300ppb 8260\1500ppb KET-AA\3000ppb TBA-2 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:56 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

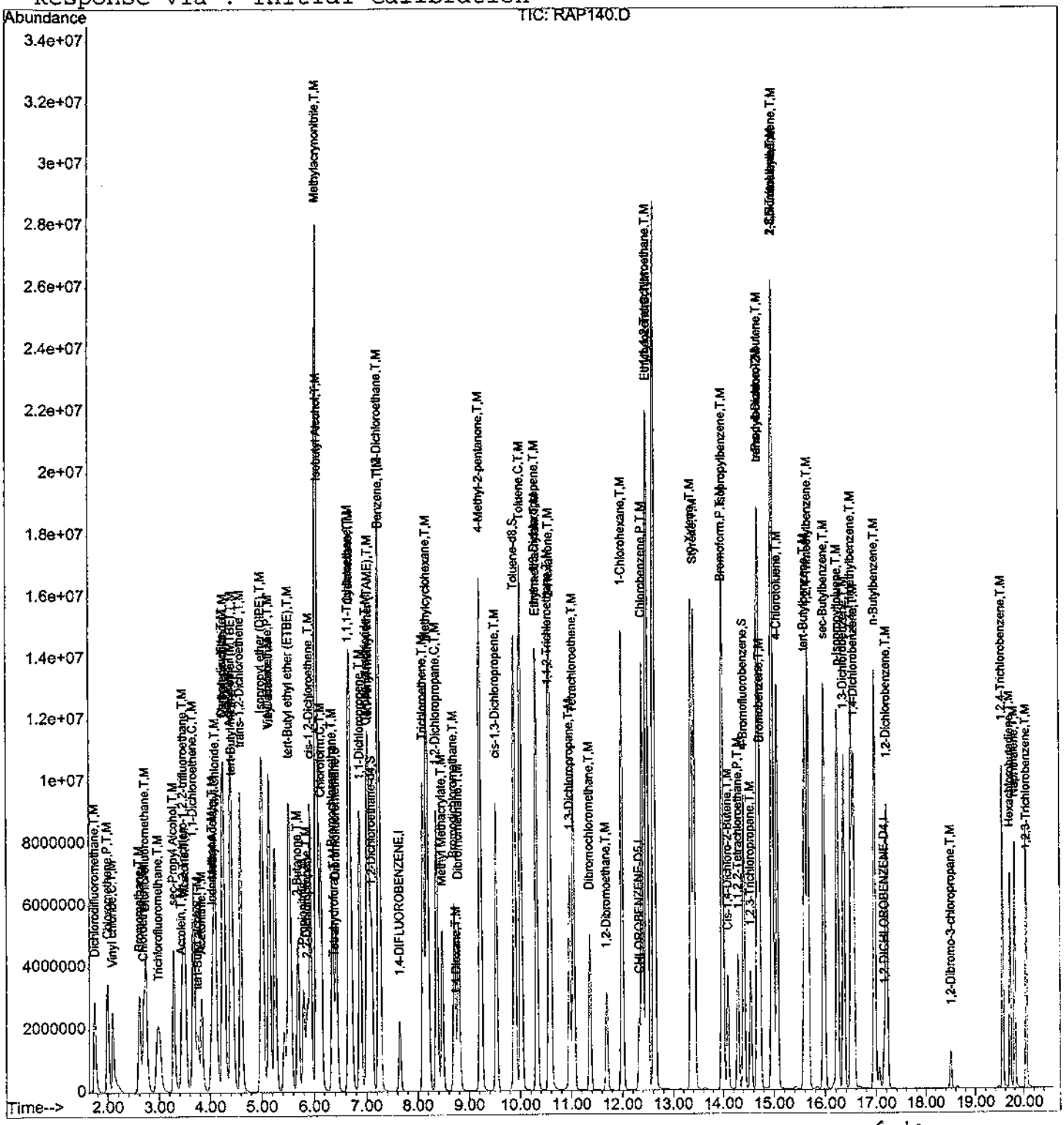
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 78) | Bromoform | 13.97 | 173 | 2307817 | 327.29 | ug/l | 99 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.29 | 83 | 4348121 | 318.96 | ug/l | 100 |
| 81) | 1,2,3-Trichloropropane | 14.54 | 110 | 1043668 | 323.27 | ug/l | 99 |
| 82) | trans-1,4-Dichloro-2-buten | 14.69 | 53 | 1059254 | 294.94 | ug/l | 95 |
| 83) | n-Propylbenzene | 14.69 | 91 | 21162754 | 264.41 | ug/l | 90 |
| 84) | Bromobenzene | 14.73 | 156 | 4992524 | 318.09 | ug/l | 99 |
| 85) | 1,3,5-Trimethylbenzene | 14.97 | 105 | 14630588 | 293.11 | ug/l | 95 |
| 86) | 2-Chlorotoluene | 14.97 | 91 | 15196801 | 298.50 | ug/l | 97 |
| 87) | 4-Chlorotoluene | 15.07 | 91 | 13460793 | 303.11 | ug/l | 93 |
| 88) | tert-Butylbenzene | 15.60 | 134 | 3165786 | 308.86 | ug/l | 99 |
| 89) | 1,2,4-Trimethylbenzene | 15.66 | 105 | 14202392 | 298.87 | ug/l | 95 |
| 90) | sec-Butylbenzene | 15.98 | 105 | 17862603 | 281.32 | ug/l | 95 |
| 91) | p-Isopropyltoluene | 16.24 | 119 | 14291712 | 296.57 | ug/l | 96 |
| 92) | 1,3-Dichlorobenzene | 16.36 | 146 | 8232956 | 311.01 | ug/l | 98 |
| 93) | 1,2,3-Trimethylbenzene | 16.50 | 105 | 13535077 | 300.27 | ug/l | 96 |
| 94) | 1,4-Dichlorobenzene | 16.56 | 146 | 8203700 | 313.02 | ug/l | 98 |
| 95) | n-Butylbenzene | 16.97 | 91 | 13830606 | 308.68 | ug/l | 96 |
| 96) | 1,2-Dichlorobenzene | 17.21 | 146 | 7071580 | 307.84 | ug/l | 99 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.51 | 157 | 535586 | 360.93 | ug/l | 99 |
| 98) | 1,2,4-Trichlorobenzene | 19.55 | 180 | 3905683 | 329.26 | ug/l | 99 |
| 99) | Hexachlorobutadiene | 19.71 | 225 | 1700798 | 290.11 | ug/l | 100 |
| 100) | Naphthalene | 19.81 | 128 | 7723871 | 338.04 | ug/l | 97 |
| 101) | 1,2,3-Trichlorobenzene | 20.06 | 180 | 3299327 | 323.08 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP140.D Vial: 10
Acq On : 31 Jan 2024 17:20 Operator: IRagas
Sample : VO02A319 6.00uL Inst : 02
Misc : 300ppb 8260\1500ppb KET-AA\3000ppb TBA-2 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:56 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP141.D Vial: 11
Acq On : 31 Jan 2024 17:44 Operator: IRagas
Sample : VO02A3110 10.00uL Inst : 02
Misc : 500ppb 8260\2500ppb KET-AA\5000ppb TBA-2 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:58 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 3081601 | 50.00 ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 2236073 | 50.00 ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 667650 | 50.00 ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | |
| 38) Dibromofluoromethane | 6.42 | 111 | 8029494 | 507.76 ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 1015.52% | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 7037775 | 503.84 ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 1007.68% | |
| 58) Toluene-d8 | 9.90 | 98 | 23228073 | 416.82 ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 833.64% | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 8747523 | 528.17 ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 1056.34% | |
| **Target Compounds** | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.75 | 85 | 8179774 | 514.85 ug/l | 98 |
| 3) Chloromethane | 1.99 | 50 | 10761370 | 485.39 ug/l | 97 |
| 4) Vinyl chloride | 2.09 | 62 | 6499929 | 345.24 ug/l | 99 |
| 5) Bromomethane | 2.60 | 94 | 6927009 | 497.68 ug/l | 100 |
| 6) Chloroethane | 2.69 | 64 | 6317931 | 512.78 ug/l | 98 |
| 7) Dichlorofluoromethane | 2.73 | 67 | 13241197 | 488.43 ug/l | 98 |
| 8) Trichlorofluoromethane | 2.97 | 101 | 8371466 | 509.39 ug/l | 100 |
| 9) sec-Propyl Alcohol | 3.28 | 45 | 5385912 | 4583.17 ug/l | 97 |
| 10) Acrolein | 3.43 | 56 | 3995862 | 2473.94 ug/l | 97 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.48 | 151 | 5113116 | 485.50 ug/l | 99 |
| 12) Acetone | 3.51 | 43 | 7779871 | 2188.65 ug/l | 98 |
| 13) 1,1-Dichloroethene | 3.68 | 61 | 14309460 | 499.95 ug/l | 98 |
| 14) tert-Butyl alcohol | 3.77 | 59 | 6985117 | 5328.98 ug/l | 97 |
| 15) Acetonitrile | 3.83 | 41 | 7830145 | 5015.42 ug/l | 100 |
| 16) Iodomethane | 4.05 | 142 | 11942191 | 505.05 ug/l | 99 |
| 17) Methyl Acetate | 4.07 | 43 | 5825036 | 482.45 ug/l | 97 |
| 18) Allyl Chloride | 4.09 | 76 | 5868854 | 521.61 ug/l | 97 |
| 19) Methylene chloride | 4.27 | 49 | 11554522 | 484.33 ug/l | 98 |
| 20) Carbon disulfide | 4.27 | 76 | 29262324 | 470.78 ug/l | 95 |
| 21) Acrylonitrile | 4.40 | 53 | 12400476 | 2473.92 ug/l | 97 |
| 22) tert-Butyl methyl ether (M | 4.43 | 73 | 22186048 | 489.51 ug/l | 96 |
| 23) trans-1,2-Dichloroethene | 4.61 | 96 | 10294089 | 508.34 ug/l | 98 |
| 24) Isopropyl ether (DIPE) | 5.00 | 45 | 31015318 | 426.11 ug/l | 86 |
| 25) 1,1-Dichloroethane | 5.15 | 63 | 16683959 | 483.47 ug/l | 96 |
| 26) Vinyl acetate | 5.15 | 43 | 15670043 | 498.76 ug/l | 96 |
| 28) tert-Butyl ethyl ether (ET | 5.53 | 59 | 28613698 | 465.18 ug/l | 92 |
| 29) 2-Butanone | 5.69 | 72 | 3705868 | 2718.29 ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP141.D Vial: 11
Acq On : 31 Jan 2024 17:44 Operator: IRagas
Sample : VO02A3110 10.00uL Inst : 02
Misc : 500ppb 8260\2500ppb KET-AA\5000ppb TBA-2 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:58 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|
| 30) Propionitrile | 5.81 | 54 | 8527170 | 5142.92 ug/l | 99 |
| 31) 2,2-Dichloropropane | 5.87 | 77 | 5555910 | 414.04 ug/l | 96 |
| 32) cis-1,2-Dichloroethene | 5.92 | 96 | 10864707 | 506.89 ug/l | 94 |
| 34) Isobutyl Alcohol | 6.10 | 43 | 6062528 | 9480.59 ug/l | 98 |
| 35) Chloroform | 6.14 | 83 | 14848791 | 484.33 ug/l | 94 |
| 36) Bromochloromethane | 6.36 | 130 | 5754973 | 520.75 ug/l | 99 |
| 37) Tetrahydrofuran | 6.39 | 42 | 1996336 | 524.72 ug/l | 95 |
| 39) 1,1,1-Trichloroethane | 6.67 | 97 | 9689799 | 498.38 ug/l | 99 |
| 40) Cyclohexane | 6.69 | 84 | 14242348 | 515.05 ug/l | 100 |
| 41) 1,1-Dichloropropene | 6.89 | 110 | 4728266 | 535.10 ug/l | 100 |
| 42) Carbon tetrachloride | 7.02 | 119 | 8409717 | 507.39 ug/l | 100 |
| 43) tert-Amyl methyl ether (TA | 7.05 | 87 | 5599837 | 537.72 ug/l | 98 |
| 45) 1,2-Dichloroethane | 7.24 | 62 | 8807556 | 500.50 ug/l | 98 |
| 47) Trichloroethene | 8.12 | 130 | 9608139 | 513.83 ug/l | 99 |
| 48) Methylcyclohexane | 8.19 | 83 | 16427972 | 495.33 ug/l | 97 |
| 49) 1,2-Dichloropropane | 8.37 | 63 | 9868395 | 521.41 ug/l | 99 |
| 50) Methyl Methacrylate | 8.47 | 69 | 5699201 | 535.78 ug/l | 96 |
| 51) Bromodichloromethane | 8.70 | 83 | 10905467 | 509.26 ug/l | 97 |
| 52) 1,4-Dioxane | 8.75 | 88 | 906241 | 9436.29 ug/l | 99 |
| 53) Dibromomethane | 8.79 | 93 | 4875901 | 527.21 ug/l | 100 |
| 56) cis-1,3-Dichloropropene | 9.54 | 75 | 14681470 | 487.22 ug/l | 94 |
| 60) Ethyl methacrylate | 10.33 | 69 | 10173626 | 539.08 ug/l | 98 |
| 61) trans-1,3-Dichloropropene | 10.31 | 75 | 11723664 | 530.56 ug/l | 96 |
| 62) 1,1,2-Trichloroethane | 10.56 | 97 | 6590037 | 545.16 ug/l | 99 |
| 63) 2-Hexanone | 10.59 | 43 | 20339439 | 2319.92 ug/l | 86 |
| 64) 1,3-Dichloropropane | 10.97 | 76 | 11484376 | 511.78 ug/l | 97 |
| 65) Tetrachloroethene | 11.05 | 164 | 7364917 | 539.39 ug/l | 98 |
| 66) Dibromochloromethane | 11.37 | 129 | 7239385 | 560.60 ug/l | 99 |
| 67) 1,2-Dibromoethane | 11.71 | 107 | 6092040 | 523.32 ug/l | 99 |
| 68) 1-Chlorohexane | 12.00 | 91 | 13195440 | 517.98 ug/l | 96 |
| 69) Chlorobenzene | 12.39 | 112 | 18744466 | 464.05 ug/l | 91 |
| 70) 1,1,1,2-Tetrachloroethane | 12.48 | 131 | 7360397 | 531.71 ug/l | 99 |
| 73) o-Xylene | 13.36 | 91 | 22374264 | 422.89 ug/l | 85 |
| 74) Styrene | 13.43 | 104 | 19812859 | 473.87 ug/l | 89 |
| 75) Isopropylbenzene | 13.99 | 105 | 24429801 | 379.28 ug/l | 85 |
| 76) Cis-1,4-Dichloro-2-Butene | 14.09 | 53 | 2028430 | 495.01 ug/l | 95 |
| 78) Bromoform | 13.97 | 173 | 3659152 | 576.63 ug/l | 99 |
| 79) 1,1,2,2-Tetrachloroethane | 14.30 | 83 | 6719061 | 547.67 ug/l | 99 |
| 81) 1,2,3-Trichloropropane | 14.54 | 110 | 1613747 | 555.41 ug/l | 98 |
| 82) trans-1,4-Dichloro-2-buten | 14.69 | 53 | 1620734 | 499.84 ug/l | 95 |
| 84) Bromobenzene | 14.73 | 156 | 7676552 | 543.48 ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP141.D Vial: 11
Acq On : 31 Jan 2024 17:44 Operator: IRagas
Sample : VO02A3110 10.00uL Inst : 02
Misc : 500ppb 8260\2500ppb KET-AA\5000ppb TBA-2 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:58 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 85) | 1,3,5-Trimethylbenzene | 14.98 | 105 | 20137253 | 448.28 | ug/l | 89 |
| 86) | 2-Chlorotoluene | 14.98 | 91 | 20891514 | 455.97 | ug/l | 90 |
| 87) | 4-Chlorotoluene | 15.07 | 91 | 18775616 | 469.79 | ug/l | 86 |
| 88) | tert-Butylbenzene | 15.60 | 134 | 4890462 | 530.16 | ug/l | 99 |
| 89) | 1,2,4-Trimethylbenzene | 15.67 | 105 | 19695736 | 460.54 | ug/l | 87 |
| 90) | sec-Butylbenzene | 15.98 | 105 | 23707207 | 414.88 | ug/l | 86 |
| 91) | p-Isopropyltoluene | 16.24 | 119 | 19960912 | 460.27 | ug/l | 90 |
| 92) | 1,3-Dichlorobenzene | 16.36 | 146 | 12246961 | 514.07 | ug/l | 97 |
| 93) | 1,2,3-Trimethylbenzene | 16.51 | 105 | 18985660 | 468.01 | ug/l | 92 |
| 94) | 1,4-Dichlorobenzene | 16.56 | 146 | 12166670 | 515.83 | ug/l | 96 |
| 95) | n-Butylbenzene | 16.97 | 91 | 19114148 | 474.02 | ug/l | 90 |
| 96) | 1,2-Dichlorobenzene | 17.21 | 146 | 10566886 | 511.14 | ug/l | 98 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.51 | 157 | 847678 | 634.76 | ug/l | 100 |
| 98) | 1,2,4-Trichlorobenzene | 19.55 | 180 | 5993179 | 561.40 | ug/l | 99 |
| 99) | Hexachlorobutadiene | 19.71 | 225 | 2925069 | 554.40 | ug/l | 99 |
| 100) | Naphthalene | 19.81 | 128 | 11149729 | 542.22 | ug/l | 94 |
| 101) | 1,2,3-Trichlorobenzene | 20.06 | 180 | 5188745 | 564.57 | ug/l | 99 |

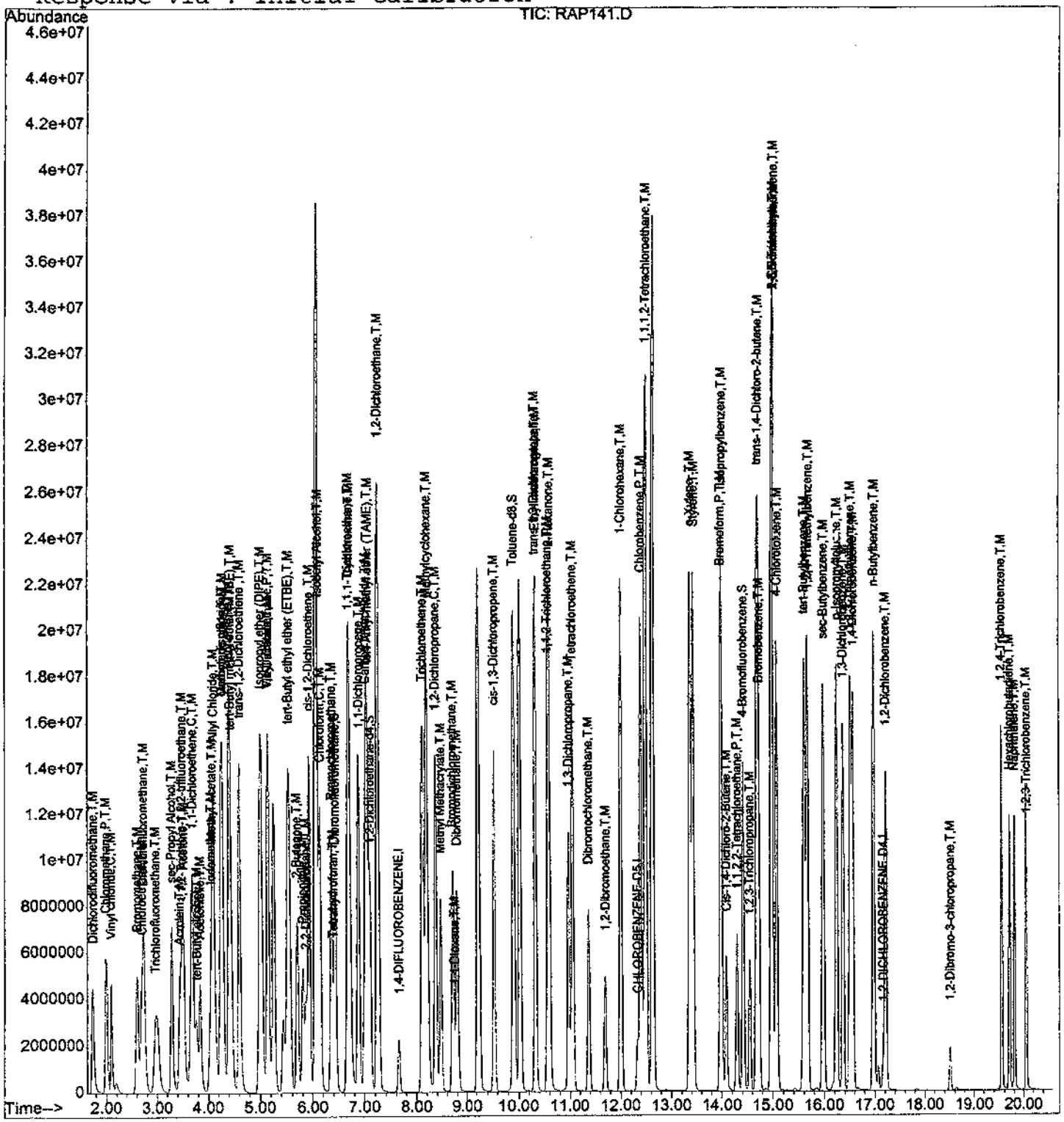
SA 2/7/24

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP141.D Vial: 11
Acq On : 31 Jan 2024 17:44 Operator: IRagas
Sample : VO02A3110 10.00uL Inst : 02
Misc : 500ppb 8260\2500ppb KET-AA\5000ppb TBA-2 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 11:58 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



# SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :02
IC Beginning DateTime :01/31/24 13:50
Spike Amount :50 PPB
CC/CV File :RAP144
IC File :RAP137

Column Spec :RTX502.2 ID :0.25MM
IC Ending DateTime :01/31/24 17:44
HPChem Method :VO02A31
Date_Time :01/31/24 18:58

| M | IDX | Parameters | CC_Con | CC%_D | CC_Resp | CCRRF | AvRRF | CC_RTm | AvRTm | %_RSD | Co_X0 | Co_X1 | Co_X2 | Co_Cor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1,4-DIFLUOROBENZENE | 50.000 | 0 | 2730552 | 1 | 1 | 7.650 | 7.650 | 0 | | | | |
| | 2 | Dichlorodifluoromethane | 55.400 | 10.8 | 779924 | 0.286 | 0.258 | 1.750 | 1.746 | 9.62 | | | | |
| | 3 | Chloromethane | 54.642 | 9.3 | 1073455 | 0.393 | 0.360 | 2.006 | 2.000 | 6.51 | | | | |
| | 4 | Vinyl chloride | 56.207 | 12.4 | 937686 | 0.343 | 0.305 | 2.112 | 2.112 | 9.79 | | | | |
| | 5 | Bromomethane | 53.453 | 6.9 | 659246 | 0.241 | 0.226 | 2.609 | 2.605 | 4.52 | | | | |
| | 6 | Chloroethane | 54.212 | 8.4 | 591858 | 0.217 | 0.200 | 2.700 | 2.692 | 9.82 | | | | |
| | 7 | Dichlorofluoromethane | 54.112 | 8.2 | 1299860 | 0.476 | 0.440 | 2.730 | 2.733 | 6.01 | | | | |
| | 8 | Trichlorofluoromethane | 55.919 | 11.8 | 814305 | 0.298 | 0.267 | 2.971 | 2.976 | 11.95 | | | | |
| 10 | 9 | sec-Propyl Alcohol | 520.147 | 4.0 | 541619 | 0.020 | 0.019 | 3.288 | 3.286 | 5.59 | | | | |
| 5 | 10 | Acrolein | 272.250 | 8.9 | 389640 | 0.029 | 0.026 | 3.439 | 3.441 | 8.53 | | | | |
| | 11 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 51.119 | 2.2 | 477039 | 0.175 | 0.171 | 3.484 | 3.485 | 8.55 | | | | |
| 5 | 12 | Acetone | 247.710 | -0.9 | 780218 | 0.057 | 0.058 | 3.514 | 3.515 | 10.36 | | | | |
| | 13 | 1,1-Dichloroethene | 54.778 | 9.6 | 1389254 | 0.509 | 0.464 | 3.684 | 3.680 | 9.93 | | | | |
| 10 | 14 | tert-Butyl alcohol | 539.294 | 7.9 | 626368 | 0.023 | 0.021 | 3.757 | 3.764 | 14.57 | | | | |
| 10 | 15 | Acetonitrile | 554.367 | 10.9 | 766891 | 0.028 | 0.025 | 3.830 | 3.835 | 10.50 | | | | |
| | 16 | Iodomethane | 52.241 | 4.5 | 1094554 | 0.401 | 0.384 | 4.050 | 4.052 | 10.16 | | | | |
| | 17 | Methyl Acetate | 49.982 | -0.0 | 534732 | 0.196 | 0.196 | 4.065 | 4.068 | 5.56 | | | | |
| | 18 | Allyl Chloride | 52.272 | 4.5 | 521139 | 0.191 | 0.183 | 4.109 | 4.107 | 10.07 | | | | |
| | 19 | Methylene chloride | 51.680 | 3.4 | 1092475 | 0.400 | 0.387 | 4.255 | 4.258 | 4.55 | | | | |
| | 20 | Carbon disulfide | 56.381 | 12.8 | 3105264 | 1.137 | 1.009 | 4.269 | 4.266 | 11.83 | | | | |
| 5 | 21 | Acrylonitrile | 262.338 | 4.9 | 1165171 | 0.085 | 0.081 | 4.401 | 4.405 | 10.07 | | | | |
| | 22 | tert-Butyl methyl ether (MTBE) | 53.262 | 6.5 | 2138981 | 0.783 | 0.735 | 4.431 | 4.434 | 8.72 | | | | |
| | 23 | trans-1,2-Dichloroethene | 53.292 | 6.6 | 956254 | 0.350 | 0.329 | 4.606 | 4.606 | 8.71 | | | | |
| | 24 | Isopropyl ether (DIPE) | 54.783 | 9.6 | 3533288 | 1.294 | 1.181 | 5.001 | 5.011 | 9.95 | | | | |
| | 25 | 1,1-Dichloroethane | 53.893 | 7.8 | 1647948 | 0.604 | 0.560 | 5.148 | 5.148 | 8.39 | | | | |
| | 26 | Vinyl acetate | 55.870 | 11.7 | 1555384 | 0.570 | 0.510 | 5.162 | 5.154 | 12.16 | | | | |
| 10 | 27 | 2-Butanol | | | | | | | | | | | | |
| | 28 | tert-Butyl ethyl ether (ETBE) | 54.301 | 8.6 | 2959604 | 1.084 | 0.998 | 5.528 | 5.531 | 8.91 | | | | |
| 5 | 29 | 2-Butanone | 263.785 | 5.5 | 318654 | 0.023 | 0.022 | 5.689 | 5.694 | 14.91 | | | | |
| 10 | 30 | Propionitrile | 537.935 | 7.6 | 790314 | 0.029 | 0.027 | 5.792 | 5.797 | 11.20 | | | | |
| | 31 | 2,2-Dichloropropane | 56.703 | 13.4 | 674218 | 0.247 | 0.218 | 5.865 | 5.865 | 9.26 | | | | |
| | 32 | cis-1,2-Dichloroethene | 53.132 | 6.3 | 1009112 | 0.370 | 0.348 | 5.938 | 5.932 | 7.71 | | | | |
| 10 | 33 | Methylacrylonitrile | 533.267 | 6.7 | 973335 | 0.036 | 0.033 | 6.055 | 6.055 | 10.30 | | | | |
| 20 | 34 | Isobutyl Alcohol | 1010.435 | 1.0 | 560949 | 0.010 | 0.009 | 6.084 | 6.089 | 20.66 | -0.0047 | 0.0104 | | 0.9984 |
| | 35 | Chloroform | 52.853 | 5.7 | 1435812 | 0.526 | 0.497 | 6.143 | 6.143 | 6.48 | | | | |
| | 36 | Bromochloromethane | 52.433 | 4.9 | 513444 | 0.188 | 0.179 | 6.362 | 6.362 | 9.87 | | | | |
| | 37 | Tetrahydrofuran | 51.189 | 2.4 | 172566 | 0.063 | 0.062 | 6.406 | 6.401 | 8.10 | | | | |
| | 38 | Dibromofluoromethane | 51.111 | 2.2 | 716183 | 0.262 | 0.257 | 6.436 | 6.427 | 9.28 | | | | |
| | 39 | 1,1,1-Trichloroethane | 55.689 | 11.4 | 959413 | 0.351 | 0.315 | 6.670 | 6.671 | 9.34 | | | | |
| | 40 | Cyclohexane | 52.551 | 5.1 | 1287629 | 0.472 | 0.449 | 6.684 | 6.686 | 8.87 | | | | |
| | 41 | 1,1-Dichloropropene | 54.288 | 8.6 | 425058 | 0.156 | 0.143 | 6.889 | 6.886 | 9.68 | | | | |
| | 42 | Carbon tetrachloride | 53.090 | 6.2 | 779696 | 0.286 | 0.269 | 7.021 | 7.018 | 8.62 | | | | |
| | 43 | tert-Amyl methyl ether (TAME) | 51.817 | 3.6 | 478156 | 0.175 | 0.169 | 7.050 | 7.050 | 10.95 | | | | |
| | 44 | 1,2-Dichloroethane-d4 | 50.706 | 1.4 | 627604 | 0.230 | 0.227 | 7.109 | 7.109 | 8.52 | | | | |
| | 45 | 1,2-Dichloroethane | 53.736 | 7.5 | 837908 | 0.307 | 0.286 | 7.240 | 7.238 | 9.66 | | | | |
| | 46 | Benzene | 54.834 | 9.7 | 3805749 | 1.394 | 1.271 | 7.255 | 7.253 | 8.81 | | | | |
| | 47 | Trichloroethene | 54.449 | 8.9 | 902154 | 0.330 | 0.303 | 8.119 | 8.117 | 9.84 | | | | |
| | 48 | Methylcyclohexane | 55.686 | 11.4 | 1636502 | 0.599 | 0.538 | 8.192 | 8.192 | 10.06 | | | | |
| | 49 | 1,2-Dichloropropane | 54.212 | 8.4 | 909164 | 0.333 | 0.307 | 8.367 | 8.370 | 11.29 | | | | |
| | 50 | Methyl Methacrylate | 52.246 | 4.5 | 492441 | 0.180 | 0.173 | 8.470 | 8.472 | 12.40 | | | | |
| | 51 | Bromodichloromethane | 54.048 | 8.1 | 1025558 | 0.376 | 0.347 | 8.719 | 8.712 | 9.23 | | | | |
| 20 | 52 | 1,4-Dioxane | 1143.759 | 14.4 | 97331 | 0.002 | 0.002 | 8.748 | 8.752 | 14.14 | | | | |
| | 53 | Dibromomethane | 53.131 | 6.3 | 435406 | 0.159 | 0.150 | 8.792 | 8.792 | 10.15 | | | | |
| | 54 | 2-Chloroethyl vinyl ether | | | | | | | | | | | | |
| 5 | 55 | 4-Methyl-2-pentanone | 279.534 | 11.8 | 3602239 | 0.264 | 0.236 | 9.231 | 9.233 | 12.81 | | | | |
| | 56 | cis-1,3-Dichloropropene | 54.172 | 8.3 | 1446413 | 0.530 | 0.489 | 9.538 | 9.538 | 9.73 | | | | |
| | 57 | CHLOROBENZENE-D5 | 50.000 | 0 | 2153710 | 1 | 1 | 12.334 | 12.332 | 0 | | | | |
| | 58 | Toluene-d8 | 54.100 | 8.2 | 2903769 | 1.348 | 1.246 | 9.904 | 9.903 | 9.31 | | | | |
| | 59 | Toluene | 54.385 | 8.8 | 3685243 | 1.711 | 1.573 | 10.021 | 10.021 | 8.67 | | | | |
| | 60 | Ethyl methacrylate | 52.874 | 5.7 | 961106 | 0.446 | 0.422 | 10.329 | 10.327 | 13.62 | | | | |
| | 61 | trans-1,3-Dichloropropene | 53.285 | 6.6 | 1134056 | 0.527 | 0.494 | 10.314 | 10.319 | 12.32 | | | | |
| | 62 | 1,1,2-Trichloroethane | 53.009 | 6.0 | 617190 | 0.287 | 0.270 | 10.563 | 10.563 | 11.88 | | | | |
| 5 | 63 | 2-Hexanone | 271.904 | 8.8 | 2296063 | 0.213 | 0.196 | 10.592 | 10.594 | 14.47 | | | | |
| | 64 | 1,3-Dichloropropane | 52.344 | 4.7 | 1131334 | 0.525 | 0.502 | 10.973 | 10.971 | 8.33 | | | | |
| | 65 | Tetrachloroethene | 53.527 | 7.1 | 703950 | 0.327 | 0.305 | 11.046 | 11.047 | 8.75 | | | | |
| | 66 | Dibromochloromethane | 53.864 | 7.7 | 669961 | 0.311 | 0.289 | 11.368 | 11.371 | 14.40 | | | | |
| | 67 | 1,2-Dibromoethane | 50.602 | 1.2 | 567381 | 0.263 | 0.260 | 11.704 | 11.697 | 7.54 | | | | |
| | 68 | 1-Chlorohexane | 55.852 | 11.7 | 1370407 | 0.636 | 0.570 | 11.997 | 11.997 | 10.70 | | | | |
| | 69 | Chlorobenzene | 54.897 | 9.8 | 2135818 | 0.992 | 0.903 | 12.392 | 12.392 | 9.21 | | | | |
| | 70 | 1,1,1,2-Tetrachloroethane | 52.657 | 5.3 | 702085 | 0.326 | 0.310 | 12.480 | 12.472 | 10.50 | | | | |
| | 71 | Ethylbenzene | 55.513 | 11.0 | 3979031 | 1.848 | 1.664 | 12.495 | 12.495 | 8.41 | | | | |
| 2 | 72 | m-Xylene & p-Xylene | 111.355 | 11.4 | 5979636 | 1.388 | 1.247 | 12.626 | 12.626 | 7.81 | | | | |
| | 73 | o-Xylene | 56.059 | 12.1 | 2856791 | 1.326 | 1.183 | 13.358 | 13.358 | 9.58 | | | | |
| | 74 | Styrene | 56.642 | 13.3 | 2281053 | 1.059 | 0.935 | 13.417 | 13.424 | 13.00 | | | | |
| | 75 | Isopropylbenzene | 56.216 | 12.4 | 3487609 | 1.619 | 1.440 | 13.988 | 13.988 | 8.73 | | | | |
| | 76 | Cis-1,4-Dichloro-2-Butene | 48.276 | -3.4 | 185675 | 0.086 | 0.080 | 14.090 | 14.092 | 20.77 | -0.0025 | 0.0919 | | 0.9996 |
| | 77 | 1,2-DICHLOROBENZENE-D4 | 50.000 | 0 | 683560 | 1 | 1 | 17.163 | 17.163 | 0 | | | | |
| | 78 | Bromoform | 52.245 | 4.5 | 339438 | 0.497 | 0.475 | 13.973 | 13.975 | 13.01 | | | | |
| | 79 | 1,1,2,2-Tetrachloroethane | 54.768 | 9.5 | 687938 | 1.006 | 0.919 | 14.295 | 14.295 | 11.45 | | | | |
| | 80 | 4-Bromofluorobenzene | 54.601 | 9.2 | 925858 | 1.354 | 1.240 | 14.412 | 14.413 | 8.65 | | | | |
| | 81 | 1,2,3-Trichloropropane | 53.264 | 6.5 | 158448 | 0.232 | 0.218 | 14.544 | 14.548 | 10.90 | | | | |
| | 82 | trans-1,4-Dichloro-2-butene | 49.163 | -1.7 | 156290 | 0.229 | 0.217 | 14.690 | 14.690 | 15.94 | -0.0112 | 0.2439 | | 0.9995 |
| | 83 | n-Propylbenzene | 58.218 | 16.4 | 4293434 | 6.281 | 5.394 | 14.690 | 14.690 | 8.97 | | | | |
| | 84 | Bromobenzene | 52.457 | 4.9 | 758610 | 1.110 | 1.058 | 14.734 | 14.732 | 8.42 | | | | |
| | 85 | 1,3,5-Trimethylbenzene | 57.518 | 15.0 | 2645378 | 3.870 | 3.364 | 14.968 | 14.971 | 8.95 | | | | |
| | 86 | 2-Chlorotoluene | 56.245 | 12.5 | 2638426 | 3.860 | 3.431 | 14.968 | 14.974 | 7.32 | | | | |
| | 87 | 4-Chlorotoluene | 55.363 | 10.7 | 2265343 | 3.314 | 2.993 | 15.056 | 15.063 | 9.54 | | | | |
| | 88 | tert-Butylbenzene | 55.265 | 10.5 | 521950 | 0.764 | 0.691 | 15.597 | 15.597 | 8.62 | | | | |
| | 89 | 1,2,4-Trimethylbenzene | 57.111 | 14.2 | 2500664 | 3.658 | 3.203 | 15.656 | 15.659 | 8.81 | | | | |
| | 90 | sec-Butylbenzene | 57.894 | 15.8 | 3387077 | 4.955 | 4.279 | 15.978 | 15.978 | 9.01 | | | | |
| | 91 | p-Isopropyltoluene | 58.407 | 16.8 | 2593409 | 3.794 | 3.248 | 16.241 | 16.234 | 9.79 | | | | |
| | 92 | 1,3-Dichlorobenzene | 55.135 | 10.3 | 1344816 | 1.967 | 1.784 | 16.358 | 16.358 | 8.59 | | | | |
| | 93 | 1,2,3-Trimethylbenzene | 56.596 | 13.2 | 2350683 | 3.439 | 3.038 | 16.505 | 16.505 | 8.67 | | | | |
| | 94 | 1,4-Dichlorobenzene | 54.250 | 8.5 | 1310057 | 1.917 | 1.766 | 16.563 | 16.559 | 8.70 | | | | |
| | 95 | n-Butylbenzene | 59.431 | 18.9 | 2453595 | 3.589 | 3.020 | 16.973 | 16.973 | 11.13 | | | | |
| | 96 | 1,2-Dichlorobenzene | 53.450 | 6.9 | 1131320 | 1.655 | 1.548 | 17.207 | 17.207 | 7.52 | | | | |
| | 97 | 1,2-Dibromo-3-chloropropane | 56.739 | 13.5 | 77578 | 0.113 | 0.100 | 18.510 | 18.510 | 14.39 | | | | |
| | 98 | 1,2,4-Trichlorobenzene | 55.548 | 11.1 | 607130 | 0.888 | 0.799 | 19.549 | 19.553 | 11.68 | | | | |
| | 99 | Hexachlorobutadiene | 53.527 | 7.1 | 289146 | 0.423 | 0.395 | 19.710 | 19.710 | 7.32 | | | | |
| | 100 | Naphthalene | 55.607 | 11.2 | 1170702 | 1.713 | 1.540 | 19.812 | 19.813 | 13.71 | | | | |
| | 101 | 1,2,3-Trichlorobenzene | 54.744 | 9.5 | 515122 | 0.754 | 0.688 | 20.061 | 20.060 | 11.05 | | | | |

Spike Amount = Nominal Amount * M

SW 2/7/24

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D Vial: 14
Acq On : 31 Jan 2024 18:58 Operator: IRagas
Sample : IVO02A311 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 50.000 | 50.000 | 0.0 | 95 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 50.000 | 55.401 | -10.8 | 97 | 0.00 |
| 3 | P,T,M | Chloromethane | 50.000 | 54.643 | -9.3 | 96 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 50.000 | 56.208 | -12.4 | 100 | 0.00 |
| 5 | T,M | Bromomethane | 50.000 | 53.453 | -6.9 | 99 | 0.00 |
| 6 | T,M | Chloroethane | 50.000 | 54.212 | -8.4 | 96 | 0.00 |
| 7 | T,M | Dichlorofluoromethane | 50.000 | 54.112 | -8.2 | 96 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 50.000 | 55.919 | -11.8 | 95 | 0.00 |
| 9 | T,M | sec-Propyl Alcohol | 500.000 | 520.148 | -4.0 | 96 | 0.00 |
| 10 | T,M | Acrolein | 250.000 | 272.250 | -8.9 | 90 | 0.00 |
| 11 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 50.000 | 51.119 | -2.2 | 90 | 0.00 |
| 12 | T,M | Acetone | 250.000 | 247.711 | 0.9 | 88 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 50.000 | 54.779 | -9.6 | 95 | 0.00 |
| 14 | T,M | tert-Butyl alcohol | 500.000 | 539.295 | -7.9 | 91 | 0.00 |
| 15 | T,M | Acetonitrile | 500.000 | 554.367 | -10.9 | 93 | 0.00 |
| 16 | T,M | Iodomethane | 50.000 | 52.241 | -4.5 | 92 | 0.00 |
| 17 | T,M | Methyl Acetate | 50.000 | 49.982 | 0.0 | 89 | 0.00 |
| 18 | T,M | Allyl Chloride | 50.000 | 52.272 | -4.5 | 93 | 0.00 |
| 19 | T,M | Methylene chloride | 50.000 | 51.680 | -3.4 | 93 | 0.00 |
| 20 | T,M | Carbon disulfide | 50.000 | 56.381 | -12.8 | 97 | 0.00 |
| 21 | T,M | Acrylonitrile | 250.000 | 262.339 | -4.9 | 89 | 0.00 |
| 22 | T,M | tert-Butyl methyl ether (MT | 50.000 | 53.262 | -6.5 | 93 | 0.00 |
| 23 | T,M | trans-1,2-Dichloroethene | 50.000 | 53.293 | -6.6 | 94 | 0.00 |
| 24 | T,M | Isopropyl ether (DIPE) | 50.000 | 54.783 | -9.6 | 94 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 50.000 | 53.894 | -7.8 | 95 | 0.00 |
| 26 | T,M | Vinyl acetate | 50.000 | 55.870 | -11.7 | 95 | 0.02 |
| 27 | T,M | 2-Butanol | 500.000 | 0.000 | 100.0# | 0 | 0.00 |
| 28 | T,M | tert-Butyl ethyl ether (ETB | 50.000 | 54.301 | -8.6 | 94 | 0.00 |
| 29 | T,M | 2-Butanone | 250.000 | 263.786 | -5.5 | 88 | 0.00 |
| 30 | T,M | Propionitrile | 500.000 | 537.936 | -7.6 | 92 | 0.00 |
| 31 | T,M | 2,2-Dichloropropane | 50.000 | 56.703 | -13.4 | 98 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 50.000 | 53.132 | -6.3 | 94 | 0.00 |
| 33 | T,M | Methylacrynonitrile | 500.000 | 533.267 | -6.7 | 92 | 0.00 |
| 34 | T,M | Isobutyl Alcohol | 1000.000 | 1010.435 | -1.0 | 92 | 0.00 |
| 35 | C,T,M | Chloroform | 50.000 | 52.854 | -5.7 | 93 | 0.00 |
| 36 | T,M | Bromochloromethane | 50.000 | 52.433 | -4.9 | 92 | 0.00 |
| 37 | T,M | Tetrahydrofuran | 50.000 | 51.189 | -2.4 | 90 | 0.00 |
| 38 | S | Dibromofluoromethane | 50.000 | 51.112 | -2.2 | 91 | 0.02 |
| 39 | T,M | 1,1,1-Trichloroethane | 50.000 | 55.690 | -11.4 | 96 | 0.00 |
| 40 | T,M | Cyclohexane | 50.000 | 52.551 | -5.1 | 93 | 0.00 |
| 41 | T,M | 1,1-Dichloropropene | 50.000 | 54.288 | -8.6 | 97 | 0.00 |

(#) = Out of Range



SM 2/7/24

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D Vial: 14
Acq On : 31 Jan 2024 18:58 Operator: IRagas
Sample : IVO02A311 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 42 | T,M | Carbon tetrachloride | 50.000 | 53.090 | -6.2 | 94 | 0.02 |
| 43 | T,M | tert-Amyl methyl ether (TAM | 50.000 | 51.817 | -3.6 | 93 | 0.00 |
| 44 | S | 1,2-Dichloroethane-d4 | 50.000 | 50.707 | -1.4 | 90 | 0.00 |
| 45 | T,M | 1,2-Dichloroethane | 50.000 | 53.736 | -7.5 | 93 | 0.00 |
| 46 | T,M | Benzene | 50.000 | 54.835 | -9.7 | 94 | 0.00 |
| 47 | T,M | Trichloroethene | 50.000 | 54.449 | -8.9 | 95 | 0.00 |
| 48 | T,M | Methylcyclohexane | 50.000 | 55.686 | -11.4 | 95 | 0.00 |
| 49 | C,T,M | 1,2-Dichloropropane | 50.000 | 54.213 | -8.4 | 93 | 0.00 |
| 50 | T,M | Methyl Methacrylate | 50.000 | 52.246 | -4.5 | 92 | 0.00 |
| 51 | T,M | Bromodichloromethane | 50.000 | 54.048 | -8.1 | 94 | 0.02 |
| 52 | T,M | 1,4-Dioxane | 1000.000 | 1143.760 | -14.4 | 93 | 0.00 |
| 53 | T,M | Dibromomethane | 50.000 | 53.132 | -6.3 | 93 | 0.00 |
| 54 | T,M | 2-Chloroethyl vinyl ether | 50.000 | 0.000 | 100.0# | 0 | 0.02 |
| 55 | T,M | 4-Methyl-2-pentanone | 250.000 | 279.534 | -11.8 | 89 | 0.00 |
| 56 | T,M | cis-1,3-Dichloropropene | 50.000 | 54.172 | -8.3 | 94 | 0.00 |
| 57 | I | CHLOROBENZENE-D5 | 50.000 | 50.000 | 0.0 | 96 | 0.00 |
| 58 | S | Toluene-d8 | 50.000 | 54.100 | -8.2 | 95 | 0.00 |
| 59 | C,T,M | Toluene | 50.000 | 54.385 | -8.8 | 94 | 0.00 |
| 60 | T,M | Ethyl methacrylate | 50.000 | 52.875 | -5.8 | 94 | 0.00 |
| 61 | T,M | trans-1,3-Dichloropropene | 50.000 | 53.285 | -6.6 | 93 | 0.00 |
| 62 | T,M | 1,1,2-Trichloroethane | 50.000 | 53.010 | -6.0 | 92 | 0.00 |
| 63 | T,M | 2-Hexanone | 250.000 | 271.905 | -8.8 | 88 | 0.00 |
| 64 | T,M | 1,3-Dichloropropane | 50.000 | 52.344 | -4.7 | 93 | 0.00 |
| 65 | T,M | Tetrachloroethene | 50.000 | 53.528 | -7.1 | 96 | 0.00 |
| 66 | T,M | Dibromochloromethane | 50.000 | 53.865 | -7.7 | 93 | 0.00 |
| 67 | T,M | 1,2-Dibromoethane | 50.000 | 50.603 | -1.2 | 92 | 0.02 |
| 68 | T,M | 1-Chlorohexane | 50.000 | 55.852 | -11.7 | 97 | 0.00 |
| 69 | P,T,M | Chlorobenzene | 50.000 | 54.897 | -9.8 | 95 | 0.00 |
| 70 | T,M | 1,1,1,2-Tetrachloroethane | 50.000 | 52.658 | -5.3 | 93 | 0.02 |
| 71 | C,T,M | Ethylbenzene | 50.000 | 55.514 | -11.0 | 95 | 0.00 |
| 72 | T,M | m-Xylene & p-Xylene | 100.000 | 111.355 | -11.4 | 95 | 0.00 |
| 73 | T,M | o-Xylene | 50.000 | 56.060 | -12.1 | 95 | 0.00 |
| 74 | T,M | Styrene | 50.000 | 56.643 | -13.3 | 94 | 0.00 |
| 75 | T,M | Isopropylbenzene | 50.000 | 56.216 | -12.4 | 95 | 0.00 |
| 76 | T,M | Cis-1,4-Dichloro-2-Butene | 50.000 | 48.276 | 3.4 | 90 | 0.00 |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 50.000 | 50.000 | 0.0 | 92 | 0.00 |
| 78 | P,T,M | Bromoform | 50.000 | 52.246 | -4.5 | 93 | 0.00 |
| 79 | P,T,M | 1,1,2,2-Tetrachloroethane | 50.000 | 54.768 | -9.5 | 92 | 0.00 |
| 80 | S | 4-Bromofluorobenzene | 50.000 | 54.601 | -9.2 | 95 | 0.00 |

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D Vial: 14
Acq On : 31 Jan 2024 18:58 Operator: IRagas
Sample : IVO02A311 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 81 | T,M | 1,2,3-Trichloropropane | 50.000 | 53.264 | -6.5 | 91 | 0.00 |
| 82 | T,M | trans-1,4-Dichloro-2-butene | 50.000 | 49.163 | 1.7 | 91 | 0.00 |
| 83 | T,M | n-Propylbenzene | 50.000 | 58.218 | -16.4 | 96 | 0.00 |
| 84 | T,M | Bromobenzene | 50.000 | 52.457 | -4.9 | 92 | 0.00 |
| 85 | T,M | 1,3,5-Trimethylbenzene | 50.000 | 57.519 | -15.0 | 94 | 0.00 |
| 86 | T,M | 2-Chlorotoluene | 50.000 | 56.245 | -12.5 | 96 | 0.00 |
| 87 | T,M | 4-Chlorotoluene | 50.000 | 55.363 | -10.7 | 90 | 0.00 |
| 88 | T,M | tert-Butylbenzene | 50.000 | 55.266 | -10.5 | 94 | 0.00 |
| 89 | T,M | 1,2,4-Trimethylbenzene | 50.000 | 57.112 | -14.2 | 94 | 0.00 |
| 90 | T,M | sec-Butylbenzene | 50.000 | 57.894 | -15.8 | 95 | 0.00 |
| 91 | T,M | p-Isopropyltoluene | 50.000 | 58.408 | -16.8 | 93 | 0.02 |
| 92 | T,M | 1,3-Dichlorobenzene | 50.000 | 55.135 | -10.3 | 93 | 0.00 |
| 93 | T,M | 1,2,3-Trimethylbenzene | 50.000 | 56.597 | -13.2 | 92 | 0.00 |
| 94 | T,M | 1,4-Dichlorobenzene | 50.000 | 54.250 | -8.5 | 91 | 0.02 |
| 95 | T,M | n-Butylbenzene | 50.000 | 59.432 | -18.9 | 94 | 0.00 |
| 96 | T,M | 1,2-Dichlorobenzene | 50.000 | 53.450 | -6.9 | 91 | 0.00 |
| 97 | T,M | 1,2-Dibromo-3-chloropropane | 50.000 | 56.740 | -13.5 | 92 | 0.00 |
| 98 | T,M | 1,2,4-Trichlorobenzene | 50.000 | 55.548 | -11.1 | 92 | 0.00 |
| 99 | T,M | Hexachlorobutadiene | 50.000 | 53.527 | -7.1 | 93 | 0.00 |
| 100 | T,M | Naphthalene | 50.000 | 55.607 | -11.2 | 90 | 0.00 |
| 101 | T,M | 1,2,3-Trichlorobenzene | 50.000 | 54.744 | -9.5 | 92 | 0.00 |

Sa 2/7/24

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D  Vial: 14
Acq On : 31 Jan 2024 18:58  Operator: IRagas
Sample : IVO02A311 1.00uL  Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But  Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 95 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.258 | 0.286 | -10.9 | 97 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.360 | 0.393 | -9.2 | 96 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.305 | 0.343 | -12.5 | 100 | 0.00 |
| 5 | T,M | Bromomethane | 0.226 | 0.241 | -6.6 | 99 | 0.00 |
| 6 | T,M | Chloroethane | 0.200 | 0.217 | -8.5 | 96 | 0.00 |
| 7 | T,M | Dichlorofluoromethane | 0.440 | 0.476 | -8.2 | 96 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.267 | 0.298 | -11.6 | 95 | 0.00 |
| 9 | T,M | sec-Propyl Alcohol | 0.019 | 0.020 | -5.3 | 96 | 0.00 |
| 10 | T,M | Acrolein | 0.026 | 0.029 | -11.5 | 90 | 0.00 |
| 11 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 0.171 | 0.175 | -2.3 | 90 | 0.00 |
| 12 | T,M | Acetone | 0.058 | 0.057 | 1.7 | 88 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.464 | 0.509 | -9.7 | 95 | 0.00 |
| 14 | T,M | tert-Butyl alcohol | 0.021 | 0.023 | -9.5 | 91 | 0.00 |
| 15 | T,M | Acetonitrile | 0.025 | 0.028 | -12.0 | 93 | 0.00 |
| 16 | T,M | Iodomethane | 0.384 | 0.401 | -4.4 | 92 | 0.00 |
| 17 | T,M | Methyl Acetate | 0.196 | 0.196 | 0.0 | 89 | 0.00 |
| 18 | T,M | Allyl Chloride | 0.183 | 0.191 | -4.4 | 93 | 0.00 |
| 19 | T,M | Methylene chloride | 0.387 | 0.400 | -3.4 | 93 | 0.00 |
| 20 | T,M | Carbon disulfide | 1.009 | 1.137 | -12.7 | 97 | 0.00 |
| 21 | T,M | Acrylonitrile | 0.081 | 0.085 | -4.9 | 89 | 0.00 |
| 22 | T,M | tert-Butyl methyl ether (MT | 0.735 | 0.783 | -6.5 | 93 | 0.00 |
| 23 | T,M | trans-1,2-Dichloroethene | 0.329 | 0.350 | -6.4 | 94 | 0.00 |
| 24 | T,M | Isopropyl ether (DIPE) | 1.181 | 1.294 | -9.6 | 94 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.560 | 0.604 | -7.9 | 95 | 0.00 |
| 26 | T,M | Vinyl acetate | 0.510 | 0.570 | -11.8 | 95 | 0.02 |
| 27 | T,M | 2-Butanol | 0.000 | 0.019 | 0.0 | 0# | 0.00 |
| 28 | T,M | tert-Butyl ethyl ether (ETB | 0.998 | 1.084 | -8.6 | 94 | 0.00 |
| 29 | T,M | 2-Butanone | 0.022 | 0.023 | -4.5 | 88 | 0.00 |
| 30 | T,M | Propionitrile | 0.027 | 0.029 | -7.4 | 92 | 0.00 |
| 31 | T,M | 2,2-Dichloropropane | 0.218 | 0.247 | -13.3 | 98 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.348 | 0.370 | -6.3 | 94 | 0.00 |
| 33 | T,M | Methylacrynonitrile | 0.033 | 0.036 | -9.1 | 92 | 0.00 |
| 34 | T,M | Isobutyl Alcohol | 0.009 | 0.010 | -11.1 | 92 | 0.00 |
| 35 | C,T,M | Chloroform | 0.497 | 0.526 | -5.8 | 93 | 0.00 |
| 36 | T,M | Bromochloromethane | 0.179 | 0.188 | -5.0 | 92 | 0.00 |
| 37 | T,M | Tetrahydrofuran | 0.062 | 0.063 | -1.6 | 90 | 0.00 |
| 38 | S | Dibromofluoromethane | 0.257 | 0.262 | -1.9 | 91 | 0.02 |
| 39 | T,M | 1,1,1-Trichloroethane | 0.315 | 0.351 | -11.4 | 96 | 0.00 |
| 40 | T,M | Cyclohexane | 0.449 | 0.472 | -5.1 | 93 | 0.00 |
| 41 | T,M | 1,1-Dichloropropene | 0.143 | 0.156 | -9.1 | 97 | 0.00 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D  Vial: 14
Acq On : 31 Jan 2024 18:58  Operator: IRagas
Sample : IVO02A311 1.00uL  Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But  Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000  Min. Rel. Area : 50%  Max. R.T. Dev 0.16min
Max. RRF Dev : 20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 42 | T,M | Carbon tetrachloride | 0.269 | 0.286 | -6.3 | 94 | 0.02 |
| 43 | T,M | tert-Amyl methyl ether (TAM | 0.169 | 0.175 | -3.6 | 93 | 0.00 |
| 44 | S | 1,2-Dichloroethane-d4 | 0.227 | 0.230 | -1.3 | 90 | 0.00 |
| 45 | T,M | 1,2-Dichloroethane | 0.286 | 0.307 | -7.3 | 93 | 0.00 |
| 46 | T,M | Benzene | 1.271 | 1.394 | -9.7 | 94 | 0.00 |
| 47 | T,M | Trichloroethene | 0.303 | 0.330 | -8.9 | 95 | 0.00 |
| 48 | T,M | Methylcyclohexane | 0.538 | 0.599 | -11.3 | 95 | 0.00 |
| 49 | C,T,M | 1,2-Dichloropropane | 0.307 | 0.333 | -8.5 | 93 | 0.00 |
| 50 | T,M | Methyl Methacrylate | 0.173 | 0.180 | -4.0 | 92 | 0.00 |
| 51 | T,M | Bromodichloromethane | 0.347 | 0.376 | -8.4 | 94 | 0.02 |
| 52 | T,M | 1,4-Dioxane | 0.002 | 0.002 | 0.0 | 93 | 0.00 |
| 53 | T,M | Dibromomethane | 0.150 | 0.159 | -6.0 | 93 | 0.00 |
| 54 | T,M | 2-Chloroethyl vinyl ether | 0.000 | 0.001 | 0.0 | 0# | 0.02 |
| 55 | T,M | 4-Methyl-2-pentanone | 0.236 | 0.264 | -11.9 | 89 | 0.00 |
| 56 | T,M | cis-1,3-Dichloropropene | 0.489 | 0.530 | -8.4 | 94 | 0.00 |
| 57 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 96 | 0.00 |
| 58 | S | Toluene-d8 | 1.246 | 1.348 | -8.2 | 95 | 0.00 |
| 59 | C,T,M | Toluene | 1.573 | 1.711 | -8.8 | 94 | 0.00 |
| 60 | T,M | Ethyl methacrylate | 0.422 | 0.446 | -5.7 | 94 | 0.00 |
| 61 | T,M | trans-1,3-Dichloropropene | 0.494 | 0.527 | -6.7 | 93 | 0.00 |
| 62 | T,M | 1,1,2-Trichloroethane | 0.270 | 0.287 | -6.3 | 92 | 0.00 |
| 63 | T,M | 2-Hexanone | 0.196 | 0.213 | -8.7 | 88 | 0.00 |
| 64 | T,M | 1,3-Dichloropropane | 0.502 | 0.525 | -4.6 | 93 | 0.00 |
| 65 | T,M | Tetrachloroethene | 0.305 | 0.327 | -7.2 | 96 | 0.00 |
| 66 | T,M | Dibromochloromethane | 0.289 | 0.311 | -7.6 | 93 | 0.00 |
| 67 | T,M | 1,2-Dibromoethane | 0.260 | 0.263 | -1.2 | 92 | 0.02 |
| 68 | T,M | 1-Chlorohexane | 0.570 | 0.636 | -11.6 | 97 | 0.00 |
| 69 | P,T,M | Chlorobenzene | 0.903 | 0.992 | -9.9 | 95 | 0.00 |
| 70 | T,M | 1,1,1,2-Tetrachloroethane | 0.310 | 0.326 | -5.2 | 93 | 0.02 |
| 71 | C,T,M | Ethylbenzene | 1.664 | 1.848 | -11.1 | 95 | 0.00 |
| 72 | T,M | m-Xylene & p-Xylene | 1.247 | 1.388 | -11.3 | 95 | 0.00 |
| 73 | T,M | o-Xylene | 1.183 | 1.326 | -12.1 | 95 | 0.00 |
| 74 | T,M | Styrene | 0.935 | 1.059 | -13.3 | 94 | 0.00 |
| 75 | T,M | Isopropylbenzene | 1.440 | 1.619 | -12.4 | 95 | 0.00 |
| 76 | T,M | Cis-1,4-Dichloro-2-Butene | 0.080 | 0.086 | -7.5 | 90 | 0.00 |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 92 | 0.00 |
| 78 | P,T,M | Bromoform | 0.475 | 0.497 | -4.6 | 93 | 0.00 |
| 79 | P,T,M | 1,1,2,2-Tetrachloroethane | 0.919 | 1.006 | -9.5 | 92 | 0.00 |
| 80 | S | 4-Bromofluorobenzene | 1.240 | 1.354 | -9.2 | 95 | 0.00 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D Vial: 14
Acq On : 31 Jan 2024 18:58 Operator: IRagas
Sample : IVO02A311 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 81 | T,M | 1,2,3-Trichloropropane | 0.218 | 0.232 | -6.4 | 91 | 0.00 |
| 82 | T,M | trans-1,4-Dichloro-2-butene | 0.217 | 0.229 | -5.5 | 91 | 0.00 |
| 83 | T,M | n-Propylbenzene | 5.394 | 6.281 | -16.4 | 96 | 0.00 |
| 84 | T,M | Bromobenzene | 1.058 | 1.110 | -4.9 | 92 | 0.00 |
| 85 | T,M | 1,3,5-Trimethylbenzene | 3.364 | 3.870 | -15.0 | 94 | 0.00 |
| 86 | T,M | 2-Chlorotoluene | 3.431 | 3.860 | -12.5 | 96 | 0.00 |
| 87 | T,M | 4-Chlorotoluene | 2.993 | 3.314 | -10.7 | 90 | 0.00 |
| 88 | T,M | tert-Butylbenzene | 0.691 | 0.764 | -10.6 | 94 | 0.00 |
| 89 | T,M | 1,2,4-Trimethylbenzene | 3.203 | 3.658 | -14.2 | 94 | 0.00 |
| 90 | T,M | sec-Butylbenzene | 4.279 | 4.955 | -15.8 | 95 | 0.00 |
| 91 | T,M | p-Isopropyltoluene | 3.248 | 3.794 | -16.8 | 93 | 0.02 |
| 92 | T,M | 1,3-Dichlorobenzene | 1.784 | 1.967 | -10.3 | 93 | 0.00 |
| 93 | T,M | 1,2,3-Trimethylbenzene | 3.038 | 3.439 | -13.2 | 92 | 0.00 |
| 94 | T,M | 1,4-Dichlorobenzene | 1.766 | 1.917 | -8.6 | 91 | 0.02 |
| 95 | T,M | n-Butylbenzene | 3.020 | 3.589 | -18.8 | 94 | 0.00 |
| 96 | T,M | 1,2-Dichlorobenzene | 1.548 | 1.655 | -6.9 | 91 | 0.00 |
| 97 | T,M | 1,2-Dibromo-3-chloropropane | 0.100 | 0.113 | -13.0 | 92 | 0.00 |
| 98 | T,M | 1,2,4-Trichlorobenzene | 0.799 | 0.888 | -11.1 | 92 | 0.00 |
| 99 | T,M | Hexachlorobutadiene | 0.395 | 0.423 | -7.1 | 93 | 0.00 |
| 100 | T,M | Naphthalene | 1.540 | 1.713 | -11.2 | 90 | 0.00 |
| 101 | T,M | 1,2,3-Trichlorobenzene | 0.688 | 0.754 | -9.6 | 92 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D Vial: 14
Acq On : 31 Jan 2024 18:58 Operator: IRagas
Sample : IVO02A311 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 12:00 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 2730552 | 50.00 | ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 2153710 | 50.00 | ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 683560 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.44 | 111 | 716183 | 51.11 | ug/l | 0.02 |
| Spiked Amount 50.000 | | | Recovery = 102.22% | | | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 627604 | 50.71 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 101.42% | | | |
| 58) Toluene-d8 | 9.90 | 98 | 2903769 | 54.10 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 108.20% | | | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 925858 | 54.60 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 109.20% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.75 | 85 | 779924 | 55.40 | ug/l | 100 |
| 3) Chloromethane | 2.01 | 50 | 1073455 | 54.64 | ug/l | 100 |
| 4) Vinyl chloride | 2.11 | 62 | 937686 | 56.21 | ug/l | 100 |
| 5) Bromomethane | 2.61 | 94 | 659246 | 53.45 | ug/l | 100 |
| 6) Chloroethane | 2.70 | 64 | 591858 | 54.21 | ug/l | 100 |
| 7) Dichlorofluoromethane | 2.73 | 67 | 1299860 | 54.11 | ug/l | 99 |
| 8) Trichlorofluoromethane | 2.97 | 101 | 814305 | 55.92 | ug/l | 99 |
| 9) sec-Propyl Alcohol | 3.29 | 45 | 541619 | 520.15 | ug/l | 97 |
| 10) Acrolein | 3.44 | 56 | 389640 | 272.25 | ug/l | 97 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.48 | 151 | 477039 | 51.12 | ug/l | 97 |
| 12) Acetone | 3.51 | 43 | 780218 | 247.71 | ug/l | 99 |
| 13) 1,1-Dichloroethene | 3.68 | 61 | 1389254 | 54.78 | ug/l | 98 |
| 14) tert-Butyl alcohol | 3.76 | 59 | 626368 | 539.29 | ug/l | 98 |
| 15) Acetonitrile | 3.83 | 41 | 766891 | 554.37 | ug/l | 100 |
| 16) Iodomethane | 4.05 | 142 | 1094554 | 52.24 | ug/l | 99 |
| 17) Methyl Acetate | 4.06 | 43 | 534732 | 49.98 | ug/l | 100 |
| 18) Allyl Chloride | 4.11 | 76 | 521139 | 52.27 | ug/l | 98 |
| 19) Methylene chloride | 4.25 | 49 | 1092475 | 51.68 | ug/l | 99 |
| 20) Carbon disulfide | 4.27 | 76 | 3105264 | 56.38 | ug/l | 100 |
| 21) Acrylonitrile | 4.40 | 53 | 1165171 | 262.34 | ug/l | 99 |
| 22) tert-Butyl methyl ether (M | 4.43 | 73 | 2138981 | 53.26 | ug/l | 99 |
| 23) trans-1,2-Dichloroethene | 4.61 | 96 | 956254 | 53.29 | ug/l | 100 |
| 24) Isopropyl ether (DIPE) | 5.00 | 45 | 3533288 | 54.78 | ug/l | 100 |
| 25) 1,1-Dichloroethane | 5.15 | 63 | 1647948 | 53.89 | ug/l | 99 |
| 26) Vinyl acetate | 5.16 | 43 | 1555384 | 55.87 | ug/l | 99 |
| 28) tert-Butyl ethyl ether (ET | 5.53 | 59 | 2959604 | 54.30 | ug/l | 100 |
| 29) 2-Butanone | 5.69 | 72 | 318654 | 263.79 | ug/l | 98 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D Vial: 14
Acq On : 31 Jan 2024 18:58 Operator: IRagas
Sample : IVO02A311 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 12:00 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 30) | Propionitrile | 5.79 | 54 | 790314 | 537.94 | ug/l | 99 |
| 31) | 2,2-Dichloropropane | 5.86 | 77 | 674218 | 56.70 | ug/l | 100 |
| 32) | cis-1,2-Dichloroethene | 5.94 | 96 | 1009112 | 53.13 | ug/l | 99 |
| 33) | Methylacrynonitrile | 6.06 | 52 | 973335 | 533.27 | ug/l | 99 |
| 34) | Isobutyl Alcohol | 6.08 | 43 | 560949 | 1010.44 | ug/l | 100 |
| 35) | Chloroform | 6.14 | 83 | 1435812 | 52.85 | ug/l | 99 |
| 36) | Bromochloromethane | 6.36 | 130 | 513444 | 52.43 | ug/l | 100 |
| 37) | Tetrahydrofuran | 6.41 | 42 | 172566 | 51.19 | ug/l | 100 |
| 39) | 1,1,1-Trichloroethane | 6.67 | 97 | 959413 | 55.69 | ug/l | 99 |
| 40) | Cyclohexane | 6.68 | 84 | 1287629 | 52.55 | ug/l | 100 |
| 41) | 1,1-Dichloropropene | 6.89 | 110 | 425058 | 54.29 | ug/l | 98 |
| 42) | Carbon tetrachloride | 7.02 | 119 | 779696 | 53.09 | ug/l | 99 |
| 43) | tert-Amyl methyl ether (TA | 7.05 | 87 | 478156 | 51.82 | ug/l | 99 |
| 45) | 1,2-Dichloroethane | 7.24 | 62 | 837908 | 53.74 | ug/l | 100 |
| 46) | Benzene | 7.26 | 78 | 3805749 | 54.83 | ug/l | 100 |
| 47) | Trichloroethene | 8.12 | 130 | 902154 | 54.45 | ug/l | 100 |
| 48) | Methylcyclohexane | 8.19 | 83 | 1636502 | 55.69 | ug/l | 99 |
| 49) | 1,2-Dichloropropane | 8.37 | 63 | 909164 | 54.21 | ug/l | 99 |
| 50) | Methyl Methacrylate | 8.47 | 69 | 492441 | 52.25 | ug/l | 99 |
| 51) | Bromodichloromethane | 8.72 | 83 | 1025558 | 54.05 | ug/l | 100 |
| 52) | 1,4-Dioxane | 8.75 | 88 | 97331 | 1143.76 | ug/l | 100 |
| 53) | Dibromomethane | 8.79 | 93 | 435406 | 53.13 | ug/l | 99 |
| 55) | 4-Methyl-2-pentanone | 9.23 | 43 | 3602239 | 279.53 | ug/l | 100 |
| 56) | cis-1,3-Dichloropropene | 9.54 | 75 | 1446413 | 54.17 | ug/l | 100 |
| 59) | Toluene | 10.02 | 91 | 3685243 | 54.39 | ug/l | 100 |
| 60) | Ethyl methacrylate | 10.33 | 69 | 961106 | 52.87 | ug/l | 99 |
| 61) | trans-1,3-Dichloropropene | 10.31 | 75 | 1134056 | 53.29 | ug/l | 100 |
| 62) | 1,1,2-Trichloroethane | 10.56 | 97 | 617190 | 53.01 | ug/l | 99 |
| 63) | 2-Hexanone | 10.59 | 43 | 2296063 | 271.90 | ug/l | 100 |
| 64) | 1,3-Dichloropropane | 10.97 | 76 | 1131334 | 52.34 | ug/l | 100 |
| 65) | Tetrachloroethene | 11.05 | 164 | 703950 | 53.53 | ug/l | 99 |
| 66) | Dibromochloromethane | 11.37 | 129 | 669961 | 53.86 | ug/l | 99 |
| 67) | 1,2-Dibromoethane | 11.70 | 107 | 567381 | 50.60 | ug/l | 99 |
| 68) | 1-Chlorohexane | 12.00 | 91 | 1370407 | 55.85 | ug/l | 100 |
| 69) | Chlorobenzene | 12.39 | 112 | 2135818 | 54.90 | ug/l | 100 |
| 70) | 1,1,1,2-Tetrachloroethane | 12.48 | 131 | 702085 | 52.66 | ug/l | 100 |
| 71) | Ethylbenzene | 12.49 | 91 | 3979031 | 55.51 | ug/l | 100 |
| 72) | m-Xylene & p-Xylene | 12.63 | 91 | 5979636 | 111.36 | ug/l | 100 |
| 73) | o-Xylene | 13.36 | 91 | 2856791 | 56.06 | ug/l | 100 |
| 74) | Styrene | 13.42 | 104 | 2281053 | 56.64 | ug/l | 100 |
| 75) | Isopropylbenzene | 13.99 | 105 | 3487609 | 56.22 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D Vial: 14
Acq On : 31 Jan 2024 18:58 Operator: IRagas
Sample : IVO02A311 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 12:00 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 76) | Cis-1,4-Dichloro-2-Butene | 14.09 | 53 | 185675 | 48.28 | ug/l | 97 |
| 78) | Bromoform | 13.97 | 173 | 339438 | 52.25 | ug/l | 100 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.29 | 83 | 687938 | 54.77 | ug/l | 98 |
| 81) | 1,2,3-Trichloropropane | 14.54 | 110 | 158448 | 53.26 | ug/l | 100 |
| 82) | trans-1,4-Dichloro-2-buten | 14.69 | 53 | 156290 | 49.16 | ug/l | 99 |
| 83) | n-Propylbenzene | 14.69 | 91 | 4293434 | 58.22 | ug/l | 100 |
| 84) | Bromobenzene | 14.73 | 156 | 758610 | 52.46 | ug/l | 99 |
| 85) | 1,3,5-Trimethylbenzene | 14.97 | 105 | 2645378 | 57.52 | ug/l | 99 |
| 86) | 2-Chlorotoluene | 14.97 | 91 | 2638426 | 56.25 | ug/l | 98 |
| 87) | 4-Chlorotoluene | 15.06 | 91 | 2265343 | 55.36 | ug/l | 98 |
| 88) | tert-Butylbenzene | 15.60 | 134 | 521950 | 55.27 | ug/l | 100 |
| 89) | 1,2,4-Trimethylbenzene | 15.66 | 105 | 2500664 | 57.11 | ug/l | 100 |
| 90) | sec-Butylbenzene | 15.98 | 105 | 3387077 | 57.89 | ug/l | 100 |
| 91) | p-Isopropyltoluene | 16.24 | 119 | 2593409 | 58.41 | ug/l | 100 |
| 92) | 1,3-Dichlorobenzene | 16.36 | 146 | 1344816 | 55.14 | ug/l | 99 |
| 93) | 1,2,3-Trimethylbenzene | 16.50 | 105 | 2350683 | 56.60 | ug/l | 99 |
| 94) | 1,4-Dichlorobenzene | 16.56 | 146 | 1310057 | 54.25 | ug/l | 98 |
| 95) | n-Butylbenzene | 16.97 | 91 | 2453595 | 59.43 | ug/l | 99 |
| 96) | 1,2-Dichlorobenzene | 17.21 | 146 | 1131320 | 53.45 | ug/l | 100 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.51 | 157 | 77578 | 56.74 | ug/l | 99 |
| 98) | 1,2,4-Trichlorobenzene | 19.55 | 180 | 607130 | 55.55 | ug/l | 99 |
| 99) | Hexachlorobutadiene | 19.71 | 225 | 289146 | 53.53 | ug/l | 99 |
| 100) | Naphthalene | 19.81 | 128 | 1170702 | 55.61 | ug/l | 100 |
| 101) | 1,2,3-Trichlorobenzene | 20.06 | 180 | 515122 | 54.74 | ug/l | 98 |

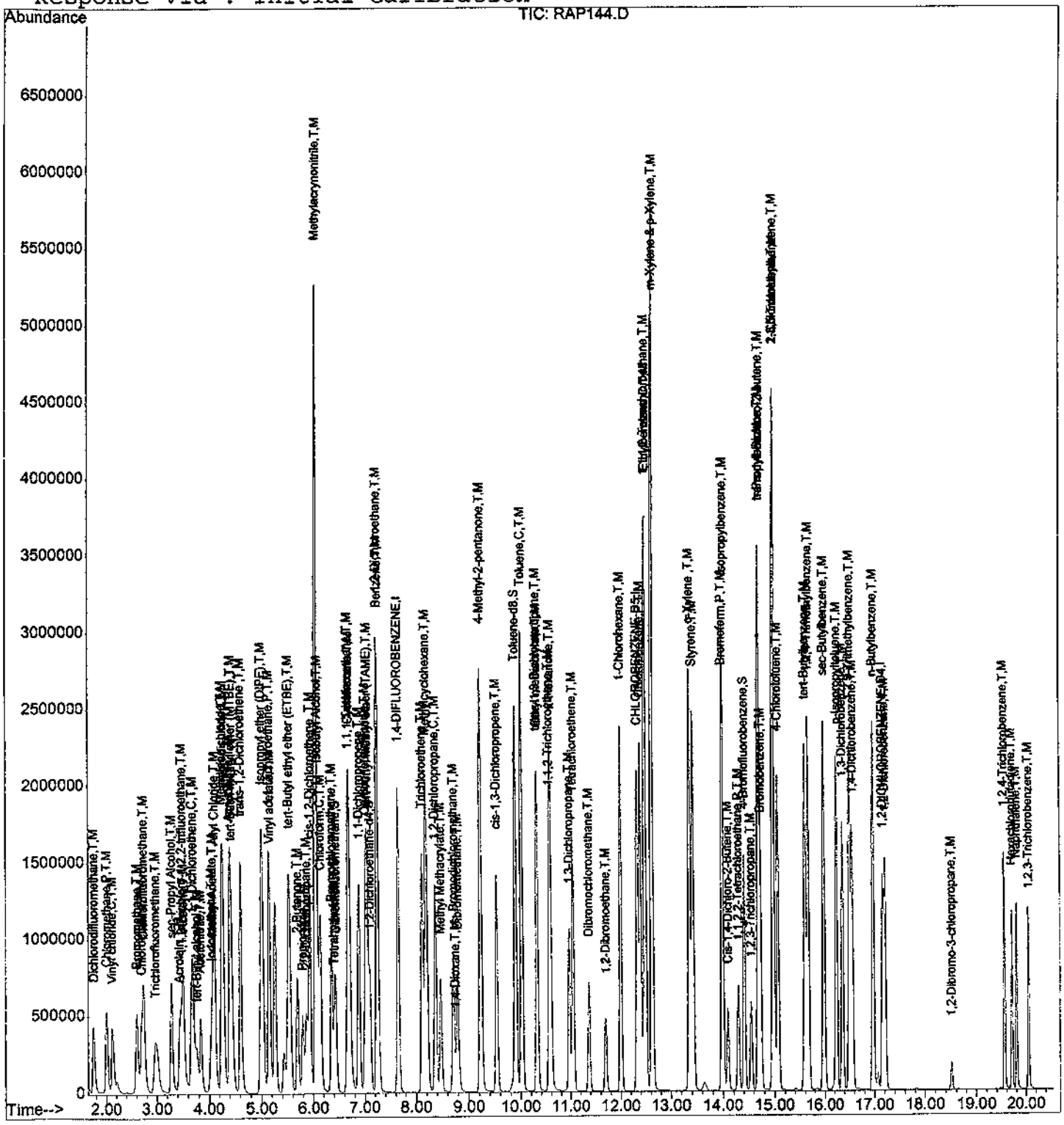
Sa 2/7/24

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\24A31\RAP144.D Vial: 14
Acq On : 31 Jan 2024 18:58 Operator: IRagas
Sample : IVO02A311 1.00uL Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA-2But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Feb 2 12:00 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



# DAILY CALIBRATIONS

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : EMAX Laboratories, Inc.

Project : TITAN 1-A

Lab Code : EMAX
SDG No : 24F034

Lab File ID: RFP095
BFB Injection Date: 06/10/24

Instrument ID: 02
BFB Injection Time: 10:06

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15 - 40% of mass 95 | 15.168 |
| 75 | 30 - 60% of mass 95 | 41.552 |
| 95 | Base Peak, 100% relative abundance | 100.000 |
| 96 | 5 - 9% of mass 95 | 5.408 |
| 173 | Less than 2% of mass 174 | 0.000(0)1 |
| 174 | Greater than 50% of mass 95 | 76.737 |
| 175 | 5 - 9% of mass 174 | 5.023(6.55)1 |
| 176 | 95 - 101% % of mass 174 | 73.454(95.72)1 |
| 177 | 5 - 9% % of mass 176 | 4.202(5.72)2 |

1-Value is % mass 174  2-Value is % mass 176

This check applies to the following samples, Lab QCs and Standards:

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | VSTD50 | CVO02A3130 | RFP096 | 06/10/24 | 10:30 |
| 2 | LCS1S | VS02F05L | RFP097 | 06/10/24 | 11:21 |
| 3 | LCD1S | VS02F05C | RFP098 | 06/10/24 | 11:45 |
| 4 | MBLK1S | VS02F05B | RFP100 | 06/10/24 | 12:34 |
| 5 | IDW-SOIL_JUN24 | 24F034-02 | RFP101 | 06/10/24 | 12:58 |
| 6 | VSTD50 | EVO02A3130 | RFP102 | 06/10/24 | 13:24 |

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

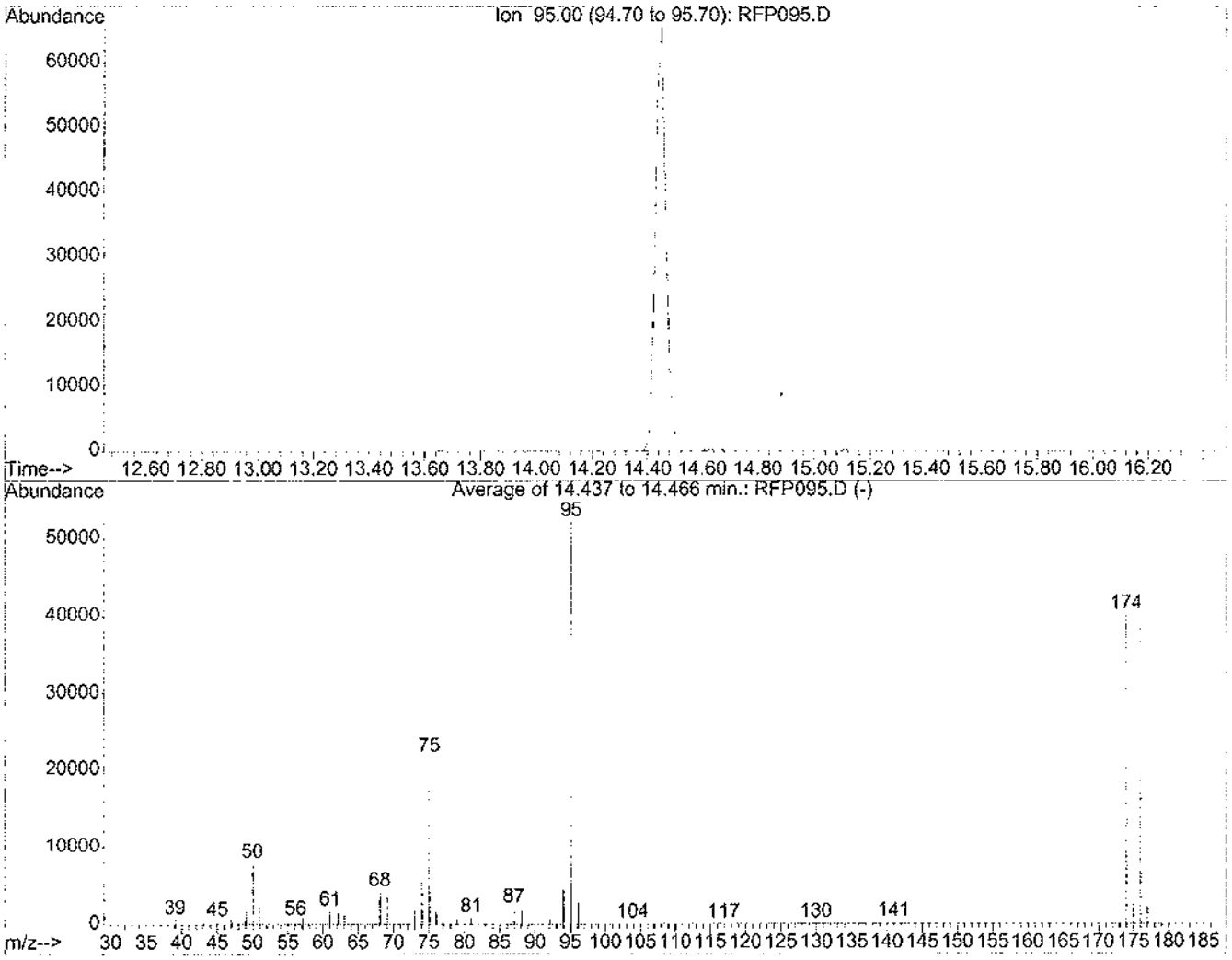
Lab Name: EMAX Laboratories, Inc.
Lab Code: EMAX
Lab File ID: RAP137
Instrument ID: 02

Project: TITAN 1-A
SDG No: 24F034
Date Analyzed: 01/31/24
Time Analyzed: 16:06

| INTERNAL STANDARD (IS) | 1,4-DIFLUOROBENZENE | | CHLOROBENZENE-D5 | | 1,2-DICHLOROBENZENE-D4 | |
|---|---|---|---|---|---|---|
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 12 HOUR STD | 2861301 | 7.65 | 2252084 | 12.33 | 744411 | 17.16 |
| UPPER LIMIT | 5722602 | 7.82 | 4504168 | 12.50 | 1488822 | 17.33 |
| LOWER LIMIT | 1430651 | 7.48 | 1126042 | 12.16 | 372206 | 16.99 |
| | Area # | RT # | Area # | RT # | Area # | RT # |
| 1 VSTD50 | 3650747 | 7.68 | 2887396 | 12.36 | 985478 | 17.19 |
| 2 LCS1S | 3949127 | 7.68 | 3106518 | 12.34 | 1062865 | 17.17 |
| 3 LCD1S | 3752826 | 7.66 | 2960214 | 12.34 | 1008836 | 17.17 |
| 4 MBLK1S | 3345925 | 7.66 | 2606901 | 12.33 | 862652 | 17.16 |
| 5 IDW-SOIL_JUN24 | 2969702 | 7.65 | 1959472 | 12.33 | 363450* | 17.16 |
| 6 VSTD50 | 3561805 | 7.65 | 2848269 | 12.33 | 986855 | 17.16 |

Area Upper Limit = +100% of ICAL Midpoint IS Area
Area Lower Limit = -50% of ICAL Midpoint IS Area
Retention Time(RT) Upper Limit = +10 seconds of ICAL Midpoint IS RT
Retention Time(RT) Lower Limit = -10 seconds of ICAL Midpoint IS RT

Data File : D:\HPCHEM\1\DATA\24F10\RFP095.D Vial: 1
Acq On : 10 Jun 2024 10:06 Operator: IRagas
Sample : BFB02F05 Inst : 02
Misc : T/CHK Multiplr: 1.00
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL




AutoFind: Scans 870, 871, 872; Background Corrected with Scan 864

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 15.2 | 7920 | PASS |
| 75 | 95 | 30 | 60 | 41.6 | 21697 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 52216 | PASS |
| 96 | 95 | 5 | 9 | 5.4 | 2824 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 100 | 76.7 | 40069 | PASS |
| 175 | 174 | 5 | 9 | 6.5 | 2623 | PASS |
| 176 | 174 | 95 | 101 | 95.7 | 38355 | PASS |
| 177 | 176 | 5 | 9 | 5.7 | 2194 | PASS |

RFP095.D VO02A31.M Mon Jun 10 13:48:18 2024

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D  Vial: 2
Acq On : 10 Jun 2024 10:30  Operator: IRagas
Sample : CVO02A3130  Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 50.000 | 50.000 | 0.0 | 128 | 0.03 |
| 2 | T,M | Dichlorodifluoromethane | 50.000 | 46.789 | 6.4 | 110 | 0.00 |
| 3 | P,T,M | Chloromethane | 50.000 | 55.878 | -11.8 | 132 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 50.000 | 53.069 | -6.1 | 126 | 0.00 |
| 5 | T,M | Bromomethane | 50.000 | 51.919 | -3.8 | 128 | 0.02 |
| 6 | T,M | Chloroethane | 50.000 | 54.825 | -9.7 | 130 | 0.02 |
| 7 | T,M | Dichlorofluoromethane | 50.000 | 51.620 | -3.2 | 122 | 0.04 |
| 8 | T,M | Trichlorofluoromethane | 50.000 | 52.098 | -4.2 | 118 | 0.02 |
| 9 | T,M | sec-Propyl Alcohol | 500.000 | 508.065 | -1.6 | 126 | 0.02 |
| 10 | T,M | Acrolein | 250.000 | 279.957 | -12.0 | 124 | 0.02 |
| 11 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 50.000 | 48.367 | 3.3 | 114 | 0.04 |
| 12 | T,M | Acetone | 250.000 | 272.730 | -9.1 | 130 | 0.02 |
| 13 | C,T,M | 1,1-Dichloroethene | 50.000 | 45.806 | 8.4 | 106 | 0.03 |
| 14 | T,M | tert-Butyl alcohol | 500.000 | 581.847 | -16.4 | 132 | 0.03 |
| 15 | T,M | Acetonitrile | 500.000 | 561.977 | -12.4 | 126 | 0.03 |
| 16 | T,M | Iodomethane | 50.000 | 40.719 | 18.6 | 96 | 0.03 |
| 17 | T,M | Methyl Acetate | 50.000 | 60.168 | -20.3# | 144 | 0.03 |
| 18 | T,M | Allyl Chloride | 50.000 | 47.359 | 5.3 | 112 | 0.03 |
| 19 | T,M | Methylene chloride | 50.000 | 48.172 | 3.7 | 116 | 0.02 |
| 20 | T,M | Carbon disulfide | 50.000 | 50.327 | -0.7 | 116 | 0.02 |
| 21 | T,M | Acrylonitrile | 250.000 | 278.780 | -11.5 | 126 | 0.03 |
| 22 | T,M | tert-Butyl methyl ether (MT | 50.000 | 54.327 | -8.7 | 127 | 0.03 |
| 23 | T,M | trans-1,2-Dichloroethene | 50.000 | 44.506 | 11.0 | 105 | 0.03 |
| 24 | T,M | Isopropyl ether (DIPE) | 50.000 | 54.502 | -9.0 | 125 | 0.03 |
| 25 | P,T,M | 1,1-Dichloroethane | 50.000 | 51.365 | -2.7 | 120 | 0.03 |
| 26 | T,M | Vinyl acetate | 50.000 | 54.461 | -8.9 | 123 | 0.03 |
| 27 | T,M | 2-Butanol | 500.000 | 0.000 | 100.0# | 0 | 0.03 |
| 28 | T,M | tert-Butyl ethyl ether (ETB | 50.000 | 55.264 | -10.5 | 128 | 0.03 |
| 29 | T,M | 2-Butanone | 250.000 | 271.708 | -8.7 | 121 | 0.03 |
| 30 | T,M | Propionitrile | 500.000 | 565.087 | -13.0 | 129 | 0.03 |
| 31 | T,M | 2,2-Dichloropropane | 50.000 | 58.389 | -16.8 | 135 | 0.03 |
| 32 | T,M | cis-1,2-Dichloroethene | 50.000 | 48.217 | 3.6 | 115 | 0.01 |
| 33 | T,M | Methylacrynonitrile | 500.000 | 570.191 | -14.0 | 131 | 0.03 |
| 34 | T,M | Isobutyl Alcohol | 1000.000 | 1081.643 | -8.2 | 131 | 0.03 |
| 35 | C,T,M | Chloroform | 50.000 | 51.049 | -2.1 | 121 | 0.03 |
| 36 | T,M | Bromochloromethane | 50.000 | 45.768 | 8.5 | 108 | 0.03 |
| 37 | T,M | Tetrahydrofuran | 50.000 | 50.761 | -1.5 | 119 | 0.01 |
| 38 | S | Dibromofluoromethane | 50.000 | 46.153 | 7.7 | 110 | 0.03 |
| 39 | T,M | 1,1,1-Trichloroethane | 50.000 | 51.345 | -2.7 | 119 | 0.03 |
| 40 | T,M | Cyclohexane | 50.000 | 54.033 | -8.1 | 128 | 0.03 |
| 41 | T,M | 1,1-Dichloropropene | 50.000 | 43.675 | 12.7 | 104 | 0.03 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D Vial: 2
Acq On : 10 Jun 2024 10:30 Operator: IRagas
Sample : CVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 42 | T,M | Carbon tetrachloride | 50.000 | 46.801 | 6.4 | 111 | 0.04 |
| 43 | T,M | tert-Amyl methyl ether (TAM | 50.000 | 51.106 | -2.2 | 123 | 0.03 |
| 44 | S | 1,2-Dichloroethane-d4 | 50.000 | 49.744 | 0.5 | 118 | 0.03 |
| 45 | T,M | 1,2-Dichloroethane | 50.000 | 52.846 | -5.7 | 122 | 0.03 |
| 46 | T,M | Benzene | 50.000 | 49.764 | 0.5 | 114 | 0.03 |
| 47 | T,M | Trichloroethene | 50.000 | 45.089 | 9.8 | 105 | 0.03 |
| 48 | T,M | Methylcyclohexane | 50.000 | 55.248 | -10.5 | 125 | 0.03 |
| 49 | C,T,M | 1,2-Dichloropropane | 50.000 | 52.391 | -4.8 | 121 | 0.03 |
| 50 | T,M | Methyl Methacrylate | 50.000 | 53.034 | -6.1 | 124 | 0.03 |
| 51 | T,M | Bromodichloromethane | 50.000 | 52.253 | -4.5 | 121 | 0.03 |
| 52 | T,M | 1,4-Dioxane | 1000.000 | 1049.904 | -5.0 | 114 | 0.03 |
| 53 | T,M | Dibromomethane | 50.000 | 49.384 | 1.2 | 116 | 0.03 |
| 54 | T,M | 2-Chloroethyl vinyl ether | 50.000 | 0.000 | 100.0# | 0 | 0.06 |
| 55 | T,M | 4-Methyl-2-pentanone | 250.000 | 298.213 | -19.3 | 127 | 0.03 |
| 56 | T,M | cis-1,3-Dichloropropene | 50.000 | 51.567 | -3.1 | 120 | 0.03 |
| 57 | I | CHLOROBENZENE-D5 | 50.000 | 50.000 | 0.0 | 128 | 0.03 |
| 58 | S | Toluene-d8 | 50.000 | 47.264 | 5.5 | 112 | 0.03 |
| 59 | C,T,M | Toluene | 50.000 | 49.995 | 0.0 | 116 | 0.03 |
| 60 | T,M | Ethyl methacrylate | 50.000 | 54.181 | -8.4 | 129 | 0.01 |
| 61 | T,M | trans-1,3-Dichloropropene | 50.000 | 52.498 | -5.0 | 123 | 0.03 |
| 62 | T,M | 1,1,2-Trichloroethane | 50.000 | 52.741 | -5.5 | 122 | 0.03 |
| 63 | T,M | 2-Hexanone | 250.000 | 300.418 | -20.2# | 130 | 0.03 |
| 64 | T,M | 1,3-Dichloropropane | 50.000 | 52.300 | -4.6 | 124 | 0.03 |
| 65 | T,M | Tetrachloroethene | 50.000 | 42.716 | 14.6 | 102 | 0.03 |
| 66 | T,M | Dibromochloromethane | 50.000 | 50.908 | -1.8 | 118 | 0.03 |
| 67 | T,M | 1,2-Dibromoethane | 50.000 | 48.237 | 3.5 | 117 | 0.03 |
| 68 | T,M | 1-Chlorohexane | 50.000 | 49.309 | 1.4 | 115 | 0.03 |
| 69 | P,T,M | Chlorobenzene | 50.000 | 50.945 | -1.9 | 118 | 0.03 |
| 70 | T,M | 1,1,1,2-Tetrachloroethane | 50.000 | 49.324 | 1.4 | 117 | 0.03 |
| 71 | C,T,M | Ethylbenzene | 50.000 | 51.889 | -3.8 | 119 | 0.03 |
| 72 | T,M | m-Xylene & p-Xylene | 100.000 | 102.743 | -2.7 | 118 | 0.01 |
| 73 | T,M | o-Xylene | 50.000 | 53.668 | -7.3 | 122 | 0.03 |
| 74 | T,M | Styrene | 50.000 | 54.237 | -8.5 | 121 | 0.03 |
| 75 | T,M | Isopropylbenzene | 50.000 | 53.525 | -7.0 | 122 | 0.03 |
| 76 | T,M | Cis-1,4-Dichloro-2-Butene | 50.000 | 50.622 | -1.2 | 126 | 0.03 |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 50.000 | 50.000 | 0.0 | 132 | 0.02 |
| 78 | P,T,M | Bromoform | 50.000 | 46.716 | 6.6 | 120 | 0.03 |
| 79 | P,T,M | 1,1,2,2-Tetrachloroethane | 50.000 | 53.514 | -7.0 | 129 | 0.03 |
| 80 | S | 4-Bromofluorobenzene | 50.000 | 43.635 | 12.7 | 110 | 0.02 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D Vial: 2
Acq On : 10 Jun 2024 10:30 Operator: IRagas
Sample : CVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 81 | T,M | 1,2,3-Trichloropropane | 50.000 | 51.739 | -3.5 | 128 | 0.02 |
| 82 | T,M | trans-1,4-Dichloro-2-butene | 50.000 | 51.746 | -3.5 | 138 | 0.03 |
| 83 | T,M | n-Propylbenzene | 50.000 | 51.396 | -2.8 | 122 | 0.03 |
| 84 | T,M | Bromobenzene | 50.000 | 46.552 | 6.9 | 118 | 0.01 |
| 85 | T,M | 1,3,5-Trimethylbenzene | 50.000 | 50.364 | -0.7 | 119 | 0.02 |
| 86 | T,M | 2-Chlorotoluene | 50.000 | 49.900 | 0.2 | 123 | 0.02 |
| 87 | T,M | 4-Chlorotoluene | 50.000 | 52.655 | -5.3 | 124 | 0.02 |
| 88 | T,M | tert-Butylbenzene | 50.000 | 48.823 | 2.4 | 120 | 0.02 |
| 89 | T,M | 1,2,4-Trimethylbenzene | 50.000 | 51.644 | -3.3 | 122 | 0.02 |
| 90 | T,M | sec-Butylbenzene | 50.000 | 52.425 | -4.8 | 124 | 0.03 |
| 91 | T,M | p-Isopropyltoluene | 50.000 | 52.798 | -5.6 | 122 | 0.02 |
| 92 | T,M | 1,3-Dichlorobenzene | 50.000 | 49.313 | 1.4 | 120 | 0.02 |
| 93 | T,M | 1,2,3-Trimethylbenzene | 50.000 | 52.202 | -4.4 | 123 | 0.02 |
| 94 | T,M | 1,4-Dichlorobenzene | 50.000 | 49.222 | 1.6 | 119 | 0.02 |
| 95 | T,M | n-Butylbenzene | 50.000 | 54.255 | -8.5 | 124 | 0.02 |
| 96 | T,M | 1,2-Dichlorobenzene | 50.000 | 49.718 | 0.6 | 121 | 0.02 |
| 97 | T,M | 1,2-Dibromo-3-chloropropane | 50.000 | 56.548 | -13.1 | 132 | 0.02 |
| 98 | T,M | 1,2,4-Trichlorobenzene | 50.000 | 53.657 | -7.3 | 128 | 0.02 |
| 99 | T,M | Hexachlorobutadiene | 50.000 | 48.637 | 2.7 | 122 | 0.00 |
| 100 | T,M | Naphthalene | 50.000 | 60.928 | -21.9# | 142 | 0.00 |
| 101 | T,M | 1,2,3-Trichlorobenzene | 50.000 | 53.035 | -6.1 | 128 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D  Vial: 2
Acq On : 10 Jun 2024 10:30  Operator: IRagas
Sample : CVO02A3130  Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 128 | 0.03 |
| 2 | T,M | Dichlorodifluoromethane | 0.258 | 0.241 | 6.6 | 110 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.360 | 0.402 | -11.7 | 132 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.305 | 0.324 | -6.2 | 126 | 0.00 |
| 5 | T,M | Bromomethane | 0.226 | 0.235 | -4.0 | 128 | 0.02 |
| 6 | T,M | Chloroethane | 0.200 | 0.219 | -9.5 | 130 | 0.02 |
| 7 | T,M | Dichlorofluoromethane | 0.440 | 0.454 | -3.2 | 122 | 0.04 |
| 8 | T,M | Trichlorofluoromethane | 0.267 | 0.278 | -4.1 | 118 | 0.02 |
| 9 | T,M | sec-Propyl Alcohol | 0.019 | 0.019 | 0.0 | 126 | 0.02 |
| 10 | T,M | Acrolein | 0.026 | 0.029 | -11.5 | 124 | 0.02 |
| 11 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 0.171 | 0.165 | 3.5 | 114 | 0.04 |
| 12 | T,M | Acetone | 0.058 | 0.063 | -8.6 | 130 | 0.02 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.464 | 0.425 | 8.4 | 106 | 0.03 |
| 14 | T,M | tert-Butyl alcohol | 0.021 | 0.025 | -19.0 | 132 | 0.03 |
| 15 | T,M | Acetonitrile | 0.025 | 0.028 | -12.0 | 126 | 0.03 |
| 16 | T,M | Iodomethane | 0.384 | 0.312 | 18.8 | 96 | 0.03 |
| 17 | T,M | Methyl Acetate | 0.196 | 0.236 | -20.4# | 144 | 0.03 |
| 18 | T,M | Allyl Chloride | 0.183 | 0.173 | 5.5 | 112 | 0.03 |
| 19 | T,M | Methylene chloride | 0.387 | 0.373 | 3.6 | 116 | 0.02 |
| 20 | T,M | Carbon disulfide | 1.009 | 1.015 | -0.6 | 116 | 0.02 |
| 21 | T,M | Acrylonitrile | 0.081 | 0.091 | -12.3 | 126 | 0.03 |
| 22 | T,M | tert-Butyl methyl ether (MT | 0.735 | 0.799 | -8.7 | 127 | 0.03 |
| 23 | T,M | trans-1,2-Dichloroethene | 0.329 | 0.292 | 11.2 | 105 | 0.03 |
| 24 | T,M | Isopropyl ether (DIPE) | 1.181 | 1.287 | -9.0 | 125 | 0.03 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.560 | 0.575 | -2.7 | 120 | 0.03 |
| 26 | T,M | Vinyl acetate | 0.510 | 0.555 | -8.8 | 123 | 0.03 |
| 27 | T,M | 2-Butanol | 0.000 | 0.023 | 0.0 | 0# | 0.03 |
| 28 | T,M | tert-Butyl ethyl ether (ETB | 0.998 | 1.103 | -10.5 | 128 | 0.03 |
| 29 | T,M | 2-Butanone | 0.022 | 0.024 | -9.1 | 121 | 0.03 |
| 30 | T,M | Propionitrile | 0.027 | 0.030 | -11.1 | 129 | 0.03 |
| 31 | T,M | 2,2-Dichloropropane | 0.218 | 0.254 | -16.5 | 135 | 0.03 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.348 | 0.335 | 3.7 | 115 | 0.01 |
| 33 | T,M | Methylacrynonitrile | 0.033 | 0.038 | -15.2 | 131 | 0.03 |
| 34 | T,M | Isobutyl Alcohol | 0.009 | 0.011 | -22.2# | 131 | 0.03 |
| 35 | C,T,M | Chloroform | 0.497 | 0.508 | -2.2 | 121 | 0.03 |
| 36 | T,M | Bromochloromethane | 0.179 | 0.164 | 8.4 | 108 | 0.03 |
| 37 | T,M | Tetrahydrofuran | 0.062 | 0.063 | -1.6 | 119 | 0.01 |
| 38 | S | Dibromofluoromethane | 0.257 | 0.237 | 7.8 | 110 | 0.03 |
| 39 | T,M | 1,1,1-Trichloroethane | 0.315 | 0.324 | -2.9 | 119 | 0.03 |
| 40 | T,M | Cyclohexane | 0.449 | 0.485 | -8.0 | 128 | 0.03 |
| 41 | T,M | 1,1-Dichloropropene | 0.143 | 0.125 | 12.6 | 104 | 0.03 |

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D  Vial: 2
Acq On : 10 Jun 2024 10:30  Operator: IRagas
Sample : CVO02A3130  Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 42 | T,M | Carbon tetrachloride | 0.269 | 0.252 | 6.3 | 111 | 0.04 |
| 43 | T,M | tert-Amyl methyl ether (TAM | 0.169 | 0.173 | -2.4 | 123 | 0.03 |
| 44 | S | 1,2-Dichloroethane-d4 | 0.227 | 0.225 | 0.9 | 118 | 0.03 |
| 45 | T,M | 1,2-Dichloroethane | 0.286 | 0.302 | -5.6 | 122 | 0.03 |
| 46 | T,M | Benzene | 1.271 | 1.265 | 0.5 | 114 | 0.03 |
| 47 | T,M | Trichloroethene | 0.303 | 0.274 | 9.6 | 105 | 0.03 |
| 48 | T,M | Methylcyclohexane | 0.538 | 0.595 | -10.6 | 125 | 0.03 |
| 49 | C,T,M | 1,2-Dichloropropane | 0.307 | 0.322 | -4.9 | 121 | 0.03 |
| 50 | T,M | Methyl Methacrylate | 0.173 | 0.183 | -5.8 | 124 | 0.03 |
| 51 | T,M | Bromodichloromethane | 0.347 | 0.363 | -4.6 | 121 | 0.03 |
| 52 | T,M | 1,4-Dioxane | 0.002 | 0.002 | 0.0 | 114 | 0.03 |
| 53 | T,M | Dibromomethane | 0.150 | 0.148 | 1.3 | 116 | 0.03 |
| 54 | T,M | 2-Chloroethyl vinyl ether | 0.000 | 0.001 | 0.0 | 0# | 0.06 |
| 55 | T,M | 4-Methyl-2-pentanone | 0.236 | 0.281 | -19.1 | 127 | 0.03 |
| 56 | T,M | cis-1,3-Dichloropropene | 0.489 | 0.504 | -3.1 | 120 | 0.03 |
| 57 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 128 | 0.03 |
| 58 | S | Toluene-d8 | 1.246 | 1.178 | 5.5 | 112 | 0.03 |
| 59 | C,T,M | Toluene | 1.573 | 1.573 | 0.0 | 116 | 0.03 |
| 60 | T,M | Ethyl methacrylate | 0.422 | 0.457 | -8.3 | 129 | 0.01 |
| 61 | T,M | trans-1,3-Dichloropropene | 0.494 | 0.519 | -5.1 | 123 | 0.03 |
| 62 | T,M | 1,1,2-Trichloroethane | 0.270 | 0.285 | -5.6 | 122 | 0.03 |
| 63 | T,M | 2-Hexanone | 0.196 | 0.236 | -20.4# | 130 | 0.03 |
| 64 | T,M | 1,3-Dichloropropane | 0.502 | 0.525 | -4.6 | 124 | 0.03 |
| 65 | T,M | Tetrachloroethene | 0.305 | 0.261 | 14.4 | 102 | 0.03 |
| 66 | T,M | Dibromochloromethane | 0.289 | 0.294 | -1.7 | 118 | 0.03 |
| 67 | T,M | 1,2-Dibromoethane | 0.260 | 0.251 | 3.5 | 117 | 0.03 |
| 68 | T,M | 1-Chlorohexane | 0.570 | 0.562 | 1.4 | 115 | 0.03 |
| 69 | P,T,M | Chlorobenzene | 0.903 | 0.920 | -1.9 | 118 | 0.03 |
| 70 | T,M | 1,1,1,2-Tetrachloroethane | 0.310 | 0.305 | 1.6 | 117 | 0.03 |
| 71 | C,T,M | Ethylbenzene | 1.664 | 1.727 | -3.8 | 119 | 0.03 |
| 72 | T,M | m-Xylene & p-Xylene | 1.247 | 1.281 | -2.7 | 118 | 0.01 |
| 73 | T,M | o-Xylene | 1.183 | 1.270 | -7.4 | 122 | 0.03 |
| 74 | T,M | Styrene | 0.935 | 1.014 | -8.4 | 121 | 0.03 |
| 75 | T,M | Isopropylbenzene | 1.440 | 1.542 | -7.1 | 122 | 0.03 |
| 76 | T,M | Cis-1,4-Dichloro-2-Butene | 0.080 | 0.091 | -13.7 | 126 | 0.03 |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 132 | 0.02 |
| 78 | P,T,M | Bromoform | 0.475 | 0.444 | 6.5 | 120 | 0.03 |
| 79 | P,T,M | 1,1,2,2-Tetrachloroethane | 0.919 | 0.983 | -7.0 | 129 | 0.03 |
| 80 | S | 4-Bromofluorobenzene | 1.240 | 1.082 | 12.7 | 110 | 0.02 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D Vial: 2
Acq On : 10 Jun 2024 10:30 Operator: IRagas
Sample : CVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 81 | T,M | 1,2,3-Trichloropropane | 0.218 | 0.225 | -3.2 | 128 | 0.02 |
| 82 | T,M | trans-1,4-Dichloro-2-butene | 0.217 | 0.241 | -11.1 | 138 | 0.03 |
| 83 | T,M | n-Propylbenzene | 5.394 | 5.545 | -2.8 | 122 | 0.03 |
| 84 | T,M | Bromobenzene | 1.058 | 0.985 | 6.9 | 118 | 0.01 |
| 85 | T,M | 1,3,5-Trimethylbenzene | 3.364 | 3.389 | -0.7 | 119 | 0.02 |
| 86 | T,M | 2-Chlorotoluene | 3.431 | 3.424 | 0.2 | 123 | 0.02 |
| 87 | T,M | 4-Chlorotoluene | 2.993 | 3.152 | -5.3 | 124 | 0.02 |
| 88 | T,M | tert-Butylbenzene | 0.691 | 0.675 | 2.3 | 120 | 0.02 |
| 89 | T,M | 1,2,4-Trimethylbenzene | 3.203 | 3.308 | -3.3 | 122 | 0.02 |
| 90 | T,M | sec-Butylbenzene | 4.279 | 4.487 | -4.9 | 124 | 0.03 |
| 91 | T,M | p-Isopropyltoluene | 3.248 | 3.430 | -5.6 | 122 | 0.02 |
| 92 | T,M | 1,3-Dichlorobenzene | 1.784 | 1.760 | 1.3 | 120 | 0.02 |
| 93 | T,M | 1,2,3-Trimethylbenzene | 3.038 | 3.172 | -4.4 | 123 | 0.02 |
| 94 | T,M | 1,4-Dichlorobenzene | 1.766 | 1.739 | 1.5 | 119 | 0.02 |
| 95 | T,M | n-Butylbenzene | 3.020 | 3.277 | -8.5 | 124 | 0.02 |
| 96 | T,M | 1,2-Dichlorobenzene | 1.548 | 1.539 | 0.6 | 121 | 0.02 |
| 97 | T,M | 1,2-Dibromo-3-chloropropane | 0.100 | 0.113 | -13.0 | 132 | 0.02 |
| 98 | T,M | 1,2,4-Trichlorobenzene | 0.799 | 0.858 | -7.4 | 128 | 0.02 |
| 99 | T,M | Hexachlorobutadiene | 0.395 | 0.384 | 2.8 | 122 | 0.00 |
| 100 | T,M | Naphthalene | 1.540 | 1.877 | -21.9# | 142 | 0.00 |
| 101 | T,M | 1,2,3-Trichlorobenzene | 0.688 | 0.730 | -6.1 | 128 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D Vial: 2
Acq On : 10 Jun 2024 10:30 Operator: IRagas
Sample : CVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 10:51 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.68 | 114 | 3650747 | 50.00 | ug/l | 0.03 |
| 57) CHLOROBENZENE-D5 | 12.36 | 117 | 2887396 | 50.00 | ug/l | 0.03 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.19 | 152 | 985478 | 50.00 | ug/l | 0.02 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.45 | 111 | 864636 | 46.15 | ug/l | 0.03 |
| Spiked Amount 50.000 | | | Recovery = | 92.30% | | |
| 44) 1,2-Dichloroethane-d4 | 7.14 | 65 | 823166 | 49.74 | ug/l | 0.03 |
| Spiked Amount 50.000 | | | Recovery = | 99.48% | | |
| 58) Toluene-d8 | 9.93 | 98 | 3401061 | 47.26 | ug/l | 0.03 |
| Spiked Amount 50.000 | | | Recovery = | 94.52% | | |
| 80) 4-Bromofluorobenzene | 14.44 | 95 | 1066709 | 43.63 | ug/l | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 87.26% | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.76 | 85 | 880669 | 46.79 | ug/l | 100 |
| 3) Chloromethane | 2.01 | 50 | 1467660 | 55.88 | ug/l | 100 |
| 4) Vinyl chloride | 2.12 | 62 | 1183673 | 53.07 | ug/l | 98 |
| 5) Bromomethane | 2.63 | 94 | 856107 | 51.92 | ug/l | 98 |
| 6) Chloroethane | 2.72 | 64 | 800251 | 54.82 | ug/l | 98 |
| 7) Dichlorofluoromethane | 2.77 | 67 | 1657862 | 51.62 | ug/l | 100 |
| 8) Trichlorofluoromethane | 2.99 | 101 | 1014315 | 52.10 | ug/l | 98 |
| 9) sec-Propyl Alcohol | 3.31 | 45 | 707323 | 508.07 | ug/l | 96 |
| 10) Acrolein | 3.46 | 56 | 535696 | 279.96 | ug/l | 99 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.52 | 151 | 603465 | 48.37 | ug/l | 99 |
| 12) Acetone | 3.53 | 43 | 1148510 | 272.73 | ug/l | 96 |
| 13) 1,1-Dichloroethene | 3.71 | 61 | 1553192 | 45.81 | ug/l | 96 |
| 14) tert-Butyl alcohol | 3.79 | 59 | 903532 | 581.85 | ug/l | 99 |
| 15) Acetonitrile | 3.86 | 41 | 1039408 | 561.98 | ug/l | 99 |
| 16) Iodomethane | 4.08 | 142 | 1140647 | 40.72 | ug/l | 100 |
| 17) Methyl Acetate | 4.09 | 43 | 860631 | 60.17 | ug/l | 98 |
| 18) Allyl Chloride | 4.14 | 76 | 631278 | 47.36 | ug/l | 100 |
| 19) Methylene chloride | 4.27 | 49 | 1361494 | 48.17 | ug/l | 96 |
| 20) Carbon disulfide | 4.28 | 76 | 3705897 | 50.33 | ug/l | 100 |
| 21) Acrylonitrile | 4.43 | 53 | 1655467 | 278.78 | ug/l | 99 |
| 22) tert-Butyl methyl ether (M | 4.46 | 73 | 2917008 | 54.33 | ug/l | 100 |
| 23) trans-1,2-Dichloroethene | 4.63 | 96 | 1067721 | 44.51 | ug/l | 99 |
| 24) Isopropyl ether (DIPE) | 5.03 | 45 | 4699717 | 54.50 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 5.18 | 63 | 2099909 | 51.36 | ug/l | 100 |
| 26) Vinyl acetate | 5.18 | 43 | 2027091 | 54.46 | ug/l | 98 |
| 28) tert-Butyl ethyl ether (ET | 5.56 | 59 | 4027184 | 55.26 | ug/l | 98 |
| 29) 2-Butanone | 5.72 | 72 | 438836 | 271.71 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D Vial: 2
Acq On : 10 Jun 2024 10:30 Operator: IRagas
Sample : CVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 10:51 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|
| 30) Propionitrile | 5.82 | 54 | 1109982 | 565.09 ug/l | 99 |
| 31) 2,2-Dichloropropane | 5.89 | 77 | 928228 | 58.39 ug/l | 98 |
| 32) cis-1,2-Dichloroethene | 5.95 | 96 | 1224374 | 48.22 ug/l | 96 |
| 33) Methylacrynonitrile | 6.08 | 52 | 1391456 | 570.19 ug/l | 97 |
| 34) Isobutyl Alcohol | 6.11 | 43 | 804064 | 1081.64 ug/l | 99 |
| 35) Chloroform | 6.17 | 83 | 1854149 | 51.05 ug/l | 99 |
| 36) Bromochloromethane | 6.39 | 130 | 599217 | 45.77 ug/l | 99 |
| 37) Tetrahydrofuran | 6.42 | 42 | 228791 | 50.76 ug/l | 99 |
| 39) 1,1,1-Trichloroethane | 6.70 | 97 | 1182672 | 51.35 ug/l | 98 |
| 40) Cyclohexane | 6.71 | 84 | 1770094 | 54.03 ug/l | 99 |
| 41) 1,1-Dichloropropene | 6.92 | 110 | 457199 | 43.67 ug/l | 99 |
| 42) Carbon tetrachloride | 7.05 | 119 | 918967 | 46.80 ug/l | 100 |
| 43) tert-Amyl methyl ether (TA | 7.08 | 87 | 630515 | 51.11 ug/l | 98 |
| 45) 1,2-Dichloroethane | 7.27 | 62 | 1101724 | 52.85 ug/l | 99 |
| 46) Benzene | 7.28 | 78 | 4617729 | 49.76 ug/l | 99 |
| 47) Trichloroethene | 8.15 | 130 | 998833 | 45.09 ug/l | 97 |
| 48) Methylcyclohexane | 8.22 | 83 | 2170780 | 55.25 ug/l | 99 |
| 49) 1,2-Dichloropropane | 8.39 | 63 | 1174708 | 52.39 ug/l | 99 |
| 50) Methyl Methacrylate | 8.50 | 69 | 668323 | 53.03 ug/l | 95 |
| 51) Bromodichloromethane | 8.73 | 83 | 1325639 | 52.25 ug/l | 99 |
| 52) 1,4-Dioxane | 8.77 | 88 | 119453 | 1049.90 ug/l | 97 |
| 53) Dibromomethane | 8.82 | 93 | 541073 | 49.38 ug/l | 97 |
| 55) 4-Methyl-2-pentanone | 9.26 | 43 | 5138008 | 298.21 ug/l | 99 |
| 56) cis-1,3-Dichloropropene | 9.56 | 75 | 1840835 | 51.57 ug/l | 99 |
| 59) Toluene | 10.05 | 91 | 4541833 | 49.99 ug/l | 99 |
| 60) Ethyl methacrylate | 10.34 | 69 | 1320353 | 54.18 ug/l | 99 |
| 61) trans-1,3-Dichloropropene | 10.34 | 75 | 1497919 | 52.50 ug/l | 100 |
| 62) 1,1,2-Trichloroethane | 10.59 | 97 | 823249 | 52.74 ug/l | 98 |
| 63) 2-Hexanone | 10.62 | 43 | 3401044 | 300.42 ug/l | 99 |
| 64) 1,3-Dichloropropane | 11.00 | 76 | 1515442 | 52.30 ug/l | 100 |
| 65) Tetrachloroethene | 11.07 | 164 | 753132 | 42.72 ug/l | 99 |
| 66) Dibromochloromethane | 11.39 | 129 | 848896 | 50.91 ug/l | 100 |
| 67) 1,2-Dibromoethane | 11.71 | 107 | 725107 | 48.24 ug/l | 99 |
| 68) 1-Chlorohexane | 12.02 | 91 | 1622013 | 49.31 ug/l | 99 |
| 69) Chlorobenzene | 12.42 | 112 | 2657240 | 50.94 ug/l | 99 |
| 70) 1,1,1,2-Tetrachloroethane | 12.49 | 131 | 881665 | 49.32 ug/l | 99 |
| 71) Ethylbenzene | 12.52 | 91 | 4986215 | 51.89 ug/l | 98 |
| 72) m-Xylene & p-Xylene | 12.64 | 91 | 7396649 | 102.74 ug/l | 98 |
| 73) o-Xylene | 13.38 | 91 | 3666560 | 53.67 ug/l | 97 |
| 74) Styrene | 13.44 | 104 | 2928244 | 54.24 ug/l | 99 |
| 75) Isopropylbenzene | 14.01 | 105 | 4451901 | 53.53 ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D Vial: 2
Acq On : 10 Jun 2024 10:30 Operator: IRagas
Sample : CVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 10:51 2024 Quant Results File: VO02A31.RES

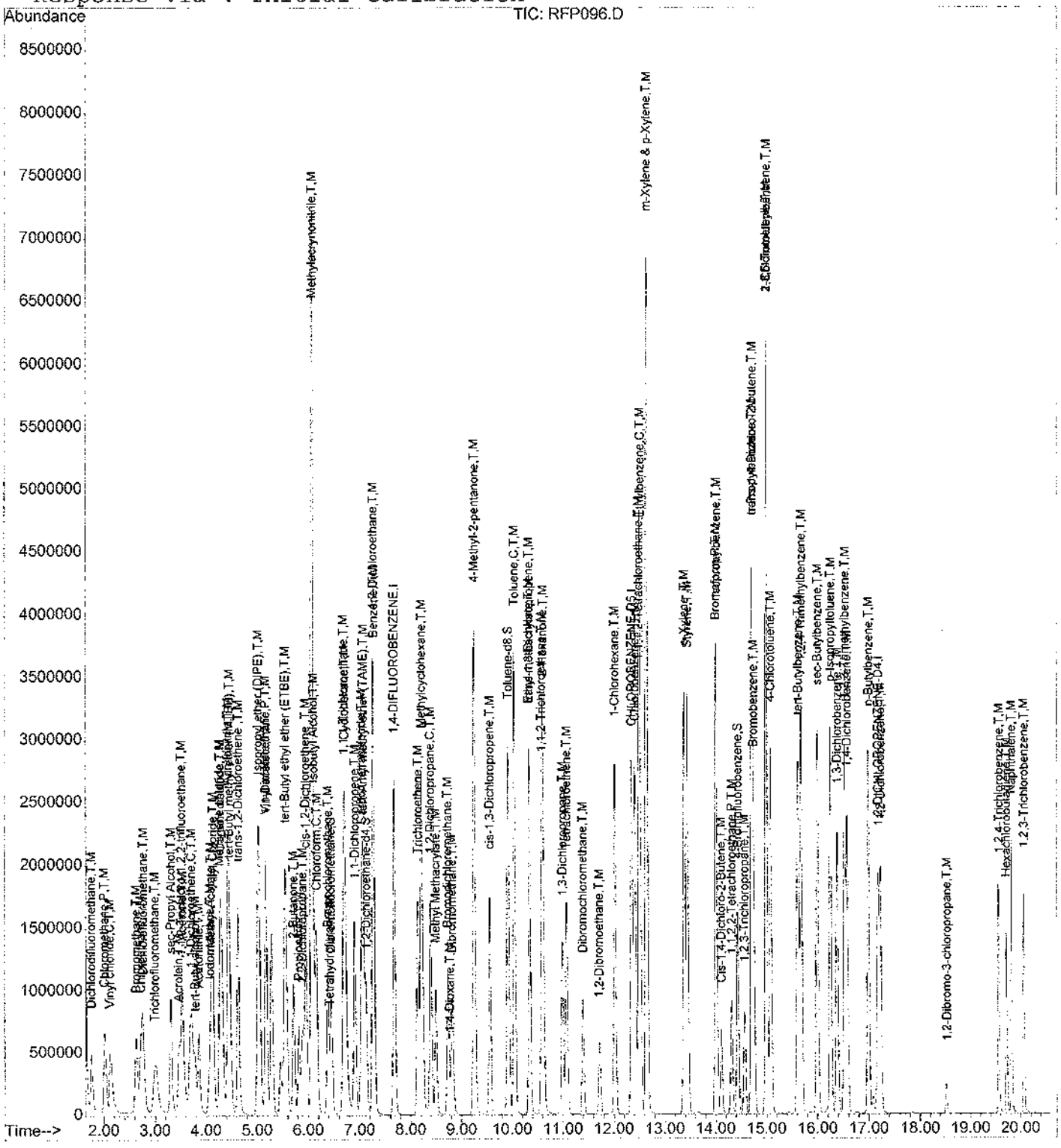
Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 76) | Cis-1,4-Dichloro-2-Butene | 14.11 | 53 | 261371 | 50.62 | ug/l | 100 |
| 78) | Bromoform | 14.00 | 173 | 437570 | 46.72 | ug/l | 99 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.32 | 83 | 969080 | 53.51 | ug/l | 100 |
| 81) | 1,2,3-Trichloropropane | 14.57 | 110 | 221890 | 51.74 | ug/l | 99 |
| 82) | trans-1,4-Dichloro-2-buten | 14.71 | 53 | 237738 | 51.75 | ug/l | 98 |
| 83) | n-Propylbenzene | 14.71 | 91 | 5464444 | 51.40 | ug/l | 99 |
| 84) | Bromobenzene | 14.74 | 156 | 970564 | 46.55 | ug/l | 99 |
| 85) | 1,3,5-Trimethylbenzene | 14.99 | 105 | 3339417 | 50.36 | ug/l | 100 |
| 86) | 2-Chlorotoluene | 14.99 | 91 | 3374682 | 49.90 | ug/l | 96 |
| 87) | 4-Chlorotoluene | 15.08 | 91 | 3106149 | 52.65 | ug/l | 100 |
| 88) | tert-Butylbenzene | 15.62 | 134 | 664763 | 48.82 | ug/l | 95 |
| 89) | 1,2,4-Trimethylbenzene | 15.68 | 105 | 3260042 | 51.64 | ug/l | 99 |
| 90) | sec-Butylbenzene | 16.00 | 105 | 4421774 | 52.42 | ug/l | 99 |
| 91) | p-Isopropyltoluene | 16.25 | 119 | 3379782 | 52.80 | ug/l | 99 |
| 92) | 1,3-Dichlorobenzene | 16.38 | 146 | 1734068 | 49.31 | ug/l | 99 |
| 93) | 1,2,3-Trimethylbenzene | 16.53 | 105 | 3125769 | 52.20 | ug/l | 99 |
| 94) | 1,4-Dichlorobenzene | 16.57 | 146 | 1713645 | 49.22 | ug/l | 99 |
| 95) | n-Butylbenzene | 17.00 | 91 | 3229212 | 54.26 | ug/l | 99 |
| 96) | 1,2-Dichlorobenzene | 17.23 | 146 | 1517123 | 49.72 | ug/l | 100 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.53 | 157 | 111465 | 56.55 | ug/l | 100 |
| 98) | 1,2,4-Trichlorobenzene | 19.57 | 180 | 845490 | 53.66 | ug/l | 99 |
| 99) | Hexachlorobutadiene | 19.72 | 225 | 378771 | 48.64 | ug/l | 99 |
| 100) | Naphthalene | 19.82 | 128 | 1849287 | 60.93 | ug/l | 99 |
| 101) | 1,2,3-Trichlorobenzene | 20.07 | 180 | 719456 | 53.04 | ug/l | 100 |

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\24F10\RFP096.D Vial: 2
Acq On : 10 Jun 2024 10:30 Operator: IRagas
Sample : CVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 10:51 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D Vial: 8
Acq On : 10 Jun 2024 13:24 Operator: IRagas
Sample : EVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 50.000 | 50.000 | 0.0 | 124 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 50.000 | 48.301 | 3.4 | 110 | 0.00 |
| 3 | P,T,M | Chloromethane | 50.000 | 55.063 | -10.1 | 127 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 50.000 | 57.037 | -14.1 | 132 | 0.00 |
| 5 | T,M | Bromomethane | 50.000 | 50.742 | -1.5 | 122 | 0.00 |
| 6 | T,M | Chloroethane | 50.000 | 51.446 | -2.9 | 119 | 0.00 |
| 7 | T,M | Dichlorofluoromethane | 50.000 | 49.439 | 1.1 | 114 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 50.000 | 54.396 | -8.8 | 121 | 0.00 |
| 9 | T,M | sec-Propyl Alcohol | 500.000 | 516.684 | -3.3 | 125 | 0.00 |
| 10 | T,M | Acrolein | 250.000 | 268.559 | -7.4 | 116 | 0.00 |
| 11 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 50.000 | 49.833 | 0.3 | 114 | 0.00 |
| 12 | T,M | Acetone | 250.000 | 252.941 | -1.2 | 118 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 50.000 | 45.990 | 8.0 | 104 | 0.00 |
| 14 | T,M | tert-Butyl alcohol | 500.000 | 540.646 | -8.1 | 119 | 0.00 |
| 15 | T,M | Acetonitrile | 500.000 | 478.757 | 4.2 | 105 | 0.00 |
| 16 | T,M | Iodomethane | 50.000 | 40.960 | 18.1 | 94 | 0.02 |
| 17 | T,M | Methyl Acetate | 50.000 | 57.083 | -14.2 | 133 | 0.00 |
| 18 | T,M | Allyl Chloride | 50.000 | 45.311 | 9.4 | 105 | 0.00 |
| 19 | T,M | Methylene chloride | 50.000 | 46.477 | 7.0 | 109 | -0.01 |
| 20 | T,M | Carbon disulfide | 50.000 | 50.069 | -0.1 | 113 | 0.00 |
| 21 | T,M | Acrylonitrile | 250.000 | 264.828 | -5.9 | 117 | 0.00 |
| 22 | T,M | tert-Butyl methyl ether (MT | 50.000 | 51.801 | -3.6 | 118 | 0.00 |
| 23 | T,M | trans-1,2-Dichloroethene | 50.000 | 43.855 | 12.3 | 101 | 0.00 |
| 24 | T,M | Isopropyl ether (DIPE) | 50.000 | 52.841 | -5.7 | 118 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 50.000 | 50.870 | -1.7 | 116 | 0.00 |
| 26 | T,M | Vinyl acetate | 50.000 | 53.963 | -7.9 | 119 | 0.00 |
| 27 | T,M | 2-Butanol | 500.000 | 0.000 | 100.0# | 0 | 0.00 |
| 28 | T,M | tert-Butyl ethyl ether (ETB | 50.000 | 52.902 | -5.8 | 119 | 0.00 |
| 29 | T,M | 2-Butanone | 250.000 | 260.945 | -4.4 | 113 | 0.00 |
| 30 | T,M | Propionitrile | 500.000 | 541.600 | -8.3 | 121 | 0.00 |
| 31 | T,M | 2,2-Dichloropropane | 50.000 | 55.078 | -10.2 | 124 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 50.000 | 47.596 | 4.8 | 110 | 0.00 |
| 33 | T,M | Methylacrynonitrile | 500.000 | 546.665 | -9.3 | 122 | 0.00 |
| 34 | T,M | Isobutyl Alcohol | 1000.000 | 1038.630 | -3.9 | 123 | 0.00 |
| 35 | C,T,M | Chloroform | 50.000 | 50.023 | -0.0 | 115 | 0.00 |
| 36 | T,M | Bromochloromethane | 50.000 | 45.232 | 9.5 | 104 | 0.00 |
| 37 | T,M | Tetrahydrofuran | 50.000 | 49.616 | 0.8 | 113 | 0.00 |
| 38 | S | Dibromofluoromethane | 50.000 | 45.287 | 9.4 | 105 | 0.00 |
| 39 | T,M | 1,1,1-Trichloroethane | 50.000 | 50.315 | -0.6 | 114 | 0.00 |
| 40 | T,M | Cyclohexane | 50.000 | 52.710 | -5.4 | 122 | 0.00 |
| 41 | T,M | 1,1-Dichloropropene | 50.000 | 43.208 | 13.6 | 101 | 0.00 |

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D  Vial: 8
Acq On : 10 Jun 2024 13:24  Operator: IRagas
Sample : EVO02A3130  Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 42 | T,M | Carbon tetrachloride | 50.000 | 46.127 | 7.7 | 107 | 0.00 |
| 43 | T,M | tert-Amyl methyl ether (TAM | 50.000 | 48.975 | 2.0 | 115 | 0.00 |
| 44 | S | 1,2-Dichloroethane-d4 | 50.000 | 48.838 | 2.3 | 113 | 0.00 |
| 45 | T,M | 1,2-Dichloroethane | 50.000 | 51.381 | -2.8 | 116 | -0.02 |
| 46 | T,M | Benzene | 50.000 | 49.245 | 1.5 | 110 | 0.00 |
| 47 | T,M | Trichloroethene | 50.000 | 46.045 | 7.9 | 105 | -0.02 |
| 48 | T,M | Methylcyclohexane | 50.000 | 54.532 | -9.1 | 121 | 0.00 |
| 49 | C,T,M | 1,2-Dichloropropane | 50.000 | 51.136 | -2.3 | 115 | 0.00 |
| 50 | T,M | Methyl Methacrylate | 50.000 | 51.843 | -3.7 | 119 | 0.00 |
| 51 | T,M | Bromodichloromethane | 50.000 | 50.561 | -1.1 | 114 | 0.00 |
| 52 | T,M | 1,4-Dioxane | 1000.000 | 916.117 | 8.4 | 97 | 0.00 |
| 53 | T,M | Dibromomethane | 50.000 | 48.109 | 3.8 | 110 | 0.00 |
| 54 | T,M | 2-Chloroethyl vinyl ether | 50.000 | 0.000 | 100.0# | 0 | 0.01 |
| 55 | T,M | 4-Methyl-2-pentanone | 250.000 | 280.492 | -12.2 | 116 | 0.00 |
| 56 | T,M | cis-1,3-Dichloropropene | 50.000 | 50.473 | -0.9 | 114 | 0.00 |
| 57 | I | CHLOROBENZENE-D5 | 50.000 | 50.000 | 0.0 | 126 | 0.00 |
| 58 | S | Toluene-d8 | 50.000 | 47.007 | 6.0 | 110 | 0.00 |
| 59 | C,T,M | Toluene | 50.000 | 48.721 | 2.6 | 112 | 0.00 |
| 60 | T,M | Ethyl methacrylate | 50.000 | 51.991 | -4.0 | 122 | -0.02 |
| 61 | T,M | trans-1,3-Dichloropropene | 50.000 | 50.063 | -0.1 | 116 | 0.00 |
| 62 | T,M | 1,1,2-Trichloroethane | 50.000 | 51.179 | -2.4 | 117 | 0.00 |
| 63 | T,M | 2-Hexanone | 250.000 | 276.684 | -10.7 | 118 | 0.00 |
| 64 | T,M | 1,3-Dichloropropane | 50.000 | 50.281 | -0.6 | 118 | 0.00 |
| 65 | T,M | Tetrachloroethene | 50.000 | 43.017 | 14.0 | 102 | 0.00 |
| 66 | T,M | Dibromochloromethane | 50.000 | 48.175 | 3.7 | 110 | 0.00 |
| 67 | T,M | 1,2-Dibromoethane | 50.000 | 47.024 | 6.0 | 113 | 0.00 |
| 68 | T,M | 1-Chlorohexane | 50.000 | 48.985 | 2.0 | 112 | 0.00 |
| 69 | P,T,M | Chlorobenzene | 50.000 | 49.408 | 1.2 | 113 | 0.00 |
| 70 | T,M | 1,1,1,2-Tetrachloroethane | 50.000 | 48.191 | 3.6 | 113 | 0.00 |
| 71 | C,T,M | Ethylbenzene | 50.000 | 50.631 | -1.3 | 114 | 0.00 |
| 72 | T,M | m-Xylene & p-Xylene | 100.000 | 101.195 | -1.2 | 114 | 0.00 |
| 73 | T,M | o-Xylene | 50.000 | 52.600 | -5.2 | 118 | 0.00 |
| 74 | T,M | Styrene | 50.000 | 53.160 | -6.3 | 117 | 0.00 |
| 75 | T,M | Isopropylbenzene | 50.000 | 53.321 | -6.6 | 120 | 0.00 |
| 76 | T,M | Cis-1,4-Dichloro-2-Butene | 50.000 | 47.046 | 5.9 | 115 | 0.00 |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 50.000 | 50.000 | 0.0 | 133 | 0.00 |
| 78 | P,T,M | Bromoform | 50.000 | 44.313 | 11.4 | 114 | 0.00 |
| 79 | P,T,M | 1,1,2,2-Tetrachloroethane | 50.000 | 52.003 | -4.0 | 126 | 0.00 |
| 80 | S | 4-Bromofluorobenzene | 50.000 | 42.709 | 14.6 | 108 | 0.00 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D Vial: 8
Acq On : 10 Jun 2024 13:24 Operator: IRagas
Sample : EVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 81 | T,M | 1,2,3-Trichloropropane | 50.000 | 48.540 | 2.9 | 120 | 0.00 |
| 82 | T,M | trans-1,4-Dichloro-2-butene | 50.000 | 48.335 | 3.3 | 129 | 0.00 |
| 83 | T,M | n-Propylbenzene | 50.000 | 50.704 | -1.4 | 121 | 0.00 |
| 84 | T,M | Bromobenzene | 50.000 | 45.371 | 9.3 | 115 | 0.00 |
| 85 | T,M | 1,3,5-Trimethylbenzene | 50.000 | 49.841 | 0.3 | 118 | 0.00 |
| 86 | T,M | 2-Chlorotoluene | 50.000 | 48.432 | 3.1 | 119 | 0.00 |
| 87 | T,M | 4-Chlorotoluene | 50.000 | 51.372 | -2.7 | 121 | 0.00 |
| 88 | T,M | tert-Butylbenzene | 50.000 | 47.360 | 5.3 | 116 | 0.00 |
| 89 | T,M | 1,2,4-Trimethylbenzene | 50.000 | 50.864 | -1.7 | 121 | 0.00 |
| 90 | T,M | sec-Butylbenzene | 50.000 | 51.739 | -3.5 | 123 | 0.00 |
| 91 | T,M | p-Isopropyltoluene | 50.000 | 52.405 | -4.8 | 121 | 0.00 |
| 92 | T,M | 1,3-Dichlorobenzene | 50.000 | 48.736 | 2.5 | 118 | 0.00 |
| 93 | T,M | 1,2,3-Trimethylbenzene | 50.000 | 50.869 | -1.7 | 120 | 0.00 |
| 94 | T,M | 1,4-Dichlorobenzene | 50.000 | 49.026 | 1.9 | 118 | 0.00 |
| 95 | T,M | n-Butylbenzene | 50.000 | 54.772 | -9.5 | 125 | 0.00 |
| 96 | T,M | 1,2-Dichlorobenzene | 50.000 | 48.849 | 2.3 | 119 | 0.00 |
| 97 | T,M | 1,2-Dibromo-3-chloropropane | 50.000 | 52.720 | -5.4 | 123 | 0.00 |
| 98 | T,M | 1,2,4-Trichlorobenzene | 50.000 | 53.281 | -6.6 | 128 | 0.00 |
| 99 | T,M | Hexachlorobutadiene | 50.000 | 50.346 | -0.7 | 126 | 0.00 |
| 100 | T,M | Naphthalene | 50.000 | 58.397 | -16.8 | 136 | 0.00 |
| 101 | T,M | 1,2,3-Trichlorobenzene | 50.000 | 53.605 | -7.2 | 130 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D  Vial: 8
Acq On : 10 Jun 2024 13:24  Operator: IRagas
Sample : EVO02A3130  Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-DIFLUOROBENZENE | 1.000 | 1.000 | 0.0 | 124 | 0.00 |
| 2 | T,M | Dichlorodifluoromethane | 0.258 | 0.249 | 3.5 | 110 | 0.00 |
| 3 | P,T,M | Chloromethane | 0.360 | 0.396 | -10.0 | 127 | 0.00 |
| 4 | C,T,M | Vinyl chloride | 0.305 | 0.348 | -14.1 | 132 | 0.00 |
| 5 | T,M | Bromomethane | 0.226 | 0.229 | -1.3 | 122 | 0.00 |
| 6 | T,M | Chloroethane | 0.200 | 0.206 | -3.0 | 119 | 0.00 |
| 7 | T,M | Dichlorofluoromethane | 0.440 | 0.435 | 1.1 | 114 | 0.00 |
| 8 | T,M | Trichlorofluoromethane | 0.267 | 0.290 | -8.6 | 121 | 0.00 |
| 9 | T,M | sec-Propyl Alcohol | 0.019 | 0.020 | -5.3 | 125 | 0.00 |
| 10 | T,M | Acrolein | 0.026 | 0.028 | -7.7 | 116 | 0.00 |
| 11 | T,M | 1,1,2-Trichloro-1,2,2-trifl | 0.171 | 0.170 | 0.6 | 114 | 0.00 |
| 12 | T,M | Acetone | 0.058 | 0.058 | 0.0 | 118 | 0.00 |
| 13 | C,T,M | 1,1-Dichloroethene | 0.464 | 0.427 | 8.0 | 104 | 0.00 |
| 14 | T,M | tert-Butyl alcohol | 0.021 | 0.023 | -9.5 | 119 | 0.00 |
| 15 | T,M | Acetonitrile | 0.025 | 0.024 | 4.0 | 105 | 0.00 |
| 16 | T,M | Iodomethane | 0.384 | 0.314 | 18.2 | 94 | 0.02 |
| 17 | T,M | Methyl Acetate | 0.196 | 0.224 | -14.3 | 133 | 0.00 |
| 18 | T,M | Allyl Chloride | 0.183 | 0.165 | 9.8 | 105 | 0.00 |
| 19 | T,M | Methylene chloride | 0.387 | 0.360 | 7.0 | 109 | -0.01 |
| 20 | T,M | Carbon disulfide | 1.009 | 1.010 | -0.1 | 113 | 0.00 |
| 21 | T,M | Acrylonitrile | 0.081 | 0.086 | -6.2 | 117 | 0.00 |
| 22 | T,M | tert-Butyl methyl ether (MT | 0.735 | 0.762 | -3.7 | 118 | 0.00 |
| 23 | T,M | trans-1,2-Dichloroethene | 0.329 | 0.288 | 12.5 | 101 | 0.00 |
| 24 | T,M | Isopropyl ether (DIPE) | 1.181 | 1.248 | -5.7 | 118 | 0.00 |
| 25 | P,T,M | 1,1-Dichloroethane | 0.560 | 0.570 | -1.8 | 116 | 0.00 |
| 26 | T,M | Vinyl acetate | 0.510 | 0.550 | -7.8 | 119 | 0.00 |
| 27 | T,M | 2-Butanol | 0.000 | 0.021 | 0.0 | 0# | 0.00 |
| 28 | T,M | tert-Butyl ethyl ether (ETB | 0.998 | 1.056 | -5.8 | 119 | 0.00 |
| 29 | T,M | 2-Butanone | 0.022 | 0.023 | -4.5 | 113 | 0.00 |
| 30 | T,M | Propionitrile | 0.027 | 0.029 | -7.4 | 121 | 0.00 |
| 31 | T,M | 2,2-Dichloropropane | 0.218 | 0.240 | -10.1 | 124 | 0.00 |
| 32 | T,M | cis-1,2-Dichloroethene | 0.348 | 0.331 | 4.9 | 110 | 0.00 |
| 33 | T,M | Methylacrynonitrile | 0.033 | 0.037 | -12.1 | 122 | 0.00 |
| 34 | T,M | Isobutyl Alcohol | 0.009 | 0.011 | -22.2# | 123 | 0.00 |
| 35 | C,T,M | Chloroform | 0.497 | 0.498 | -0.2 | 115 | 0.00 |
| 36 | T,M | Bromochloromethane | 0.179 | 0.162 | 9.5 | 104 | 0.00 |
| 37 | T,M | Tetrahydrofuran | 0.062 | 0.061 | 1.6 | 113 | 0.00 |
| 38 | S | Dibromofluoromethane | 0.257 | 0.232 | 9.7 | 105 | 0.00 |
| 39 | T,M | 1,1,1-Trichloroethane | 0.315 | 0.317 | -0.6 | 114 | 0.00 |
| 40 | T,M | Cyclohexane | 0.449 | 0.473 | -5.3 | 122 | 0.00 |
| 41 | T,M | 1,1-Dichloropropene | 0.143 | 0.124 | 13.3 | 101 | 0.00 |

(#) = Out of Range

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D  Vial: 8
Acq On : 10 Jun 2024 13:24  Operator: IRagas
Sample : EVO02A3130  Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA  Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 42 | T,M | Carbon tetrachloride | 0.269 | 0.248 | 7.8 | 107 | 0.00 |
| 43 | T,M | tert-Amyl methyl ether (TAM | 0.169 | 0.166 | 1.8 | 115 | 0.00 |
| 44 | S | 1,2-Dichloroethane-d4 | 0.227 | 0.221 | 2.6 | 113 | 0.00 |
| 45 | T,M | 1,2-Dichloroethane | 0.286 | 0.293 | -2.4 | 116 | -0.02 |
| 46 | T,M | Benzene | 1.271 | 1.252 | 1.5 | 110 | 0.00 |
| 47 | T,M | Trichloroethene | 0.303 | 0.279 | 7.9 | 105 | -0.02 |
| 48 | T,M | Methylcyclohexane | 0.538 | 0.587 | -9.1 | 121 | 0.00 |
| 49 | C,T,M | 1,2-Dichloropropane | 0.307 | 0.314 | -2.3 | 115 | 0.00 |
| 50 | T,M | Methyl Methacrylate | 0.173 | 0.179 | -3.5 | 119 | 0.00 |
| 51 | T,M | Bromodichloromethane | 0.347 | 0.351 | -1.2 | 114 | 0.00 |
| 52 | T,M | 1,4-Dioxane | 0.002 | 0.001 | 50.0# | 97 | 0.00 |
| 53 | T,M | Dibromomethane | 0.150 | 0.144 | 4.0 | 110 | 0.00 |
| 54 | T,M | 2-Chloroethyl vinyl ether | 0.000 | 0.001 | 0.0 | 0# | 0.01 |
| 55 | T,M | 4-Methyl-2-pentanone | 0.236 | 0.265 | -12.3 | 116 | 0.00 |
| 56 | T,M | cis-1,3-Dichloropropene | 0.489 | 0.494 | -1.0 | 114 | 0.00 |
| 57 | I | CHLOROBENZENE-D5 | 1.000 | 1.000 | 0.0 | 126 | 0.00 |
| 58 | S | Toluene-d8 | 1.246 | 1.171 | 6.0 | 110 | 0.00 |
| 59 | C,T,M | Toluene | 1.573 | 1.533 | 2.5 | 112 | 0.00 |
| 60 | T,M | Ethyl methacrylate | 0.422 | 0.439 | -4.0 | 122 | -0.02 |
| 61 | T,M | trans-1,3-Dichloropropene | 0.494 | 0.495 | -0.2 | 116 | 0.00 |
| 62 | T,M | 1,1,2-Trichloroethane | 0.270 | 0.277 | -2.6 | 117 | 0.00 |
| 63 | T,M | 2-Hexanone | 0.196 | 0.217 | -10.7 | 118 | 0.00 |
| 64 | T,M | 1,3-Dichloropropane | 0.502 | 0.505 | -0.6 | 118 | 0.00 |
| 65 | T,M | Tetrachloroethene | 0.305 | 0.263 | 13.8 | 102 | 0.00 |
| 66 | T,M | Dibromochloromethane | 0.289 | 0.278 | 3.8 | 110 | 0.00 |
| 67 | T,M | 1,2-Dibromoethane | 0.260 | 0.245 | 5.8 | 113 | 0.00 |
| 68 | T,M | 1-Chlorohexane | 0.570 | 0.558 | 2.1 | 112 | 0.00 |
| 69 | P,T,M | Chlorobenzene | 0.903 | 0.893 | 1.1 | 113 | 0.00 |
| 70 | T,M | 1,1,1,2-Tetrachloroethane | 0.310 | 0.298 | 3.9 | 113 | 0.00 |
| 71 | C,T,M | Ethylbenzene | 1.664 | 1.685 | -1.3 | 114 | 0.00 |
| 72 | T,M | m-Xylene & p-Xylene | 1.247 | 1.262 | -1.2 | 114 | 0.00 |
| 73 | T,M | o-Xylene | 1.183 | 1.245 | -5.2 | 118 | 0.00 |
| 74 | T,M | Styrene | 0.935 | 0.994 | -6.3 | 117 | 0.00 |
| 75 | T,M | Isopropylbenzene | 1.440 | 1.536 | -6.7 | 120 | 0.00 |
| 76 | T,M | Cis-1,4-Dichloro-2-Butene | 0.080 | 0.084 | -5.0 | 115 | 0.00 |
| 77 | I | 1,2-DICHLOROBENZENE-D4 | 1.000 | 1.000 | 0.0 | 133 | 0.00 |
| 78 | P,T,M | Bromoform | 0.475 | 0.421 | 11.4 | 114 | 0.00 |
| 79 | P,T,M | 1,1,2,2-Tetrachloroethane | 0.919 | 0.956 | -4.0 | 126 | 0.00 |
| 80 | S | 4-Bromofluorobenzene | 1.240 | 1.059 | 14.6 | 108 | 0.00 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D Vial: 8
Acq On : 10 Jun 2024 13:24 Operator: IRagas
Sample : EVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 81 | T,M | 1,2,3-Trichloropropane | 0.218 | 0.211 | 3.2 | 120 | 0.00 |
| 82 | T,M | trans-1,4-Dichloro-2-butene | 0.217 | 0.225 | -3.7 | 129 | 0.00 |
| 83 | T,M | n-Propylbenzene | 5.394 | 5.470 | -1.4 | 121 | 0.00 |
| 84 | T,M | Bromobenzene | 1.058 | 0.960 | 9.3 | 115 | 0.00 |
| 85 | T,M | 1,3,5-Trimethylbenzene | 3.364 | 3.353 | 0.3 | 118 | 0.00 |
| 86 | T,M | 2-Chlorotoluene | 3.431 | 3.324 | 3.1 | 119 | 0.00 |
| 87 | T,M | 4-Chlorotoluene | 2.993 | 3.075 | -2.7 | 121 | 0.00 |
| 88 | T,M | tert-Butylbenzene | 0.691 | 0.654 | 5.4 | 116 | 0.00 |
| 89 | T,M | 1,2,4-Trimethylbenzene | 3.203 | 3.258 | -1.7 | 121 | 0.00 |
| 90 | T,M | sec-Butylbenzene | 4.279 | 4.428 | -3.5 | 123 | 0.00 |
| 91 | T,M | p-Isopropyltoluene | 3.248 | 3.404 | -4.8 | 121 | 0.00 |
| 92 | T,M | 1,3-Dichlorobenzene | 1.784 | 1.739 | 2.5 | 118 | 0.00 |
| 93 | T,M | 1,2,3-Trimethylbenzene | 3.038 | 3.091 | -1.7 | 120 | 0.00 |
| 94 | T,M | 1,4-Dichlorobenzene | 1.766 | 1.732 | 1.9 | 118 | 0.00 |
| 95 | T,M | n-Butylbenzene | 3.020 | 3.308 | -9.5 | 125 | 0.00 |
| 96 | T,M | 1,2-Dichlorobenzene | 1.548 | 1.513 | 2.3 | 119 | 0.00 |
| 97 | T,M | 1,2-Dibromo-3-chloropropane | 0.100 | 0.105 | -5.0 | 123 | 0.00 |
| 98 | T,M | 1,2,4-Trichlorobenzene | 0.799 | 0.852 | -6.6 | 128 | 0.00 |
| 99 | T,M | Hexachlorobutadiene | 0.395 | 0.398 | -0.8 | 126 | 0.00 |
| 100 | T,M | Naphthalene | 1.540 | 1.799 | -16.8 | 136 | 0.00 |
| 101 | T,M | 1,2,3-Trichlorobenzene | 0.688 | 0.738 | -7.3 | 130 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D Vial: 8
Acq On : 10 Jun 2024 13:24 Operator: IRagas
Sample : EVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 13:44 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-DIFLUOROBENZENE | 7.65 | 114 | 3561805 | 50.00 | ug/l | 0.00 |
| 57) CHLOROBENZENE-D5 | 12.33 | 117 | 2848269 | 50.00 | ug/l | 0.00 |
| 77) 1,2-DICHLOROBENZENE-D4 | 17.16 | 152 | 986855 | 50.00 | ug/l | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 38) Dibromofluoromethane | 6.42 | 111 | 827745 | 45.29 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 90.58% | | |
| 44) 1,2-Dichloroethane-d4 | 7.11 | 65 | 788495 | 48.84 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 97.68% | | |
| 58) Toluene-d8 | 9.90 | 98 | 3336743 | 47.01 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 94.02% | | |
| 80) 4-Bromofluorobenzene | 14.41 | 95 | 1045537 | 42.71 | ug/l | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 85.42% | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Dichlorodifluoromethane | 1.74 | 85 | 886976 | 48.30 | ug/l | 100 |
| 3) Chloromethane | 2.01 | 50 | 1411004 | 55.06 | ug/l | 100 |
| 4) Vinyl chloride | 2.12 | 62 | 1241192 | 57.04 | ug/l | 99 |
| 5) Bromomethane | 2.62 | 94 | 816324 | 50.74 | ug/l | 99 |
| 6) Chloroethane | 2.71 | 64 | 732639 | 51.45 | ug/l | 99 |
| 7) Dichlorofluoromethane | 2.74 | 67 | 1549130 | 49.44 | ug/l | 98 |
| 8) Trichlorofluoromethane | 2.98 | 101 | 1033253 | 54.40 | ug/l | 99 |
| 9) sec-Propyl Alcohol | 3.28 | 45 | 701797 | 516.68 | ug/l | 98 |
| 10) Acrolein | 3.44 | 56 | 501367 | 268.56 | ug/l | 100 |
| 11) 1,1,2-Trichloro-1,2,2-trif | 3.49 | 151 | 606603 | 49.83 | ug/l | 99 |
| 12) Acetone | 3.52 | 43 | 1039226 | 252.94 | ug/l | 97 |
| 13) 1,1-Dichloroethene | 3.68 | 61 | 1521440 | 45.99 | ug/l | 95 |
| 14) tert-Butyl alcohol | 3.76 | 59 | 819099 | 540.65 | ug/l | 98 |
| 15) Acetonitrile | 3.83 | 41 | 863915 | 478.76 | ug/l | 100 |
| 16) Iodomethane | 4.06 | 142 | 1119431 | 40.96 | ug/l | 98 |
| 17) Methyl Acetate | 4.06 | 43 | 796618 | 57.08 | ug/l | 98 |
| 18) Allyl Chloride | 4.11 | 76 | 589259 | 45.31 | ug/l | 98 |
| 19) Methylene chloride | 4.24 | 49 | 1281578 | 46.48 | ug/l | 97 |
| 20) Carbon disulfide | 4.27 | 76 | 3597057 | 50.07 | ug/l | 99 |
| 21) Acrylonitrile | 4.40 | 53 | 1534302 | 264.83 | ug/l | 99 |
| 22) tert-Butyl methyl ether (M | 4.43 | 73 | 2713586 | 51.80 | ug/l | 99 |
| 23) trans-1,2-Dichloroethene | 4.60 | 96 | 1026463 | 43.86 | ug/l | 100 |
| 24) Isopropyl ether (DIPE) | 5.00 | 45 | 4445533 | 52.84 | ug/l | 99 |
| 25) 1,1-Dichloroethane | 5.15 | 63 | 2029038 | 50.87 | ug/l | 99 |
| 26) Vinyl acetate | 5.15 | 43 | 1959628 | 53.96 | ug/l | 99 |
| 28) tert-Butyl ethyl ether (ET | 5.53 | 59 | 3761107 | 52.90 | ug/l | 98 |
| 29) 2-Butanone | 5.69 | 72 | 411184 | 260.94 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D Vial: 8
Acq On : 10 Jun 2024 13:24 Operator: IRagas
Sample : EVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 13:44 2024 Quant Results File: VO02A31.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 30) | Propionitrile | 5.79 | 54 | 1037929 | 541.60 | ug/l | 100 |
| 31) | 2,2-Dichloropropane | 5.86 | 77 | 854266 | 55.08 | ug/l | 99 |
| 32) | cis-1,2-Dichloroethene | 5.94 | 96 | 1179148 | 47.60 | ug/l | 97 |
| 33) | Methylacrynonitrile | 6.05 | 52 | 1301543 | 546.66 | ug/l | 98 |
| 34) | Isobutyl Alcohol | 6.08 | 43 | 752606 | 1038.63 | ug/l | 98 |
| 35) | Chloroform | 6.14 | 83 | 1772613 | 50.02 | ug/l | 99 |
| 36) | Bromochloromethane | 6.36 | 130 | 577761 | 45.23 | ug/l | 99 |
| 37) | Tetrahydrofuran | 6.40 | 42 | 218181 | 49.62 | ug/l | 99 |
| 39) | 1,1,1-Trichloroethane | 6.67 | 97 | 1130699 | 50.31 | ug/l | 98 |
| 40) | Cyclohexane | 6.68 | 84 | 1684679 | 52.71 | ug/l | 99 |
| 41) | 1,1-Dichloropropene | 6.89 | 110 | 441294 | 43.21 | ug/l | 99 |
| 42) | Carbon tetrachloride | 7.00 | 119 | 883656 | 46.13 | ug/l | 99 |
| 43) | tert-Amyl methyl ether (TA | 7.05 | 87 | 589506 | 48.98 | ug/l | 100 |
| 45) | 1,2-Dichloroethane | 7.22 | 62 | 1045076 | 51.38 | ug/l | 100 |
| 46) | Benzene | 7.25 | 78 | 4458319 | 49.25 | ug/l | 99 |
| 47) | Trichloroethene | 8.10 | 130 | 995169 | 46.05 | ug/l | 98 |
| 48) | Methylcyclohexane | 8.19 | 83 | 2090451 | 54.53 | ug/l | 99 |
| 49) | 1,2-Dichloropropane | 8.36 | 63 | 1118635 | 51.14 | ug/l | 99 |
| 50) | Methyl Methacrylate | 8.47 | 69 | 637393 | 51.84 | ug/l | 97 |
| 51) | Bromodichloromethane | 8.70 | 83 | 1251459 | 50.56 | ug/l | 100 |
| 52) | 1,4-Dioxane | 8.74 | 88 | 101692 | 916.12 | ug/l | 96 |
| 53) | Dibromomethane | 8.79 | 93 | 514269 | 48.11 | ug/l | 97 |
| 55) | 4-Methyl-2-pentanone | 9.23 | 43 | 4714956 | 280.49 | ug/l | 100 |
| 56) | cis-1,3-Dichloropropene | 9.53 | 75 | 1757897 | 50.47 | ug/l | 99 |
| 59) | Toluene | 10.02 | 91 | 4366089 | 48.72 | ug/l | 99 |
| 60) | Ethyl methacrylate | 10.31 | 69 | 1249801 | 51.99 | ug/l | 100 |
| 61) | trans-1,3-Dichloropropene | 10.31 | 75 | 1409078 | 50.06 | ug/l | 99 |
| 62) | 1,1,2-Trichloroethane | 10.56 | 97 | 788046 | 51.18 | ug/l | 98 |
| 63) | 2-Hexanone | 10.59 | 43 | 3089906 | 276.68 | ug/l | 100 |
| 64) | 1,3-Dichloropropane | 10.97 | 76 | 1437196 | 50.28 | ug/l | 99 |
| 65) | Tetrachloroethene | 11.04 | 164 | 748174 | 43.02 | ug/l | 98 |
| 66) | Dibromochloromethane | 11.36 | 129 | 792436 | 48.18 | ug/l | 99 |
| 67) | 1,2-Dibromoethane | 11.69 | 107 | 697292 | 47.02 | ug/l | 99 |
| 68) | 1-Chlorohexane | 11.99 | 91 | 1589522 | 48.98 | ug/l | 99 |
| 69) | Chlorobenzene | 12.39 | 112 | 2542163 | 49.41 | ug/l | 100 |
| 70) | 1,1,1,2-Tetrachloroethane | 12.46 | 131 | 849745 | 48.19 | ug/l | 99 |
| 71) | Ethylbenzene | 12.49 | 91 | 4799343 | 50.63 | ug/l | 99 |
| 72) | m-Xylene & p-Xylene | 12.62 | 91 | 7186528 | 101.20 | ug/l | 99 |
| 73) | o-Xylene | 13.35 | 91 | 3544932 | 52.60 | ug/l | 98 |
| 74) | Styrene | 13.41 | 104 | 2831200 | 53.16 | ug/l | 99 |
| 75) | Isopropylbenzene | 13.98 | 105 | 4374775 | 53.32 | ug/l | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D Vial: 8
Acq On : 10 Jun 2024 13:24 Operator: IRagas
Sample : EVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 13:44 2024 Quant Results File: VO02A31.RES

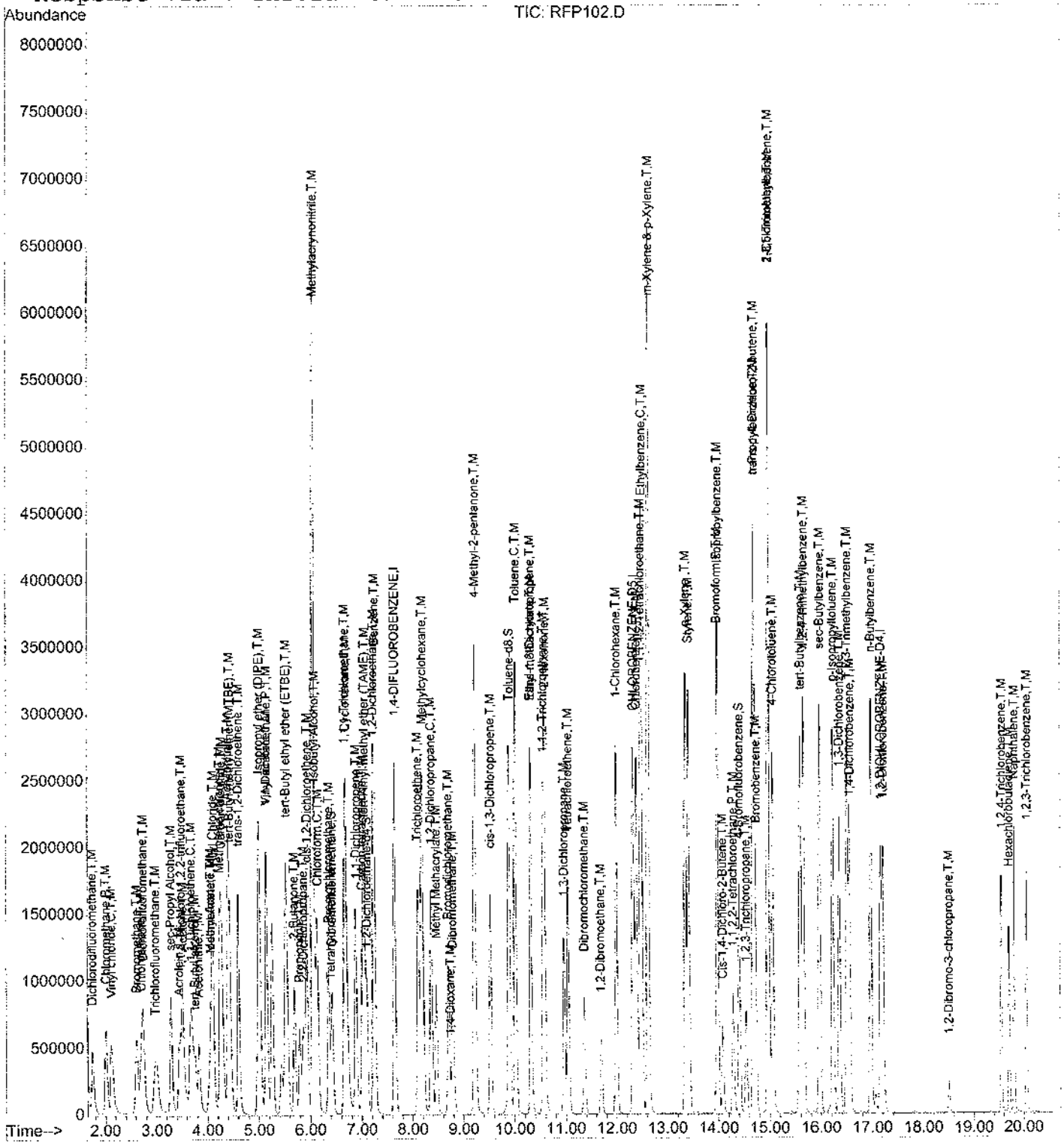
Quant Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration
DataAcq Meth : VO02A31

| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 76) | Cis-1,4-Dichloro-2-Butene | 14.08 | 53 | 239113 | 47.05 | ug/l | 98 |
| 78) | Bromoform | 13.97 | 173 | 415644 | 44.31 | ug/l | 99 |
| 79) | 1,1,2,2-Tetrachloroethane | 14.29 | 83 | 943035 | 52.00 | ug/l | 98 |
| 81) | 1,2,3-Trichloropropane | 14.54 | 110 | 208460 | 48.54 | ug/l | 98 |
| 82) | trans-1,4-Dichloro-2-buten | 14.68 | 53 | 221649 | 48.34 | ug/l | 96 |
| 83) | n-Propylbenzene | 14.68 | 91 | 5398421 | 50.70 | ug/l | 99 |
| 84) | Bromobenzene | 14.73 | 156 | 947255 | 45.37 | ug/l | 99 |
| 85) | 1,3,5-Trimethylbenzene | 14.96 | 105 | 3309324 | 49.84 | ug/l | 98 |
| 86) | 2-Chlorotoluene | 14.96 | 91 | 3279991 | 48.43 | ug/l | 98 |
| 87) | 4-Chlorotoluene | 15.05 | 91 | 3034697 | 51.37 | ug/l | 98 |
| 88) | tert-Butylbenzene | 15.59 | 134 | 645752 | 47.36 | ug/l | 95 |
| 89) | 1,2,4-Trimethylbenzene | 15.65 | 105 | 3215286 | 50.86 | ug/l | 98 |
| 90) | sec-Butylbenzene | 15.97 | 105 | 4370018 | 51.74 | ug/l | 98 |
| 91) | p-Isopropyltoluene | 16.22 | 119 | 3359315 | 52.41 | ug/l | 99 |
| 92) | 1,3-Dichlorobenzene | 16.35 | 146 | 1716180 | 48.74 | ug/l | 99 |
| 93) | 1,2,3-Trimethylbenzene | 16.50 | 105 | 3050242 | 50.87 | ug/l | 98 |
| 94) | 1,4-Dichlorobenzene | 16.56 | 146 | 1709186 | 49.03 | ug/l | 99 |
| 95) | n-Butylbenzene | 16.97 | 91 | 3264517 | 54.77 | ug/l | 99 |
| 96) | 1,2-Dichlorobenzene | 17.20 | 146 | 1492681 | 48.85 | ug/l | 99 |
| 97) | 1,2-Dibromo-3-chloropropan | 18.50 | 157 | 104065 | 52.72 | ug/l | 99 |
| 98) | 1,2,4-Trichlorobenzene | 19.56 | 180 | 840730 | 53.28 | ug/l | 99 |
| 99) | Hexachlorobutadiene | 19.70 | 225 | 392625 | 50.35 | ug/l | 98 |
| 100) | Naphthalene | 19.80 | 128 | 1774934 | 58.40 | ug/l | 100 |
| 101) | 1,2,3-Trichlorobenzene | 20.05 | 180 | 728202 | 53.60 | ug/l | 97 |

(#) = qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\24F10\RFP102.D Vial: 8
Acq On : 10 Jun 2024 13:24 Operator: IRagas
Sample : EVO02A3130 Inst : 02
Misc : 50ppb 8260\250ppb KET-AA\500ppb TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jun 10 13:44 2024 Quant Results File: VO02A31.RES

Method : D:\HPCHEM\1\METHODS\VO02A31.M (RTE Integrator)
Title : METHOD 8260 5.0mL
Last Update : Fri Feb 02 11:22:06 2024
Response via : Initial Calibration



# ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

# ANALYSIS RUN LOG
*for*
# VOLATILES

**Note:** For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

**Comments:**

| | |
|---|---|
| **Book #:** | A02-064 |
| **Instrument No.:** | 02 |
| **Analytical Sequence:** | 24A31 |
| **Method File:** | V002A31 |
| **Analytical Batch:** | V002A31S |

| SOP # | |
|---|---|
| ☑ | EMAX-8260 Rev. No. 10 |
| ☐ | EMAX-8260C Rev. No. 1 |
| ☐ | EMAX-8260SIM Rev. No. 1 |
| ☐ | EMAX-M8260SIM Rev. No. 0 |
| ☐ | EMAX-TCPSIM Rev. No. 2 |
| ☐ | EMAX-624 Rev. No. 6 |
| ☐ | EMAX-624.1 Rev. No. 1 |

| PURGE AMOUNT | |
|---|---|
| ☑ | 5-mL Purge |
| ☐ | 10-mL Purge |
| ☐ | 25-mL Purge |

| SAMPLE MATRIX | |
|---|---|
| ☐ | Soil (refer to sample weight log) |
| ☐ | Water |
| ☐ | pH <2. Outliers indicated on analytical sequence. |
| ☐ | $Cl_2$ <5ppm. Outliers indicated on analytical sequence. |

## INITIAL CALIBRATION REFERENCE

| | |
|---|---|
| DATE | 1/31/24 |
| ICAL ID | V002A31 |

### STANDARDS

| NAME | ID | Amount (µl) | Conc. (mg/L) |
|---|---|---|---|
| DCC | SV1-43-38-03 | * | |
| DCC | -43-44-02 | | |
| DCC | -43-44-03 | | |
| DCC | -43-36-02 | | |
| BFB | -43-38-02 | 1 | |
| IS/SURR. IS | -43-35-02 | 1 | 50/250 |
| IS/SURR. SS | -43-35-03 | * | |
| ICV/LCS CS2 | -43-27-01 | 1 | |
| ICV/LCS KET-QA 8260 | -43-33-01 | 5 | |
| ICV/LCS 8260 | -43-27-03 | 5 | |
| ICV/LCS | -43-40-02 | 1 | |
| ICV/LCS | -43-31-03 | 5 | |
| ICV/LCS | -43-40-01 | 5 | |
| Data File Folder | 24A31 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | | MSV-03-02-18 |
| Chlorine strip | | -03-04-13-6 |
| Methanol | | -03-02-08 |
| $NaHSO_4$ | SWA-011-18-07 | |
| Reagent Water | RW3-23-001 | |
| Sand | SWB-004-06-19 | |

| ELECTRONIC DATA ARCHIVAL | |
|---|---|
| Location | Date |
| HPCHEM_VOA/TO | |

Analyzed By: IR
Date: 1/31/24
Disposed By: IR
Date Disposed: 2/01/24

# Injection Log

Directory: D:\HPCHEM\1\DATA\24A31

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | RAP131.D | 1. | BFB02A16 | T/CHK | 31 Jan 2024 13:23 |
| 2 | 2 | RAP132.D | 1. | VO02A311 0.02uL | 1ppb 8260\5ppb KET-AA\10ppb TBA-2But | 31 Jan 2024 13:50 |
| 3 | 3 | RAP133.D | 1. | VO02A312 0.04uL | 2ppb 8260\10ppb KET-AA\20ppb TBA-2But | 31 Jan 2024 14:28 |
| 4 | 4 | RAP134.D | 1. | VO02A313 0.10uL | 5ppb 8260\25ppb KET-AA\50ppb TBA-2But | 31 Jan 2024 14:53 |
| 5 | 5 | RAP135.D | 1. | VO02A314 0.20uL | 10ppb 8260\50ppb KET-AA\100ppb TBA-2But | 31 Jan 2024 15:17 |
| 6 | 6 | RAP136.D | 1. | VO02A315 0.40uL | 20ppb 8260\100ppb KET-AA\200ppb TBA-2Bu | 31 Jan 2024 15:42 |
| 7 | 7 | RAP137.D | 1. | VO02A316 1.00uL | 50ppb 8260\250ppb KET-AA\500ppb TBA-2Bu | 31 Jan 2024 16:06 |
| 8 | 8 | RAP138.D | 1. | VO02A317 2.00uL | 100ppb 8260\500ppb KET-AA\1000ppb TBA-2 | 31 Jan 2024 16:31 |
| 9 | 9 | RAP139.D | 1. | VO02A318 4.00uL | 200ppb 8260\1000ppb KET-AA\2000ppb TBA- | 31 Jan 2024 16:55 |
| 10 | 10 | RAP140.D | 1. | VO02A319 6.00uL | 300ppb 8260\1500ppb KET-AA\3000ppb TBA- | 31 Jan 2024 17:20 |
| 11 | 11 | RAP141.D | 1. | VO02A3110 10.00uL | 500ppb 8260\2500ppb KET-AA\5000ppb TBA- | 31 Jan 2024 17:44 |
| 12 | 12 | RAP142.D | 1. | RINSE | 5.0mL | 31 Jan 2024 18:09 |
| 13 | 13 | RAP143.D | 1. | RINSE | 5.0mL | 31 Jan 2024 18:33 |
| 14 | 14 | RAP144.D | 1. | IVO02A311 1.00uL | 50ppb 8260\250ppb KET-AA\500ppb TBA-2Bu | 31 Jan 2024 18:58 |
| 15 | 15 | RAP145.D | 1. | RINSE | 5.0mL | 31 Jan 2024 19:22 |
| 16 | 16 | RAP146.D | 1. | LOD VERF | 1ppb 8260\5ppb KET-AA\10ppb TBA-2But | 31 Jan 2024 19:46 |

**Note:** For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

**Comments:**

| | |
|---|---|
| **Book #:** | A02-054 |
| **Instrument No.:** | 02 |
| **Analytical Sequence:** | 24F10 |
| **Method File:** | V002A31 |
| **Analytical Batch:** | CV002A3130 |

| SOP # |
|---|
| ☑ EMAX-8260 Rev. No. 10 |
| ☐ EMAX-8260C Rev. No. 1 |
| ☐ EMAX-8260SIM Rev. No. 1 |
| ☐ EMAX-M8260SIM Rev. No. 0 |
| ☐ EMAX-TCPSIM Rev. No. 2 |
| ☐ EMAX-624 Rev. No. 6 |
| ☐ EMAX-624.1 Rev. No. 1 |

| PURGE AMOUNT |
|---|
| ☑ 5-mL Purge |
| ☐ 10-mL Purge |
| ☐ 25-mL Purge |

| SAMPLE MATRIX |
|---|
| ☑ Soil (refer to sample weight log) |
| ☐ Water |
| ☐ pH <2. Outliers indicated on analytical sequence. |
| ☐ $Cl_2$ <5ppm. Outliers indicated on analytical sequence. |

**INITIAL CALIBRATION REFERENCE**

| | |
|---|---|
| DATE | 1/31/24 |
| ICAL ID | VO02A31 |

**STANDARDS**

| NAME | ID | Amount (ul) | Conc. (mg/L) |
|---|---|---|---|
| DCC | SV1-43-54-03 | 1 | |
| DCC | -89-01 | 5 | |
| | -73-01 | 5 | |
| DCC | -77-02 | 1 | |
| DCC | -73-03 | 1 | |
| BFB | -38-04 | 1 | |
| IS/SURR. | -88-03 | 1 | 50/50 |
| ICV/LCS | -79-02 | 1 | |
| ICV/LCS | -92-01 | 5 | |
| | -51-01 | 5 | |
| ICV/LCS | -88-02 | 1 | |
| ICV/LCS | -90-01 | 5 | |
| | -40-01 | 5 | |
| Data File Folder | 24F10 | | |

| | LOT # | Syringe Lot # |
|---|---|---|
| pH strip | | MSU-03-02-18 |
| Chlorine strip | | ↓ -03-04-11-5 |
| Methanol | | |
| $NaHSO_4$ | SWIA-011-18-07 | |
| Reagent Water | RW3-23-001 | |
| Sand | SWIB-004-06-09 | |

| ELECTRONIC DATA ARCHIVAL | |
|---|---|
| Location | Date |
| HPCHEM_VOA/TO | |

Analyzed By: IR
Date: 6/10/24
Disposed By: IR
Date Disposed: 6/10/24

# Injection Log

Directory: D:\HPCHEM\1\DATA\24F10

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | RFP095.D | 1. | BFB02F05 | T/CHK | 10 Jun 2024 10:06 |
| 2 | 2 | RFP096.D | 1. | CVO02A3130 | 50ppb 8260\250ppb KET-AA\500ppb TBA | 10 Jun 2024 10:30 |
| 3 | 3 | RFP097.D | 1. | VS02F05L | 50ppb 8260\250ppb KET-AA\500ppb TBA | 10 Jun 2024 11:21 |
| 4 | 4 | RFP098.D | 1. | VS02F05C | 50ppb 8260\250ppb KET-AA\500ppb TBA | 10 Jun 2024 11:45 |
| 5 | 5 | RFP099.D | 1. | RINSE | 50ppb 8260\250ppb KET-AA\500ppb TBA | 10 Jun 2024 12:09 |
| 6 | 6 | RFP100.D | 1. | VS02F05B | 5.0g | 10 Jun 2024 12:34 |
| 7 | 7 | RFP101.D | 1. | 24F034-02 - 3 RP IS ↓ - no Target analyte affected | | 10 Jun 2024 12:58 |
| 8 | 8 | RFP102.D | 1. | EVO02A3130 | 50ppb 8260\250ppb KET-AA\500ppb TBA | 10 Jun 2024 13:24 |

# EXTRACTION LOG(S)

EMAX LABORATORIES, INC.

# EXTRACTION LOG FOR VOLATILES

FileID: 24VMF003

| PrepBatchID | Lab Sample ID | W1 (g) | DateTime | Wf (g) | DateTime | ExpWs(g) | Ws(g) | %Moisture | CorrExt Vol(ml) | Prep Factor | PFx50 df(I) | df(J) | df(K) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24VMF00301 | 24F034-02I | 29.41 | 6/7/24 12:27 | 39.83 | 6/7/24 12:27 | 5 | 10.420 | | 5 | 0.48 | 24 | | | |

☑ EMAX-5035 Rev.5 ☑ Balance Calibration Check performed prior to use BlankSoil Lot#: Prepared By: EDegui

☐ Encore ☐ Balance ID 25650797 MeOH/Surr. ID: 22410031 Standard Added By: N/A

☐ Frozen Sample ☑ Balance ID 25451062 Weight MeOH(g): Witnessed By: N/A

☑ Pre-weighed vial / jar 01122011 Vol MeOH(ml): 5 Extract Rcvd By: *IRagas*

☐ Volumetric dispenser was checked with 5-ml volumetric flask Expected Ws(g) 5 Extract Location: *VW01*

W1=Weight of Vial+Solvent Wf=W1 + Sample

# PRESERVATION LOG(S)

EMAX LABORATORIES, INC.

# PRESERVATION LOG FOR VOLATILES

24VPF003

| PrepBatchID | Lab Sample ID | W1 (g) | DateTime | Wf (g) | DateTime | ExpWs(g) | Ws(g) | PrepBFactor | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 24VPF00301 | 24F034-02 | 31.58 | 6/7/24 12:31 | 41.00 | 6/7/24 12:31 | 5 | 9.417 | 0.531 | |
| 24VPF00302 | 24F034-02R | 31.41 | 6/7/24 12:33 | 41.93 | 6/7/24 12:33 | 5 | 10.523 | 0.4751 | |
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☑ EMAX-5035 Rev. 5 ☑ Balance Calibration Check performed prior to use Surrogate ID: Prepared By: EDegui

☐ Encore+$NaHSO_4 \cdot H_2O$ ☑ BalanceID 25451062 ☐ BalanceID 25650797 BlankSoil Lot#: Standard Added By: N/A

☐ Frozen Sample ☐ Pre-weighed vial w/ H2O NaHSO4H2O: 225461 Witnessed By: N/A

☑ Pre-weighed vial w/ NaHSO4•H2O soln 0112201I Expected Ws(g): 5 Extract Rcvd By: IRagas

☐ Volumetric dispenser was checked with 5-ml volumetric flask Sample Location: VW01 Checked By: IRagas

W1=Weight of Vial + Stirrer+NaHSO4•H2O+Solvent Wf=W1 + Sample

EMAX LABORATORIES, INC.

# PRESERVATION LOG FOR VOLATILES

24VPF003

| PrepBatchID | Lab Sample ID | W1 (g) | DateTime | Wf (g) | DateTime | ExpWs(g) | Ws(g) | Prep Factor | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 24VPF00301 | 24034-02 | 31.58 | 6/7/24 12:31 | 41.00 | 6/7/24 12:31 | 5 | 9.417 | 0.531 | |
| 24VPF00302 | 24034-02R | 31.41 | 6/7/24 12:33 | 41.93 | 6/7/24 12:33 | 5 | 10.523 | 0.4751 | |
| | F | | | | | | | | |

☑ EMAX-5035 Rev. 5 ☑ Balance Calibration Check performed prior to use Surrogate ID: Prepared By: EDegui

☐ Encore+$NaHSO_4 \cdot H_2O$ ☑ BalanceID 25451062 ☐ BalanceID 25650797 BlankSoil Lot#: Standard Added By: N/A

☐ Frozen Sample ☐ Pre-weighed vial w/ H2O NaHSO4H2O: 225461 Witnessed By: N/A

☑ Pre-weighed vial w/ NaHSO4•H2O soln 0112201J Expected Ws(g): 5 Extract Rcvd By: IRagas

☐ Volumetric dispenser was checked with 5-ml volumetric flask Sample Location: VW01 Checked By: IRagas

W1=Weight of Vial + Stirrer+NaHSO4•H2O+Solvent Wf=W1 + Sample

# STANDARD LOGS

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-11 | custom VOA mix 73-6047 | 2000ppm | 250mL | 50 ppm |
| -11-01 | oxy gas add std | ↓ | ↓ | ↓ |
| -13-08 | 2-cleve | | | |
| -11-02 | 1-chlorohexane | | | |
| -09-07 | 1,2,3-TMB | 2500 ppm | 200mL | |
| -09-11 | TBA | 50,000ppm | ↓ | 1000ppm |
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| | | | N 1/3/24 | |

| Standard ID | SV1-43-38-01 |
|---|---|
| Name | 8260 (17) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/3/24 |
| Exp. Date | 7/3/24 |
| Prepared By | N |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-02-02 | VOA tuning cmpd mix | 5000ppm | 100mL | 50ppm |
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| | | | N | 1/3/24 |

| Standard ID | SV1-43-38-02 |
|---|---|
| Name | BFB |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/3/24 |
| Exp. Date | 7/3/24 |
| Prepared By | N |

Syringe ID:

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-10 | carbon disulfide | 5000ppm | 0.5mL | 250ppm |
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| | | | N | 1/3/24 |

| Standard ID | SV1-43-38-03 |
|---|---|
| Name | CS2 (19) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/3/24 |
| Exp. Date | 7/3/24 |
| Prepared By | N |

Syringe ID: MSV-04-01-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVL-38-10-17 | 8260 IS | 2500ppm | 200uL | 50ppm |
| L -10-12 | 8260A SS | L | L | L |
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| Standard ID | SV1-43-35-01 |
|---|---|
| Name | IS/SS |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/3/24 |
| Exp. Date | 7/3/24 |
| Prepared By | N |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-10-17 | 8260 IS | 2500ppm | 1.0mL | 250ppm |
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| | | | N 1/3/24 | |

| Standard ID | SV1-43-35-02 |
|---|---|
| Name | IS |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/3/24 |
| Exp. Date | 7/3/24 |
| Prepared By | N |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-10-17 | 8260A SS | 2500ppm | 1.0mL | 250ppm |
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| | | | N | 1/3/24 |

| Standard ID | SV1-43-35-03 |
|---|---|
| Name | SS |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/3/24 |
| Exp. Date | 7/3/24 |
| Prepared By | N |

Syringe ID: MSV-03-01-11

Comments:

BMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-192 | haloalkanes std | 200ppm | 25 µL | 2.5ppm |
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EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-15 | methyl acetate | 2500ppm | 1.0mL | 250ppm |
| ↓ -12-13 | methylcyclohexane | ↓ | ↓ | ↓ |
| ↓ -12-12 | cyclohexane | 2000ppm | 1.25mL | ↓ |
| ↓ -11-08 | 2-butanol | 50,000ppm | ↓ | 6250ppm |
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| | | | N 1/3/24 | |

| Standard ID | SV1-43-36-01 |
|---|---|
| Name | 4add (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/3/24 |
| Exp. Date | 7/3/24 |
| Prepared By | VL |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-19 | VOC gas std | 2000ppm | 1.25mL | 250ppm |
| ↓ -13-07 | vinyl acetate | 2500ppm | 1.0mL | ↓ |
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| | | | N | 1/3/24 |

| Standard ID | SV1-43-36-02 |
|---|---|
| Name | GAS (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/3/24 |
| Exp. Date | 7/3/24 |
| Prepared By | VL |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-19 | VOC gas std | 2000ppm | 1.25mL | 250ppm |
| ↓ -13-07 | vinyl acetate | 2500ppm | 1.0mL | ↓ |
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| | | | N | 1/3/24 |

| Standard ID | SV1-43-36-03 |
|---|---|
| Name | GAS (1°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/3/24 |
| Exp. Date | 7/3/24 |
| Prepared By | VL |

Syringe ID: MSV-03-01-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-08-06 | carbon disulfide | 5000ppm | 0.5mL | 250ppm |
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| | | | N 11/21/23 | |

| Standard ID | SV1-43-27-01 |
|---|---|
| Name | $CS_2$ (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 11/21/23 |
| Exp. Date | 05/21/24 |
| Prepared By | N |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-11-11 | custom VOA mix 73-6047 | 2000ppm | 250uL | 50ppm |
| -11-01 | oxy gas add std | ↓ | ↓ | ↓ |
| -09-12 | 2-cleve | ↓ | ↓ | ↓ |
| -11-02 | 1-chlorohexane | ↓ | ↓ | ↓ |
| -09-07 | 1,2,3-TMB | 2500ppm | 200uL | ↓ |
| -09-11 | TBA | 50,000ppm | 50uL | 500ppm |
| ↓ -13-06 | acetonimile | 20,000ppm | 250uL | ↓ |
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| | | | N 11/21/23 | |

| Standard ID | SV1-43-27-02 |
|---|---|
| Name | 8260(1°)(soil) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 11/21/23 |
| Exp. Date | 05/21/24 |
| Prepared By | N |

Syringe ID: MSV-03-01-11
↓ -03-01

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| N 11/21/23 SV1-438-09-20 | custom 8260 megamix | 2000ppm | 250uL | 50ppm |
| -30-12-09 | CAL oxy mix #1 | ↓ | ↓ | ↓ |
| -38-11-19 | 2-cleve | ↓ | ↓ | ↓ |
| -38-10-02 | 1-chlorohexane | 1000ppm | 0.5mL | ↓ |
| -30-12-16 | 1,2,3-TMB | 2500ppm | 200uL | ↓ |
| -38-11-18 | TBA | 50,000ppm | 50uL | 500ppm |
| ↓ -30-12-17 | acetonitrile | | 20 ↓ 250uL | ↓ |
| | | | N 11/21/23 | |
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| | | | N | 11/21/23 |

| Standard ID | SV1-43-27-03 |
|---|---|
| Name | 8260(2°)(soil) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 11/21/23 |
| Exp. Date | 05/21/24 |
| Prepared By | N |

Syringe ID: MSV-03-01-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SVI-38-12-17 | ketones soln | 2500ppm | 1.0mL | 250ppm |
| ↓ -14-17 | acrolein & acrylonitrile | 2000ppm | 1.25mL | ↓ |
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EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-10-09 | 2-butanol | 10000ppm | 1.0mL | 5000ppm |
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| Standard ID | SV1-43-40-01 |
|---|---|
| Name | 2-butanol (2°) |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/3/24 |
| Exp. Date | 7/3/24 |
| Prepared By | VL |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-12-05 | 8260 gases | 2000ppm | 1.25mL | 250ppm |
| ↓ -12-16 | Vinyl acetate | ↓ | ↓ | ↓ |
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| Standard ID | SV1-43-40-02 |
|---|---|
| Name | GAS (2°) |
| Final Volume | 10mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/4/24 |
| Exp. Date | 2/9/24 |
| Prepared By | VL |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-10-15 | TAA | 10,000ppm | 250mL | 1250ppm |
| ↓ -10-07 | Isooctane | 2000ppm | ↓ | 250ppm |
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| | | | " | 1/4/24 |

| Standard ID | SV1-43-40-03 |
|---|---|
| Name | TAA-224 (1°) |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 1/4/24 |
| Exp. Date | 7/4/24 |
| Prepared By | VL |

Syringe ID: MSV-07-01-11

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR VOLATILES

Book No: SV1-43

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-09-20 | custom 8260 megamix | 2000ppm | 250 mL | 250 ppm |
| -38-02-03 | cal oxy mix #1 | ↓ | ↓ | ↓ |
| -38-11-19 | 2-cleve | ↓ | ↓ | ↓ |
| -38-10-01 | 1-chlorohexane | 1000ppm | 0.5mL | ↓ |
| -30-12-16 | 1,2,3-TMB | 2500ppm | 200 mL | ↓ |
| -38-11-18 | TBA | 50,000ppm | ↓ | 5000 ppm |
| -30-12-17 | acetonitrile | 20,000ppm | 250 mL | 2500ppm |
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| | | | M 11/29/23 | |

| Standard ID | SV1-43-31-01 |
|---|---|
| Name | 8260(2°)(31) |
| Final Volume | 2.0mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 11/29/23 |
| Exp. Date | 05/29/24 |
| Prepared By | M |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-10-08 | methyl acetate | 1000ppm | 0.5mL | 50ppm |
| -14-12 | cyclohexane | ↓ | ↓ | ↓ |
| -14-11 | methylcyclohexane | ↓ | ↓ | ↓ |
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| | | | M 12/13/23 | |

| Standard ID | SV1-43-31-02 |
|---|---|
| Name | 3add (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 12/13/23 |
| Exp. Date | 06/13/24 |
| Prepared By | M |

Syringe ID: MSV-03-01-11

Comments:

| Parent ID | Parent Standard Name | Conc. | Aliquot | Final Conc. |
|---|---|---|---|---|
| SV1-38-10-08 | methyl acetate | 1000ppm | 0.5mL | 50ppm |
| -14-12 | cyclohexane | ↓ | ↓ | ↓ |
| -14-11 | methylcyclohexane | ↓ | ↓ | ↓ |
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| | | | M 12/13/23 | |

| Standard ID | SV1-43-31-03 |
|---|---|
| Name | 3add (2°) |
| Final Volume | 10 mL |
| MeOH Solvent ID | SW1A-011-24-01 |
| Prep. Date | 12/13/23 |
| Exp. Date | 06/13/24 |
| Prepared By | M |

Syringe ID: MSV-03-01-11

Comments:

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

# CERTIFIED REFERENCE MATERIAL

## Certificate of Analysis

SVI-30-02-02

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30003 **Lot No.:** A0150458

**Description :** VOA Tuning Compound Mix

VOA Tuning Compound Mix 5,000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2024 **Storage:** 0°C or colder

CERTIFIED VALUES

| Elution Order | Compound | | Grav. Conc. (weight/volume) | | Expanded Uncertainty (95% C.L.; K=2) | | |
|---|---|---|---|---|---|---|---|
| 1 | 1-Bromo-4-fluorobenzene (BFB) | | 5,030.0 | µg/mL | +/- 29.5189 | µg/mL | Gravimetric |
| | CAS # 460-00-4 | (Lot 20401KO) | | | +/- 282.0557 | µg/mL | Unstressed |
| | Purity 99% | | | | +/- 288.6541 | µg/mL | Stressed |

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

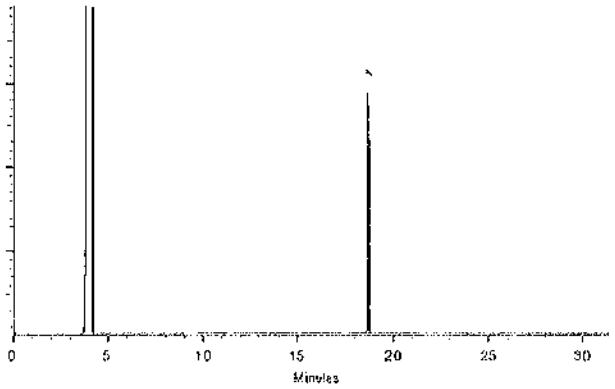
**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Walker Workman - Operations Technician I

Date Mixed: 27-Jun-2019 Balance: 1128342314

Date Passed: 01-Jul-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

**General Certified Reference Material Notes**

**Expiration Notes:**

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

**Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

**Certified Uncertainty Value Notes:**

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions | Standard Conditions | Non-Standard Conditions |
|---|---|---|
| 25°C Nominal (Room Temperature) | < 60°C | ≥ 60°C up to 7 days |
| 10°C or colder (Refrigerate) | < 40°C | ≥ 40°C up to 7 days |
| 0°C or colder (Freezer) | < 25°C | ≥ 25°C up to 7 days |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

**Manufacturing Notes:**

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

**Handling Notes:**

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 7/13/2022
Original issue date: 7/13/2022

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -122455-05 | 484785 | -18°C +/- 4°C | P/T Methanol | 12-Jul-2027 | Method 8260 Internal Standard Mix, 3-30, 2,500 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| chlorobenzene-d5 | 3114-55-4 | 99.5 | 128.120.1P | 2504 ± 130 |
| 1,2-dichlorobenzene-$d_4$ | 2199-69-1 | 99.7 | 247.29.3P | 2514 ± 130 |
| 1,4-difluorobenzene | 540-36-3 | 99.3 | 129.158.1.2P | 2523 ± 140 |

*Not a certified value

SVI - 38-10-17

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

SVI-38-10-17

# Certificate of Analysis



Catalog No.: Z-G34-122455-05 Lot No.: 484785 Expiration Date: 7/12/2027

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 12-Jul-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Bradley Richter | Jared Ball | Susan Mathews |
| Production Chemist I | Quality Control Chemist I | Quality Control Team Lead |

RESTEK
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Bellefonte, PA 16823-8812
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Fax: 1-814-353-1309

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# CERTIFIED REFERENCE MATERIAL

SM-38-10-B

# Certificate of Analysis

***chromatographic plus***

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30240 **Lot No.:** A0192204

**Description :** 8260A Surrogate Mix

8260A Surrogate Mix 2,500µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** December 31, 2027 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L., K=2 |
|---|---|---|---|---|---|---|
| 1 | Dibromofluoromethane | 1868-53-7 | 022013 | 99% | 2,517.6 µg/mL | +/- 141.4279 |
| 2 | 1,2-Dichloroethane-d4 | 17060-07-0 | PR-32845 | 99% | 2,507.6 µg/mL | +/- 140.8661 |
| 3 | Toluene-d8 | 2037-26-5 | I-27008 | 99% | 2,511.4 µg/mL | +/- 141.0796 |
| 4 | 1-Bromo-4-fluorobenzene (BFB) | 460-00-4 | 184975 | 99% | 2,517.8 µg/mL | +/- 141.4391 |

* Expanded Uncertainty displayed in same units as Grav. Cor

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

# Quality Confirmation Test

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

**Carrier Gas:**
hydrogen-constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

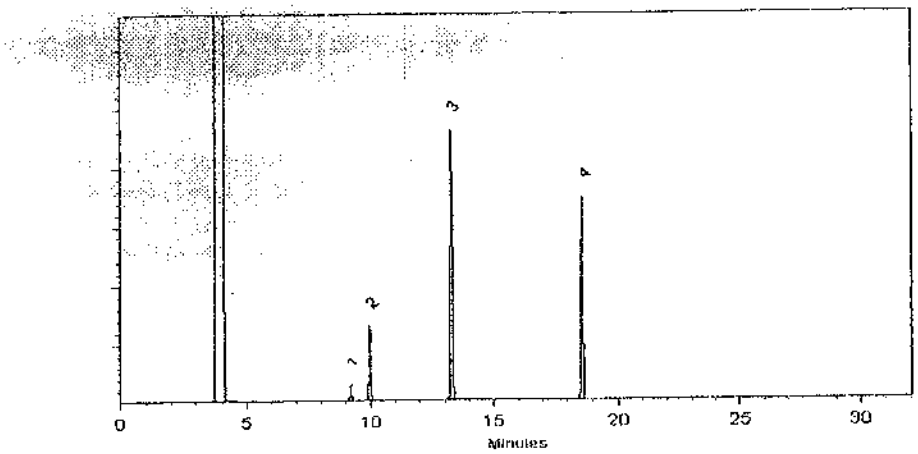
**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID

**Split Vent:**
40 ml/min

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Daniel Wasson - Operations Tech I — Date Mixed: 02-Dec-2022 — Balance Serial #: 1128342314

Christie Mills - Operations Tech II - ARM QC — Date Passed: 06-Dec-2022

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 3/10/2023
Original issue date: 3/10/2023

# Certificate of Analysis

Date Received:
 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020200-04 | 498954 | ≤ -10 °C | P/T Methanol | 8-Mar-2028 | Carbon Disulfide Solution, 5,000 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| carbon disulfide | 75-15-0 | 99.9 | 200.24.1VP | 5075 ± 260 |

*Not a certified value

SVL 38-41-10

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVI-38-1-10

# Certificate of Analysis



**Catalog No.:** Z-G34-020200-04 **Lot No.:** 498954 **Expiration Date:** 3/8/2028

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 8-Mar-2028

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist I** | **Quality Control Team Lead** |

SV1-38-10-19

# RESTEK® CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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## Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30006 **Lot No.:** A0186767

**Description :** VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2025 **Storage:** 0°C or colder

**Ship:** Ambient

## CERTIFIED VALUES

| Elution Order | Compound | | Grav. Conc. (weight/volume) | | Expanded Uncertainty (95% C.L., K=2) | | |
|---|---|---|---|---|---|---|---|
| 1 | Acetone<br>CAS # 67-64-1<br>Purity 99% | (Lot MKCQ7914) | 5,046.8 | µg/mL | +/- 29.3427<br>+/- 304.4978<br>+/- 305.2207 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2 | 2-Butanone (MEK)<br>CAS # 78-93-3<br>Purity 99% | (Lot SHBN2844) | 5,048.8 | µg/mL | +/- 29.3544<br>+/- 304.6185<br>+/- 305.3417 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 3 | 4-Methyl-2-pentanone (MIBK)<br>CAS # 108-10-1<br>Purity 99% | (Lot SHBN3601) | 5,045.0 | µg/mL | +/- 29.3321<br>+/- 304.3872<br>+/- 305.1099 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 4 | 2-Hexanone<br>CAS # 591-78-6<br>Purity 99% | (Lot MKCQ6663) | 5,045.3 | µg/mL | +/- 29.3340<br>+/- 304.4073<br>+/- 305.1300 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |

**Solvent:** P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

SVI-38-10-19

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

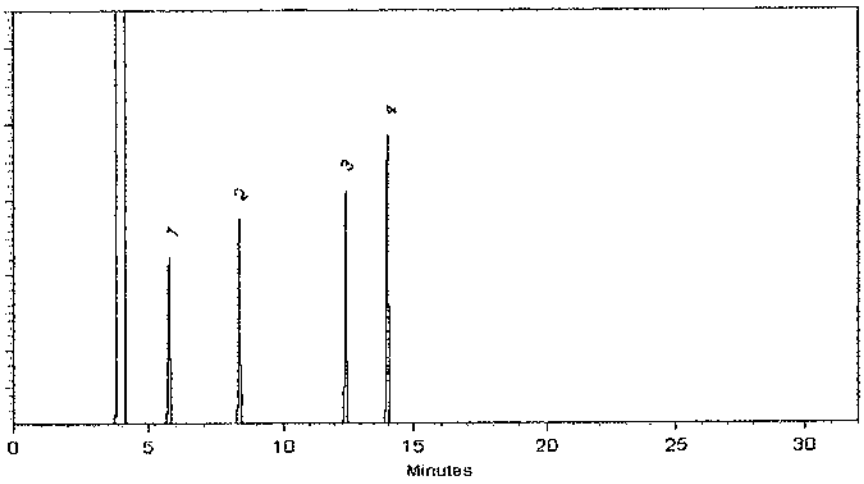
**Carrier Gas:**
hydrogen constant pressure 11.0 psi.

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Bethany Lowery - Operations Tech I — **Date Mixed:** 28-Jun-2022 — **Balance:** B251644995

Christie Mills - Operations Tech II - ARM QC — **Date Passed:** 30-Jun-2022

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

SVI-38-10-19

**General Certified Reference Material Notes**

**Expiration Notes:**

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

**Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

**Certified Uncertainty Value Notes:**

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions | Standard Conditions | Non-Standard Conditions |
|---|---|---|
| 25°C Nominal (Room Temperature) | < 60°C | ≥ 60°C up to 7 days |
| 10°C or colder (Refrigerate) | < 40°C | ≥ 40°C up to 7 days |
| 0°C or colder (Freezer)<br>-20°C or colder (Deep Freezer) | < 25°C | ≥ 25°C up to 7 days |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

**Manufacturing Notes:**

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

**Handling Notes:**

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

125 Market Street
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USA

AccuStandard®

SV1-38-13-16

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# CERTIFICATE OF ANALYSIS

**Catalog No:** M-603-M-5X
**Description:** Acrolein & Acrylonitrile
**Lot:** 223101045
**Solvent:** Methanol (90%)
Water (10%)
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word:** Danger

**Date Certified:** Oct 6, 2023
**Expiration:** Feb 6, 2024
**Sample Size:** 1 mL
**Components:** 2
**Storage Condition:** Freeze (<-10 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ilac-MRA

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Acrolein | 107-02-8 | 86.1 | 5814* | 5006 |
| Acrylonitrile | 107-13-1 | 99.8 | 5010 | 5000 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

* Weight compensated to 100% purity.

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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# CERTIFICATE OF ANALYSIS

SVI-38-12-12

**Catalog No:** TK-102-08S-10X
**Description:** Cyclohexane
**Lot:** 221101280
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word:** Danger

**Date Certified:** Oct 19, 2021
**Expiration:** Oct 19, 2031
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB AR-1463 ILAC-MRA

| Component | CAS # | Purity % (GC/MS) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Cyclohexane | 110-82-7 | 100.0 | 2008 | 2008 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: _____
Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_c = \sqrt{(u(V))^2 + (u(m))^2 + (u(lV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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# CERTIFICATE OF ANALYSIS

SVI-38-12-13

**Catalog No:** TK-102-09S-12.5X
**Description:** Methylcyclohexane
**Lot:** 222081023
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 2, 2022
**Expiration:** Aug 2, 2032
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB AR-1463

| Component | CAS # | Purity % (GC/FID) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Methylcyclohexane | 108-87-2 | 100.0 | 2538 | 2538 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expended uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: _____
Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(TV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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# CERTIFICATE OF ANALYSIS

**Catalog No:** S-6524-0.25X
**Description:** Methyl acetate
**Lot:** 223081092
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 7, 2023
**Expiration:** Aug 7, 2033
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB AR-1463 ilac-MRA

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Methyl acetate | 79-20-9 | 100.0 | 2506 | 2506 |

SV1-38-12-15

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST; Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/IKO-001
Rev. 7/20

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_c = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k$=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 2/23/2021
Original issue date: 2/23/2021

# Certificate of Analysis

Date Received:

 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020354-09 | 441317 | ≤ -10 °C | P/T Methanol | 22-Feb-2026 | 2-Butanol Solution, 50000 mg/L, 1 ml |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-butanol | 78-92-2 | 99.8 | 354.7.1P | 49720 ± 2500 |

*Not a certified value

SVL 38-11-09

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVI-3811-09

# Certificate of Analysis



**Catalog No.:** Z-G34-020354-09 **Lot No.:** 441317 **Expiration Date:** 2/22/2026

(95% confidence) values listed are determined gravimetricily.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$; u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 22-Feb-2026

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Claire Desrochers | Susan Mathews |
| Melissa Workoff | Claire Desrochers | Susan Mathews |
| **Production Chemist II** | **Quality Control Chemist I** | **Quality Control Team Lead** |

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(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

SVI-38-11-11

Date manufactured: 3/13/2023
Original issue date: 3/13/2023

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -126047-01 | 498957 | ≤ -10 °C | P/T Methanol | 13-Sep-2024 | Custom Volatiles Mix, 73-6047, Various Concentrations, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, me/L |
|---|---|---|---|---|
| 2-nitropropane | 79-46-9 | 97.7 | 219.1.2P | 2003 ± 110 |
| allyl chloride | 107-05-1 | 98.9 | 227.1.2P | 2024 ± 120 |
| benzene | 71-43-2 | 99.99 | 146.1.10P | 1997 ± 110 |
| bromobenzene | 108-86-1 | 100 | 147.7.1P | 1999 ± 140 |
| bromochloromethane | 74-97-5 | 99.7 | 148.1.3P | 1998 ± 110 |
| bromodichloromethane | 75-27-4 | 99.2 | 149.1.12P | 1988 ± 110 |
| bromoform | 75-25-2 | 99.3 | 150.7.2P | 1989 ± 110 |
| n-butylbenzene | 104-51-8 | 99.2 | 151.7.3.2P | 1997 ± 110 |
| sec-butylbenzene | 135-98-8 | 99.5 | 152.1.2.1P | 1999 ± 110 |
| tert-butylbenzene | 98-06-6 | 99.9 | 153.29.1P | 1999 ± 110 |
| carbon tetrachloride | 56-23-5 | 100 | 154.9.1P | 1997 ± 110 |
| chlorobenzene | 108-90-7 | 99.9 | 155.29.1P | 2001 ± 110 |
| 2-chloroethanol | 107-07-3 | 99.5 | 217.1.3P | 2000 ± 110 |
| chloroform | 67-66-3 | 99.8 | 156.7.1P | 1998 ± 110 |
| chloroprene | 126-99-8 | 98.9 | 315.5.22P | 1982 ± 140 |
| 2-chlorotoluene | 95-49-8 | 99.5 | 157.7.1P | 1998 ± 110 |
| 4-chlorotoluene | 106-43-4 | 99.9 | 158.9.3P | 2000 ± 110 |

# Certificate of Analysis



**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

| | | | | |
|---|---|---|---|---|
| cis-1,2-dichloroethylene | 156-59-2 | 98.5 | 166.1.7.1P | 1997 ± 110 |
| dibromochloromethane | 124-48-1 | 98.6 | 159.1.8.1P | 2013 ± 110 |
| 1,2-dibromo-3-chloropropane | 96-12-8 | 98.6 | 160.7.2.3P | 2000 ± 110 |
| 1,2-dibromoethane | 106-93-4 | 99.9 | 161.9.1P | 2008 ± 110 |
| dibromomethane | 74-95-3 | 99.8 | 162.1.2P | 1996 ± 120 |
| 1,2-dichlorobenzene | 95-50-1 | 99.5 | 43.1.2P | 1999 ± 110 |
| 1,3-dichlorobenzene | 541-73-1 | 99.5 | 44.1.3P | 2001 ± 110 |
| 1,4-dichlorobenzene | 106-46-7 | 99.9 | 45.29.1P | 2000 ± 110 |
| cis-1,4-dichloro-2-butene | 1476-11-5 | 98 | 209.1.5P | 2004 ± 110 |
| trans-1,4-dichloro-2-butene | 110-57-6 | 93.5 | 201.1.17.1P | 1991 ± 110 |
| 1,1-dichloroethane | 75-34-3 | 98.1 | 163.247.1.2P | 1992 ± 110 |
| 1,2-dichloroethane | 107-06-2 | 99.9 | 164.158.1P | 2001 ± 110 |
| 1,1-dichloroethylene | 75-35-4 | 99.98 | 165.1.4P | 1999 ± 110 |
| trans-1,2-dichloroethylene | 156-60-5 | 99.7 | 167.1.7P | 1999 ± 110 |
| dichlorofluoromethane (Freon 21) | 75-43-4 | 98 | 986.5.4.2P | 1960 ± 140 |
| 1,2-dichloropropane | 78-87-5 | 99.7 | 168.8.1.1P | 2001 ± 120 |
| 1,3-dichloropropane | 142-28-9 | 100 | 169.7.3P | 1971 ± 140 |
| 2,2-dichloropropane | 594-20-7 | 98.1 | 170.7.4P | 2002 ± 110 |
| 1,1-dichloropropylene | 563-58-6 | 99 | 171.158.2.4P | 2001 ± 120 |
| cis-1,3-dichloropropylene | 10061-01-5 | 99.5 | 172.7.6.1P | 2010 ± 110 |
| trans-1,3-dichloropropylene | 10061-02-6 | 98.8 | 173.7.4.12P | 1991 ± 110 |
| 1,4-dioxane | 123-91-1 | 99.93 | 223.1.4P | 40750 ± 2100 |
| ethyl ether | 60-29-7 | 99.8 | 226.9.1P | 2000 ± 110 |
| ethyl methacrylate | 97-63-2 | 99.5 | 216.7.1P | 2004 ± 110 |
| ethylbenzene | 100-41-4 | 100 | 174.7.1P | 1998 ± 110 |

**Manufactured By:**

Sanquetta Coakley
**Production Chemist I**

**Certified By:**

Dominique Lindner
**Quality Control Chemist I**

**Released By:**

Susan Mathews
**Quality Control Team Lead**

# Certificate of Analysis

**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

| | | | | |
|---|---|---|---|---|
| hexachlorobutadiene | 87-68-3 | 98 | 47.158.3P | 2000 ± 120 |
| iodomethane | 74-88-4 | 99.9 | 203.29.2P | 2000 ± 110 |
| isobutyl alcohol | 78-83-1 | 99.8 | 220.7.3P | 39990 ± 2100 |
| isopropylbenzene | 98-82-8 | 99.9 | 176.9.3P | 2004 ± 110 |
| 4-isopropyltoluene | 99-87-6 | 99.9 | 177.9.3P | 1988 ± 110 |
| methyl acrylonitrile | 126-98-7 | 98 | 212.286.1.2P | 19960 ± 1300 |
| methyl methacrylate | 80-62-6 | 100 | 231.7.4P | 2043 ± 110 |
| methyl acrylate | 96-33-3 | 98.5 | 349.7.1P | 1999 ± 110 |
| methylene chloride | 75-09-2 | 99.9 | 178.24.4P | 1999 ± 110 |
| naphthalene | 91-20-3 | 99.8 | 26.9.1P | 2020 ± 110 |
| nitrobenzene | 98-95-3 | 100 | 94.7.1P | 2002 ± 110 |
| propionitrile | 107-12-0 | 99.7 | 218.7.2.1P | 19950 ± 1000 |
| n-propylbenzene | 103-65-1 | 99.7 | 179.7.2.2P | 1998 ± 110 |
| styrene | 100-42-5 | 99.5 | 180.9.4P | 1999 ± 110 |
| 1,1,1,2-tetrachloroethane | 630-20-6 | 99.8 | 181.7.2.9P | 2003 ± 110 |
| 1,1,2,2-tetrachloroethane | 79-34-5 | 99.4 | 182.8.2P | 2000 ± 120 |
| tetrachloroethylene | 127-18-4 | 100 | 183.1.2VP | 2004 ± 110 |
| tetrahydrofuran (THF) | 109-99-9 | 100 | 299.7.1P | 1996 ± 110 |
| toluene | 108-88-3 | 100 | 184.48.1P | 2000 ± 110 |
| 1,2,3-trichlorobenzene | 87-61-6 | 99.8 | 185.1.2P | 1999 ± 110 |
| 1,2,4-trichlorobenzene | 120-82-1 | 99.6 | 54.29.1P | 1987 ± 110 |
| 1,1,1-trichloroethane | 71-55-6 | 99 | 187.1.1P | 1998 ± 120 |
| 1,1,2-trichloroethane | 79-00-5 | 99.6 | 195.7.1.6P | 1997 ± 110 |
| trichloroethylene | 79-01-6 | 100 | 188.29.2P | 1998 ± 110 |
| 1,2,3-trichloropropane | 96-18-4 | 99.5 | 189.1.3P | 1998 ± 110 |

**Manufactured By:**

Sanquetta Coakley
**Production Chemist I**

**Certified By:**

Dominique Lindner
**Quality Control Chemist I**

**Released By:**

Susan Mathews
**Quality Control Team Lead**

# Certificate of Analysis

**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

| | | | | |
|---|---|---|---|---|
| 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113) | 76-13-1 | 99 | 270.158.3.1P | 2002 ± 120 |
| 1,2,4-trimethylbenzene | 95-63-6 | 98.7 | 190.7.1P | 1999 ± 110 |
| 1,3,5-trimethylbenzene | 108-67-8 | 99.5 | 191.7.1P | 2001 ± 110 |
| m-xylene | 108-38-3 | 99.7 | 193.7.1.2P | 1999 ± 110 |
| o-xylene | 95-47-6 | 99 | 192.29.3P | 1998 ± 120 |
| p-xylene | 106-42-3 | 99.9 | 194.7.1P | 1999 ± 110 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)

y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Sanquetta Coakley | Dominique Lindner | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

# Certificate of Analysis



**Catalog No.:** Z-G34-126047-01 **Lot No.:** 498957 **Expiration Date:** 9/13/2024

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 13-Sep-2024

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Sanquetta Coakley | Dominique Lindner | Susan Mathews |
| **Production Chemist I** | **Quality Control Chemist I** | **Quality Control Team Lead** |

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SVI-38-11-01

# CERTIFICATE OF ANALYSIS

**Catalog No:** OGAD-001
**Description:** Oxygenate Gasoline Additive Standard
**Lot:** 222011266
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word:** Danger

**Date Certified:** Jan 19, 2022
**Expiration:** Jan 19, 2025
**Sample Size:** 1 mL
**Components:** 5
**Storage Condition:** Refrig (0-5 °C)

Certified Reference Material

ANAB ACCREDITED AR-1463

ilac-MRA

| Component | CAS # | Purity % (GC/MS) | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| MtBE | 1634-04-4 | 99.8 | 2001 | 1997 |
| EtBE | 637-92-3 | 99.9 | 2004 | 2002 |
| Isopropyl ether | 108-20-3 | 100.0 | 2010 | 2010 |
| TAME | 994-05-8 | 99.0 | 2003 | 1983 |
| t-Butanol | 75-65-0 | 99.6 | 10005 | 9965 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: _____
Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORGMNO-001
Rev. 7/20

SVI-38-11-01

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k$=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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# CERTIFICATE OF ANALYSIS

**Catalog No:** M-8010R-1-04-10X
**Description:** 1-Chlorohexane
**Lot:** 223031117
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



Signal Word: Danger

**Date Certified:** Mar 8, 2023
**Expiration:** Mar 8, 2033
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463

ilac-MRA

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| 1-Chlorohexane | 544-10-5 | 98.0 | 2024 | 1984 |

SVI-38-11-02

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292505-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

SVF38-11-02

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k$=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

SVL-38-09-12

Date manufactured: 8/24/2022
Original issue date: 8/24/2022

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020145-02 | 492308 | ≤ -10 °C | P/T Methanol | 23-Aug-2027 | 2-Chloroethyl Vinyl Ether Solution, 2,000 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 2-chloroethylvinyl ether | 110-75-8 | 99.8 | 145.1.5P | 2010 ± 110 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVI-38-09-42

# Certificate of Analysis



**Catalog No.:** Z-G34-020145-02 **Lot No.:** 492308 **Expiration Date:** 8/23/2027

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 23-Aug-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Sanquetta Coakley | Dominique Lindner | Susan Mathews |
| Production Chemist I | Quality Control Chemist I | Quality Control Team Lead |

SVI-38-13-06

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date manufactured: 3/5/2021
Original issue date: 3/5/2021

# Certificate of Analysis

Date Received: 10/6/23
 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020204-30 | 443045 | ≤ -10 °C | P/T Methanol | 4-Mar-2026 | Acetonitrile Solution, 20000 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| acetonitrile | 75-05-8 | 99.98 | 204.24.1P | 19940 ± 1000 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly

SVL-38-13-06

# Certificate of Analysis



Catalog No.: Z-G34-020204-30 Lot No.: 443045 Expiration Date: 3/4/2026

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 4-Mar-2026

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | C. Desrochers | Susan Mathews |
| Melissa Workoff | Claire Desrochers | Susan Mathews |
| Production Chemist II | Quality Control Chemist I | Quality Control Team Lead |

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SV1-38-09-07

Date manufactured: 6/24/2022
Original issue date: 6/24/2022

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020869-08 | 484154 | ≤ -10 °C | P/T Methanol | 23-Jun-2027 | 1,2,3-Trimethylbenzene Solution, 2,500 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 1,2,3-trimethylbenzene | 526-73-8 | 92.7 | 869.8.4.1P | 2536 ± 140 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVF38-09-05

# Certificate of Analysis



**Catalog No.:** Z-G34-020869-08 **Lot No.:** 484154 **Expiration Date:** 6/23/2027

(95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 23-Jun-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Brian Stokes | J Ball | Susan Mathews |
| Brian Stokes | Jared Ball | Susan Mathews |
| Production Chemist I | Quality Control Chemist I | Quality Control Team Lead |

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SV1-38-09-U

Date manufactured: 11/16/2022
Original issue date: 11/16/2022

# Certificate of Analysis

Date Received:



| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020511-06 | 492310 | ≤ -10 °C | P/T Methanol | 15-Nov-2027 | t-Butyl Alcohol Solution, 50,000 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| tert-butyl alcohol | 75-65-0 | 100 | 511.7.2P | 50110 ± 2600 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty

SVI-38-09-4

# Certificate of Analysis



Catalog No.: Z-G34-020511-06 Lot No.: 492310 Expiration Date: 11/15/2027

(95% confidence) values listed are determined gravimetricllly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 15-Nov-2027

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| Production Chemist I | Quality Control Chemist I | Quality Control Team Lead |

SVI-38-12-19

Agilent

Trusted Answers

**ISO 17034**

## Reference Material Certificate

### Product Information Sheet

**Product Name:** VOC Gas Standard

**Product Number:** DWM-544-1

**Storage Conditions:** Store Frozen (-25° to -10°C).

**Lot Number:** 0006744131

**Lot Issue Date:** 23-May-2023

**Expiration Date:** 30-Jun-2026

| Component Name | Concentration | | Uncertainty | CAS# | Analyte Lot |
|---|---|---|---|---|---|
| bromomethane | 2009 | ± | 10 µg/mL | 000074-83-9 | RM00064 |
| chloroethane | 2008 | ± | 10 µg/mL | 000075-00-3 | RM00065 |
| chloromethane | 2008 | ± | 10 µg/mL | 000074-87-3 | RM12571 |
| dichlorodifluoromethane | 2010 | ± | 10 µg/mL | 000075-71-8 | RM05289 |
| trichlorofluoromethane | 2009 | ± | 10 µg/mL | 000075-69-4 | RM00017 |
| vinyl chloride | 2009 | ± | 10 µg/mL | 000075-01-4 | RM05458 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

SVI-38-12-19

Agilent

Trusted Answers

**Expiration of Certification:**
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB
ACCREDITED
REFERENCE MATERIAL PRODUCER

ISO 17034
Cert No. AR-1936

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015 Quality Management System. Cert# 951215321



www.agilent.com/quality/
CSD-QA-015.2

ISO 17025
Cert No. AT-1937

SVI-38-B-07

CPI INTERNATIONAL

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Date manufactured: 11/16/2022
Original issue date: 11/16/2022

# Certificate of Analysis

Date Received: 10/6/23
 Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| Z-G34 -020232-10 | 492307 | ≤ -10 °C | P/T Methanol | 20-Nov-2025 | Vinyl Acetate Solution, 2,500 mg/L, 1 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| vinyl acetate | 108-05-4 | 99.9 | 232.7.1P | 2496 ± 160 |

*Not a certified value

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various EN, ISO, EPA, and ASTM methods.

Recommended storage container for ampuled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix (degrees K)
y = boiling point of the solvent (degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

SVI-38-13-07

# Certificate of Analysis



Catalog No.: Z-G34-020232-10 Lot No.: 492307 Expiration Date: 11/20/2025

## Packaging and Storage:

The solution should be stored according to the following storage requirements:
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology(NIST). Balances are checked daily in accordance to in house procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 and ISO 17034:2016 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $u=ku_c$: u=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 20-Nov-2025

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Dominique Lindner | Susan Mathews |
| Production Chemist II | Quality Control Chemist I | Quality Control Team Lead |

SV1-38-08-06

Agilent

# Certificate of Analysis

**Product Name:** Carbon Disulfide Standard

**Product Number:** EPA-1012-1 **Lot Issue Date:** 21-Sep-2020

**Lot Number:** 0006557585 **Expiration Date:** 30-Sep-2024

**Description:**
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

| Analyte | CAS# | Analyte Lot | Concentration ± Uncertainty |
|---|---|---|---|
| carbon disulfide | 000075-15-0 | RM08158 | 5023 ± 25 µg/mL |

**Matrix:** methanol (methyl alcohol)

**Storage Conditions:** Store Frozen (-25° to -10°C).

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Intended Use:**
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Hazards:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

**Expiration of Certification:**
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034 Cert
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026
Page: 1 of 1
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CSD-QA-015.1

ANAB ACCREDITED TESTING LABORATORY
ISO 17025 Cert
No. AT-1937

250 South Street North Kingstown Rhode Island 02852 www.agilent.com/quality

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CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis

*chromatographic*

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 575702 **Lot No.:** A0191824

**Description :** Custom Revised 8260 Megamix

Custom Revised 8260 Megamix 2,000 - 40,000µg/mL, P&T Methanol, 1mL/ampul

SVI-38-09-20

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** November 30, 2025 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | CAS # | Lot # | Purity | Grav. Conc. (weight/volume) | Expanded Uncertainty * (95% C.L.; K=2) |
|---|---|---|---|---|---|---|
| 1 | Dichlorofluoromethane (CFC-21) | 75-43-4 | 12841600 | 99% | 2,000.0 µg/mL | +/- 69.1292 |
| 2 | Diethyl ether (ethyl ether) | 60-29-7 | SHBP5008 | 99% | 2,011.0 µg/mL | +/- 69.5094 |
| 3 | 1,1,2-Trichlorotrifluoroethane (CFC-113) | 76-13-1 | 00016133 | 99% | 2,008.0 µg/mL | +/- 69.4057 |
| 4 | 1,1-dichloroethene | 75-35-4 | SHBG8609V | 99% | 2,001.6 µg/mL | +/- 69.9029 |
| 5 | Iodomethane (methyl iodide) | 74-88-4 | RD220125 | 99% | 2,007.5 µg/mL | +/- 69.3884 |
| 6 | Allyl chloride ( 3-chloropropene ) | 107-05-1 | RP220405A | 99% | 2,011.0 µg/mL | +/- 69.5094 |
| 7 | Methylene chloride (dichloromethane) | 75-09-2 | SHBP1417 | 99% | 2,001.6 µg/mL | +/- 69.9056 |
| 8 | trans-1,2-Dichloroethene | 156-60-5 | MKBH9850V | 99% | 2,001.7 µg/mL | +/- 69.9064 |
| 9 | 1,1-Dichloroethane | 75-34-3 | 760200 | 99% | 2,001.1 µg/mL | +/- 69.8864 |
| 10 | Chloroprene (2-chloro-1,3-butadiene) | 126-99-8 | 220712JLM | 99% | 2,014.0 µg/mL | +/- 69.6131 |
| 11 | Propionitrile | 107-12-0 | BCCF4167 | 99% | 20,009.5 µg/mL | +/- 691.5748 |
| 12 | 2,2-Dichloropropane | 594-20-7 | RD220812 | 99% | 2,004.3 µg/mL | +/- 70.0110 |
| 13 | cis-1,2-Dichloroethene | 156-59-2 | MKCP7830 | 99% | 2,014.0 µg/mL | +/- 70.3516 |
| 14 | Methacrylonitrile | 126-98-7 | 1012014 | 99% | 20,031.5 µg/mL | +/- 692.3351 |
| 15 | Methyl acrylate | 96-33-3 | SHBG6616V | 99% | 2,007.0 µg/mL | +/- 69.3711 |
| 16 | Isobutanol (2-Methyl-1-propanol) | 78-83-1 | SHBP7066 | 99% | 40,013.5 µg/mL | +/- 1,382.9594 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 17 | chloroform | 67-66-3 | SHBN8469 | 99% | 2,002.3 | µg/mL | +/- 69.9291 |
| 18 | Bromochloromethane | 74-97-5 | 00008541 | 99% | 2,011.9 | µg/mL | +/- 70.2782 |
| 19 | Tetrahydrofuran | 109-99-9 | SHBP0039 | 99% | 2,005.0 | µg/mL | +/- 69.3020 |
| 20 | 1,1,1-trichloroethane | 71-55-6 | RD220613 | 98% | 2,001.2 | µg/mL | +/- 69.8893 |
| 21 | 1,1-Dichloropropene | 563-58-6 | 220617JLM | 99% | 2,014.0 | µg/mL | +/- 70.3498 |
| 22 | carbon tetrachloride | 56-23-5 | SHBL8097 | 99% | 2,000.1 | µg/mL | +/- 69.8514 |
| 23 | 1,2-Dichloroethane | 107-06-2 | MKCN9758 | 99% | 2,001.6 | µg/mL | +/- 69.9056 |
| 24 | Benzene | 71-43-2 | MKCQ2104 | 99% | 2,010.5 | µg/mL | +/- 70.2293 |
| 25 | 2-Chloroethanol | 107-07-3 | RD220606A | 99% | 2,002.5 | µg/mL | +/- 69.2156 |
| 26 | Trichloroethene | 79-01-6 | SHBN3720 | 99% | 2,001.6 | µg/mL | +/- 69.9047 |
| 27 | 1,2-Dichloropropane | 78-87-5 | BCBR0882V | 99% | 2,001.8 | µg/mL | +/- 69.9125 |
| 28 | Methyl methacrylate | 80-62-6 | MKCQ2755 | 99% | 2,007.5 | µg/mL | +/- 69.3884 |
| 29 | bromodichloromethane | 75-27-4 | MKCF8470 | 99% | 2,001.7 | µg/mL | +/- 69.9082 |
| 30 | 1,4-Dioxane | 123-91-1 | SHBP8653 | 99% | 40,041.0 | µg/mL | +/- 1,383.9099 |
| 31 | 2-Nitropropane | 79-46-9 | BCCB9352 | 97% | 2,003.5 | µg/mL | +/- 69.2514 |
| 32 | Dibromomethane | 74-95-3 | 10233302 | 99% | 2,013.0 | µg/mL | +/- 70.3149 |
| 33 | cis-1,3-Dichloropropene | 10061-01-5 | RD220311 | 99% | 2,001.9 | µg/mL | +/- 69.9152 |
| 34 | Toluene | 108-88-3 | ED097-US | 99% | 2,011.4 | µg/mL | +/- 70.2608 |
| 35 | Ethyl methacrylate | 97-63-2 | MKCN6206 | 97% | 2,004.0 | µg/mL | +/- 69.2681 |
| 36 | trans-1,3-Dichloropropene | 10061-02-6 | RD220816 | 99% | 2,000.5 | µg/mL | +/- 69.8671 |
| 37 | 1,1,2-Trichloroethane | 79-00-5 | FGB01 | 99% | 2,001.9 | µg/mL | +/- 69.9134 |
| 38 | 1,3-Dichloropropane | 142-28-9 | BCCB9817 | 99% | 2,011.1 | µg/mL | +/- 70.2485 |
| 39 | Tetrachloroethene | 127-18-4 | SHBJ7422 | 99% | 2,001.2 | µg/mL | +/- 69.8890 |
| 40 | dibromochloromethane | 124-48-1 | MKCM8659 | 99% | 2,002.2 | µg/mL | +/- 69.9256 |
| 41 | 1,2-Dibromoethane (EDB) | 106-93-4 | BCCF5058 | 99% | 2,006.0 | µg/mL | +/- 70.0704 |
| 42 | Chlorobenzene | 108-90-7 | SHBN6640 | 99% | 2,000.1 | µg/mL | +/- 69.8506 |
| 43 | 1,1,1,2-Tetrachloroethane | 630-20-6 | GC01 | 99% | 2,009.8 | µg/mL | +/- 70.2031 |
| 44 | Ethylbenzene | 100-41-4 | 094632L21G | 99% | 2,016.4 | µg/mL | +/- 70.4337 |
| 45 | m-Xylene | 108-38-3 | SHBN6673 | 98% | 2,012.6 | µg/mL | +/- 70.3019 |
| 46 | p-Xylene | 106-42-3 | 10234437 | 99% | 2,009.1 | µg/mL | +/- 70.1787 |
| 47 | o-Xylene | 95-47-6 | SHBN5105 | 98% | 2,010.1 | µg/mL | +/- 70.2163 |
| 48 | Styrene | 100-42-5 | MKCQ3390 | 99% | 2,012.6 | µg/mL | +/- 70.3027 |
| 49 | Isopropylbenzene (cumene) | 98-82-8 | Z20D022 | 99% | 2,009.3 | µg/mL | +/- 70.1874 |
| 50 | bromoform | 75-25-2 | MKCR0680 | 99% | 2,000.8 | µg/mL | +/- 69.8750 |
| 51 | cis-1,4-Dichloro-2-butene | 1476-11-5 | RD220907 | 97% | 2,000.0 | µg/mL | +/- 69.1290 |
| 52 | 1,1,2,2-Tetrachloroethane | 79-34-5 | OXACF | 99% | 2,002.8 | µg/mL | +/- 69.9466 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 53 | 1,2,3-Trichloropropane | 96-18-4 | 332900 | 99% | 2,010.3 | µg/mL | +/- 70.2206 |
| 54 | trans-1,4-dichloro-2-butene | 110-57-6 | RD220921RSR | 94% | 1,999.9 | µg/mL | +/- 69.1240 |
| 55 | n-Propylbenzene | 103-65-1 | MKCN1126 | 99% | 2,009.1 | µg/mL | +/- 70.1804 |
| 56 | Bromobenzene | 108-86-1 | WXBC5147V | 99% | 2,012.5 | µg/mL | +/- 70.2992 |
| 57 | 1,3,5-Trimethylbenzene | 108-67-8 | BCCF4166 | 99% | 2,010.8 | µg/mL | +/- 70.2381 |
| 58 | 2-Chlorotoluene | 95-49-8 | MKCF5243 | 99% | 2,007.5 | µg/mL | +/- 70.1228 |
| 59 | 4-Chlorotoluene | 106-43-4 | MKCC8496 | 99% | 2,012.4 | µg/mL | +/- 70.2957 |
| 60 | tert-Butylbenzene | 98-06-6 | STBJ1937 | 99% | 2,009.0 | µg/mL | +/- 70.1769 |
| 61 | 1,2,4-Trimethylbenzene | 95-63-6 | WXBC9428V | 98% | 2,004.8 | µg/mL | +/- 70.0297 |
| 62 | sec-Butylbenzene | 135-98-8 | MKCP2266 | 99% | 2,009.2 | µg/mL | +/- 70.1839 |
| 63 | p-Isopropyltoluene (p-Cymene) | 99-87-6 | MKCR6143 | 99% | 2,007.6 | µg/mL | +/- 70.1280 |
| 64 | 1,3-Dichlorobenzene | 541-73-1 | BCCD5315 | 99% | 2,000.7 | µg/mL | +/- 69.8715 |
| 65 | 1,4-Dichlorobenzene | 106-46-7 | MKBS4401V | 99% | 2,002.0 | µg/mL | +/- 69.9195 |
| 66 | n-Butylbenzene | 104-51-8 | 09804AE | 99% | 2,006.9 | µg/mL | +/- 70.1036 |
| 67 | 1,2-Dichlorobenzene | 95-50-1 | SHBN3835 | 99% | 2,001.2 | µg/mL | +/- 69.8898 |
| 68 | 1,2-Dibromo-3-chloropropane | 96-12-8 | HBMVB | 97% | 2,006.3 | µg/mL | +/- 70.0843 |
| 69 | Nitrobenzene | 98-95-3 | 10224044 | 99% | 2,004.0 | µg/mL | +/- 69.2674 |
| 70 | 1,2,4-Trichlorobenzene | 120-82-1 | SHBM0526 | 99% | 2,009.7 | µg/mL | +/- 70.1996 |
| 71 | Hexachlorobutadiene | 87-68-3 | X05J | 99% | 2,007.4 | µg/mL | +/- 70.1210 |
| 72 | Naphthalene | 91-20-3 | MKCH0219 | 99% | 2,001.5 | µg/mL | +/- 69.9132 |
| 73 | 1,2,3-Trichlorobenzene | 87-61-6 | MKBX7627V | 99% | 2,015.7 | µg/mL | +/- 70.4092 |

* Expanded Uncertainty displayed in same units as Grav. Conc.

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

# Quality Confirmation Test

**Column:**
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

**Carrier Gas:**
helium-constant pressure 30 psi

**Temp. Program:**
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

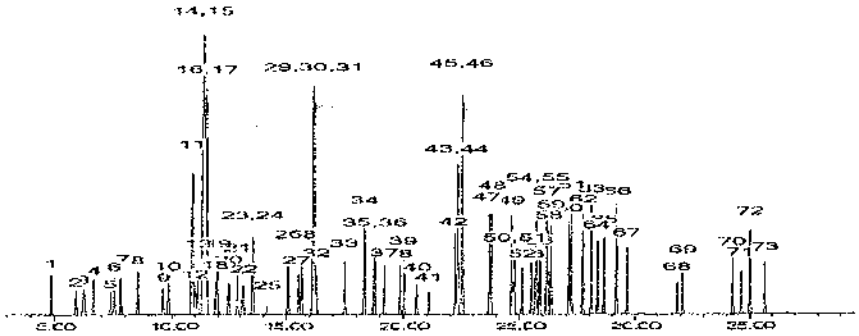
**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
MSD

**Split Vent:**
20.0 ml/min.

**Inj. Vol**
1µl




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

**Date Mixed:** 18-Nov-2022 **Balance Serial #** B251644995

Jennifer Pollino - Operations Tech III - ARM QC

**Date Passed:** 05-Dec-2022

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ uncertainty} = k\sqrt{u^2_{gravimetric} + u^2_{homogeneity} + u^2_{storage\ stability} + u^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

SVL-30-12-09

RESTEK
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Bellefonte, PA 16823-8812
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www.restek.com

# CERTIFIED REFERENCE MATERIAL

## Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 30465 **Lot No.:** A0164741

**Description :** California Oxygenates Mixture #1

California Oxygenates Mixture #1 2000-10000µg/mL, P&T Methanol, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2025 **Storage:** 0°C or colder

**Ship:** Ambient

CERTIFIED VALUES

| Elution Order | Compound | | Gravi-Conc (weight/volume) | | Expanded Uncertainty (95% C.L., K=2) | | |
|---|---|---|---|---|---|---|---|
| 1 | tert-Butanol (TBA) | | 10,033.6 | µg/mL | +/- 58.7489 | µg/mL | Gravimetric |
| | CAS # 75-65-0 | (Lot SHBL5806) | | | +/- 214.9330 | µg/mL | Unstressed |
| | Purity 99% | | | | +/- 221.1750 | µg/mL | Stressed |
| 2 | Methyl-tert-butyl ether ( MTBE ) | | 2,000.0 | µg/mL | +/- 11.7371 | µg/mL | Gravimetric |
| | CAS # 1634-04-4 | (Lot SHBL0822) | | | +/- 42.8500 | µg/mL | Unstressed |
| | Purity 99% | | | | +/- 44.0940 | µg/mL | Stressed |
| 3 | Diisopropyl ether ( DIPE ) | | 2,006.0 | µg/mL | +/- 11.7723 | µg/mL | Gravimetric |
| | CAS # 108-20-3 | (Lot SHBH1927V) | | | +/- 42.9785 | µg/mL | Unstressed |
| | Purity 99% | | | | +/- 44.2263 | µg/mL | Stressed |
| 4 | Ethyl-tert-butyl ether (ETBE) | | 2,017.6 | µg/mL | +/- 11.8404 | µg/mL | Gravimetric |
| | CAS # 637-92-3 | (Lot MKCM3774) | | | +/- 43.2270 | µg/mL | Unstressed |
| | Purity 99% | | | | +/- 44.4820 | µg/mL | Stressed |
| 5 | tert-Amyl methyl ether (TAME) | | 2,009.2 | µg/mL | +/- 11.7911 | µg/mL | Gravimetric |
| | CAS # 994-05-8 | (Lot BMBG7745V) | | | +/- 43.0471 | µg/mL | Unstressed |
| | Purity 99% | | | | +/- 44.2968 | µg/mL | Stressed |

**Solvent:** P&T Methanol
**CAS #** 67-56-1
**Purity** 99%

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

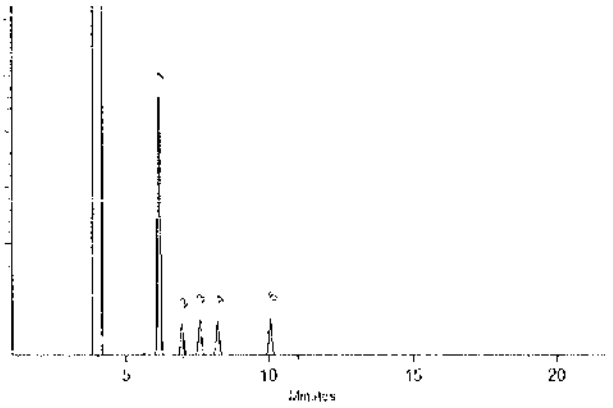
**Carrier Gas:**
hydrogen-constant pressure 11.0 psi

**Temp. Program:**
40°C (hold 7 min.) to 240°C
@ 8°C/min. (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Walker Workman - Operations Technician I

**Date Mixed:** 24-Sep-2020 **Balance:** 1108360905

Justine Albertson - Operations Technician III

**Date Passed:** 27-Sep-2020

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

125 Market Street
New Haven, CT 06513
USA

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# CERTIFICATE OF ANALYSIS

**Catalog No:** M-601C-10X
**Description:** 2-Chloroethylvinyl ether
**Lot:** 223041132
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 11, 2023
**Expiration:** Apr 11, 2026
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Freeze (<-10 °C)

**Certified Reference Material**

ANAB AR-1463 ilac-MRA

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| 2-Chloroethylvinyl ether | 110-75-8 | 100.0 | 2005 | 2005 |

SVI-38-11-19

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager

*For use in routine laboratory analysis.*



AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

SVI-38-11-19

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k$=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

SVL-38-10-02

ISO 17034

Agilent
Trusted Answers

# Reference Material Certificate

| | | | |
|---|---|---|---|
| **Product Name:** | 1-Chlorohexane Standard | **Lot Number:** | 0006668972 |
| **Product Number:** | EPA-1208-1 | **Lot Issue Date:** | 10-Mar-2022 |
| **Storage Conditions:** | Store at Room Temperature (15° to 30°C). | **Expiration Date:** | 30-Apr-2025 |

| Component Name | CERTIFIED VALUES Concentration, Expanded Uncertainty | CAS# | Analyte Lot |
|---|---|---|---|
| 1-chlorohexane | 1003 ± 5 µg/mL | 000544-10-5 | RM15291 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Expiration of Certification:**
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**

Monica Bourgeois
QMS Representative

Ibis Scientific
SIMPLE SOLUTIONS FOR ADVANCED SCIENCE
Chromanex, 14271 Jeffey Rd #223, Irvine, CA 92620 (800)390-4202, Fax (763)682-0111

Date manufactured: 10/15/2020
Original issue date: 10/15/2020

# Certificate of Analysis

Date Received: _____
Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| 3200-44 | 453887 | ≤ -10 °C | P/T Methanol | 14-Oct-2025 | 1,2,3-Trimethylbenzene Solution, 2500 mg/L, 1 mL |

## Certified Values:

SVI - 30 - 42 - Lp

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| 1,2,3-trimethylbenzene | 526-73-8 | 95.2 | 869.3.19P | 2515 ± 9.27 |

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements: ≤ -10 °C
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated

# Certificate of Analysis

Catalog No.: 3200-44 Lot No.: 453887 Expiration Date: 10/14/2025

using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology (NIST). Balances are checked daily in accordance to in house procedure O2-LB-004. Balances are calibrated annually by an ISO/IEC 17025:2005 and ISO Guide 34:2009 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-10. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC guide 17025:2005 and ISO guide 34:2009.

## Hazardous information:

Refer to MSDS

## Calculation of Uncertainty

The following equations are used to calculate the value of the expanded uncertainty: $U=ku_c$: U=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 14—Oct—2025

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Melissa Workoff | Claire Desrochers | Susan Mathews |

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Bellefonte, PA 16823-8812
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# CERTIFIED REFERENCE MATERIAL

## Certificate of Analysis

SV1-38-11-18

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

Catalog No. : 30470 Lot No.: A0188432

Description : tert-Butanol Standard

tert-Butanol Std 50,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL Pkg Amt: > 1 mL

Expiration Date : August 31, 2025 Storage: 0°C or colder

Ship: Ambient

CERTIFIED VALUES

| Elution Order | Compound | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L., K=2) | |
|---|---|---|---|---|
| 1 | tert-Butanol (TBA) | 50,300.0 µg/mL | +/- 294.5176 µg/mL | Gravimetric |
| | CAS # 75-65-0 (Lot 101619K21F-1) | | +/- 1,077.4927 µg/mL | Unstressed |
| | Purity 99% | | +/- 1,108.7850 µg/mL | Stressed |

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

SVI-38-11-18

**Column:**
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

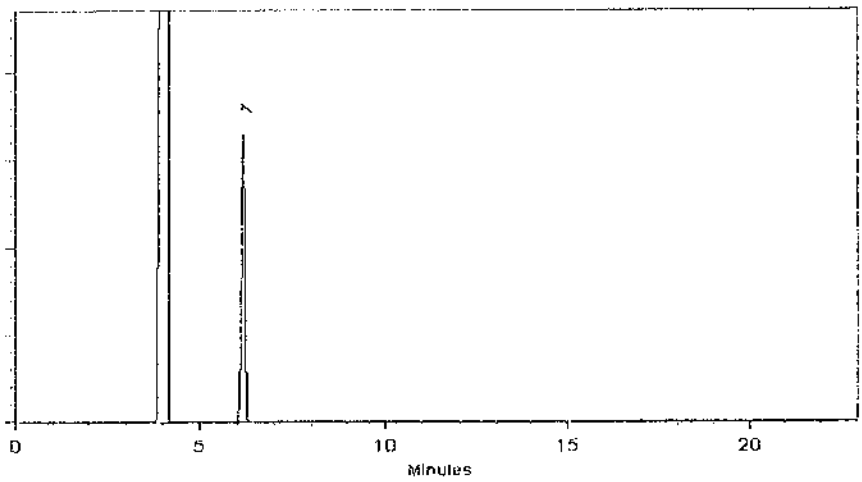
**Carrier Gas:**
hydrogen-constant pressure 11.0 psi

**Temp. Program:**
40°C (hold 2 min.) to 240°C
@ 8°C/min (hold 5 min.)

**Inj. Temp:**
200°C

**Det. Temp:**
250°C

**Det. Type:**
FID




This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Malina Homan - Operations Technician I  Date Mixed: 11-Aug-2022  Balance: B251644995

Marlina Cowan – Operations Tech II ARM QC  Date Passed: 15-Aug-2022

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

SVL-3871-18

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  $k$ is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions | Standard Conditions | Non-Standard Conditions |
|---|---|---|
| 25°C Nominal (Room Temperature) | < 60°C | ≥ 60°C up to 7 days |
| 10°C or colder (Refrigerate) | < 40°C | ≥ 40°C up to 7 days |
| 0°C or colder (Freezer)<br>-20°C or colder (Deep Freezer) | < 25°C | ≥ 25°C up to 7 days |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

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Date manufactured: 8/10/2020
Original issue date: 8/10/2020

# Certificate of Analysis

Date Received: _____
Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| 34-3200 -115001 | 453884 | ≤ -10 °C | P/T Methanol | 9-Aug-2025 | Acetonitrile Solution, 20000 mg/L, 1 mL (ISO17034) |

## Certified Values:

SVI - 30 - 12 - 13

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC) or gas chromatograph/mass spectrometry (GC/MS) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| acetonitrile | 75-05-8 | 99.98 | 204.24.1P | 20060 ± 69.69 |

## Intended Uses:

This Certified Reference material (CRM) is intended for use as a calibration standard or a quality control standard for Chromatography Equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may aslo be used for various USEPA, NIOSH, and ASTM methods.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements: ≤ -10 °C
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a seal ampule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All Glassware is calibrated

# Certificate of Analysis

Catalog No.: 34-3200 Lot No.: 453884 Expiration Date: 8/9/2025

using NIST traceable weights.

## Weights and Balance Calibration:

Weights used perform daily checks on balances calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to the National Institute of Standards and Technology (NIST). Balances are checked daily in accordance to in house procedure O2-LB-004. Balances are calibrated annually by an ISO/IEC 17025:2005 and ISO Guide 34:2009 accredited metrology service.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-10. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC guide 17025:2005 and ISO guide 34:2009.

## Hazardous information:

Refer to MSDS

## Calculation of Uncertainty

The following equations are used to calculate the value of the expanded uncertainty: $U=ku_c$; U=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 9—Aug—2025

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Erica Lawson | Claire Desrochers | HulChen Stavros. Ph.D. |

SVI-38-12-17

14271 Jeffrey Road
#223
Irvine, CA 92620

ibis scientific

For Chemical Emergency, Spill, Leak, Fire Exposure or Accident Call Chromanex Day or Night 800.390.4202

**Quality System Audited & Registered by TUV USA to ISO 9001:2015**

Date Received: 9/19/23

# Certificate of Analysis

Rev 0 Page

| Catalog No.: | Lot No.: | Storage: | Solvent: | Exp. Date: | Description: |
|---|---|---|---|---|---|
| G34-3200-121020-17 | 480682 | ≤ -10 °C | P/T MeOH:Water 9:1 | 4/28/2027 | Ketones Solution, 2500 mg/L, 1 ml ISO17034 |

| Compound | CAS No | Purity (%) | Compound Lot No | Concentration, mg/L |
|---|---|---|---|---|
| acetone | 67-64-1 | 99.6 | 196.271.4P | 2498 ± 53.47 mg/L |
| 2-butanone (MEK) | 78-93-3 | 99.9 | 197.1.2P | 2498 ± 53.51 mg/L |
| 4-methyl-2-pentanone (MIBK) | 108-10-1 | 99.88 | 198.421.1.2P | 2500 ± 54.02 mg/L |
| 2-hexanone | 591-78-6 | 100 | 199.7.3P | 2501 ± 53.58 mg/L |

Certified By: Melissa Workoff

Melissa Workoff

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values

Agilent

Trusted Answers

SVI-43-14-17
38 VL 12/14/23

ISO 17034

# Reference Material Certificate

## Product Information Sheet

| | | | |
|---|---|---|---|
| **Product Name:** | Acrolein and Acrylonitrile Standard | **Lot Number:** | 0006770748 |
| **Product Number:** | AMN-623-1 | **Lot Issue Date:** | 22-Nov-2023 |
| **Storage Conditions:** | Store Frozen (-25° to -10°C). | **Expiration Date:** | 31-Mar-2024 |

| Component Name | Certified Value | | Uncertainty | CAS # | Ampule Lot # |
|---|---|---|---|---|---|
| acrolein | 2008 | ± | 10 µg/mL | 000107-02-8 | RM21721 |
| acrylonitrile | 2009 | ± | 10 µg/mL | 000107-13-1 | RM20527 |

**Matrix:** methanol (methyl alcohol)

**Description:**
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

**Traceability:**
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

**Intended Use:**
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Expiration of Certification:**
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.



CSD-QA-015.2

ISO 17025
Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

spex certiprep
ACCREDITED
Reference Materials Producer
Cert #2495.01

# SPEXertificate®
## Certificate of Reference Material

ACCREDITED
Chemical Testing
Cert #2495.02

**Catalog Number:** S-615 **Lot No.** CP200928022

**Description:** 2-Butanol

**Matrix:** Methanol (Purge & Trap Grade)

**Ship Date:** January 5, 2023
**Expiration Date:** January 4, 2026

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

### Certified Compounds:

| Compound | CAS # | Labeled | Purity | Certified† | Uncertainty |
|---|---|---|---|---|---|
| 2-Butanol | 78-92-2 | 1000 µg/mL | 100% | 1000 µg/mL | ± 35 µg/mL |

SVI-38-10-09

* - Isomer ratios (when applicable) are an uncertified parameter.

### Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: January 5, 2023

Certifying Officer: Shannon Mace
Shannon Macieira, Operations Manager


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SVI-38-10-09

# *Report of Certification*

**Catalog Number:** S-615 **Lot No.** CP200928022

**Description:** 2-Butanol

**Matrix:** Methanol (Purge & Trap Grade)

**Ship Date:** January 5, 2023

**Expiration Date:** January 4, 2026

**This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by DQS), ISO/IEC 17025 (accredited by A2LA) and ISO 17034 (accredited by A2LA) quality system consistent with the following standards:**

- ISO 9001: Quality management systems - Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 31: Reference Materials - Contents of certificates, labels, and accompanying documentation
- ISO Guide 30: Reference Materials - Selected terms and definitions
- ISO Guide 35: Reference Materials - General and Statistical principles for certification
- Guide to the Expression of Uncertainty in Measurement
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement
- NIST Technical Note 1297

## Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product in ambient conditions (18°C to 27°C). Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the SHIPPED DATE using our stability data and is applicable only if the product is stored under the laboratory specified conditions.

## Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

## Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

## Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

## Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025, ISO 17034, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

## Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- $u_c$ = combined standard uncertainty obtained by combining the individual compound standard uncertainty components $u_i$ where $u_c = \sqrt{\sum u_i^2}$

## Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

SPEX CertiPrep®
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203 Norcross Ave. Metuchen, NJ 08840
www.spexcertiprep.com • E-mail: crmsales@spexcsp.com
Phone: 1-732-549-7144 • Fax 1-732-603-9647

SVI-38-12-05

Ibis Scientific, 7330 Smoke Ranch Rd., Suite B, Las Vegas, NV 89128 (855) 390-4202 

Date manufactured: 11/9/2021
Original issue date: 11/9/2021

# Certificate of Analysis

Date Received: _____
Rev 0

| Catalog No.: | Lot No.: | Storage: | Solvent: | Expiration Date: | Description: |
|---|---|---|---|---|---|
| 3200-G34 -120016-03 | 500823 | ≤ -10 °C | P/T Methanol | 8-Nov-2026 | ISO 17034 - Method 8260 Gases, 2,000 mg/L, 2 x 0.6 mL |

## Certified Values:

The certified value is based on gravimetric and volumetric preparation of this CRM. This CRM has been confirmed by gas chromatography (GC), gas chromatography/mass spectrometry (GC/MS), or High Pressure Liquid Chromatography (HPLC) using an internally developed method against an independent source. The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2.

| Compound | CAS No. | Purity (%) | Neat Material Lot No. | Concentration, mg/L |
|---|---|---|---|---|
| bromomethane | 74-83-9 | 99.5 | 139.158.1.1P | 2006 ± 120 |
| chloroethane | 75-00 3 | 99.94 | 141.2.3P | 1997 ± 120 |
| chloromethane | 74-87-3 | 99.7 | 140.158.3P | 1999 ± 120 |
| dichlorodifluoromethane | 75-71-8 | 99 | 142.158.5P | 1987 ± 130 |
| trichlorofluoromethane | 75-69-4 | 99 | 144.1.3P | 2007 ± 120 |
| vinyl chloride | 75-01-4 | 99 | 143.158.5.2P | 1994 ± 130 |

Second Source standards are prepared according to NELAC requirements.

## Intended Use:

This certified reference material (CRM) is intended for use as a calibration standard or a quality control standard for chromatography instrumentation such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various USEPA, NIOSH, and ASTM methods.

Recommended storage container for ampouled products after opening is a 12mmx32mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

$$\% \text{ Change} = (-0.018\ln(x+31) + 0.1157) + 636.54y^{-3.202}$$

where x = boiling point of the most volatile analyte in the mix
y = boiling point of the solvent

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened

SVI-38-12-05

# Certificate of Analysis



Catalog No.: 3200-G34-120016 Lot No.: 500823 Expiration Date: 11/8/2026

ampoule should be stored.

## Method of Preparation:

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

## Packaging and Storage:

The solution should be stored according to the following storage requirements: ≤ -10 °C
Once the product is opened, it should be transferred to a vial with minimum head space if the product was in a sealed ampoule. Once opened, the expiration is determined by user specifications.

## Glassware Calibration:

Only Class A glassware is used in the manufacture and quality control of Standards. All glassware is calibrated using NIST traceable weights.

## Weights and Balance Calibration:

This standard was prepared gravimetrically using balances that are calibrated to the requirements of ISO/IEC 17025. All balances are calibrated externally by an accredited ISO/IEC 17025 calibration laboratory using weight sets traceable to the International System of Units (SI) through the national reference standards maintained by NIST.

## Homogeneity:

Random replicate samples of the final packaged CRM have been analyzed to prove homogeneity in accordance with internal procedure O2-QS-011. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025 and ISO 17034.

## Hazardous Information:

Refer to MSDS

## Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty: $U=ku_c$: U=Expanded Uncertainty, k= the coverage factor at the 95% confidence level, k=2, $u_c$ = the combined uncertainty $u_c = \sqrt{\sum u_i^2}$ where $u_i$ are the individual uncertainty components for characterization, transportation, homogeneity, and shelf life.

## Expiration Information:

The stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. This standard is guaranteed until the following date: 8-Nov-2026

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Bradley Richter | Kayla Coleman | HuiChen Stavros |
| Bradley Richter<br>Production Chemist I | Kayla Coleman<br>Team Leader, Volatiles | HuiChen Stavros, Ph.D.<br>Research Scientist |

SVI-38-12-05

# Certificate of Analysis



**Catalog No.:** 3200-G34-120016 **Lot No.:** 500823 **Expiration Date:** 11/8/2026

## Accreditation:

This CRM was manufactured by an ISO 17025:2017 chemical testing lab (Certificate number 3031.01) and ISO 17034:2016 Reference Material Producer (RMP) Certificate number 3031.02 accredited by The American Association of Laboratory Accreditation (A2LA).

| Manufactured By: | Certified By: | Released By: |
|---|---|---|
| Bradley Richter | Kayla Coleman | HuiChen Stavros |
| Bradley Richter<br>Production Chemist I | Kavla Coleman<br>Team Leader, Volatiles | HuiChen Stavros, Ph.D.<br>Research Scientist |

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

# CERTIFICATE OF ANALYSIS

**Catalog No:** APP-9-211-20X
**Description:** Vinyl acetate
**Lot:** 223081164
**Solvent:** Methanol
**Hazards:** *Refer to SDS for complete safety information*



Signal Word: Danger

**Date Certified:** Aug 9, 2023
**Expiration:** Feb 9, 2024
**Sample Size:** 1 mL
**Components:** 1
**Storage Condition:** Freeze (<-10 °C)

Certified Reference Material

ANAB AR-1463 ilac-MRA

| Component | CAS # | Purity[3] % | Prepared Concentration[2] (µg/mL) | Certified Analyte Concentration[1] (µg/mL) |
|---|---|---|---|---|
| Vinyl acetate | 108-05-4 | 100.0 | 2031 | 2031 |

SV1-38-1d-16

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

[2] All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

[3] Purity/Identity determined by one or more of the following methods: GC/MS, LC/MS, NMR, FTIR, Melting Point.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager



*For use in routine laboratory analysis.*

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements
   Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of $k=2$ is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

spex certiprep
ACCREDITED
Reference Materials Producer
Cert #2495.01

# SPEXertificate®
## Certificate of Reference Material

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

**Catalog Number:** S-3893 **Lot No.** ND210224010

**Description:** Methyl acetate

**Matrix:** Methanol (Purge & Trap Grade)

**Ship Date:** January 5, 2023
**Expiration Date:** January 4, 2026

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

### Certified Compounds:

| Compound | CAS # | Labeled | Purity | Certified† | Uncertainty |
|---|---|---|---|---|---|
| Methyl acetate | 79-20-9 | 1000 µg/mL | 99.5% | 1015 µg/mL | ± 36 µg/mL |

SVI-38-10-08

* - Isomer ratios (when applicable) are an uncertified parameter.

### Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: January 5, 2023

Certifying Officer: Shannon Mace
Shannon Macieira, Operations Manager


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# *Report of Certification*

SVI-38-10-08

**Catalog Number:** S-3893 **Lot No.** ND210224010

**Description:** Methyl acetate

**Matrix:** Methanol (Purge & Trap Grade)

**Ship Date:** January 5, 2023

**Expiration Date:** January 4, 2026

**This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by DQS), ISO/IEC 17025 (accredited by A2LA) and ISO 17034 (accredited by A2LA) quality system consistent with the following standards:**

- ISO 9001: Quality management systems - Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 31: Reference Materials - Contents of certificates, labels, and accompanying documentation
- ISO Guide 30: Reference Materials - Selected terms and definitions
- ISO Guide 35: Reference Materials - General and Statistical principles for certification
- Guide to the Expression of Uncertainty in Measurement
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement
- NIST Technical Note 1297

## Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product in ambient conditions (18°C to 27°C). Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the SHIPPED DATE using our stability data and is applicable only if the product is stored under the laboratory specified conditions.

## Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

## Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

## Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been used in all preparations.

## Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025, ISO 17034, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

## Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- $u_c$ = combined standard uncertainty obtained by combining the individual compound standard uncertainty components $u_i$ where $u_c = \sqrt{\sum u_i^2}$

## Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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Your Science is Our Passion.®

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Phone: 1-732-549-7144 • Fax 1-732-603-9647

SV1-38-14-12

# SPEXertificate®

## Certificate of Reference Material

**Catalog Number:** S-1015 **Lot No.** NSI231116204
**Description:** Cyclohexane
**Matrix:** Methanol (Purge & Trap Grade) **Manufactured Date:** 11/16/2023
**Expiration Date:** 11/30/2026

This **SPEXOrganics®** Certified Reference Material, CRM, was manufactured by NSI Lab Solutions (www.nsilabsolutions.com) and is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

**Certified Compounds:**

| Compound | CAS # | Labeled (ug/mL) | Purity | Certified† (ug/mL) | | Uncertainty (ug/mL) |
|---|---|---|---|---|---|---|
| Cyclohexane | 110-82-7 | 1000 | 100.0% | 999 | ± | 7.05 |

SV1-38-14-12

* - Isomer ratios (when applicable) are an uncertified parameter.

**Final Solution Verification:**

Final solution integrity verified Volumetrically and Analytically. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration is based on gravimetric or volumetric measurements. All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO/IEC 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request. All glassware used in the manufacturing of this standard is Class A. Volumetric pipettors are calibrated every four months by an ISO/IEC 17025 accredited calibration laboratory.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 11/16/2023 Certifying Officer: Kenneth Grzybowski

spex certiprep

**Safety Data Sheet**
**acc. to OSHA HCS**

Page 1/8

Printing date 10/10/2022 — Reviewed on 10/10/2022

## 1 Identification

**Product identifier**

- **Product Name: Cyclohexane**

**Part Name: S-1015**
**Application of the substance / the mixture Certified Reference Material**

- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Spex CertiPrep, LLC
203 Norcross Ave, Metuchen,
NJ 08840 USA
732-549-7144
USMet-CRMSales@antsha.com

- **Information department: product safety department**
**Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC: 800-424-9300
Outside US: 703 527 3887

## 2 Hazards Identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 2 — H225 Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Toxicity - Inhalation 3 — H331 Toxic if inhaled



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure 1 — H370 Causes damage to the central nervous system and the visual organs

**Label elements**
**GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
**Hazard pictograms**



GHS02 GHS06 GHS08

**Signal word Danger**

**Hazard-determining components of labeling:**
**methanol**
**Hazard statements**
H225 Highly flammable liquid and vapor
H331 Toxic if inhaled.
H370 Causes damage to the central nervous system and the visual organs.
- **Precautionary statements**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flame/hot surfaces. - No smoking. |
| P240 | Ground/bond container and receiving equipment |
| P241 | Use explosion-proof electrical/ventilating/lighting/equipment |
| P242 | Use only non-sparking tools |
| P243 | Take precautionary measures against static discharge. |
| P260 | Do not breathe dust/fumes/gas/mist/vapors/spray |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection |
| P303+P361+P353 | If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing |
| P307+P311 | If exposed: Call a POISON CENTER or doctor/physician. |
| P321 | Specific treatment (see on this label) |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P403+P235 | Store in a well-ventilated place. Keep cool |

(Contd. on page 2)

spex certiprep

**Safety Data Sheet**
**acc. to OSHA HCS**

Page 2/8

Printing date 10/10/2022 — Reviewed on 10/10/2022

**Product Name: Cyclohexane**

(Contd. on page 1)

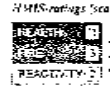
| | |
|---|---|
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations |

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 1
Fire = 3
Reactivity = 0

**HMIS-ratings (scale 0 - 4)**



Health = *1
Fire = 3
Reactivity = 0

**Other hazards**
- **Results of PBT and vPvB assessment**
**PBT:** Not applicable
**vPvB:** Not applicable

## 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below, with nonhazardous additions.
- **Dangerous components:**
67-56-1 methanol — 99%
- **Chemical identification of the substance/preparation**
110-82-7 cyclohexane — 70%

## 4 Surface Measures

**Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiration arrest provide artificial respiration.
**After inhalation:**
Supply fresh air or oxygen, call for doctor.
In case of unconsciousness place patient stable in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not give anything to eat or drink. Do not induce vomiting.
**Information for Doctor:**
**Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

## 5 Fire-fighting measures

**Extinguishing media**
**Suitable extinguishing agents:** CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
**Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
**Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
**Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

(Contd. on page 3)

(Contd. of page 4)

| | |
|---|---|
| · Solids content: | 0.0 % |
| · Other information | No further relevant information available. |

## 10 Stability and reactivity

· Reactivity No further relevant information available.
· Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications
· Possibility of hazardous reactions No dangerous reactions known
· Conditions to avoid No further relevant information available
· Incompatible materials: No further relevant information available
Hazardous decomposition products: No dangerous decomposition products known

## 11 Toxicological information

· Information on toxicological effects
Acute toxicity:
· LD/LC50 values that are relevant for classification:
67-56-1 methanol
Oral LD50 5,628 mg/kg (rat)
Dermal LD50 15,800 mg/kg (rabbit)
· Primary irritant effect:
· on the eye: No irritating effect.
· Sensitization: No sensitizing effects known.
· Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic

· Carcinogenic categories
IARC (International Agency for Research on Cancer)
None of the ingredients is listed.
NTP (National Toxicology Program)
None of the ingredients is listed.
· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

## 12 Ecological information

Toxicity
· Aquatic toxicity: No further relevant information available.
· Persistence and degradability No further relevant information available.
· Behavior in environmental systems
· Bioaccumulative potential No further relevant information available.
· Mobility in soil No further relevant information available.
· Additional ecological information:
· General notes:
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.
Other adverse effects No further relevant information available.

## 13 Disposal considerations

Waste treatment methods
· Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.
Recommended cleaning agent: Water, if necessary with cleansing agents.

(Contd. on page 6)



(Contd. of page 5)

## 14 Transport information

· UN Number
· DOT, ADR, IMDG, IATA UN1230

· UN proper shipping name
· DOT Methanol
· ADR 1230 METHANOL
· IMDG, IATA METHANOL

· Transport hazard class(es)
· DOT



Class 3 Flammable liquid
Label 3

· ADR



Class 3 Flammable liquid
Label 3

· IMDG



Class 3 Flammable liquid
· Label 3

· IATA



Class 3 Flammable liquid
· Label 3

· Packing group
· DOT, ADR, IMDG, IATA II

· Environmental hazards: Not applicable

· Special precautions for user Warning: Flammable liquids
· Hazard identification number (Kemler code): 336
· EMS Number: F-E,S-D
· Stowage Category B
· Stowage Code SW1 Clear of living quarters.

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable

· Transport/Additional information:

· ADR
· Excepted quantities (EQ): Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· IMDG
· Limited quantities (LQ) 1L
· Excepted quantities (EQ): Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

(Contd. on page 7)

SVI-38-14-11

# SPEXertificate®

## Certificate of Reference Material

**Catalog Number:** S-2470 **Lot No.** NSI231116202
**Description:** Methylcyclohexane
**Matrix:** P&T Methanol **Manufactured Date:** 11/16/2023
**Expiration Date:** 11/30/2026

This SPEXOrganics® Certified Reference Material, CRM, was manufactured by NSI Lab Solutions (www.nsilabsolutions.com) and is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

**Certified Compounds:**

| Compound | CAS # | Labeled (ug/mL) | Purity | Certified† (ug/mL) | | Uncertainty (ug/mL) |
|---|---|---|---|---|---|---|
| Methylcyclohexane | 108-87-2 | 1000 | 98.0% | 1000 | ± | 7.05 |

SVI-38-14-11

* - Isomer ratios (when applicable) are an uncertified parameter.

**Final Solution Verification:**

Final solution integrity verified Volumetrically and Analytically. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration is based on gravimetric or volumetric measurements. All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO/IEC 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request. All glassware used in the manufacturing of this standard is Class A. Volumetric pipettors are calibrated every four months by an ISO/IEC 17025 accredited calibration laboratory.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 11/16/2023 Certifying Officer: _____
Kenneth Grzybowski

Printing date 09/25/2023 Revised on 09/25/2023

## 1 Identification

· **Product identifier**

· **Product Name: Methylcyclohexane**

· **Part Name: 5-2470**
**Application of the substance / the mixture For Laboratory Use Only**
**Uses advised against Not for Human or Animal Use**

· **Details of the supplier of the safety data sheet**
**Manufacturer/Supplier:**
Spex CertiPrep, LLC.
203 Norcross Ave Metuchen,
NJ 08840 USA
732-603-9144
SDS-CB@SpexCertiPrep.com

· **Information department:** Quality Assurance Department
· **Emergency telephone number:**
Emergency Phone Number (24 hours):
CHEMTREC 1-800-424-9300,
Outside US 703-527-3887

## 2 Hazard(s) identification

**Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 2 H225 Highly flammable liquid and vapor



GHS08 Skull and crossbones

Acute Toxicity - Inhalation 4 H331 Toxic if inhaled.



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure 1 H370 Causes damage to the central nervous system and the vital organs.

**Label elements**
**GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).**
· **Hazard pictograms**



GHS02 GHS06 GHS08

· **Signal word Danger**

**Hazard-determining components of labeling:**
methylcyclohexane
· **Hazard statements**
H225 Highly flammable liquid and vapor.
H331 Toxic if inhaled.
H370 Causes damage to the central nervous system and the vital organs.
**Precautionary statements**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking |
| P260 | Do not breathe dust/fume/gas/mist/vapors/spray. |
| P240 | Use explosion-proof electrical/ventilating/lighting/equipment. |
| P242 | Use non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P261 | Do not breathe dust/fume/gas/mist/vapors/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P303+P361+P353 | If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304+P340 | If inhaled: Remove person to fresh air and keep comfortable for breathing. |
| P307+P311 | If exposed: Call a POISON CENTER or doctor/physician. |
| P233 | Keep container tightly closed. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |

(Contd. on page 2)



Printing date 09/25/2023 Revised on 09/25/2023

**Product Name: Methylcyclohexane**

(Contd. of page 1)

| | |
|---|---|
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |

· **Classification system:**
**NFPA ratings (scale 0 - 4)**



Health = 1
Fire = 3
Reactivity = 0

**HMIS-ratings (scale 0 - 4)**



HEALTH 1
FIRE 3
REACTIVITY 0

Health = 1
Fire = 3
Reactivity = 0

· **Other hazards**
**Results of PBT and vPvB assessment**
**PBT:** Not applicable.
**vPvB:** Not applicable.

## 3 Composition/information on ingredients

**Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.
**Dangerous components:**
108-87-2 methylcyclohexane 99.5%
**Chemical identification of the substance/preparation**
108-87-2 methylcyclohexane

## 4 First aid measures

**Description of first aid measures**
**General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after considerable time has passed - not only the same day.
In case of unconsciousness or respiratory arrest provide artificial respiration.
· **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
**After skin contact:** Immediately wash with water and soap and rinse thoroughly.
**After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
**After swallowing:** Do not give anything to eat or drink. Do not induce vomiting.
**Information for Doctor:**
**Most important symptoms and effects, both acute and delayed** No further relevant information available.
**Indication of any immediate medical attention and special treatment needed** No further relevant information available.

## 5 Fire-fighting measures

**Extinguishing media**
**Suitable extinguishing agents:** CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
**Special hazards arising from the substance or mixture** Carbon oxides in the case of fire possible exposure to smoke.
· **Advice for firefighters**
**Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
**Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Do not allow to enter sewers/ surface or ground water.
**Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.

(Contd. on page 3)

(Cont'd. of page 4)

| | |
|---|---|
| Solids content: | 0.0 % |
| Other information | No further relevant information available. |

## 10 Stability and reactivity

· Reactivity No further relevant information available.
· Chemical stability
· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
· Possibility of hazardous reactions No dangerous reactions known.
· Conditions to avoid No further relevant information available.
· Incompatible materials: No further relevant information available.
· Hazardous decomposition products: No dangerous decomposition products known.

## 11 Toxicological information

· Information on toxicological effects
· Acute toxicity:
· LD/LC50 values that are relevant for classification:

67-56-1 methanol

Oral LD50 5,628 mg/kg (rat)

Dermal LD50 15,840 mg/kg (rabbit)

· Primary irritant effect:
· on the eye: No irritating effect.
· Sensitization: No sensitizing effects known.
· Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic

· Carcinogenic categories
· IARC (International Agency for Research on Cancer)
None of the ingredients is listed.

NTP (National Toxicology Program)
None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

## 12 Ecological information

· Toxicity
· Aquatic toxicity: No further relevant information available.
· Persistence and degradability No further relevant information available.
· Behavior in environmental systems:
· Bioaccumulative potential No further relevant information available.
· Mobility in soil No further relevant information available.
· Additional ecological information:
· General notes:
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.
· Other adverse effects No further relevant information available.

## 13 Disposal considerations

Waste treatment methods
· Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.
· Recommended cleaning agent: Water, if necessary, with cleaning agents.

· Cont'd. on page 6



(Cont'd. of page 5)

## 14 Transport information

· UN-Number
DOT, ADR, IMDG, IATA UN1230

· UN proper shipping name
· DOT Methanol
· ADR (271) METHANOL
· IMDG, IATA METHANOL

Transport hazard class(es)

DOT



Class 3 (Flammable liquid)
Label 3

· ADR



Class 3 (Flammable liquids)
Label 3 (+)

· IMDG



Class 3 (Flammable liquids)
Label 3 (+)

· IATA



Class 3 (Flammable liquids)
Label 3 (+)

Packing group
DOT, ADR, IMDG, IATA II

Environmental hazards: Not applicable

Special precautions for user Warning: Flammable liquids
Hazard identification number (Kemler code): 336
EMS Number: F-E,S-D
Stowage Category B
· Stowage Code SW2 Clear of living quarters.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:

· ADR
Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· IMDG
Limited quantities (LQ) 1L
Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

(Cont'd. on page 7)

# RAW DATA
# METALS / MERCURY

# METALS
# (WATER)

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F034

METHOD 3010A/6010C
METALS BY TRACE ICP

One(1) water sample was received on 06/07/24 to be analyzed for Metals by Trace ICP in accordance with Method 3010A/6010C and project specific requirements.

Holding Time
The sample was digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IPF009WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IPF009WL/IPF009WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. F034-01M/F034-01S - all analytes were within MS/MSD QC limits. Refer to Matrix QC summary form for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
METALS BY TRACE ICP

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Instrument ID : D8

WATER

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| MBLK1W | IPF009WB | 1.000 | NA | 06/20/2419:15 | 06/14/2409:28 | ID8F008060 | ID8F008053 | IPF009W | Method Blank |
| LCS1W | IPF009WL | 1.000 | NA | 06/20/2419:20 | 06/14/2409:28 | ID8F008061 | ID8F008053 | IPF009W | Lab Control Sample (LCS) |
| LCD1W | IPF009WC | 1.000 | NA | 06/20/2419:24 | 06/14/2409:28 | ID8F008062 | ID8F008053 | IPF009W | LCS Duplicate |
| IDW-WATER_JUN24 | F034-01 | 1.000 | NA | 06/20/2419:44 | 06/14/2409:28 | ID8F008066 | ID8F008063 | IPF009W | Field Sample |
| IDW-WATER_JUN24MS | F034-01M | 1.000 | NA | 06/20/2419:54 | 06/14/2409:28 | ID8F008068 | ID8F008063 | IPF009W | Matrix Spike Sample (MS) |
| IDW-WATER_JUN24MSD | F034-01S | 1.000 | NA | 06/20/2419:59 | 06/14/2409:28 | ID8F008069 | ID8F008063 | IPF009W | MS Duplicate (MSD) |

FN - Filename
% Moist - Percent Moisture

METHOD 3010A/6010C
METALS BY TRACE ICP

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Sample ID: IDW-WATER_JUN24
Lab Samp ID: F034-01
Lab File ID: ID8F008066
Ext Btch ID: IPF009W
Calib. Ref.: ID8F008063

Date Collected: 06/06/24 11:40
Date Received: 06/07/24
Date Extracted: 06/14/24 09:28
Date Analyzed: 06/20/24 19:44
Dilution Factor: 1
Matrix: WATER
% Moisture: NA
Instrument ID: D8

| PARAMETERS | Result (mg/L) | LOQ (mg/L) | DL (mg/L) | LOD (mg/L) |
|---|---|---|---|---|
| Antimony | ND | 0.100 | 0.0150 | 0.0300 |
| Arsenic | 0.0118J | 0.0400 | 0.0100 | 0.0200 |
| Barium | 0.0406 | 0.0100 | 0.00100 | 0.00200 |
| Beryllium | ND | 0.0100 | 0.00100 | 0.00200 |
| Cadmium | ND | 0.0100 | 0.00250 | 0.00500 |
| Chromium | ND | 0.0100 | 0.00200 | 0.00500 |
| Cobalt | ND | 0.0100 | 0.00100 | 0.00200 |
| Copper | 0.0113 | 0.0100 | 0.00250 | 0.00500 |
| Lead | ND | 0.0100 | 0.00250 | 0.00500 |
| Molybdenum | 0.0278 | 0.0100 | 0.00200 | 0.00500 |
| Nickel | 0.00243J | 0.0100 | 0.00200 | 0.00500 |
| Selenium | ND | 0.0200 | 0.00500 | 0.0100 |
| Silver | ND | 0.0100 | 0.00200 | 0.00500 |
| Thallium | ND | 0.0100 | 0.00250 | 0.00500 |
| Vanadium | 0.0175 | 0.0100 | 0.00100 | 0.00200 |
| Zinc | ND | 0.0500 | 0.0100 | 0.0200 |

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : JChun

Final Volume:50ml
Analyzed by:JFeng/JChun

METHOD 3010A/6010C
METALS BY TRACE ICP

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | NA |
| Project | : TITAN 1-A | Date Received: | NA |
| SDG NO. | : 24F034 | Date Extracted: | 06/14/24 09:28 |
| Sample ID: | MBLK1W | Date Analyzed: | 06/20/24 19:15 |
| Lab Samp ID: | IPF009WB | Dilution Factor: | 1 |
| Lab File ID: | ID8F008060 | Matrix: | WATER |
| Ext Btch ID: | IPF009W | % Moisture: | NA |
| Calib. Ref.: | ID8F008053 | Instrument ID: | D8 |

| PARAMETERS | Result (mg/L) | LOQ (mg/L) | DL (mg/L) | LOD (mg/L) |
|---|---|---|---|---|
| Antimony | ND | 0.100 | 0.0150 | 0.0300 |
| Arsenic | ND | 0.0400 | 0.0100 | 0.0200 |
| Barium | ND | 0.0100 | 0.00100 | 0.00200 |
| Beryllium | ND | 0.0100 | 0.00100 | 0.00200 |
| Cadmium | ND | 0.0100 | 0.00250 | 0.00500 |
| Chromium | ND | 0.0100 | 0.00200 | 0.00500 |
| Cobalt | ND | 0.0100 | 0.00100 | 0.00200 |
| Copper | ND | 0.0100 | 0.00250 | 0.00500 |
| Lead | ND | 0.0100 | 0.00250 | 0.00500 |
| Molybdenum | ND | 0.0100 | 0.00200 | 0.00500 |
| Nickel | ND | 0.0100 | 0.00200 | 0.00500 |
| Selenium | ND | 0.0200 | 0.00500 | 0.0100 |
| Silver | ND | 0.0100 | 0.00200 | 0.00500 |
| Thallium | ND | 0.0100 | 0.00250 | 0.00500 |
| Vanadium | ND | 0.0100 | 0.00100 | 0.00200 |
| Zinc | ND | 0.0500 | 0.0100 | 0.0200 |

Note: Detection limits are reported relative to sample result significant figures.

| | | | |
|---|---|---|---|
| Sample Amount | : 50ml | Final Volume: | 50ml |
| Prepared by | : JChun | Analyzed by: | JFeng/JChun |

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : 3010A/6010C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR | : 1.000 | 1.000 | 1.000 |
| SAMPLE ID | : MBLK1W | LCS1W | LCD1W |
| LAB SAMPLE ID | : IPF009WB | IPF009WL | IPF009WC |
| LAB FILE ID | : ID8F008060 | ID8F008061 | ID8F008062 |
| DATE PREPARED | : 06/14/24 09:28 | 06/14/24 09:28 | 06/14/24 09:28 |
| DATE ANALYZED | : 06/20/24 19:15 | 06/20/24 19:20 | 06/20/24 19:24 |
| PREP BATCH | : IPF009W | IPF009W | IPF009W |
| CALIBRATION REF | : ID8F008053 | ID8F008053 | ID8F008053 |

ACCESSION:

| PARAMETERS | MBResult (mg/L) | SpikeAmt (mg/L) | LCSResult (mg/L) | LCSRec (%) | SpikeAmt (mg/L) | LCDResult (mg/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 2.5 | 2.32 | 93 | 2.5 | 2.34 | 94 | 1 | 88-113 | 20 |
| Arsenic | ND | 0.5 | 0.492 | 98 | 0.5 | 0.492 | 98 | 0 | 87-113 | 20 |
| Barium | ND | 0.5 | 0.473 | 95 | 0.5 | 0.475 | 95 | 0 | 88-113 | 20 |
| Beryllium | ND | 0.5 | 0.483 | 97 | 0.5 | 0.483 | 97 | 0 | 89-112 | 20 |
| Cadmium | ND | 0.5 | 0.494 | 99 | 0.5 | 0.494 | 99 | 0 | 88-113 | 20 |
| Chromium | ND | 0.5 | 0.475 | 95 | 0.5 | 0.481 | 96 | 1 | 90-113 | 20 |
| Cobalt | ND | 0.5 | 0.466 | 93 | 0.5 | 0.465 | 93 | 0 | 89-114 | 20 |
| Copper | ND | 0.5 | 0.467 | 93 | 0.5 | 0.468 | 94 | 0 | 86-114 | 20 |
| Lead | ND | 0.5 | 0.459 | 92 | 0.5 | 0.458 | 92 | 0 | 86-113 | 20 |
| Molybdenum | ND | 0.5 | 0.487 | 97 | 0.5 | 0.488 | 98 | 0 | 89-113 | 20 |
| Nickel | ND | 0.5 | 0.497 | 99 | 0.5 | 0.496 | 99 | 0 | 88-113 | 20 |
| Selenium | ND | 0.5 | 0.495 | 99 | 0.5 | 0.493 | 99 | 0 | 83-114 | 20 |
| Silver | ND | 0.5 | 0.483 | 97 | 0.5 | 0.485 | 97 | 0 | 84-115 | 20 |
| Thallium | ND | 0.5 | 0.470 | 94 | 0.5 | 0.470 | 94 | 0 | 85-114 | 20 |
| Vanadium | ND | 0.5 | 0.481 | 96 | 0.5 | 0.482 | 96 | 0 | 90-111 | 20 |
| Zinc | ND | 0.5 | 0.505 | 101 | 0.5 | 0.504 | 101 | 0 | 87-115 | 20 |

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : 3010A/6010C

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE: NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : IDW-WATER_JUN24 | IDW-WATER_JUN24MS | IDW-WATER_JUN24MSD |
| LAB SAMPLE ID | : F034-01 | F034-01M | F034-01S |
| LAB FILE ID | : ID8F008066 | ID8F008068 | ID8F008069 |
| DATE PREPARED | : 06/14/24 09:28 | 06/14/24 09:28 | 06/14/24 09:28 |
| DATE ANALYZED | : 06/20/24 19:44 | 06/20/24 19:54 | 06/20/24 19:59 |
| PREP BATCH | : IPF009W | IPF009W | IPF009W |
| CALIBRATION REF | : ID8F008063 | ID8F008063 | ID8F008063 |

ACCESSION:

| PARAMETERS | PSResult (mg/L) | SpikeAmt (mg/L) | MSResult (mg/L) | MSRec (%) | SpikeAmt (mg/L) | MSDResult (mg/L) | MSDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 2.5 | 2.36 | 94 | 2.5 | 2.38 | 95 | 1 | 88-113 | 20 |
| Arsenic | 0.0118J | .5 | 0.512 | 100 | .5 | 0.516 | 101 | 1 | 87-113 | 20 |
| Barium | 0.0406 | .5 | 0.519 | 96 | .5 | 0.522 | 96 | 1 | 88-113 | 20 |
| Beryllium | ND | .5 | 0.482 | 96 | .5 | 0.484 | 97 | 0 | 89-112 | 20 |
| Cadmium | ND | .5 | 0.489 | 98 | .5 | 0.490 | 98 | 0 | 88-113 | 20 |
| Chromium | ND | .5 | 0.480 | 96 | .5 | 0.482 | 96 | 0 | 90-113 | 20 |
| Cobalt | ND | .5 | 0.458 | 92 | .5 | 0.460 | 92 | 0 | 89-114 | 20 |
| Copper | 0.0113 | .5 | 0.478 | 93 | .5 | 0.480 | 94 | 0 | 86-114 | 20 |
| Lead | ND | .5 | 0.446 | 89 | .5 | 0.447 | 89 | 0 | 86-113 | 20 |
| Molybdenum | 0.0278 | .5 | 0.513 | 97 | .5 | 0.518 | 98 | 1 | 89-113 | 20 |
| Nickel | 0.00243J | .5 | 0.489 | 97 | .5 | 0.490 | 98 | 0 | 88-113 | 20 |
| Selenium | ND | .5 | 0.494 | 99 | .5 | 0.499 | 100 | 1 | 83-114 | 20 |
| Silver | ND | .5 | 0.497 | 99 | .5 | 0.500 | 100 | 1 | 84-115 | 20 |
| Thallium | ND | .5 | 0.455 | 91 | .5 | 0.455 | 91 | 0 | 85-114 | 20 |
| Vanadium | 0.0175 | .5 | 0.501 | 97 | .5 | 0.503 | 97 | 0 | 90-111 | 20 |
| Zinc | ND | .5 | 0.500 | 100 | .5 | 0.502 | 100 | 0 | 87-115 | 20 |

PSResult - Parent Sample Result

# ICP (6010) QC CHECK TABLE

| QC | ICV | CCV | ICSAB | ICSA |
|---|---|---|---|---|
| Limit% | 90-110 | 90-110 | 80-120 | 80-120 |
| Comp | mg/L | mg/L | mg/L | mg/L |
| Al | 100 | 100 | 400 | 400 |
| Sb | 1.5 | 1.5 | 1 | 0 |
| As | 1 | 1 | 1 | 0 |
| Ba | 2 | 2 | 0.5 | 0 |
| Be | 1.5 | 1.5 | 0.5 | 0 |
| B | 2.5 | 2.5 | 1 | 0 |
| Cd | 2 | 2 | 1 | 0 |
| Ca | 75 | 75 | 500 | 500 |
| Cr | 2.5 | 2.5 | 0.5 | 0 |
| Co | 1 | 1 | 0.5 | 0 |
| Cu | 2.5 | 2.5 | 0.5 | 0 |
| Fe | 25 | 25 | 200 | 200 |
| Pb | 2.5 | 2.5 | 1 | 0 |
| Li | 0.5 | 0.5 | 1 | 0 |
| Mg | 60 | 60 | 200 | 200 |
| Mn | 2.5 | 2.5 | 0.5 | 0 |
| Mo | 2.5 | 2.5 | 1 | 0 |
| Ni | 2.5 | 2.5 | 1 | 0 |
| K | 60 | 60 | 75 | 0 |
| Se | 1 | 1 | 1 | 0 |
| Ag | 0.5 | 0.5 | 1 | 0 |
| Na | 60 | 60 | 75 | 0 |
| Sr | 0.5 | 0.5 | 0.5 | 0 |
| Tl | 2.5 | 2.5 | 1 | 0 |
| Sn | 0.5 | 0.5 | 1 | 0 |
| Ti | 0.5 | 0.5 | 1 | 0 |
| V | 1.5 | 1.5 | 0.5 | 0 |
| Zn | 2.5 | 2.5 | 1 | 0 |

**Note:** For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

**Start Date:** 6/20/24 12:28
**End Date:** 6/21/24 00:35

| SOP # | Rev. # |
|---|---|
| ☑ EMAX-6010 | 9 |
| ☑ EMAX-6010C | 3 |
| ☐ EMAX-200.7 | 6 |
| ☐ EMAX- | |

**Comments:** See Analytical Sequence

**Book #:** AD8-075
**Instrument No.:** D8
**Analytical Batch:** ID8F008
**Analytical Sequence:** S-24F6010 (v19)
**Method File:** 6/20/24 24F6010 (v19)
**Database:** EMAX21
**Micropipette ID:** ☐ 942780530
**Micropipette ID:** ☑ D42761999
**Micropipette ID:** ☑ 542740566
**Micropipette ID:** ☑ D42781151
**Micropipette ID:** ☐

| | STANDARDS ID | | STANDARDS ID |
|---|---|---|---|
| S0 | SMIB-29-38-02 | S26 | SMIB-29-44-01 |
| S1 | N/A | S27 | -44-02 |
| S2 | | S28 | -18-01 |
| S3 | | S29 | -18-02 |
| S4 | | S30 | -24-02 |
| S5 | | S31 | -25-01 |
| S6 | | ICV | SMIB-29-40-01 |
| S7 | | CCV | -19-01 |
| S8 | | ICSA | -24-01 |
| S9 | | ICSAB | -37-01 |
| S10 | | CRI/MRL1 | -26-01 |
| S11 | | CRI/MRL2 | -37-02 |
| S12 | | CRI/MRL3 | -20-01(2X) |
| S16 | | CRI/MRL4 | -12-01 |
| S17 | | Internal Standard | SMIA-025-12-04 |
| S18 | | Post-Spike 1 | -07-02 |
| S20 | SMIB-29-39-01 | Post-Spike 2 | -07-03 |
| S21 | -39-02 | Post-Spike 3 | -07-04 |
| S22 | -16-02 | | |
| S23 | -17-01 | | |
| S24 | -43-01 | | |
| S25 | -43-02 | | |

Analyzed By: JF/JC
Date: 6/20/24

SEQUENCE FILE : ID8F008

| 4-18 | 19-33 | 34-43 | 44-53 | 54-63 |
|---|---|---|---|---|
| LFID | LSID | TIME | DATE | DF |
| ID8F008001 | S024F6010 | 12:28 | 06/20/24 | 1.000 |
| ID8F008002 | S20 | 12:33 | 06/20/24 | 1.000 |
| ID8F008003 | S21 | 12:38 | 06/20/24 | 1.000 |
| ID8F008004 | S22 | 12:43 | 06/20/24 | 1.000 |
| ID8F008005 | S23 | 12:48 | 06/20/24 | 1.000 |
| ID8F008006 | S24 | 12:54 | 06/20/24 | 1.000 |
| ID8F008007 | S25 | 12:58 | 06/20/24 | 1.000 |
| ID8F008008 | S26 | 13:04 | 06/20/24 | 1.000 |
| ID8F008009 | S27 | 13:08 | 06/20/24 | 1.000 |
| ID8F008010 | S28 | 13:13 | 06/20/24 | 1.000 |
| ID8F008011 | S29 | 13:18 | 06/20/24 | 1.000 |
| ID8F008012 | S30 | 13:23 | 06/20/24 | 1.000 |
| ID8F008013 | S31 | 13:28 | 06/20/24 | 1.000 |
| ID8F008014 | ICV | 13:33 | 06/20/24 | 1.000 |
| ID8F008015 | ICB | 13:38 | 06/20/24 | 1.000 |
| ID8F008016 | MRLF2001 | 13:43 | 06/20/24 | 1.000 |
| ID8F008017 | MRLF2002 | 13:48 | 06/20/24 | 1.000 |
| ID8F008018 | ICSA1 | 13:53 | 06/20/24 | 1.000 |
| ID8F008019 | ICSAB1 | 13:58 | 06/20/24 | 1.000 |
| ID8F008020 | MRLF2003 | 14:03 | 06/20/24 | 1.000 |
| ID8F008021 | MRLF2004 | 14:08 | 06/20/24 | 1.000 |
| ID8F008022 | CCV1 | 14:12 | 06/20/24 | 1.000 |
| ID8F008023 | CCB1 | 14:17 | 06/20/24 | 1.000 |
| ID8F008024 | IPF005WB | 16:17 | 06/20/24 | 1.000 |
| ID8F008025 | IPF005WL | 16:22 | 06/20/24 | 1.000 |
| ID8F008026 | IPF005WC | 16:27 | 06/20/24 | 1.000 |
| ID8F008027 | F020-02 | 16:31 | 06/20/24 | 1.000 |
| ID8F008028 | F020-03A | 16:36 | 06/20/24 | 1.000 |
| ID8F008029 | F020-03 | 16:41 | 06/20/24 | 1.000 |
| ID8F008030 | F020-03J | 16:46 | 06/20/24 | 5.000 |
| ID8F008031 | F020-03M | 16:51 | 06/20/24 | 1.000 |
| ID8F008032 | F020-03S | 16:56 | 06/20/24 | 1.000 |
| ID8F008033 | CCV2 | 17:01 | 06/20/24 | 1.000 |
| ID8F008034 | CCB2 | 17:06 | 06/20/24 | 1.000 |
| ID8F008035 | F020-04 | 17:11 | 06/20/24 | 1.000 |
| ID8F008036 | F020-05 | 17:15 | 06/20/24 | 1.000 |
| ID8F008037 | F020-06 | 17:20 | 06/20/24 | 1.000 |
| ID8F008038 | TXF002SB | 17:25 | 06/20/24 | 1.000 |
| ID8F008039 | F008-04A | 17:30 | 06/20/24 | 1.000 |
| ID8F008040 | F008-04 | 17:35 | 06/20/24 | 1.000 |
| ID8F008041 | F008-04J | 17:40 | 06/20/24 | 5.000 |
| ID8F008042 | F008-04M | 17:45 | 06/20/24 | 1.000 |
| ID8F008043 | F008-04S | 17:50 | 06/20/24 | 1.000 |
| ID8F008044 | TXF003SB | 17:55 | 06/20/24 | 1.000 |
| ID8F008045 | CCV3 | 18:00 | 06/20/24 | 1.000 |
| ID8F008046 | CCB3 | 18:05 | 06/20/24 | 1.000 |
| ID8F008047 | F032-05 | 18:10 | 06/20/24 | 1.000 |
| ID8F008048 | F034-02 | 18:16 | 06/20/24 | 1.000 |
| ID8F008049 | F428-01 | 18:21 | 06/20/24 | 1.000 |
| ID8F008050 | IPF010SB | 18:26 | 06/20/24 | 1.000 |
| ID8F008051 | IPF010SL | 18:31 | 06/20/24 | 1.000 |
| ID8F008052 | IPF010SC | 18:36 | 06/20/24 | 1.000 |
| ID8F008053 | CCV4 | 18:40 | 06/20/24 | 1.000 |
| ID8F008054 | CCB4 | 18:45 | 06/20/24 | 1.000 |
| ID8F008055 | F034-02A | 18:50 | 06/20/24 | 1.000 |
| ID8F008056 | F034-02 | 18:55 | 06/20/24 | 1.000 |
| ID8F008057 | F034-02J | 19:00 | 06/20/24 | 5.000 |
| ID8F008058 | F034-02M | 19:05 | 06/20/24 | 1.000 |
| ID8F008059 | F034-02S | 19:10 | 06/20/24 | 1.000 |
| ID8F008060 | IPF009WB | 19:15 | 06/20/24 | 1.000 |
| ID8F008061 | IPF009WL | 19:20 | 06/20/24 | 1.000 |
| ID8F008062 | IPF009WC | 19:24 | 06/20/24 | 1.000 |

| | | | | |
|---|---|---|---|---|
| ID8F008063 | CCV5 | 19:29 | 06/20/24 | 1.000 |
| ID8F008064 | CCB5 | 19:34 | 06/20/24 | 1.000 |
| ID8F008065 | F034-01A | 19:39 | 06/20/24 | 1.000 |
| ID8F008066 | F034-01 | 19:44 | 06/20/24 | 1.000 |
| ID8F008067 | F034-01J | 19:49 | 06/20/24 | 5.000 |
| ID8F008068 | F034-01M | 19:54 | 06/20/24 | 1.000 |
| ID8F008069 | F034-01S | 19:59 | 06/20/24 | 1.000 |
| ID8F008070 | CCV6 | 20:03 | 06/20/24 | 1.000 |
| ID8F008071 | CCB6 | 20:08 | 06/20/24 | 1.000 |
| ID8F008072 | IPF011WB | 20:13 | 06/20/24 | 1.000 |
| ID8F008073 | IPF011WL | 20:18 | 06/20/24 | 1.000 |
| ID8F008074 | IPF011WC | 20:23 | 06/20/24 | 1.000 |
| ID8F008075 | TX004WB | 20:28 | 06/20/24 | 1.000 |
| ID8F008076 | F058-01A | 20:33 | 06/20/24 | 1.000 |
| ID8F008077 | F058-01 | 20:38 | 06/20/24 | 1.000 |
| ID8F008078 | F058-01J | 20:43 | 06/20/24 | 5.000 |
| ID8F008079 | F058-01M | 20:48 | 06/20/24 | 1.000 |
| ID8F008080 | F058-01S | 20:52 | 06/20/24 | 1.000 |
| ID8F008081 | CCV7 | 20:57 | 06/20/24 | 1.000 |
| ID8F008082 | CCB7 | 21:02 | 06/20/24 | 1.000 |
| ID8F008083 | IPF006SB | 21:07 | 06/20/24 | 1.000 |
| ID8F008084 | IPF006SL | 21:12 | 06/20/24 | 1.000 |
| ID8F008085 | IPF006SC | 21:17 | 06/20/24 | 1.000 |
| ID8F008086 | F427-01A | 21:22 | 06/20/24 | 1.000 |
| ID8F008087 | F427-01 | 21:27 | 06/20/24 | 1.000 |
| ID8F008088 | F427-01J | 21:32 | 06/20/24 | 5.000 |
| ID8F008089 | F427-01M | 21:37 | 06/20/24 | 1.000 |
| ID8F008090 | F427-01S | 21:41 | 06/20/24 | 1.000 |
| ID8F008091 | CCV8 | 21:46 | 06/20/24 | 1.000 |
| ID8F008092 | CCB8 | 21:51 | 06/20/24 | 1.000 |
| ID8F008093 | IPF015SB | 21:56 | 06/20/24 | 1.000 |
| ID8F008094 | IPF015SL | 22:01 | 06/20/24 | 1.000 |
| ID8F008095 | IPF015SC | 22:06 | 06/20/24 | 1.000 |
| ID8F008096 | F476-01A | 22:11 | 06/20/24 | 1.000 |
| ID8F008097 | F476-01 | 22:15 | 06/20/24 | 1.000 |
| ID8F008098 | F476-01J | 22:20 | 06/20/24 | 5.000 |
| ID8F008099 | F476-01M | 22:25 | 06/20/24 | 1.000 |
| ID8F008100 | F476-01S | 22:30 | 06/20/24 | 1.000 |
| ID8F008101 | CCV9 | 22:35 | 06/20/24 | 1.000 |
| ID8F008102 | CCB9 | 22:40 | 06/20/24 | 1.000 |
| ID8F008103 | IPF016WB | 22:45 | 06/20/24 | 1.000 |
| ID8F008104 | IPF016WL | 22:50 | 06/20/24 | 1.000 |
| ID8F008105 | IPF016WC | 22:55 | 06/20/24 | 1.000 |
| ID8F008106 | CCV10 | 23:00 | 06/20/24 | 1.000 |
| ID8F008107 | CCB10 | 23:05 | 06/20/24 | 1.000 |
| ID8F008108 | WTF002SB | 23:10 | 06/20/24 | 5.000 |
| ID8F008109 | E112-01A | 23:15 | 06/20/24 | 5.000 |
| ID8F008110 | E112-01 | 23:20 | 06/20/24 | 5.000 |
| ID8F008111 | E112-01J | 23:25 | 06/20/24 | 25.000 |
| ID8F008112 | E112-01M | 23:30 | 06/20/24 | 5.000 |
| ID8F008113 | E112-01S | 23:35 | 06/20/24 | 5.000 |
| ID8F008114 | CCV11 | 23:40 | 06/20/24 | 1.000 |
| ID8F008115 | CCB11 | 23:45 | 06/20/24 | 1.000 |
| ID8F008116 | MRL2005 | 23:50 | 06/20/24 | 1.000 |
| ID8F008117 | MRL2006 | 23:55 | 06/20/24 | 1.000 |
| ID8F008118 | WTF001SB | 00:00 | 06/21/24 | 5.000 |
| ID8F008119 | F034-02A | 00:05 | 06/21/24 | 5.000 |
| ID8F008120 | F034-02 | 00:10 | 06/21/24 | 5.000 |
| ID8F008121 | F034-02J | 00:15 | 06/21/24 | 25.000 |
| ID8F008122 | F034-02M | 00:20 | 06/21/24 | 5.000 |
| ID8F008123 | F034-02S | 00:25 | 06/21/24 | 5.000 |
| ID8F008124 | CCV12 | 00:30 | 06/21/24 | 1.000 |
| ID8F008125 | CCB12 | 00:35 | 06/21/24 | 1.000 |

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Method : METHOD 3010A/6010C
Sequence : ID8F008
InstrumentID: D8

| Lab Samp ID : | ICV | ICSA1 | ICSAB1 |
|---|---|---|---|
| QC Limit : | %R:90-110/RSD:<5 | %R:80-120/<LOD | %R:80-120 |
| Lab File ID : | ID8F008014 | ID8F008018 | ID8F008019 |
| DateAnalyed : | 06/20/2413:33 | 06/20/2413:53 | 06/20/2413:58 |

| Parameter | | Result | ICV EV | RSD | %Recovery | Result | ICSA EV | %Rec/LOD | Result | ICSAB EV | %Recovery |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 97.211 | 100 | 1.0598 | 97 | 427.13 | 400 | 107 | 393.82 | 400 | 98 |
| Antimony | T | 1.5120 | 1.5 | .48754 | 101 | .00341 | 0 | <0.030 | .98030 | 1 | 98 |
| Arsenic | T | .97284 | 1.0 | .79739 | 97 | .00052 | 0 | <0.02 | .99520 | 1 | 100 |
| Barium | T | 1.8909 | 2.0 | .16430 | 95 | .00038 | 0 | <0.002 | .46414 | 0.5 | 93 |
| Beryllium | T | 1.4106 | 1.5 | .17814 | 94 | -.00002 | 0 | <0.002 | .45548 | 0.5 | 91 |
| Boron | | 2.3651 | 2.5 | .09104 | 95 | -.00519 | 0 | <0.01 | .97195 | 1.0 | 97 |
| Cadmium | T | 1.9290 | 2.0 | .30745 | 96 | -.00088 | 0 | <0.005 | .90537 | 1 | 91 |
| Calcium | | 74.758 | 75 | .05652 | 100 | 491.83 | 500 | 98 | 452.47 | 500 | 90 |
| Chromium | T | 2.3623 | 2.5 | .07450 | 94 | .00173 | 0 | <0.005 | .45155 | 0.5 | 90 |
| Cobalt | T | .91737 | 1.0 | .05552 | 92 | -.00021 | 0 | <0.002 | .45867 | 0.5 | 92 |
| Copper | T | 2.3152 | 2.5 | .09362 | 93 | .00004 | 0 | <0.005 | .46089 | 0.5 | 92 |
| Iron | | 22.705 | 25 | .11138 | 91 | 191.00 | 200 | 96 | 170.99 | 200 | 85 |
| Lead | T | 2.2661 | 2.5 | .09844 | 91 | -.00398 | 0 | <0.005 | .89361 | 1 | 89 |
| Lithium | | .49770 | 0.5 | .09084 | 100 | .00000 | 0 | <0.05 | .94251 | 1 | 94 |
| Magnesium | | 55.879 | 60 | .15134 | 93 | 187.56 | 200 | 94 | 170.38 | 200 | 85 |
| Manganese | | 2.2925 | 2.5 | .13963 | 92 | -.00177 | 0 | <0.003 | .45355 | 0.5 | 91 |
| Molybdenum | T | 2.4067 | 2.5 | .08768 | 96 | .00077 | 0 | <0.005 | .99245 | 1 | 99 |
| Nickel | T | 2.4347 | 2.5 | .08786 | 97 | -.00044 | 0 | <0.005 | .96364 | 1 | 96 |
| Potassium | | 60.684 | 60 | .25992 | 101 | .06875 | 0 | <0.1 | 74.837 | 75 | 100 |
| Selenium | T | .98453 | 1.0 | .44386 | 98 | .00157 | 0 | <0.01 | .93145 | 1 | 93 |
| Silver | T | .47292 | 0.5 | .06232 | 95 | -.00063 | 0 | <0.005 | .98569 | 1 | 99 |
| Sodium | | 60.526 | 60 | .07110 | 101 | .14504 | 0 | >0.1 | 74.826 | 75 | 100 |
| Strontium | | .46511 | 0.5 | .12812 | 93 | -.00056 | 0 | <0.001 | .45968 | 0.5 | 92 |
| Thallium | T | 2.2792 | 2.5 | .43089 | 91 | .00017 | 0 | <0.005 | .82674 | 1 | 83 |
| Tin | | .48910 | 0.5 | .19450 | 98 | .00033 | 0 | <0.005 | .95942 | 1 | 96 |
| Titanium | | .47216 | 0.5 | .21530 | 94 | .00000 | 0 | <0.005 | .90409 | 1 | 90 |
| Vanadium | T | 1.3869 | 1.5 | .10397 | 92 | -.00001 | 0 | <0.002 | .45211 | 0.5 | 90 |
| Zinc | T | 2.5064 | 2.5 | .09736 | 100 | .00300 | 0 | <0.02 | .99515 | 1 | 100 |

Unit: mg/L
T: Target analyte
EV: Expected Value
Comment:

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Method : 3010A/6010C
Sequence : IDBF008
Instrument ID: D8

| | | CCV SampleID | CCV4 | | | CCV5 | | | CCV6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CCV DataFileID | ID8F008053 | | | ID8F008063 | | | ID8F008070 | | |
| | | CCV DateTime | 06/20/24 18:40 | | | 06/20/24 19:29 | | | 06/20/24 20:03 | | |
| PARAMETER | | CCV EV | RESULT | %REC | RSD | RESULT | %REC | RSD | RESULT | %REC | RSD |
| Aluminum | | 100 | 95.5 | 96 | .19554 | 94.3 | 94 | .69280 | 93.2 | 93 | .53211 |
| Antimony | T | 1.5 | 1.5 | 100 | .29934 | 1.51 | 101 | .60562 | 1.52 | 102 | .29970 |
| Arsenic | T | 1.0 | 0.961 | 96 | .63346 | 0.971 | 97 | .03805 | 0.987 | 99 | .44364 |
| Barium | T | 2.0 | 1.89 | 95 | .05464 | 1.92 | 96 | .16021 | 1.95 | 98 | .20957 |
| Beryllium | T | 1.5 | 1.42 | 94 | .11839 | 1.43 | 95 | .10693 | 1.44 | 96 | .12628 |
| Boron | | 2.5 | 2.34 | 94 | .22776 | 2.36 | 94 | .21625 | 2.39 | 96 | .06872 |
| Cadmium | T | 2.0 | 1.93 | 96 | .07084 | 1.94 | 97 | .32249 | 1.96 | 98 | .43807 |
| Calcium | | 75 | 75.3 | 100 | .13657 | 75.4 | 100 | .14916 | 74.6 | 99 | .11492 |
| Chromium | T | 2.5 | 2.32 | 93 | .13710 | 2.38 | 95 | .21813 | 2.42 | 97 | .07021 |
| Cobalt | T | 1.0 | 0.916 | 92 | .11887 | 0.916 | 92 | .13443 | 0.916 | 92 | .03343 |
| Copper | T | 2.5 | 2.3 | 92 | .12995 | 2.31 | 93 | .19803 | 2.35 | 94 | .04598 |
| Iron | | 25 | 22.5 | 90 | .21289 | 23 | 92 | .43358 | 23.5 | 94 | .06077 |
| Lead | T | 2.5 | 2.26 | 90 | .07493 | 2.26 | 91 | .12073 | 2.26 | 90 | .11634 |
| Lithium | | 0.5 | 0.497 | 99 | .90178 | 0.531 | 106 | .87207 | 0.572 | 114* | .47824 |
| Magnesium | | 60 | 55 | 92 | .34819 | 57.5 | 96 | .26164 | 59.6 | 99 | .19944 |
| Manganese | | 2.5 | 2.33 | 93 | .09185 | 2.36 | 94 | .08025 | 2.36 | 94 | .05833 |
| Molybdenum | T | 2.5 | 2.41 | 96 | .02517 | 2.41 | 96 | .03995 | 2.42 | 97 | .02933 |
| Nickel | T | 2.5 | 2.43 | 97 | .03676 | 2.44 | 97 | .04493 | 2.44 | 98 | .00912 |
| Potassium | | 60 | 60.1 | 100 | .31582 | 63.3 | 106 | .21253 | 66.1 | 110 | .15163 |
| Selenium | T | 1.0 | 0.979 | 98 | .43813 | 0.984 | 98 | .26532 | 0.995 | 99 | .69393 |
| Silver | T | 0.5 | 0.468 | 94 | .24923 | 0.479 | 96 | .51048 | 0.491 | 98 | .06622 |
| Sodium | | 60 | 61 | 102 | .03485 | 62.2 | 104 | .06022 | 63.4 | 106 | .10189 |
| Strontium | | 0.5 | 0.465 | 93 | .21449 | 0.463 | 93 | .05135 | 0.462 | 92 | .13392 |
| Thallium | T | 2.5 | 2.28 | 91 | .15498 | 2.28 | 91 | .24580 | 2.29 | 92 | .51595 |
| Tin | | 0.5 | 0.492 | 98 | .04726 | 0.489 | 98 | .50584 | 0.49 | 98 | .14127 |
| Titanium | | 0.5 | 0.465 | 93 | .29386 | 0.48 | 96 | .37143 | 0.49 | 98 | .31456 |
| Vanadium | T | 1.5 | 1.38 | 92 | .21122 | 1.4 | 93 | .29272 | 1.42 | 95 | .06175 |
| Zinc | T | 2.5 | 2.51 | 100 | .03054 | 2.51 | 100 | .06421 | 2.5 | 100 | .06034 |

| | |
|---|---|
| Unit: | ug/L |
| T: | Target analyte |
| %Rec QC Limit: | 90-110 |
| RSD QC Limit: | <5 |
| CCV EV: | CCV Expected Value ug/L |
| Comment: | * Out of QC limit |

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Method : 3010A/6010C
Sequence : ID8F008
Instrument ID: D8

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CB SampleID | | | : ICB | | CCB4 | | CCB5 | | CCB6 | |
| CB DataFileID | | | : ID8F008015 | | ID8F008054 | | ID8F008064 | | ID8F008071 | |
| CB DateTime | | | : 06/20/2413:38 | | 06/20/2418:45 | | 06/20/2419:34 | | 06/20/2420:08 | |
| PARAMETER | | LOD | RESULT | < LOD > | RESULT | < LOD > | RESULT | < LOD > | RESULT | < LOD > |
| Aluminum | | 0.03 | 0.009 | <0.03 | 0.02 | <0.03 | 0.02 | <0.03 | 0.02 | <0.03 |
| Antimony | T | 0.030 | 0.0007 | <0.030 | 0.00001 | <0.030 | 0.0008 | <0.030 | 0.00 | <0.030 |
| Arsenic | T | 0.02 | 0.00006 | <0.02 | 0.0002 | <0.02 | 0.0007 | <0.02 | 0.0001 | <0.02 |
| Barium | T | 0.002 | 0.0001 | <0.002 | 0.0002 | <0.002 | 0.00003 | <0.002 | 0.0004 | <0.002 |
| Beryllium | T | 0.002 | 0.0002 | <0.002 | 0.0003 | <0.002 | 0.0002 | <0.002 | 0.0003 | <0.002 |
| Boron | | 0.01 | 0.007 | <0.01 | 0.004 | <0.01 | 0.005 | <0.01 | 0.009 | <0.01 |
| Cadmium | T | 0.005 | 0.00 | <0.005 | 0.00004 | <0.005 | 0.00001 | <0.005 | 0.00002 | <0.005 |
| Calcium | | 0.1 | 0.17 | >0.1 | 0.17 | >0.1 | 0.16 | >0.1 | 0.16 | >0.1 |
| Chromium | T | 0.005 | 0.0002 | <0.005 | 0.0001 | <0.005 | 0.0005 | <0.005 | 0.0003 | <0.005 |
| Cobalt | T | 0.002 | 0.0001 | <0.002 | 0.00009 | <0.002 | 0.00001 | <0.002 | 0.00002 | <0.002 |
| Copper | T | 0.005 | 0.0001 | <0.005 | 0.0001 | <0.005 | 0.0002 | <0.005 | 0.00003 | <0.005 |
| Iron | | 0.04 | 0.003 | <0.04 | 0.004 | <0.04 | 0.006 | <0.04 | 0.00003 | <0.04 |
| Lead | T | 0.005 | 0.00009 | <0.005 | 0.0001 | <0.005 | 0.0003 | <0.005 | 0.00004 | <0.005 |
| Lithium | | 0.05 | 0.002 | <0.05 | 0.0002 | <0.05 | 0.001 | <0.05 | 0.002 | <0.05 |
| Magnesium | | 0.1 | 0.01 | <0.1 | 0.01 | <0.1 | 0.0006 | <0.1 | 0.02 | <0.1 |
| Manganese | | 0.003 | 0.0002 | <0.003 | 0.0003 | <0.003 | 0.0004 | <0.003 | 0.0001 | <0.003 |
| Molybdenum | T | 0.005 | 0.0004 | <0.005 | 0.00005 | <0.005 | 0.0002 | <0.005 | 0.0002 | <0.005 |
| Nickel | T | 0.005 | 0.0004 | <0.005 | 0.0005 | <0.005 | 0.0004 | <0.005 | 0.0003 | <0.005 |
| Potassium | | 0.1 | 0.11 | >0.1 | 0.04 | <0.1 | 0.02 | <0.1 | 0.12 | >0.1 |
| Selenium | T | 0.01 | 0.002 | <0.01 | 0.0005 | <0.01 | 0.002 | <0.01 | 0.002 | <0.01 |
| Silver | T | 0.005 | 0.00004 | <0.005 | 0.0004 | <0.005 | 0.0003 | <0.005 | 0.0002 | <0.005 |
| Sodium | | 0.1 | 0.01 | <0.1 | 0.04 | <0.1 | 0.02 | <0.1 | 0.02 | <0.1 |
| Strontium | | 0.001 | 0.0004 | <0.001 | 0.0005 | <0.001 | 0.0003 | <0.001 | 0.0004 | <0.001 |
| Thallium | T | 0.005 | 0.0005 | <0.005 | 0.0005 | <0.005 | 0.002 | <0.005 | 0.002 | <0.005 |
| Tin | | 0.005 | 0.0005 | <0.005 | 0.00003 | <0.005 | 0.0002 | <0.005 | 0.0002 | <0.005 |
| Titanium | | 0.005 | 0.0006 | <0.005 | 0.0002 | <0.005 | 0.0006 | <0.005 | 0.00007 | <0.005 |
| Vanadium | T | 0.002 | 0.00005 | <0.002 | 0.00009 | <0.002 | 0.00006 | <0.002 | 0.0003 | <0.002 |
| Zinc | T | 0.02 | 0.003 | <0.02 | 0.002 | <0.02 | 0.002 | <0.02 | 0.002 | <0.02 |

| | |
|---|---|
| Unit: | mg/L |
| CB: | Calibration Blank |
| T: | Target analyte |
| Acceptance Criteria: | CCB Result <LOD |
| Comment: | |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Al 308.215 {109} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.000276 | 0.017897 | 0.000000 | 1.000000 | 0.999975 | 0.000138 | 0.035575 |
| Sb 206.833 {463} | 06/20/2024 15:33:38 | 06/20/2024 13:23:39 | Linear | 1/Conc | 0.000011 | 0.005403 | 0.000000 | 1.000000 | 0.999997 | 0.000003 | 0.002072 |
| As 189.042 {478} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.000023 | 0.002754 | 0.000000 | 1.000000 | 0.999996 | 0.000000 | 0.002817 |
| Ba 455.403 { 74} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.001346 | 0.724162 | 0.000000 | 1.000000 | 1.000000 | 0.000052 | 0.000358 |
| Be 313.042 {108} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | 0.001162 | 0.717046 | 0.000000 | 1.000000 | 0.999992 | 0.000517 | 0.000145 |
| B 249.773 {135} | 06/20/2024 15:33:38 | 06/20/2024 13:03:57 | Linear | 1/Conc | 0.000287 | 0.131674 | 0.000000 | 1.000000 | 0.999962 | 0.000207 | 0.000342 |
| Cd 226.502 {449} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | -0.000043 | 0.141311 | 0.000000 | 1.000000 | 0.999886 | 0.000388 | 0.000111 |
| Ca 317.933 {106} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.006429 | 0.033166 | 0.000000 | 1.000000 | 0.999751 | 0.006714 | 0.003640 |
| Cr 267.716 {126} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.000500 | 0.157130 | 0.000000 | 1.000000 | 1.000000 | 0.000026 | 0.000316 |
| Co 228.616 {447} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | -0.000292 | 0.678009 | 0.000000 | 1.000000 | 0.999959 | 0.000223 | 0.000300 |
| Cu 324.754 {104} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.000731 | 0.225991 | 0.000000 | 1.000000 | 0.999954 | 0.000389 | 0.000341 |
| Fe 271.441 {124} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.000021 | 0.006859 | 0.000000 | 1.000000 | 0.999993 | 0.000032 | 0.006722 |
| Pb 220.353 {453} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | -0.000485 | 0.346577 | 0.000000 | 1.000000 | 0.999951 | 0.000625 | 0.000767 |
| Li 670.784 { 50} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.000828 | 0.119696 | 0.000000 | 1.000000 | 0.999949 | 0.000032 | 0.004072 |
| Mg 279.079 {121} | 06/20/2024 15:33:38 | 06/20/2024 13:23:39 | Linear | 1/Conc | -0.000369 | 0.003749 | 0.000000 | 1.000000 | 0.999983 | 0.000040 | 0.035998 |
| Mn 257.610 {131} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | 0.000005 | 0.151351 | 0.000000 | 1.000000 | 0.999954 | 0.000264 | 0.000465 |
| Mo 202.030 {467} | 06/20/2024 15:33:38 | 06/20/2024 13:03:57 | Linear | 1/Conc | -0.000331 | 0.544414 | 0.000000 | 1.000000 | 1.000000 | 0.000044 | 0.000301 |
| Ni 231.604 {446} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.001349 | 0.784881 | 0.000000 | 1.000000 | 0.999991 | 0.000593 | 0.000348 |
| K 766.490 { 44} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | -0.003358 | 0.005706 | 0.000000 | 1.000000 | 0.999878 | 0.000810 | 0.063357 |
| Se 196.090 {472} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.000018 | 0.002900 | 0.000000 | 1.000000 | 0.999994 | 0.000001 | 0.002942 |
| Si 212.412 {459} | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| Ag 328.068 {103} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.000187 | 0.173641 | 0.000000 | 1.000000 | 0.999967 | 0.000038 | 0.000489 |
| Na 589.592 { 57} | 06/20/2024 15:33:38 | 06/20/2024 13:03:57 | Linear | 1/Conc | -0.001230 | 0.018063 | 0.000000 | 1.000000 | 0.999848 | 0.002283 | 0.018029 |
| Sr 421.552 { 80} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.001069 | 0.840338 | 0.000000 | 1.000000 | 0.999987 | 0.000114 | 0.000263 |
| Tl 190.856 {477} | 06/20/2024 15:33:38 | 06/20/2024 13:23:39 | Linear | 1/Conc | 0.000001 | 0.005817 | 0.000000 | 1.000000 | 0.999589 | 0.000020 | 0.001571 |
| Sn 189.989 {477} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.000061 | 0.098434 | 0.000000 | 1.000000 | 0.999915 | 0.000035 | 0.000927 |
| Ti 334.941 {101} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.000261 | 0.096682 | 0.000000 | 1.000000 | 0.999988 | 0.000013 | 0.001288 |
| U 409.014 { 82} | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| V 292.402 {115} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.000005 | 0.157811 | 0.000000 | 1.000000 | 0.999999 | 0.000045 | 0.000351 |
| Zn 206.200 {463} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.002579 | 0.776066 | 0.000000 | 1.000000 | 0.999973 | 0.001041 | 0.000174 |
| Sc 227.318 {448}* | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| Sc 361.384 { 93}* | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| Sc 364.531 { 92}* | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |

ID8F008
6/20/24 JF

## Status

| | | | | | |
|---|---|---|---|---|---|
| Revision | 19 | | | | |
| Date Created | 08/14/2006 16:36:29 | by admin | | | |
| Date Modified | 06/20/2024 15:33:37 | by admin | | | |
| Date Calibrated | 06/20/2024 15:33:38 | | | | |
| Current Status | by admin | | | | |
| Number of Elements | 31 | | | | |
| Number of Wavelengths | 33 | | | | |
| Calibration Type | External | | | | |
| Notes: | | | | | |

## Analysis Preferences

| | | | | | |
|---|---|---|---|---|---|
| Sample Options | # Repeats: | 3 | | | |
| | Delay Time: | 0.0 seconds | | | |
| | Sample Flush Time: | 50 seconds | | | |
| | Analysis mode | Speed | | | |
| Source | Sample Introduction | Nebulizer | | | |
| | Plasma View: | Line Selection | | | |
| Analysis Maximum Integration Times (sec) | Low WL Range | Axial | 15 | Radial | 15 |
| | High WL Range: | Axial | 10 | Radial | 5 |
| Calibration Mode | Concentration | | | | |
| Trailing Full Frame Options | Intelli-Frame: | | No | | |
| | Max Integration Time (sec): | | 30 | | |
| | WL Range: | | Low | | |
| | View: | | Axial | | |
| | Auto-Increment Sample Names: | | Yes | | |
| | Use Sample Weight Corrections: | | No | | |

## Source Settings

| | | | |
|---|---|---|---|
| Nebulizer Pump | Flush Pump Rate (rpm): | 88 | |
| | Analysis Pump Rate (rpm): | 36 | |
| | Pump Relaxation Time (sec): | 5 | |
| | Pump Tubing Type: | Tygon Orange/White | |
| | RF Power: | 1150 | W |

ID8F008
6/20/24 JF

Sample Name: S024F6010 Acquired: 06/20/2024 12:28:51 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .00028 | .00001 | -.00002 | .00135 | .00115 | .00029 | -.00005 | .00632 | .00050 | -.00029 |
| Stddev | .00052 | .00001 | .00000 | .00013 | .00005 | .00003 | .00001 | .00014 | .00005 | .00013 |
| %RSD | 186.16 | 133.21 | 18.238 | 9.5072 | 3.9680 | 11.762 | 27.781 | 2.2064 | 9.8259 | 43.988 |
| #1 | .00086 | .00001 | -.00002 | .00122 | .00114 | .00025 | -.00005 | .00619 | .00055 | -.00043 |
| #2 | -.00014 | .00000 | -.00003 | .00148 | .00120 | .00032 | -.00003 | .00631 | .00049 | -.00022 |
| #3 | .00011 | .00002 | -.00002 | .00133 | .00111 | .00030 | -.00006 | .00647 | .00046 | -.00021 |

| Elem | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .00073 | .00002 | -.00050 | -.00083 | -.00037 | .00000 | -.00033 | .00134 | -.00337 | .00002 |
| Stddev | .00004 | .00001 | .00015 | .00002 | .00003 | .00003 | .00001 | .00018 | .00026 | .00001 |
| %RSD | 5.5622 | 61.611 | 30.384 | 2.9483 | 8.0148 | 3048.7 | 4.1362 | 13.454 | 7.7921 | 52.295 |
| #1 | .00068 | .00002 | -.00063 | -.00082 | -.00035 | -.00003 | -.00033 | .00118 | -.00314 | .00001 |
| #2 | .00075 | .00001 | -.00052 | -.00086 | -.00036 | -.00001 | -.00032 | .00153 | -.00366 | .00002 |
| #3 | .00074 | .00003 | -.00034 | -.00081 | -.00040 | .00003 | -.00034 | .00131 | -.00331 | .00003 |

| Elem | Ag | Na | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.00019 | -.00126 | -.00107 | .00000 | .00006 | .00026 | .00001 | .00256 |
| Stddev | .00003 | .00026 | .00011 | .00001 | .00010 | .00006 | .00005 | .00012 |
| %RSD | 16.422 | 20.382 | 10.573 | 1859.3 | 168.99 | 22.391 | 838.16 | 4.7798 |
| #1 | -.00022 | -.00097 | -.00102 | .00001 | .00017 | .00020 | -.00004 | .00270 |
| #2 | -.00016 | -.00135 | -.00100 | -.00001 | .00005 | .00026 | .00000 | .00246 |
| #3 | -.00018 | -.00147 | -.00120 | .00000 | -.00004 | .00032 | .00005 | .00253 |

Sample Name: S024F6010 Acquired: 06/20/2024 12:28:51 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5543.7 | 42943. | 93337. |
| Stddev | 14.5 | 352. | 127. |
| %RSD | .26210 | .81975 | .13572 |
| #1 | 5531.5 | 43341. | 93463. |
| #2 | 5559.8 | 42814. | 93338. |
| #3 | 5539.8 | 42673. | 93210. |

Sample Name: S20 Acquired: 06/20/2024 12:33:48 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Be | Cd | Pb | Mn |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .72720 | .14802 | .35697 | .15595 |
| Stddev | .00171 | .00004 | .00037 | .00011 |
| %RSD | .23507 | .02698 | .10409 | .07295 |
| #1 | .72898 | .14807 | .35731 | .15583 |
| #2 | .72557 | .14801 | .35703 | .15606 |
| #3 | .72705 | .14799 | .35657 | .15594 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5609.0 | 43142. | 95140. |
| Stddev | 13.6 | 282. | 132. |
| %RSD | .24188 | .65350 | .13849 |
| #1 | 5595.0 | 42837. | 95015. |
| #2 | 5622.2 | 43196. | 95278. |
| #3 | 5609.7 | 43394. | 95126. |

Sample Name: S21 Acquired: 06/20/2024 12:38:42 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Be | Cd | Pb | Mn |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7.1626 | 1.4063 | 3.4544 | 1.5089 |
| Stddev | .0816 | .0134 | .0047 | .0019 |
| %RSD | 1.1392 | .94932 | .13541 | .12749 |
| #1 | 7.0686 | 1.3960 | 3.4565 | 1.5068 |
| #2 | 7.2142 | 1.4214 | 3.4576 | 1.5106 |
| #3 | 7.2051 | 1.4015 | 3.4490 | 1.5094 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5626.3 | 43828. | 95219. |
| Stddev | 22.1 | 369. | 183. |
| %RSD | .39274 | .84193 | .19242 |
| #1 | 5611.3 | 44151. | 95422. |
| #2 | 5616.0 | 43426. | 95067. |
| #3 | 5651.7 | 43908. | 95167. |

Sample Name: S22 Acquired: 06/20/2024 12:43:51 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Ba | Co | Cu | Fe | V |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .72642 | .13143 | .23328 | .01774 | .15709 |
| Stddev | .00161 | .00051 | .00041 | .00005 | .00015 |
| %RSD | .22138 | .38548 | .17416 | .26374 | .09817 |
| #1 | .72625 | .13162 | .23360 | .01770 | .15694 |
| #2 | .72810 | .13085 | .23341 | .01779 | .15724 |
| #3 | .72490 | .13181 | .23282 | .01774 | .15711 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5629.6 | 43448. | 94979. |
| Stddev | 4.2 | 134. | 67. |
| %RSD | .07462 | .30911 | .07087 |
| #1 | 5625.8 | 43404. | 94917. |
| #2 | 5634.1 | 43340. | 95051. |
| #3 | 5628.9 | 43598. | 94970. |

Sample Name: S23 Acquired: 06/20/2024 12:48:49 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Ba | Co | Cu | Fe | V |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7.2421 | 1.3596 | 2.2362 | 1.3712 | 1.5842 |
| Stddev | .0552 | .0008 | .0278 | .0040 | .0021 |
| %RSD | .76193 | .05637 | 1.2438 | .29323 | .13031 |
| #1 | 7.1978 | 1.3598 | 2.2117 | 1.3669 | 1.5822 |
| #2 | 7.3039 | 1.3588 | 2.2664 | 1.3749 | 1.5863 |
| #3 | 7.2245 | 1.3603 | 2.2304 | 1.3717 | 1.5840 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5359.5 | 45111. | 96740. |
| Stddev | 16.2 | 426. | 750. |
| %RSD | .30216 | .94365 | .77541 |
| #1 | 5344.7 | 45065. | 97240. |
| #2 | 5357.0 | 44709. | 95877. |
| #3 | 5376.8 | 45557. | 97102. |

Sample Name: S24 Acquired: 06/20/2024 12:54:00 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | B | Mo | Na |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | .12835 | .54332 | .94050 |
| Stddev | .00027 | .00045 | .00123 |
| %RSD | .21061 | .08207 | .13101 |
| #1 | .12859 | .54382 | .93909 |
| #2 | .12840 | .54297 | .94109 |
| #3 | .12806 | .54316 | .94133 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5527.1 | 44720. | 93836. |
| Stddev | 5.7 | 177. | 218. |
| %RSD | .10251 | .39549 | .23275 |
| #1 | 5522.5 | 44696. | 93629. |
| #2 | 5533.4 | 44556. | 93815. |
| #3 | 5525.3 | 44907. | 94064. |

Sample Name: S25 Acquired: 06/20/2024 12:58:56 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | B | Mo | Na |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 1.3206 | 5.4446 | 5.3789 |
| Stddev | .0008 | .0014 | .0838 |
| %RSD | .06020 | .02493 | 1.5583 |
| #1 | 1.3215 | 5.4443 | 5.2838 |
| #2 | 1.3200 | 5.4434 | 5.4111 |
| #3 | 1.3204 | 5.4460 | 5.4419 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5203.3 | 43787. | 87968. |
| Stddev | 6.6 | 220. | 162. |
| %RSD | .12711 | .50252 | .18453 |
| #1 | 5209.6 | 43885. | 88118. |
| #2 | 5196.4 | 43942. | 87990. |
| #3 | 5203.8 | 43535. | 87796. |

Sample Name: S26 Acquired: 06/20/2024 13:04:00 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Al | Ca | Cr | Ni | K |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .03355 | 1.7816 | .15719 | .79655 | .29605 |
| Stddev | .00039 | .0027 | .00019 | .00178 | .00090 |
| %RSD | 1.1660 | .15097 | .11952 | .22331 | .30241 |
| #1 | .03397 | 1.7793 | .15698 | .79528 | .29505 |
| #2 | .03350 | 1.7846 | .15722 | .79579 | .29677 |
| #3 | .03319 | 1.7810 | .15736 | .79859 | .29633 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5413.7 | 43990. | 92458. |
| Stddev | 9.0 | 462. | 248. |
| %RSD | .16661 | 1.0509 | .26837 |
| #1 | 5413.1 | 43458. | 92737. |
| #2 | 5405.1 | 44293. | 92264. |
| #3 | 5423.1 | 44219. | 92371. |

Sample Name: S27 Acquired: 06/20/2024 13:08:56 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Al | Ca | Cr | Ni | K |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **3.5821** | **16.473** | 1.5722 | **7.8398** | **2.8355** |
| Stddev | .0327 | .261 | .0025 | .0022 | .0080 |
| %RSD | .91254 | 1.5865 | .15908 | .02851 | .28149 |
| #1 | 3.6194 | 16.230 | 1.5715 | 7.8406 | 2.8266 |
| #2 | 3.5584 | 16.439 | 1.5702 | 7.8373 | 2.8420 |
| #3 | 3.5684 | 16.749 | 1.5750 | 7.8416 | 2.8380 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **4715.2** | **42287.** | **82369.** |
| Stddev | 8.4 | 472. | 449. |
| %RSD | .17855 | 1.1161 | .54567 |
| #1 | 4715.3 | 42817. | 82255. |
| #2 | 4706.7 | 41912. | 82864. |
| #3 | 4723.6 | 42131. | 81987. |

Sample Name: S28 Acquired: 06/20/2024 13:13:56 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Sb | Mg | Tl |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | .00537 | **.03782** | **.00615** |
| Stddev | .00001 | .00008 | .00001 |
| %RSD | .27916 | .20046 | .18102 |
| #1 | .00536 | .03775 | .00615 |
| #2 | .00536 | .03781 | .00614 |
| #3 | .00539 | .03790 | .00616 |

| Int. Std. | Sc3613_R | Sc3645_A |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **44988.** | **98199.** |
| Stddev | 55. | 40. |
| %RSD | .12331 | .04119 |
| #1 | 44931. | 98245. |
| #2 | 44992. | 98168. |
| #3 | 45042. | 98184. |

Sample Name: S29 Acquired: 06/20/2024 13:18:49 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Sb | Mg | Tl |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.05409** | **.37384** | **.02294** |
| Stddev | .00013 | .00121 | .00006 |
| %RSD | .23807 | .32441 | .25816 |
| #1 | .05395 | .37316 | .02288 |
| #2 | .05410 | .37524 | .02293 |
| #3 | .05421 | .37311 | .02300 |

| Int. Std. | Sc3613_R | Sc3645_A |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **44634.** | **94189.** |
| Stddev | 407. | 191. |
| %RSD | .91149 | .20253 |
| #1 | 44541. | 94257. |
| #2 | 44282. | 94336. |
| #3 | 45080. | 93973. |

Sample Name: S30 Acquired: 06/20/2024 13:23:43 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | As | Li | Se | Ag | Sr | Sn | Tl | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .00136 | .02365 | .00148 | .03517 | .16891 | .02032 | .01981 | .79677 |
| Stddev | .00002 | .00029 | .00002 | .00012 | .00009 | .00011 | .00012 | .00044 |
| %RSD | 1.6746 | 1.2382 | 1.2564 | .33823 | .05412 | .54131 | .60489 | .05464 |
| #1 | .00136 | .02394 | .00147 | .03531 | .16886 | .02043 | .01978 | .79701 |
| #2 | .00134 | .02366 | .00146 | .03509 | .16901 | .02021 | .01971 | .79627 |
| #3 | .00139 | .02335 | .00150 | .03512 | .16885 | .02033 | .01994 | .79703 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5706.0 | 43266. | 96063. |
| Stddev | 8.7 | 145. | 522. |
| %RSD | .15229 | .33515 | .54361 |
| #1 | 5700.2 | 43233. | 95723. |
| #2 | 5701.9 | 43424. | 96665. |
| #3 | 5716.0 | 43140. | 95803. |

Sample Name: S31 Acquired: 06/20/2024 13:28:39 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | As | Li | Se | Ag | Sr | Sn | Tl | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .00548 | .11833 | .00581 | .17282 | .83736 | .09792 | .09673 | 7.7451 |
| Stddev | .00003 | .00057 | .00004 | .00032 | .00034 | .00009 | .00012 | .0100 |
| %RSD | .49930 | .48507 | .72773 | .18645 | .04110 | .09065 | .12591 | .12949 |
| #1 | .00547 | .11802 | .00581 | .17282 | .83729 | .09784 | .09667 | 7.7342 |
| #2 | .00551 | .11798 | .00585 | .17315 | .83773 | .09791 | .09687 | 7.7473 |
| #3 | .00545 | .11899 | .00576 | .17250 | .83705 | .09801 | .09666 | 7.7539 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5735.5 | 44109. | 96779. |
| Stddev | 10.6 | 57. | 279. |
| %RSD | .18463 | .12840 | .28793 |
| #1 | 5738.0 | 44091. | 96785. |
| #2 | 5744.6 | 44063. | 96497. |
| #3 | 5723.9 | 44172. | 97054. |

Sample Name: ICV Acquired: 06/20/2024 13:33:33 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008014 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 97.211 | 1.5120 | .97284 | 1.8909 | 1.4106 | 2.3651 | 1.9290 | 74.758 | 2.3623 | .91737 | 2.3152 |
| Stddev | 1.030 | .0074 | .00776 | .0031 | .0025 | .0022 | .0059 | .042 | .0018 | .00051 | .0022 |
| %RSD | 1.0598 | .48754 | .79739 | .16430 | .17814 | .09104 | .30745 | .05652 | .07450 | .05552 | .09362 |
| #1 | 96.032 | 1.5205 | .98179 | 1.8927 | 1.4091 | 2.3638 | 1.9357 | 74.712 | 2.3636 | .91729 | 2.3136 |
| #2 | 97.937 | 1.5076 | .96804 | 1.8873 | 1.4092 | 2.3640 | 1.9244 | 74.764 | 2.3603 | .91691 | 2.3144 |
| #3 | 97.665 | 1.5078 | .96869 | 1.8927 | 1.4135 | 2.3676 | 1.9268 | 74.796 | 2.3630 | .91792 | 2.3177 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 22.705 | 2.2661 | .49770 | 55.879 | 2.2925 | 2.4067 | 2.4347 | 60.684 | .98453 | .47292 | 60.526 |
| Stddev | .025 | .0022 | .00045 | .085 | .0032 | .0021 | .0021 | .158 | .00437 | .00029 | .043 |
| %RSD | .11138 | .09844 | .09084 | .15134 | .13963 | .08768 | .08786 | .25992 | .44386 | .06232 | .07110 |
| #1 | 22.732 | 2.2649 | .49783 | 55.793 | 2.2950 | 2.4086 | 2.4351 | 60.506 | .98726 | .47326 | 60.479 |
| #2 | 22.682 | 2.2648 | .49719 | 55.882 | 2.2889 | 2.4044 | 2.4323 | 60.807 | .97949 | .47278 | 60.537 |
| #3 | 22.701 | 2.2687 | .49807 | 55.962 | 2.2936 | 2.4070 | 2.4365 | 60.739 | .98684 | .47272 | 60.563 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

Sample Name: ICV Acquired: 06/20/2024 13:33:33 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008014 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46511 | 2.2792 | .48910 | .47216 | 1.3869 | 2.5064 |
| Stddev | .00060 | .0098 | .00095 | .00102 | .0014 | .0024 |
| %RSD | .12812 | .43089 | .19450 | .21530 | .10397 | .09736 |
| #1 | .46512 | 2.2899 | .48912 | .47184 | 1.3871 | 2.5067 |
| #2 | .46570 | 2.2707 | .48814 | .47134 | 1.3882 | 2.5038 |
| #3 | .46451 | 2.2770 | .49004 | .47330 | 1.3853 | 2.5087 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5152.6 | 43966. | 90069. |
| Stddev | 3.2 | 493. | 315. |
| %RSD | .06277 | 1.1208 | .34930 |
| #1 | 5149.7 | 43398. | 89710. |
| #2 | 5152.0 | 44278. | 90199. |
| #3 | 5156.1 | 44223. | 90298. |

Sample Name: ICB Acquired: 06/20/2024 13:38:17 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008015 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .00903 | -.00067 | .00006 | -.00014 | -.00015 | .00686 | .00000 | -.17178 | -.00022 | -.00013 | -.00010 |
| Stddev | .01011 | .00074 | .00080 | .00022 | .00008 | .00012 | .0001 | .00213 | .00012 | .00011 | .00020 |
| %RSD | 111.98 | 109.87 | 1289.0 | 154.47 | 52.215 | 1.7687 | 2237.1 | 1.2392 | 51.671 | 83.116 | 208.81 |
| #1 | .00304 | .00012 | .00036 | -.00016 | -.00007 | .00697 | .00003 | -.17418 | -.00034 | -.00013 | .00012 |
| #2 | .02070 | -.00135 | -.00084 | .00009 | -.00023 | .00687 | -.00008 | -.17102 | -.00022 | -.00002 | -.00029 |
| #3 | .00334 | -.00079 | .00067 | -.00035 | -.00014 | .00673 | .00004 | -.17013 | -.00011 | -.00024 | -.00012 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00301 | -.00009 | -.00152 | .01164 | .00015 | .00042 | -.00037 | .10900 | .00210 | .00004 | .01475 |
| Stddev | .00158 | .00040 | .00012 | .00997 | .00008 | .00023 | .00012 | .04234 | .00125 | .00056 | .00544 |
| %RSD | 52.532 | 440.04 | 7.7178 | 85.618 | 51.928 | 54.317 | 33.570 | 38.846 | 59.502 | 1491.9 | 36.898 |
| #1 | -.00300 | .00024 | -.00150 | .01247 | .00008 | .00017 | -.00025 | .08960 | .00135 | -.00006 | .02073 |
| #2 | -.00460 | .00003 | -.00165 | .02118 | .00023 | .00062 | -.00036 | .15756 | .00140 | .00064 | .01344 |
| #3 | -.00144 | -.00054 | -.00142 | .00129 | .00014 | .00047 | -.00050 | .07983 | .00354 | -.00047 | .01008 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: ICB Acquired: 06/20/2024 13:38:17 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008015 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00040 | .00047 | -.00045 | .00057 | .00005 | -.00257 |
| Stddev | .00028 | .00057 | .00083 | .00055 | .00019 | .00006 |
| %RSD | 69.913 | 120.40 | 186.23 | 95.665 | 381.56 | 2.2238 |
| #1 | -.00030 | .00100 | .00042 | .00083 | .00017 | -.00251 |
| #2 | -.00018 | -.00013 | -.00052 | .00094 | .00015 | -.00258 |
| #3 | -.00071 | .00054 | -.00124 | -.00006 | -.00017 | -.00262 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5907.9 | 44918. | 99093. |
| Stddev | 12.4 | 139. | 337. |
| %RSD | .20994 | .30980 | .33961 |
| #1 | 5893.6 | 45054. | 99450. |
| #2 | 5914.1 | 44925. | 98782. |
| #3 | 5916.1 | 44776. | 99047. |

Sample Name: MRLF2001 Acquired: 06/20/2024 13:43:15 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008016 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .21871 | .09685 | .01127 | .01015 | .00968 | .10162 | .00988 | 1.0159 | .01018 | .00967 | .01077 |
| Stddev | .02785 | .00132 | .00253 | .00015 | .00021 | .00047 | .00018 | .0016 | .00037 | .00002 | .00008 |
| %RSD | 12.733 | 1.3622 | 22.458 | 1.4516 | 2.2103 | .46244 | 1.8190 | .15419 | 3.6712 | .22652 | .76748 |
| #1 | .24130 | .09758 | .01346 | .00998 | .00943 | .10156 | .01009 | 1.0166 | .01001 | .00965 | .01068 |
| #2 | .22723 | .09532 | .01185 | .01026 | .00984 | .10118 | .00979 | 1.0170 | .01061 | .00969 | .01080 |
| #3 | .18760 | .09764 | .00850 | .01020 | .00976 | .10211 | .00976 | 1.0141 | .00992 | .00966 | .01084 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .20268 | .00983 | .01055 | 1.0412 | .01169 | .01000 | .01003 | 1.1427 | .00925 | .01095 | 1.1558 |
| Stddev | .00237 | .00017 | .00459 | .0104 | .00029 | .00021 | .00012 | .0288 | .00232 | .00027 | .0095 |
| %RSD | 1.1692 | 1.7407 | 43.531 | .99838 | 2.4468 | 2.1478 | 1.1705 | 2.5240 | 25.090 | 2.4243 | .82549 |
| #1 | .20012 | .00977 | .01378 | 1.0294 | .01148 | .00978 | .01015 | 1.1371 | .01183 | .01067 | 1.1466 |
| #2 | .20480 | .00969 | .00529 | 1.0489 | .01157 | .01021 | .00991 | 1.1739 | .00859 | .01120 | 1.1656 |
| #3 | .20311 | .01002 | .01259 | 1.0454 | .01202 | .00999 | .01003 | 1.1170 | .00734 | .01097 | 1.1552 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

Sample Name: MRLF2001 Acquired: 06/20/2024 13:43:15 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008016 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .00987 | .01082 | .10345 | .01088 | .00967 | .02102 |
| Stddev | .00003 | .00139 | .00163 | .00085 | .00023 | .00016 |
| %RSD | .30425 | 12.856 | 1.5721 | 7.8427 | 2.3652 | .77518 |
| #1 | .00988 | .01237 | .10170 | .01080 | .00949 | .02112 |
| #2 | .00984 | .00970 | .10373 | .01007 | .00993 | .02111 |
| #3 | .00989 | .01037 | .10492 | .01177 | .00959 | .02084 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5613.0 | 43052. | 94506. |
| Stddev | 5.0 | 278. | 342. |
| %RSD | .08923 | .64516 | .36240 |
| #1 | 5614.3 | 42834. | 94383. |
| #2 | 5617.2 | 43365. | 94242. |
| #3 | 5607.4 | 42957. | 94893. |

Sample Name: MRLF2002 Acquired: 06/20/2024 13:48:13 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008017 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .19993 | .05131 | .01110 | .00512 | .00383 | .10029 | .00506 | .45971 | .01032 | .00959 |
| Stddev | .02616 | .00217 | .00280 | .00035 | .00002 | .00030 | .00008 | .00315 | .00018 | .00006 |
| %RSD | 13.085 | 4.2229 | 25.240 | 6.8124 | .58722 | .29733 | 1.6056 | .68446 | 1.7606 | .59417 |
| #1 | .19641 | .05306 | .00823 | .00529 | .00380 | .10013 | .00514 | .45793 | .01025 | .00953 |
| #2 | .22767 | .05198 | .01122 | .00472 | .00384 | .10063 | .00498 | .46335 | .01053 | .00965 |
| #3 | .17570 | .04889 | .01383 | .00536 | .00384 | .10010 | .00505 | .45787 | .01019 | .00960 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Elem | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .01190 | .10685 | .00984 | .10214 | .22423 | .00582 | .01017 | .01046 | 1.1689 | .01097 |
| Stddev | .00017 | .00507 | .00050 | .00153 | .01467 | .00005 | .00014 | .00018 | .0692 | .00205 |
| %RSD | 1.4540 | 4.7433 | 5.1216 | 1.4961 | 6.5429 | .94378 | 1.3307 | 1.7319 | 5.9180 | 18.722 |
| #1 | .01181 | .11049 | .00964 | .10123 | .22026 | .00580 | .01031 | .01052 | 1.1790 | .00860 |
| #2 | .01179 | .10107 | .01041 | .10390 | .21195 | .00578 | .01004 | .01026 | 1.2325 | .01228 |
| #3 | .01210 | .10901 | .00947 | .10128 | .24048 | .00588 | .01018 | .01061 | 1.0952 | .01203 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

Sample Name: MRLF2002 Acquired: 06/20/2024 13:48:13 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008017 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Ag | Na | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .01048 | .58388 | .01005 | .01143 | .01036 | .01101 | .00980 | F .01353 |
| Stddev | .00063 | .00274 | .00024 | .00114 | .00039 | .00018 | .00019 | .00015 |
| %RSD | 6.0087 | .46911 | 2.4058 | 9.9622 | 3.7496 | 1.6746 | 1.9430 | 1.1421 |
| #1 | .01120 | .58126 | .00999 | .01044 | .01045 | .01099 | .01000 | .01363 |
| #2 | .01017 | .58672 | .00985 | .01118 | .00994 | .01084 | .00962 | .01335 |
| #3 | .01006 | .58366 | .01032 | .01267 | .01070 | .01121 | .00979 | .01361 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | | .01000 |
| Range | | | | | | | | 20.000% |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5634.6 | 43363. | 94938. |
| Stddev | 9.2 | 301. | 144. |
| %RSD | .16239 | .69411 | .15139 |
| #1 | 5628.9 | 43295. | 94813. |
| #2 | 5645.2 | 43101. | 95095. |
| #3 | 5629.8 | 43692. | 94906. |

Sample Name: ICSA1 Acquired: 06/20/2024 13:53:09 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008018 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 427.13 | .00341 | .00052 | .00038 | -.00002 | -.00519 | -.00088 | 491.83 | .00173 | -.00021 | .00004 |
| Stddev | 4.74 | .00011 | .00243 | .00032 | .00004 | .00219 | .00012 | 7.25 | .00019 | .00017 | .00005 |
| %RSD | 1.1097 | 3.2077 | 467.36 | 83.459 | 256.16 | 42.146 | 13.239 | 1.4735 | 10.961 | 79.279 | 130.89 |
| #1 | 421.92 | .00329 | .00208 | .00005 | .00002 | -.00567 | -.00095 | 500.16 | .00189 | -.00040 | .00010 |
| #2 | 431.19 | .00344 | -.00228 | .00068 | -.00001 | -.00709 | -.00075 | 486.97 | .00178 | -.00012 | .00001 |
| #3 | 428.26 | .00350 | .00176 | .00041 | -.00007 | -.00280 | -.00095 | 488.37 | .00152 | -.00011 | .00001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 191.00 | -.00398 | .00000 | 187.56 | -.00177 | .00077 | -.00044 | .06875 | .00157 | -.00063 | .14504 |
| Stddev | .38 | .00027 | .0061 | .50 | .00039 | .00031 | .00013 | .03548 | .00113 | .00072 | .01123 |
| %RSD | .19863 | 6.8899 | 2735800. | .26846 | 21.848 | 39.909 | 29.594 | 51.608 | 72.102 | 115.03 | 7.7441 |
| #1 | 191.38 | -.00368 | -.00632 | 188.12 | -.00192 | .00097 | -.00047 | .02781 | .00172 | .00008 | .13830 |
| #2 | 190.62 | -.00421 | .00583 | 187.14 | -.00133 | .00041 | -.00030 | .09060 | .00262 | -.00061 | .15801 |
| #3 | 190.99 | -.00405 | .00049 | 187.42 | -.00206 | .00091 | -.00056 | .08783 | .00037 | -.00136 | .13881 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: ICSA1 Acquired: 06/20/2024 13:53:09 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008018 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00056 | .00017 | .00033 | .00000 | -.00001 | .00300 |
| Stddev | .00005 | .00265 | .00144 | .00093 | .00037 | .00027 |
| %RSD | 9.4360 | 1556.2 | 442.25 | 1287e15 | 5723.8 | 8.8349 |
| #1 | -.00059 | -.00062 | .00036 | .00075 | -.00023 | .00284 |
| #2 | -.00059 | -.00199 | -.00113 | .00029 | -.00021 | .00286 |
| #3 | -.00050 | .00312 | .00175 | -.00104 | .00042 | .00331 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 4395.5 | 42207. | 81423. |
| Stddev | 11.1 | 462. | 96. |
| %RSD | .25241 | 1.0940 | .11741 |
| #1 | 4397.4 | 41676. | 81315. |
| #2 | 4383.5 | 42515. | 81458. |
| #3 | 4405.5 | 42430. | 81496. |

Sample Name: ICSAB1 Acquired: 06/20/2024 13:58:10 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008019 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 393.82 | .98030 | .99520 | .46414 | .45548 | .97195 | .90537 | 452.47 | .45155 | .45867 | .46089 |
| Stddev | 4.30 | .00284 | .00450 | .00114 | .00133 | .00072 | .00145 | 9.05 | .00070 | .00038 | .00088 |
| %RSD | 1.0920 | .29014 | .45174 | .24542 | .29190 | .07372 | .15994 | 2.0000 | .15544 | .08176 | .19126 |
| #1 | 398.79 | .98338 | .99613 | .46321 | .45404 | .97150 | .90700 | 442.95 | .45092 | .45855 | .46057 |
| #2 | 391.38 | .97976 | .99916 | .46382 | .45665 | .97158 | .90489 | 453.48 | .45143 | .45837 | .46189 |
| #3 | 391.30 | .97777 | .99031 | .46541 | .45677 | .97278 | .90423 | 460.96 | .45230 | .45909 | .46022 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 170.99 | .89361 | .94251 | 170.38 | .45355 | .99245 | .96364 | 74.837 | .93145 | .98569 | 74.826 |
| Stddev | .21 | .00360 | .00847 | .55 | .00175 | .00177 | .00086 | .162 | .00762 | .00089 | .147 |
| %RSD | .12072 | .40337 | .89881 | .32398 | .38646 | .17857 | .08877 | .21606 | .81801 | .09034 | .19584 |
| #1 | 170.76 | .89735 | .93516 | 169.82 | .45188 | .99414 | .96462 | 74.818 | .93991 | .98467 | 74.709 |
| #2 | 171.03 | .89330 | .94060 | 170.39 | .45538 | .99061 | .96304 | 74.686 | .92932 | .98633 | 74.778 |
| #3 | 171.17 | .89016 | .95178 | 170.92 | .45339 | .99260 | .96327 | 75.008 | .92512 | .98606 | 74.990 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

Sample Name: ICSAB1 Acquired: 06/20/2024 13:58:10 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008019 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .45968 | .82674 | .95942 | .90409 | .45211 | .99515 |
| Stddev | .00016 | .00326 | .00225 | .00450 | .00121 | .00146 |
| %RSD | .03482 | .39409 | .23493 | .49784 | .26806 | .14685 |
| #1 | .45965 | .82819 | .95927 | .89929 | .45072 | .99675 |
| #2 | .45985 | .82903 | .95724 | .90476 | .45280 | .99482 |
| #3 | .45954 | .82301 | .96174 | .90822 | .45283 | .99389 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 4762.7 | 45630. | 88099. |
| Stddev | 12.5 | 451. | 282. |
| %RSD | .26336 | .98862 | .31980 |
| #1 | 4749.8 | 46149. | 87785. |
| #2 | 4774.9 | 45407. | 88329. |
| #3 | 4763.5 | 45333. | 88182. |

Sample Name: MRLF2003 Acquired: 06/20/2024 14:03:03 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008020 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .10180 | .04857 | .00362 | .00513 | .00486 | .05173 | .00502 | .46226 | .00488 | .00485 | .00540 |
| Stddev | .02615 | .00154 | .00310 | .00014 | .00010 | .00019 | .00009 | .00024 | .00015 | .00020 | .00018 |
| %RSD | 25.683 | 3.1621 | 85.674 | 2.6537 | 1.9971 | .37039 | 1.7533 | .05117 | 3.0106 | 4.1095 | 3.2694 |
| #1 | .07706 | .04927 | .00717 | .00520 | .00475 | .05186 | .00497 | .46252 | .00502 | .00486 | .00559 |
| #2 | .09919 | .04680 | .00227 | .00498 | .00490 | .05151 | .00513 | .46205 | .00473 | .00465 | .00537 |
| #3 | .12916 | .04962 | .00142 | .00523 | .00492 | .05182 | .00498 | .46221 | .00491 | .00505 | .00524 |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .10558 | .00428 | .00345 | .52081 | .00564 | .00512 | .00486 | .61183 | .00522 | .00556 | .58825 |
| Stddev | .00141 | .00037 | .00378 | .03758 | .00013 | .00043 | .00007 | .04040 | .00424 | .00052 | .00858 |
| %RSD | 1.3400 | 8.6869 | 109.68 | 7.2149 | 2.2676 | 8.4994 | 1.4656 | 6.6039 | 81.233 | 9.3076 | 1.4580 |
| #1 | .10691 | .00387 | .00339 | .48777 | .00560 | .00521 | .00494 | .56527 | .00211 | .00542 | .59552 |
| #2 | .10574 | .00438 | .00727 | .56169 | .00554 | .00549 | .00481 | .63774 | .01006 | .00613 | .57879 |
| #3 | .10410 | .00460 | -.00030 | .51299 | .00579 | .00464 | .00484 | .63247 | .00350 | .00512 | .59042 |

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .00490 | .00466 | .05244 | .00587 | .00485 | .01368 |
| Stddev | .00005 | .00034 | .00067 | .00039 | .00025 | .00003 |
| %RSD | .93232 | 7.3862 | 1.2835 | 6.7256 | 5.2123 | .23354 |
| #1 | .00486 | .00433 | .05169 | .00625 | .00460 | .01372 |
| #2 | .00495 | .00463 | .05300 | .00546 | .00510 | .01366 |
| #3 | .00491 | .00502 | .05263 | .00589 | .00485 | .01367 |

Sample Name: MRLF2003 Acquired: 06/20/2024 14:03:03 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008020 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5617.3 | 42870. | 94163. |
| Stddev | 16.6 | 159. | 272. |
| %RSD | .29498 | .37108 | .28899 |
| #1 | 5630.8 | 42930. | 94475. |
| #2 | 5598.8 | 42990. | 94033. |
| #3 | 5622.3 | 42689. | 93980. |

Sample Name: MRLF2004 Acquired: 06/20/2024 14:08:00 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008021 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00474 | -.00055 | -.00098 | .00025 | .00500 | .00082 | .00521 | -.08864 | -.00005 | .00008 | .00015 |
| Stddev | .01594 | .00241 | .00177 | .00007 | .00006 | .00039 | .00012 | .00235 | .00010 | .00003 | .00024 |
| %RSD | 336.51 | 437.59 | 180.20 | 30.492 | 1.1588 | 47.571 | 2.3975 | 2.6551 | 196.78 | 36.330 | 162.32 |
| #1 | -.01559 | -.00177 | -.00031 | .00026 | .00503 | .00115 | .00517 | -.08960 | -.00009 | .00005 | .00030 |
| #2 | .01356 | .00222 | -.00299 | .00031 | .00503 | .00091 | .00511 | -.08595 | .00006 | .00011 | .00029 |
| #3 | -.01218 | -.00211 | .00035 | .00017 | .00493 | .00039 | .00535 | -.09035 | -.00012 | .00008 | -.00013 |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .00635 | .00014 | .00184 | -.00990 | .00094 | .00025 | -.00027 | .18451 | .00059 | .00005 | .04583 |
| Stddev | .00744 | .00053 | .00155 | .02699 | .00024 | .00019 | .00026 | .04277 | .00235 | .00022 | .01993 |
| %RSD | 117.03 | 380.40 | 84.437 | 272.55 | 25.126 | 77.759 | 93.532 | 23.178 | 396.04 | 418.53 | 43.482 |
| #1 | .01245 | -.00047 | .00075 | -.03108 | .00098 | .00003 | -.00004 | .16068 | .00110 | .00025 | .02289 |
| #2 | -.00193 | .00039 | .00362 | .02048 | .00068 | .00038 | -.00023 | .15895 | -.00197 | .00009 | .05887 |
| #3 | .00855 | .00050 | .00115 | -.01911 | .00115 | .00033 | -.00055 | .23388 | .00265 | -.00019 | .05572 |

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00009 | -.00043 | .00068 | .00045 | .00491 | .10437 |
| Stddev | .00018 | .00091 | .00116 | .00027 | .00027 | .00035 |
| %RSD | 204.35 | 213.54 | 171.17 | 60.916 | 5.5312 | .33540 |
| #1 | .00011 | -.00144 | -.00036 | .00036 | .00521 | .10449 |
| #2 | -.00015 | -.00017 | .00046 | .00075 | .00482 | .10398 |
| #3 | -.00023 | .00033 | .00194 | .00023 | .00470 | .10464 |

Sample Name: MRLF2004 Acquired: 06/20/2024 14:08:00 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008021 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5894.1 | 43794. | 98259. |
| Stddev | 18.7 | 324. | 185. |
| %RSD | .31647 | .73907 | .18865 |
| #1 | 5875.2 | 43453. | 98458. |
| #2 | 5912.5 | 43832. | 98226. |
| #3 | 5894.7 | 44097. | 98092. |

Sample Name: CCV1 Acquired: 06/20/2024 14:12:57 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008022 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 96.586 | 1.5164 | .97146 | 1.9127 | 1.4122 | 2.3633 | 1.9281 | 74.567 | 2.3775 | .91740 | 2.3211 |
| Stddev | 1.099 | .0084 | .00631 | .0070 | .0021 | .0013 | .0102 | .240 | .0010 | .00081 | .0030 |
| %RSD | 1.1376 | .55376 | .64959 | .36678 | .15078 | .05671 | .52723 | .32165 | .04375 | .08883 | .13074 |
| #1 | 96.597 | 1.5163 | .97016 | 1.9192 | 1.4124 | 2.3645 | 1.9326 | 74.377 | 2.3779 | .91677 | 2.3238 |
| #2 | 95.482 | 1.5249 | .97831 | 1.9136 | 1.4143 | 2.3618 | 1.9353 | 74.837 | 2.3784 | .91832 | 2.3178 |
| #3 | 97.679 | 1.5081 | .96589 | 1.9053 | 1.4100 | 2.3636 | 1.9165 | 74.488 | 2.3764 | .91710 | 2.3218 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 22.853 | 2.2616 | .52137 | 56.780 | 2.3043 | 2.4132 | 2.4388 | 62.523 | .98846 | .47623 | 61.615 |
| Stddev | .040 | .0008 | .00181 | .336 | .0038 | .0043 | .0028 | .270 | .01013 | .00078 | .161 |
| %RSD | .17303 | .03694 | .34765 | .59111 | .16596 | .17691 | .11339 | .43115 | 1.0248 | .16461 | .26109 |
| #1 | 22.893 | 2.2606 | .52283 | 56.654 | 2.3017 | 2.4086 | 2.4380 | 62.388 | .99255 | .47670 | 61.553 |
| #2 | 22.814 | 2.2617 | .51935 | 57.161 | 2.3087 | 2.4171 | 2.4419 | 62.833 | .99591 | .47533 | 61.797 |
| #3 | 22.852 | 2.2623 | .52194 | 56.526 | 2.3025 | 2.4138 | 2.4365 | 62.348 | .97693 | .47667 | 61.494 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

Sample Name: CCV1 Acquired: 06/20/2024 14:12:57 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008022 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46580 | 2.2723 | .48893 | .47731 | 1.3926 | 2.5018 |
| Stddev | .00098 | .0104 | .00130 | .00234 | .0017 | .0011 |
| %RSD | .20943 | .45663 | .26664 | .48998 | .12452 | .04367 |
| #1 | .46470 | 2.2796 | .48754 | .47813 | 1.3938 | 2.5022 |
| #2 | .46656 | 2.2769 | .48913 | .47912 | 1.3906 | 2.5026 |
| #3 | .46613 | 2.2604 | .49012 | .47467 | 1.3933 | 2.5006 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5150.9 | 43599. | 90036. |
| Stddev | 7.2 | 621. | 391. |
| %RSD | .14018 | 1.4238 | .43476 |
| #1 | 5144.3 | 43579. | 89715. |
| #2 | 5158.6 | 42988. | 89921. |
| #3 | 5149.8 | 44229. | 90472. |

Sample Name: CCB1 Acquired: 06/20/2024 14:17:43 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008023 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.01435 | -.00075 | -.00169 | -.00019 | -.00028 | .00515 | -.00010 | -.17550 | -.00030 | .00007 | -.00031 |
| Stddev | .02012 | .00238 | .00116 | .00009 | .00013 | .00037 | .00010 | .00320 | .00032 | .00007 | .00060 |
| %RSD | 140.16 | 316.12 | 68.757 | 49.858 | 45.321 | 7.2666 | 98.531 | 1.8248 | 106.56 | 95.474 | 196.75 |
| #1 | -.00056 | -.00129 | -.00100 | -.00008 | -.00037 | .00549 | -.00017 | -.17756 | -.00010 | .00000 | -.00100 |
| #2 | -.03744 | .00185 | -.00303 | -.00022 | -.00013 | .00522 | -.00014 | -.17181 | -.00014 | .00008 | .00009 |
| #3 | -.00507 | -.00282 | -.00104 | -.00026 | -.00033 | .00475 | .00001 | -.17713 | -.00068 | .00014 | -.00001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00273 | -.00058 | .00013 | .01803 | -.00018 | .00016 | -.00056 | .03780 | .00004 | .00014 | .00737 |
| Stddev | .00224 | .00070 | .00391 | .02718 | .00021 | .00029 | .00015 | .04816 | .00147 | .00016 | .02522 |
| %RSD | 82.089 | 121.56 | 2946.8 | 150.79 | 118.03 | 183.64 | 26.950 | 127.42 | 3444.5 | 114.63 | 342.42 |
| #1 | -.00442 | -.00089 | .00417 | .03951 | -.00030 | .00043 | -.00063 | .02690 | -.00012 | .00015 | .02606 |
| #2 | -.00358 | -.00108 | -.00364 | .02710 | .00007 | -.00014 | -.00039 | -.00398 | -.00133 | -.00002 | -.02132 |
| #3 | -.00019 | .00023 | -.00013 | -.01253 | -.00031 | .00019 | -.00066 | .09047 | .00158 | .00030 | .01736 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: CCB1 Acquired: 06/20/2024 14:17:43 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008023 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00027 | .00079 | -.00049 | .00075 | -.00030 | -.00309 |
| Stddev | .00008 | .00051 | .00102 | .00092 | .00024 | .00011 |
| %RSD | 28.200 | 64.673 | 209.24 | 122.69 | 79.152 | 3.6777 |
| #1 | -.00035 | .00020 | -.00161 | -.00030 | -.00009 | -.00322 |
| #2 | -.00027 | .00111 | .00039 | .00141 | -.00025 | -.00300 |
| #3 | -.00019 | .00105 | -.00025 | .00115 | -.00056 | -.00305 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5933.3 | 44700. | 99287. |
| Stddev | 13.1 | 323. | 797. |
| %RSD | .22155 | .72207 | .80256 |
| #1 | 5944.8 | 44638. | 99131. |
| #2 | 5918.9 | 44412. | 98579. |
| #3 | 5936.1 | 45049. | 100150. |

Sample Name: CCV4 Acquired: 06/20/2024 18:40:55 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008053 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 95.549 | 1.5048 | .96136 | 1.8938 | 1.4173 | 2.3423 | 1.9267 | 75.253 | 2.3239 | .91637 |
| Stddev | .187 | .0045 | .00609 | .0010 | .0017 | .0053 | .0014 | .103 | .0032 | .00109 |
| %RSD | .19554 | .29934 | .63346 | .05464 | .11839 | .22776 | .07084 | .13657 | .13710 | .11887 |
| #1 | 95.542 | 1.5075 | .95451 | 1.8945 | 1.4187 | 2.3370 | 1.9281 | 75.144 | 2.3208 | .91621 |
| #2 | 95.739 | 1.5073 | .96618 | 1.8942 | 1.4178 | 2.3476 | 1.9264 | 75.347 | 2.3272 | .91753 |
| #3 | 95.366 | 1.4996 | .96337 | 1.8926 | 1.4155 | 2.3422 | 1.9254 | 75.270 | 2.3239 | .91536 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Elem | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 2.2967 | F 22.488 | 2.2622 | .49728 | 54.992 | 2.3260 | 2.4095 | 2.4290 | 60.148 | .97890 |
| Stddev | .0030 | .048 | .0017 | .00448 | .191 | .0021 | .0006 | .0009 | .190 | .00429 |
| %RSD | .12995 | .21289 | .07493 | .90178 | .34819 | .09185 | .02517 | .03676 | .31582 | .43813 |
| #1 | 2.2945 | 22.482 | 2.2617 | .50213 | 54.916 | 2.3237 | 2.4098 | 2.4288 | 59.933 | .98359 |
| #2 | 2.3001 | 22.538 | 2.2608 | .49641 | 55.210 | 2.3279 | 2.4088 | 2.4282 | 60.294 | .97518 |
| #3 | 2.2954 | 22.443 | 2.2641 | .49329 | 54.850 | 2.3264 | 2.4100 | 2.4299 | 60.216 | .97792 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 25.000 | | | | | | | | |
| Range | | -10.000% | | | | | | | | |

Sample Name: CCV4 Acquired: 06/20/2024 18:40:55 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008053 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Ag | Na | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46765 | 60.995 | .46480 | 2.2773 | .49194 | .46510 | 1.3806 | 2.5076 |
| Stddev | .00117 | .021 | .00100 | .0035 | .00023 | .00137 | .0029 | .0008 |
| %RSD | .24923 | .03485 | .21449 | .15498 | .04726 | .29386 | .21122 | .03054 |
| #1 | .46689 | 60.999 | .46366 | 2.2769 | .49176 | .46638 | 1.3784 | 2.5068 |
| #2 | .46899 | 60.972 | .46551 | 2.2810 | .49220 | .46366 | 1.3839 | 2.5077 |
| #3 | .46707 | 61.014 | .46523 | 2.2740 | .49186 | .46528 | 1.3794 | 2.5083 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5131.3 | 42700. | 90023. |
| Stddev | 10.5 | 181. | 178. |
| %RSD | .20549 | .42274 | .19789 |
| #1 | 5143.3 | 42824. | 90173. |
| #2 | 5123.4 | 42784. | 89826. |
| #3 | 5127.2 | 42493. | 90070. |

Sample Name: CCB4 Acquired: 06/20/2024 18:45:43 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008054 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.02453 | -.00001 | -.00018 | -.00018 | -.00026 | .00398 | -.00004 | -.16567 | -.00010 | .00009 | -.00010 |
| Stddev | .00460 | .00075 | .00152 | .00036 | .00018 | .00018 | .00005 | .00409 | .00017 | .00010 | .00038 |
| %RSD | 18.757 | 8868.0 | 830.05 | 192.98 | 69.026 | 4.5659 | 129.50 | 2.4677 | 168.92 | 111.25 | 371.70 |
| #1 | -.02726 | -.00070 | -.00119 | .00020 | -.00011 | .00377 | -.00010 | -.16249 | -.00007 | .00015 | -.00053 |
| #2 | -.02711 | .00079 | -.00092 | -.00024 | -.00045 | .00410 | -.00001 | -.16423 | .00005 | -.00003 | .00020 |
| #3 | -.01922 | -.00011 | .00157 | -.00051 | -.00021 | .00408 | -.00001 | -.17028 | -.00028 | .00015 | .00003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00402 | -.00011 | -.00015 | -.01373 | -.00029 | .00005 | -.00053 | .03860 | .00054 | -.00036 | .03563 |
| Stddev | .00147 | .00021 | .00228 | .01554 | .00023 | .00017 | .00024 | .01931 | .00370 | .00061 | .03187 |
| %RSD | 36.677 | 180.46 | 1554.9 | 113.17 | 79.537 | 319.30 | 44.753 | 50.039 | 687.80 | 171.92 | 89.444 |
| #1 | -.00551 | -.00032 | .00133 | -.02044 | -.00043 | -.00006 | -.00071 | .05946 | -.00030 | .00030 | -.00082 |
| #2 | -.00257 | -.00012 | -.00277 | -.02479 | -.00002 | -.00003 | -.00061 | .03498 | -.00267 | -.00091 | .04949 |
| #3 | -.00398 | .00010 | .00100 | .00404 | -.00043 | .00026 | -.00026 | .02135 | .00458 | -.00045 | .05821 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: CCB4 Acquired: 06/20/2024 18:45:43 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008054 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00045 | .00049 | .00003 | .00018 | -.00009 | -.00244 |
| Stddev | .00007 | .00076 | .00090 | .00141 | .00026 | .00007 |
| %RSD | 15.168 | 155.86 | 3189.2 | 781.22 | 281.06 | 2.6659 |
| #1 | -.00038 | .00105 | .00072 | -.00057 | .00015 | -.00245 |
| #2 | -.00045 | .00078 | -.00099 | -.00069 | -.00005 | -.00250 |
| #3 | -.00052 | -.00037 | .00035 | .00180 | -.00038 | -.00237 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5979.1 | 44303. | 100620. |
| Stddev | 2.3 | 785. | 85. |
| %RSD | .03894 | 1.7718 | .08465 |
| #1 | 5981.7 | 43415. | 100720. |
| #2 | 5978.5 | 44905. | 100600. |
| #3 | 5977.1 | 44588. | 100550. |

Sample Name: IPF009WB Acquired: 06/20/2024 19:15:02 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008060 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00190 | -.00112 | -.00066 | -.00023 | -.00020 | .00197 | -.00002 | -.15848 | -.00035 | -.00010 | .00029 |
| Stddev | .01499 | .00130 | .00175 | .00011 | .00009 | .00033 | .00008 | .00569 | .00029 | .00028 | .00017 |
| %RSD | 787.33 | 115.44 | 266.61 | 45.939 | 45.394 | 16.846 | 545.29 | 3.5931 | 83.497 | 296.87 | 57.363 |
| #1 | .00224 | -.00250 | .00019 | -.00028 | -.00010 | .00236 | -.00010 | -.15619 | -.00019 | -.00042 | .00011 |
| #2 | -.01853 | -.00094 | .00051 | -.00011 | -.00027 | .00178 | .00000 | -.15429 | -.00069 | .00003 | .00043 |
| #3 | .01058 | .00007 | -.00266 | -.00031 | -.00023 | .00179 | .00006 | -.16496 | -.00017 | .00011 | .00033 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00009 | .00018 | -.00288 | -.00002 | .00011 | .00010 | -.00019 | .02554 | .00191 | -.00042 | .01420 |
| Stddev | .00321 | .00073 | .00200 | .00286 | .00018 | .00007 | .00032 | .04118 | .00149 | .00022 | .00808 |
| %RSD | 3657.0 | 414.83 | 69.459 | 13362. | 156.15 | 74.530 | 171.80 | 161.24 | 77.895 | 51.413 | 56.886 |
| #1 | .00023 | .00030 | -.00501 | -.00019 | .00015 | .00003 | .00016 | .04794 | .00351 | -.00050 | .00584 |
| #2 | -.00344 | .00084 | -.00103 | .00292 | -.00008 | .00017 | -.00048 | .05065 | .00056 | -.00018 | .01480 |
| #3 | .00295 | -.00061 | -.00262 | -.00280 | .00027 | .00010 | -.00024 | -.02198 | .00166 | -.00059 | .02196 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: IPF009WB Acquired: 06/20/2024 19:15:02 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008060 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00016 | -.00146 | .00022 | .00099 | -.00035 | -.00226 |
| Stddev | .00019 | .00052 | .00027 | .00180 | .00023 | .00017 |
| %RSD | 118.92 | 35.520 | 120.87 | 181.42 | 65.736 | 7.7061 |
| #1 | -.00026 | -.00101 | .00032 | .00297 | -.00025 | -.00211 |
| #2 | -.00027 | -.00203 | .00042 | .00059 | -.00019 | -.00245 |
| #3 | .00006 | -.00135 | -.00008 | -.00057 | -.00062 | -.00221 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5908.6 | 44086. | 99872. |
| Stddev | 11.6 | 202. | 241. |
| %RSD | .19590 | .45869 | .24169 |
| #1 | 5896.0 | 44141. | 99636. |
| #2 | 5910.9 | 44254. | 100120. |
| #3 | 5918.8 | 43861. | 99862. |

Sample Name: IPF009WL Acquired: 06/20/2024 19:20:01 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008061 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | F 6.4486 | 2.3162 | .49155 | .47324 | .48326 | .46657 | .49359 | 50.031 | .47501 | .46589 |
| Stddev | .0373 | .0065 | .00364 | .00086 | .00054 | .00078 | .00063 | .081 | .00042 | .00004 |
| %RSD | .57779 | .27935 | .74027 | .18104 | .11214 | .16673 | .12708 | .16273 | .08830 | .00799 |
| #1 | 6.4163 | 2.3098 | .49051 | .47245 | .48269 | .46568 | .49306 | 49.975 | .47489 | .46585 |
| #2 | 6.4401 | 2.3228 | .49559 | .47415 | .48377 | .46687 | .49428 | 50.125 | .47467 | .46590 |
| #3 | 6.4893 | 2.3161 | .48854 | .47311 | .48332 | .46715 | .49341 | 49.994 | .47548 | .46592 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 5.0000 | | | | | | | | | |
| Range | 14.500% | | | | | | | | | |

| Elem | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46740 | 4.7074 | .45914 | F .01649 | 46.968 | .49040 | .48727 | .49736 | 50.327 | .49450 |
| Stddev | .00051 | .0085 | .00048 | .00435 | .152 | .00069 | .00036 | .00120 | .119 | .00713 |
| %RSD | .10844 | .17975 | .10517 | 26.388 | .32465 | .14164 | .07485 | .24103 | .23553 | 1.4412 |
| #1 | .46796 | 4.7058 | .45957 | .01330 | 46.901 | .49021 | .48758 | .49620 | 50.250 | .48970 |
| #2 | .46698 | 4.6999 | .45924 | .01471 | 47.143 | .48981 | .48735 | .49728 | 50.463 | .50269 |
| #3 | .46725 | 4.7166 | .45862 | .02144 | 46.861 | .49116 | .48687 | .49859 | 50.267 | .49112 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | .50000 | | | | | | |
| Range | | | | -15.200% | | | | | | |

Sample Name: IPF009WL Acquired: 06/20/2024 19:20:01 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008061 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Ag | Na | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .48344 | 51.398 | .46028 | .46964 | .49320 | .46801 | .48117 | .50512 |
| Stddev | .00084 | .066 | .00104 | .00139 | .00065 | .00036 | .00072 | .00046 |
| %RSD | .17306 | .12743 | .22640 | .29643 | .13126 | .07672 | .14998 | .09136 |
| #1 | .48439 | 51.363 | .45950 | .46820 | .49325 | .46766 | .48170 | .50548 |
| #2 | .48282 | 51.474 | .46146 | .46973 | .49254 | .46798 | .48146 | .50528 |
| #3 | .48310 | 51.359 | .45987 | .47098 | .49383 | .46838 | .48035 | .50460 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5324.5 | 42901. | 92614. |
| Stddev | 22.1 | 216. | 300. |
| %RSD | .41499 | .50412 | .32432 |
| #1 | 5302.0 | 42653. | 92407. |
| #2 | 5325.3 | 42995. | 92477. |
| #3 | 5346.2 | 43054. | 92959. |

Sample Name: IPF009WC Acquired: 06/20/2024 19:24:50 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008062 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | F 6.4336 | 2.3405 | .49160 | .47483 | .48349 | .47045 | .49428 | 49.983 | .48079 | .46456 |
| Stddev | .0735 | .0053 | .00190 | .00160 | .00060 | .00097 | .00073 | .088 | .00090 | .00070 |
| %RSD | 1.1428 | .22761 | .38653 | .33775 | .12342 | .20572 | .14869 | .17602 | .18760 | .15074 |
| #1 | 6.3524 | 2.3355 | .49131 | .47653 | .48330 | .47156 | .49345 | 49.907 | .48159 | .46533 |
| #2 | 6.4956 | 2.3461 | .49363 | .47334 | .48415 | .47002 | .49455 | 50.080 | .48096 | .46442 |
| #3 | 6.4527 | 2.3399 | .48986 | .47464 | .48301 | .46977 | .49484 | 49.963 | .47981 | .46395 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 5.0000 | | | | | | | | | |
| Range | 14.500% | | | | | | | | | |

| Elem | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46802 | 4.7104 | .45770 | F .01481 | 48.205 | .49008 | .48838 | .49612 | 51.930 | .49346 |
| Stddev | .00096 | .0136 | .00031 | .00200 | .122 | .00139 | .00067 | .00025 | .172 | .00301 |
| %RSD | .20421 | .28967 | .06765 | 13.470 | .25401 | .28304 | .13733 | .05137 | .33168 | .61090 |
| #1 | .46902 | 4.7148 | .45739 | .01401 | 48.071 | .48984 | .48882 | .49620 | 51.903 | .49694 |
| #2 | .46793 | 4.7212 | .45772 | .01334 | 48.311 | .49157 | .48871 | .49584 | 51.772 | .49161 |
| #3 | .46711 | 4.6951 | .45801 | .01708 | 48.232 | .48883 | .48761 | .49633 | 52.114 | .49183 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | .50000 | | | | | | |
| Range | | | | -15.200% | | | | | | |

Sample Name: IPF009WC Acquired: 06/20/2024 19:24:50 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008062 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Ag | Na | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .48521 | 51.859 | .46166 | .46962 | .49338 | .47749 | .48167 | .50414 |
| Stddev | .00149 | .064 | .00100 | .00039 | .00101 | .00022 | .00048 | .00090 |
| %RSD | .30741 | .12326 | .21702 | .08295 | .20507 | .04584 | .09929 | .17950 |
| #1 | .48603 | 51.801 | .46085 | .46991 | .49265 | .47753 | .48210 | .50516 |
| #2 | .48610 | 51.849 | .46278 | .46977 | .49297 | .47726 | .48177 | .50341 |
| #3 | .48348 | 51.927 | .46136 | .46917 | .49454 | .47769 | .48116 | .50386 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5342.7 | 43088. | 92401. |
| Stddev | 6.9 | 286. | 160. |
| %RSD | .12831 | .66476 | .17309 |
| #1 | 5341.3 | 42759. | 92526. |
| #2 | 5336.7 | 43287. | 92221. |
| #3 | 5350.2 | 43216. | 92457. |

Sample Name: CCV5 Acquired: 06/20/2024 19:29:41 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008063 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 94.342 | 1.5084 | .97083 | 1.9159 | 1.4270 | 2.3601 | 1.9381 | 75.359 | 2.3769 | .91559 | 2.3148 |
| Stddev | .654 | .0091 | .00037 | .0031 | .0015 | .0051 | .0063 | .112 | .0052 | .00123 | .0046 |
| %RSD | .69280 | .60562 | .03805 | .16021 | .10693 | .21626 | .32249 | .14916 | .21813 | .13443 | .19803 |
| #1 | 93.590 | 1.5024 | .97105 | 1.9172 | 1.4271 | 2.3570 | 1.9325 | 75.248 | 2.3711 | .91688 | 2.3116 |
| #2 | 94.662 | 1.5189 | .97041 | 1.9181 | 1.4285 | 2.3660 | 1.9449 | 75.357 | 2.3809 | .91443 | 2.3201 |
| #3 | 94.774 | 1.5039 | .97104 | 1.9124 | 1.4255 | 2.3574 | 1.9370 | 75.472 | 2.3787 | .91547 | 2.3129 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 22.968 | 2.2631 | .53104 | 57.468 | 2.3575 | 2.4082 | 2.4354 | 63.347 | .98419 | .47874 | 62.217 |
| Stddev | .100 | .0027 | .00463 | .150 | .0019 | .0010 | .0011 | .135 | .00261 | .00244 | .037 |
| %RSD | .43358 | .12073 | .87207 | .26164 | .08025 | .03996 | .04493 | .21253 | .26532 | .51048 | .06022 |
| #1 | 22.887 | 2.2646 | .52776 | 57.302 | 2.3590 | 2.4086 | 2.4361 | 63.192 | .98716 | .47646 | 62.217 |
| #2 | 23.079 | 2.2648 | .53634 | 57.596 | 2.3582 | 2.4089 | 2.4359 | 63.422 | .98226 | .48132 | 62.179 |
| #3 | 22.937 | 2.2599 | .52903 | 57.505 | 2.3554 | 2.4071 | 2.4341 | 63.428 | .98315 | .47846 | 62.254 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

Sample Name: CCV5 Acquired: 06/20/2024 19:29:41 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008063 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46326 | 2.2788 | .48878 | .47997 | 1.3989 | 2.5123 |
| Stddev | .00024 | .0056 | .00247 | .00178 | .0041 | .0016 |
| %RSD | .05136 | .24580 | .50584 | .37143 | .29272 | .06421 |
| #1 | .46353 | 2.2727 | .48770 | .47798 | 1.3955 | 2.5139 |
| #2 | .46316 | 2.2838 | .49161 | .48142 | 1.4034 | 2.5125 |
| #3 | .46309 | 2.2797 | .48703 | .48051 | 1.3977 | 2.5107 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5170.0 | 42192. | 90044. |
| Stddev | 9.4 | 274. | 326. |
| %RSD | .18094 | .65046 | .36183 |
| #1 | 5173.7 | 41901. | 90420. |
| #2 | 5176.9 | 42446. | 89847. |
| #3 | 5159.4 | 42228. | 89866. |

Sample Name: CCB5 Acquired: 06/20/2024 19:34:29 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008064 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .01614 | -.00082 | .00072 | .00003 | -.00017 | .00536 | -.00001 | -.16448 | -.00045 | -.00001 | -.00024 |
| Stddev | .02691 | .00200 | .00179 | .00049 | .00015 | .00023 | .00010 | .00225 | .00016 | .00029 | .00033 |
| %RSD | 166.77 | 243.56 | 249.14 | 1406.3 | 85.269 | 4.2674 | 1143.1 | 1.3696 | 35.538 | 3574.0 | 136.79 |
| #1 | -.00943 | -.00190 | .00087 | -.00016 | -.00020 | .00551 | .00007 | -.16344 | -.00028 | -.00009 | -.00028 |
| #2 | .04422 | .00149 | .00243 | .00059 | -.00001 | .00548 | .00003 | -.16294 | -.00045 | -.00025 | .00011 |
| #3 | .01362 | -.00205 | -.00114 | -.00033 | -.00031 | .00510 | -.00012 | -.16707 | -.00060 | .00032 | -.00056 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00608 | .00030 | -.00105 | -.00056 | -.00038 | .00023 | -.00040 | .02440 | .00181 | .00032 | .02494 |
| Stddev | .00362 | .00041 | .00253 | .02831 | .00013 | .00034 | .00014 | .04262 | .00255 | .00044 | .00243 |
| %RSD | 59.558 | 135.41 | 240.10 | 5048.4 | 35.696 | 152.46 | 34.555 | 174.70 | 140.81 | 139.09 | 9.7278 |
| #1 | -.00954 | .00008 | -.00106 | .02878 | -.00022 | .00034 | -.00056 | -.02335 | .00393 | -.00018 | .02220 |
| #2 | -.00231 | .00005 | -.00359 | -.02771 | -.00044 | .00050 | -.00032 | .03793 | -.00102 | .00048 | .02682 |
| #3 | -.00638 | .00077 | .00148 | -.00275 | -.00046 | -.00016 | -.00032 | .05860 | .00251 | .00065 | .02578 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: CCB5 Acquired: 06/20/2024 19:34:29 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008064 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Ti | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00026 | .00166 | .00018 | .00057 | .00006 | -.00217 |
| Stddev | .00019 | .00079 | .00080 | .00020 | .00037 | .00003 |
| %RSD | 72.471 | 47.497 | 439.36 | 34.492 | 576.55 | 1.4853 |
| #1 | -.00009 | .00193 | -.00031 | .00045 | .00047 | -.00220 |
| #2 | -.00046 | .00228 | -.00025 | .00079 | -.00027 | -.00215 |
| #3 | -.00023 | .00077 | .00111 | .00046 | -.00001 | -.00215 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 6003.4 | 43340. | 99539. |
| Stddev | 4.6 | 278. | 527. |
| %RSD | .07656 | .64099 | .52912 |
| #1 | 5998.1 | 43449. | 99657. |
| #2 | 6006.0 | 43024. | 98963. |
| #3 | 6006.1 | 43547. | 99996. |

Sample Name: F034-01A Acquired: 06/20/2024 19:39:30 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008065 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 7.2189 | 2.7044 | .56251 | .56362 | .53333 | 1.7928 | .54121 | 85.212 | .52309 | .51335 | .53034 |
| Stddev | .0666 | .0041 | .00512 | .00262 | .00092 | .0007 | .00083 | .194 | .00041 | .00034 | .00021 |
| %RSD | .92252 | .15001 | .91017 | .46442 | .17244 | .03880 | .15384 | .22778 | .07932 | .06712 | .04026 |
| #1 | 7.1420 | 2.7057 | .56047 | .56640 | .53336 | 1.7926 | .54142 | 85.046 | .52306 | .51332 | .53014 |
| #2 | 7.2590 | 2.7076 | .56834 | .56119 | .53239 | 1.7922 | .54193 | 85.164 | .52269 | .51302 | .53057 |
| #3 | 7.2556 | 2.6998 | .55873 | .56328 | .53423 | 1.7936 | .54030 | 85.425 | .52352 | .51371 | .53031 |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 5.7329 | .49415 | .06073 | 64.642 | .59733 | .56045 | .54603 | 77.976 | .53338 | .54006 | 118.00 |
| Stddev | .0123 | .00176 | .00199 | .218 | .00146 | .00092 | .00054 | .094 | .00343 | .00138 | .11 |
| %RSD | .21472 | .35542 | 3.2806 | .33747 | .24392 | .16416 | .09914 | .12029 | .64281 | .25496 | .08943 |
| #1 | 5.7202 | .49431 | .06174 | 64.606 | .59566 | .56102 | .54578 | 77.882 | .53420 | .53949 | 117.92 |
| #2 | 5.7448 | .49232 | .05844 | 64.444 | .59801 | .55939 | .54566 | 77.975 | .53632 | .54163 | 117.96 |
| #3 | 5.7337 | .49582 | .06203 | 64.876 | .59832 | .56094 | .54665 | 78.070 | .52961 | .53906 | 118.12 |

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .73492 | .49969 | .53351 | .54012 | .53697 | .56908 |
| Stddev | .00006 | .00248 | .00020 | .00312 | .00078 | .00059 |
| %RSD | .00779 | .49535 | .03767 | .57707 | .14600 | .10312 |
| #1 | .73487 | .50162 | .53328 | .54174 | .53787 | .56952 |
| #2 | .73498 | .50054 | .53366 | .53652 | .53649 | .56841 |
| #3 | .73492 | .49690 | .53359 | .54209 | .53654 | .56930 |

Sample Name: F034-01A Acquired: 06/20/2024 19:39:30 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008065 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5200.4 | 42477. | 89662. |
| Stddev | 6.0 | 303. | 184. |
| %RSD | .11519 | .71406 | .20489 |
| #1 | 5195.6 | 42130. | 89567. |
| #2 | 5207.1 | 42614. | 89546. |
| #3 | 5198.6 | 42688. | 89874. |

Sample Name: F034-01 Acquired: 06/20/2024 19:44:17 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008066 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .16409 | .00033 | .01179 | .04060 | -.00007 | 1.2669 | .00006 | 29.863 | .00114 | .00026 | .01128 |
| Stddev | .01272 | .00135 | .00049 | .00012 | .00015 | .0009 | .00014 | .008 | .00009 | .00013 | .00019 |
| %RSD | 7.7534 | 407.51 | 4.1398 | .30125 | 205.93 | .07043 | 239.56 | .02597 | 8.0105 | 49.669 | 1.6649 |
| #1 | .16900 | .00140 | .01228 | .04056 | -.00013 | 1.2659 | -.00003 | 29.860 | .00112 | .00026 | .01148 |
| #2 | .17362 | .00079 | .01131 | .04050 | .00010 | 1.2677 | .00021 | 29.858 | .00124 | .00039 | .01125 |
| #3 | .14964 | -.00119 | .01180 | .04074 | -.00018 | 1.2669 | -.00001 | 29.872 | .00106 | .00013 | .01111 |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .57307 | .00077 | .03798 | 10.704 | .06770 | .02777 | .00243 | 18.483 | .00264 | .00035 | 60.236 |
| Stddev | .00901 | .00045 | .00459 | .091 | .00037 | .00008 | .00028 | .043 | .00236 | .00031 | .063 |
| %RSD | 1.5720 | 58.138 | 12.081 | .84654 | .54301 | .30020 | 11.503 | .23077 | 89.385 | 88.420 | .10375 |
| #1 | .56470 | .00035 | .03649 | 10.601 | .06784 | .02767 | .00275 | 18.523 | .00004 | .00051 | 60.287 |
| #2 | .57192 | .00124 | .04313 | 10.742 | .06728 | .02783 | .00225 | 18.489 | .00324 | .00055 | 60.255 |
| #3 | .58260 | .00071 | .03432 | 10.770 | .06797 | .02780 | .00228 | 18.438 | .00465 | -.00001 | 60.166 |

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .23936 | .00082 | .00090 | .01110 | .01748 | .00405 |
| Stddev | .00015 | .00184 | .00097 | .00051 | .00015 | .00012 |
| %RSD | .06419 | 225.13 | 107.30 | 4.5987 | .88615 | 3.0149 |
| #1 | .23952 | -.00128 | -.00018 | .01053 | .01744 | .00402 |
| #2 | .23922 | .00155 | .00121 | .01151 | .01735 | .00419 |
| #3 | .23933 | .00219 | .00168 | .01126 | .01765 | .00395 |

Sample Name: F034-01 Acquired: 06/20/2024 19:44:17 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008066 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5633.0 | 43793. | 95032. |
| Stddev | 8.3 | 128. | 124. |
| %RSD | .14706 | .29200 | .13013 |
| #1 | 5625.3 | 43653. | 95128. |
| #2 | 5641.7 | 43821. | 95076. |
| #3 | 5631.9 | 43904. | 94892. |

Sample Name: F034-01J Acquired: 06/20/2024 19:49:15 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008067 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .03173 | .00070 | .00047 | .00907 | -.00028 | .26368 | -.00003 | 6.4758 | -.00003 | .00003 | .00245 |
| Stddev | .01012 | .00233 | .00448 | .00023 | .00014 | .00382 | .00003 | .1022 | .00007 | .00018 | .00030 |
| %RSD | 31.876 | 331.78 | 957.47 | 2.4982 | 49.942 | 1.4500 | 87.860 | 1.5784 | 291.35 | 682.03 | 12.380 |
| #1 | .04326 | .00139 | .00564 | .00882 | -.00013 | .26715 | .00000 | 6.5638 | -.00011 | -.00017 | .00273 |
| #2 | .02434 | .00261 | -.00219 | .00914 | -.00030 | .26433 | -.00004 | 6.4999 | -.00001 | .00017 | .00249 |
| #3 | .02760 | -.00189 | -.00205 | .00925 | -.00042 | .25958 | -.00005 | 6.3637 | .00004 | .00008 | .00213 |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .11476 | .00124 | .00809 | 2.4047 | .01513 | .00541 | -.00039 | 4.2084 | .00124 | .00033 | 13.712 |
| Stddev | .00724 | .00054 | .00190 | .0085 | .00042 | .00021 | .00007 | .0208 | .00133 | .00056 | .187 |
| %RSD | 6.3118 | 43.468 | 23.469 | .35208 | 2.7896 | 3.9232 | 17.295 | .49381 | 107.59 | 171.07 | 1.3655 |
| #1 | .10715 | .00115 | .00913 | 2.4142 | .01542 | .00562 | -.00038 | 4.2311 | .00133 | -.00031 | 13.872 |
| #2 | .11558 | .00076 | .00926 | 2.4017 | .01532 | .00519 | -.00032 | 4.1904 | -.00014 | .00074 | 13.758 |
| #3 | .12156 | .00182 | .00590 | 2.3981 | .01465 | .00541 | -.00045 | 4.2038 | .00252 | .00056 | 13.506 |

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .05320 | .00045 | .00002 | .00212 | .00352 | -.00167 |
| Stddev | .00068 | .00106 | .00076 | .00054 | .00018 | .00024 |
| %RSD | 1.2749 | 237.26 | 3501.1 | 25.307 | 5.1216 | 14.127 |
| #1 | .05355 | .00024 | .00033 | .00202 | .00353 | -.00150 |
| #2 | .05363 | .00159 | -.00084 | .00269 | .00333 | -.00194 |
| #3 | .05242 | -.00049 | .00058 | .00163 | .00369 | -.00156 |

Sample Name: F034-01J Acquired: 06/20/2024 19:49:15 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008067 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5992.7 | 43068. | 97283. |
| Stddev | 53.6 | 321. | 309. |
| %RSD | .89433 | .74546 | .31715 |
| #1 | 5935.8 | 42943. | 97293. |
| #2 | 5999.9 | 42828. | 96970. |
| #3 | 6042.3 | 43432. | 97586. |

Sample Name: F034-01M Acquired: 06/20/2024 19:54:12 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008068 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 6.5845 | 2.3634 | .51169 | .51915 | .48222 | 1.7449 | .48852 | 77.805 | .48027 | .45832 | .47844 |
| Stddev | .0303 | .0068 | .00144 | .00176 | .00089 | .0018 | .00118 | .173 | .00078 | .00075 | .00080 |
| %RSD | .45967 | .28654 | .28151 | .33889 | .18512 | .10283 | .24170 | .22292 | .16267 | .16274 | .16808 |
| #1 | 6.5910 | 2.3556 | .51004 | .52110 | .48286 | 1.7469 | .48718 | 77.608 | .48036 | .45747 | .47926 |
| #2 | 6.5515 | 2.3668 | .51270 | .51869 | .48260 | 1.7441 | .48897 | 77.873 | .48100 | .45886 | .47765 |
| #3 | 6.6110 | 2.3677 | .51233 | .51767 | .48120 | 1.7436 | .48941 | 77.934 | .47945 | .45864 | .47842 |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 5.3372 | .44640 | .05641 | 58.784 | .54739 | .51306 | .48916 | 71.073 | .49409 | .49727 | 110.90 |
| Stddev | .0070 | .00141 | .00197 | .157 | .00053 | .00037 | .00082 | .226 | .00108 | .00117 | .05 |
| %RSD | .13192 | .31653 | 3.4865 | .26684 | .09692 | .07238 | .16784 | .31783 | .21772 | .23498 | .04591 |
| #1 | 5.3382 | .44803 | .05816 | 58.617 | .54747 | .51276 | .49006 | 70.814 | .49302 | .49861 | 110.86 |
| #2 | 5.3437 | .44564 | .05428 | 58.928 | .54788 | .51294 | .48846 | 71.228 | .49407 | .49644 | 110.88 |
| #3 | 5.3297 | .44554 | .05679 | 58.809 | .54683 | .51347 | .48895 | 71.178 | .49517 | .49676 | 110.96 |

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .68782 | .45455 | .48456 | .48898 | .50054 | .49998 |
| Stddev | .00057 | .00117 | .00055 | .00179 | .00064 | .00035 |
| %RSD | .08273 | .25789 | .11403 | .36524 | .12728 | .07069 |
| #1 | .68785 | .45323 | .48462 | .48809 | .50112 | .50033 |
| #2 | .68723 | .45500 | .48508 | .49104 | .50065 | .49998 |
| #3 | .68837 | .45544 | .48398 | .48781 | .49986 | .49963 |

Sample Name: F034-01M Acquired: 06/20/2024 19:54:12 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008068 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5344.0 | 44067. | 92031. |
| Stddev | 8.7 | 277. | 73. |
| %RSD | .16287 | .62959 | .07932 |
| #1 | 5334.0 | 44382. | 92058. |
| #2 | 5348.6 | 43962. | 92087. |
| #3 | 5349.5 | 43858. | 91949. |

Sample Name: F034-01S Acquired: 06/20/2024 19:59:01 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008069 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 6.5833 | 2.3835 | .51556 | .52217 | .48426 | 1.7622 | .48991 | 78.413 | .48241 | .46027 | .48011 |
| Stddev | .0542 | .0132 | .00091 | .00174 | .00113 | .0012 | .00143 | .064 | .00031 | .00078 | .00058 |
| %RSD | .82386 | .55239 | .17693 | .33269 | .23309 | .06766 | .29095 | .08129 | .06343 | .17051 | .12095 |
| #1 | 6.5861 | 2.3714 | .51451 | .52396 | .48530 | 1.7629 | .48866 | 78.353 | .48230 | .46116 | .48063 |
| #2 | 6.5277 | 2.3816 | .51618 | .52049 | .48306 | 1.7628 | .48960 | 78.480 | .48275 | .45967 | .48023 |
| #3 | 6.6361 | 2.3976 | .51599 | .52206 | .48443 | 1.7608 | .49146 | 78.406 | .48217 | .45999 | .47948 |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 5.3584 | .44711 | .05887 | 59.528 | .54915 | .51777 | .49036 | 71.929 | .49909 | .50016 | 111.93 |
| Stddev | .0191 | .00082 | .00390 | .132 | .00032 | .00081 | .00107 | .196 | .00242 | .00133 | .07 |
| %RSD | .35543 | .18233 | 6.6286 | .22179 | .05763 | .15601 | .21899 | .27216 | .48421 | .26597 | .06028 |
| #1 | 5.3791 | .44782 | .05778 | 59.377 | .54933 | .51838 | .49139 | 71.706 | .49792 | .50137 | 111.85 |
| #2 | 5.3542 | .44727 | .06320 | 59.586 | .54933 | .51685 | .48925 | 72.006 | .49748 | .49874 | 111.98 |
| #3 | 5.3417 | .44622 | .05563 | 59.621 | .54879 | .51808 | .49046 | 72.074 | .50187 | .50037 | 111.96 |

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .69278 | .45517 | .48766 | .49183 | .50302 | .50182 |
| Stddev | .00053 | .00052 | .00090 | .00180 | .00046 | .00077 |
| %RSD | .07643 | .11402 | .18467 | .36679 | .09177 | .15372 |
| #1 | .69247 | .45490 | .48662 | .49391 | .50349 | .50269 |
| #2 | .69339 | .45577 | .48821 | .49070 | .50301 | .50123 |
| #3 | .69248 | .45485 | .48815 | .49088 | .50257 | .50153 |

Sample Name: F034-01S Acquired: 06/20/2024 19:59:01 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008069 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5296.5 | 43399. | 91220. |
| Stddev | 18.6 | 488. | 41. |
| %RSD | .35133 | 1.1245 | .04458 |
| #1 | 5276.1 | 43352. | 91178. |
| #2 | 5301.2 | 42936. | 91259. |
| #3 | 5312.4 | 43909. | 91224. |

Sample Name: CCV6 Acquired: 06/20/2024 20:03:50 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008070 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 93.212 | 1.5230 | .98741 | 1.9530 | 1.4445 | 2.3883 | 1.9576 | 74.618 | 2.4178 | .91624 |
| Stddev | .496 | .0046 | .00438 | .0041 | .0018 | .0016 | .0086 | .086 | .0017 | .00031 |
| %RSD | .53211 | .29970 | .44364 | .20957 | .12628 | .06872 | .43807 | .11492 | .07021 | .03343 |
| #1 | 93.425 | 1.5177 | .98376 | 1.9574 | 1.4437 | 2.3901 | 1.9482 | 74.539 | 2.4192 | .91615 |
| #2 | 93.566 | 1.5261 | .99227 | 1.9494 | 1.4465 | 2.3869 | 1.9648 | 74.709 | 2.4159 | .91658 |
| #3 | 92.645 | 1.5251 | .98619 | 1.9522 | 1.4431 | 2.3879 | 1.9600 | 74.606 | 2.4183 | .91599 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Elem | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 2.3468 | 23.540 | 2.2563 | F .57214 | 59.641 | 2.3614 | 2.4230 | 2.4403 | F 66.071 | .99468 |
| Stddev | .0011 | .014 | .0026 | .00274 | .119 | .0014 | .0007 | .0002 | .100 | .00690 |
| %RSD | .04598 | .06077 | .11634 | .47824 | .19944 | .05833 | .02933 | .00912 | .15163 | .69393 |
| #1 | 2.3481 | 23.551 | 2.2593 | .56900 | 59.586 | 2.3626 | 2.4231 | 2.4404 | 66.073 | .98679 |
| #2 | 2.3463 | 23.524 | 2.2548 | .57398 | 59.559 | 2.3599 | 2.4237 | 2.4405 | 65.970 | .99958 |
| #3 | 2.3461 | 23.546 | 2.2547 | .57345 | 59.777 | 2.3617 | 2.4223 | 2.4401 | 66.170 | .99767 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | | | .50000 | | | | | 60.000 | |
| Range | | | | 10.000% | | | | | 10.000% | |

Sample Name: CCV6 Acquired: 06/20/2024 20:03:50 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008070 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Ag | Na | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .49126 | 63.353 | .46153 | 2.2892 | .48953 | .49020 | 1.4185 | 2.5024 |
| Stddev | .00033 | .065 | .00062 | .0118 | .00069 | .00154 | .0009 | .0015 |
| %RSD | .06622 | .10189 | .13392 | .51595 | .14127 | .31456 | .06175 | .06034 |
| #1 | .49113 | 63.405 | .46209 | 2.2755 | .48999 | .48877 | 1.4193 | 2.5019 |
| #2 | .49163 | 63.281 | .46087 | 2.2966 | .48987 | .48999 | 1.4175 | 2.5040 |
| #3 | .49102 | 63.375 | .46164 | 2.2953 | .48874 | .49184 | 1.4186 | 2.5011 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5164.2 | 41876. | 88916. |
| Stddev | 27.7 | 195. | 136. |
| %RSD | .53640 | .46618 | .15345 |
| #1 | 5132.7 | 41742. | 88839. |
| #2 | 5175.2 | 42100. | 88836. |
| #3 | 5184.7 | 41786. | 89074. |

Sample Name: CCB6 Acquired: 06/20/2024 20:08:39 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008071 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.01885 | .00000 | .00012 | .00039 | -.00030 | .00912 | .00002 | -.16281 | -.00033 | -.00002 | .00003 |
| Stddev | .01753 | .00143 | .00213 | .00016 | .00004 | .00008 | .00010 | .00328 | .00025 | .00005 | .00012 |
| %RSD | 92.965 | 152330. | 1788.2 | 40.753 | 12.835 | .88658 | 422.41 | 2.0152 | 76.489 | 238.35 | 428.86 |
| #1 | -.01309 | -.00120 | -.00179 | .00035 | -.00033 | .00918 | .00014 | -.16627 | -.00019 | -.00008 | .00000 |
| #2 | -.00494 | -.00037 | .00242 | .00025 | -.00025 | .00903 | -.00004 | -.16242 | -.00018 | -.00001 | -.00008 |
| #3 | -.03854 | .00158 | -.00026 | .00057 | -.00031 | .00915 | -.00003 | -.15974 | -.00062 | .00002 | .00017 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .00003 | -.00004 | .00175 | -.01723 | -.00012 | .00015 | -.00028 | .11517 | .00166 | .00022 | .02027 |
| Stddev | .00254 | .00041 | .00423 | .01136 | .00032 | .00039 | .00006 | .02450 | .00590 | .00013 | .00850 |
| %RSD | 7905.7 | 1041.6 | 242.38 | 65.941 | 262.80 | 262.56 | 20.364 | 21.274 | 354.89 | 58.143 | 41.926 |
| #1 | .00281 | .00042 | -.00257 | -.01751 | -.00010 | .00059 | -.00034 | .12656 | .00759 | .00035 | .01046 |
| #2 | -.00054 | -.00037 | .00588 | -.02846 | .00018 | -.00002 | -.00023 | .13189 | -.00421 | .00010 | .02528 |
| #3 | -.00218 | -.00017 | .00192 | -.00574 | -.00045 | -.00013 | -.00027 | .08704 | .00160 | .00019 | .02509 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: CCB6 Acquired: 06/20/2024 20:08:39 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008071 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00038 | .00177 | -.00020 | .00007 | -.00026 | -.00225 |
| Stddev | .00013 | .00137 | .00051 | .00046 | .00044 | .00011 |
| %RSD | 33.847 | 77.534 | 251.29 | 627.48 | 170.78 | 5.0552 |
| #1 | -.00034 | .00320 | -.00011 | .00018 | .00012 | -.00212 |
| #2 | -.00052 | .00047 | .00026 | -.00043 | -.00016 | -.00229 |
| #3 | -.00027 | .00164 | -.00076 | .00047 | -.00074 | -.00233 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5906.5 | 42428. | 97552. |
| Stddev | 4.4 | 553. | 175. |
| %RSD | .07528 | 1.3022 | .17936 |
| #1 | 5905.9 | 42234. | 97359. |
| #2 | 5911.1 | 41999. | 97597. |
| #3 | 5902.3 | 43052. | 97700. |

EMAX LABORATORIES, INC.

# DIGESTION LOG
*for*
## ICP METALS



**Note:** For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

**Comments:**

Digestion Vessel Lot # LV2401060T-F-41092-LC

Filter Lot # N/A

Book #: EIP-163
Batch: JPF009W
Matrix: WATER
Digestor ID: E

| SOP # | Rev. # |
|---|---|
| ☑ EMAX-3010 | 8 |
| ☐ EMAX-3050 | 9 |
| ☐ EMAX-200.7 | 6 |
| ☐ EMAX- | |

| Start | Temp | End | Temp |
|---|---|---|---|
| | 91.6 °C | | 93.3 °C |

| Standards | ID | Amount Added (mL/g) |
|---|---|---|
| LCS-1 | SW1A-025-07-02 | 0.25 |
| LCS-2 | ↓ -03 | 0.25 |
| LCS-3 | ↓ -04 | 0.50 |
| MS | Same Spike Std and volume as | LCS 1-3 |
| Blank Soil (Bead) | N/A | N/A |
| **Reagent** | **Lot# / ID** | **Amount Added (mL)** |
| $HNO_3$ | SW1A-012-09-01 | 1.50 + 1.50 |
| HCl | ↓ -03-01 | 2.50 + 2.50 |
| $H_2O_2$ | N/A | N/A |
| $HNO_3$(1:1) | ↓ | ↓ |
| pH Strip (0-14) | HC439875 | ↓ |

| | |
|---|---|
| Digestate Location | METALS |
| Extract Location | N/A |
| ☑ Reagent Water ID: SW1A-012-11-09 | |
| ☑ Thermometer ID: 230389472/E8 | |
| ☑ Pipette ID: D42361741 | |
| ☑ Pipette ID: D42781023 | |
| ☐ Pipette ID: | |
| ☐ $HNO_3$ dispenser checked @ 5.0 mL with Class A volumetric flask | |
| ☐ HCl dispenser checked @ 5.0 mL with Class A volumetric flask | |

Prepared By: JC

Standard Added By: JC Witnessed By: MC

Extract Rcvd By: JC Checked By: JC

EMAX LABORATORIES

DIGESTION LOG FOR METALS

| PrepBatchID | LabSampleID | Aliquot | Unit | DateTime | Vd(ml) | ExpAmt | ExpVd(ml) | PrepFctr | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 24IPF009W01 | IPF009WB | 50 | ml | 6/14/24 8:44 | 50 | 50 | 50 | 1 | |
| 24IPF009W02 | IPF009WL | 50 | ml | 6/14/24 8:44 | 50 | 50 | 50 | 1 | |
| 24IPF009W03 | IPF009WC | 50 | ml | 6/14/24 8:44 | 50 | 50 | 50 | 1 | |
| 24IPF009W04 | F034-01 | 50 | ml | 6/14/24 8:44 | 50 | 50 | 50 | 1 | |
| 24IPF009W05 | F034-01M | 50 | ml | 6/14/24 8:44 | 50 | 50 | 50 | 1 | |
| 24IPF009W06 | F034-01S | 50 | ml | 6/14/24 8:44 | 50 | 50 | 50 | 1 | |
| 24IPF009W07 | WTF001SB | 10 | ml | 6/14/24 9:10 | 50 | 50 | 50 | 5 | STLC |
| 24IPF009W08 | F034-02 | 5 | ml | 6/14/24 9:10 | 50 | 50 | 50 | 10 | STLC YELLOW |
| 24IPF009W09 | F034-02M | 5 | ml | 6/14/24 9:10 | 50 | 50 | 50 | 10 | STLC YELLOW |
| 24IPF009W10 | F034-02S | 5 | ml | 6/14/24 9:10 | 50 | 50 | 50 | 10 | STLC YELLOW |

JC 6/19/24

Vd=digestate volume PrepFctr=)ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 6/14/24 9:28

☑ Digestion Ended @ 6/14/24 13:48

Prepared By: JChun

Checked By: JC

Comments:

Date 6/14/24

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| MIXED 12A | SM1A-025-09-08 | MIXED | 1.0 | MIXED |
| MIXED 12B | -0909 | MIXED | 1.0 | MIXED |
| Al | 10-04 | 10,000 | 10 | 100 |
| Ca | 10-09 | 10000 | 7.5 | 75 |
| Fe | 10-10 | 10,000 | 2.5 | 25 |
| Mo | 07-10 | 1000 | 2.5 | 25 |
| | | | TH 12/12/23 | |

| Standard ID | SM1B-29-11-01 |
|---|---|
| Name | ICV (6010) |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A012-0602 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-0506 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-0304 |
| Volume (mL) | 100 |
| Prep. Date | 12/12/23 |
| Exp. Date | 6/12/24 |
| Prepared By | TH |

Micropipette ID:

- ☐ 542740566 ☐
- ☐ C42761044 ☐
- ☑ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| MIXED 11A | SM1A-025-05-05 | MIXED | 10 | MIXED |
| MIXED 11B | -0506 | MIXED | 10 | MIXED |
| Al | 10-04 | 10,000 | 40 | 400 |
| Fe | 10-10 | 10,000 | 20 | 200 |
| Ca | 10-09 | 10,000 | 50 | 500 |
| Mg | 0602 | 10,000 | 20 | 200 |
| B | 07-07 | 1000 | 0.5 | 0.5 |
| | | | TH 12/12/23 | |

| Standard ID | SM1B-29-11-02 |
|---|---|
| Name | ICSAB (6010) |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A012-0602 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-0506 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 12/12/23 |
| Exp. Date | 2/29/24 |
| Prepared By | TH |

Micropipette ID:

- ☐ 542740566 ☑ D42761999
- ☐ C42761044 ☐
- ☑ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Be | SM1A-025-0401 | 1000 | 0.005 | 0.005 |
| Cd | -0402 | 1000 | 0.005 | 0.005 |
| V | 0705 | 1000 | 0.005 | 0.005 |
| Zn | 0804 | 1000 | 0.1 | 0.1 |
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| Standard ID | SM1B-29-12-01 |
|---|---|
| Name | MRL4e |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A012-0602 |
| Preservative #1 | HNO3 |
| ID | SW1A012-0506 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A012-0901 |
| Volume (mL) | 100 |
| Prep. Date | 12/12/23 |
| Exp. Date | 6/12/24 |
| Prepared By | 7H |

Micropipette ID:

| | |
|---|---|
| ☑ 542740566 | ☑ GFAA-07 |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
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| Standard ID | SM1B 29-12-02 |
|---|---|
| Name | |
| Final Volume (mL) | |
| Solvent | Reagent Water |
| Solvent ID | |
| Preservative #1 | |
| ID | |
| Volume (mL) | |
| Preservative #2 | |
| ID | |
| Volume (mL) | |
| Prep. Date | |
| Exp. Date | |
| Prepared By | |

Micropipette ID:

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|---|---|
| ☐ 542740566 | ☐ |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Al | SM1A 025-04-08 | 10,000 | 10 | 100 |
| Ca | SM1A 025-01-05 | 10,000 | 12.5 | 125 |
| Fe | SM1A 025-06-05 | 10,000 | 5.0 | 50 |
| Mg | SM1A 025-06-07 | 10,000 | 5.0 | 50 |
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| Standard ID | SM1B-29-16-01 |
|---|---|
| Name | ICSA (WW) |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A012-07-01 |
| Preservative #1 | HNO3 |
| ID | SW1A012-05-06 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A011-23-02 |
| Volume (mL) | 100 |
| Prep. Date | 1/18/24 |
| Exp. Date | 7/18/24 |
| Prepared By | TH |

Micropipette ID:

- ☐ 542740566 ☐
- ☐ C42761044 ☐
- ☑ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Co | SM1A 025-04-01 | 1000 | 0.2 | 0.2 |
| Fe | SM1A 025-06-05 | 10,000 | 0.25 | 2.5 |
| Ba | SM1A 018-15-08 | 1000 | 1.0 | 1.0 |
| Cu | SM1A 025-06-06 | 1000 | 1.0 | 1.0 |
| V | SM1A 025-06-10 | 1000 | 1.0 | 1.0 |
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| Standard ID | SM1B-29-16-02 |
|---|---|
| Name | 522 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A012-07-02 |
| Preservative #1 | HNO3 |
| ID | SW1A012-05-06 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 2/13/24 |
| Exp. Date | 8/13/24 |
| Prepared By | TH |

Micropipette ID:

- ☐ 542740566 ☑ 0427601999
- ☐ C42761044 ☐
- ☐ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Co | SMIA025004-01 | 1000 | 2 | 2 |
| Fe | SMIA-025-0605 | 10000 | 20 | 200 |
| Ba | SMIA-018-1508 | 1000 | 10 | 10 |
| Cu | SMIA-025-0606 | 1000 | 10 | 10 |
| V | SMIA-025-0610 | 1000 | 10 | 10 |
| | | | TH | |
| | | | 2/13/24 | |

| Standard ID | SM1B-29-17-01 |
|---|---|
| Name | S23 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SWIA-012-07-02 |
| Preservative #1 | HNO3 |
| ID | SWIA-012-05-06 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SWIA-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 2/13/24 |
| Exp. Date | 8/13/24 |
| Prepared By | TH |

Micropipette ID:

- ☐ 542740566 ☐
- ☐ C42761044 ☐
- ☑ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| | | | | |

| Standard ID | SM1B-29 17-02 |
|---|---|
| Name | |
| Final Volume (mL) | |
| Solvent | Reagent Water |
| Solvent ID | |
| Preservative #1 | |
| ID | |
| Volume (mL) | |
| Preservative #2 | |
| ID | |
| Volume (mL) | |
| Prep. Date | |
| Exp. Date | |
| Prepared By | |

Micropipette ID:

- ☐ 542740566 ☐
- ☐ C42761044 ☐
- ☐ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Sb | SM1A025-10-07 | 10,000 | 0.1 | 1.0 |
| Mg | SM1A-025-06-07 | 10,000 | 1.0 | 10.0 |
| Tl | SM1A-025-06-09 | 1000 | 1.0 | 1.0 |
| | | | TH 2/20/24 | |

| Standard ID | SM1B-29-18-01 |
|---|---|
| Name | 528 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-08-01 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-05-06 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 2/20/24 |
| Exp. Date | 8/20/24 |
| Prepared By | TH |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☑ D42761999 |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Sb | SM1A-025-10-07 | 1000 | 1 | 10 |
| Mg | SM1A-025-06-07 | 10,000 | 10 | 100 |
| Tl | SM1A-025-06-09 | 1000 | 4 | 40 |
| | | | TH 2/20/24 | |

| Standard ID | SM1B 29-18-02 |
|---|---|
| Name | 529 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-08-01 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-05-06 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 2/20/24 |
| Exp. Date | 8/20/24 |
| Prepared By | TH |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☑ D42751151 |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Al | SMIA-025-04-08 | 10,000 | 10 | 100 |
| Ca | -10-01 | 10,000 | 7.5 | 75 |
| Fe | -06-05 | 10,000 | 2.5 | 25 |
| Mg | -06-07 | 10,000 | 6.0 | 60 |
| Na | -01-07 | 10,000 | 6.0 | 60 |
| K | -01-06 | 10,000 | 6.0 | 60 |
| Sb | 10-07 | 10,000 | 0.15 | 1.5 |
| Be | -03-10 | 1000 | 1.5 | 1.5 |
| V | -06-10 | 1000 | 1.5 | 1.5 |
| As | -10-03 | 1000 | 1.0 | 1.0 |
| Co | -04-01 | 1000 | 1.0 | 1.0 |
| Se | -10-08 | 1000 | 1.0 | 1.0 |
| Ba | SMIA-018-15-08 | 1000 TH 2/20/24 | 2.80 | 2.0 |
| Cd | 16-02 | 1000 | 2.0 | 2.0 |
| B | SMIA-018-16-01 | 1000 | 2.5 | 2.5 |
| Cu | SMIA-025-06-06 | 1000 | 2.5 | 2.5 |
| Cr | SMIA-018-10-06 TH 2/20/24 | 1000 | 2.5 | 2.5 |
| Pb | SMIA-018-16-03 | 1000 | 2.5 | 2.5 |
| Mn | 06-08 | 1000 | 2.5 | 2.5 |
| Mo | SMIA-018-15-09 | 1000 | 2.5 | 2.5 |

| Standard ID | SM1B-29-19-01 |
|---|---|
| Name | CCV |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SWIA012408-01 |
| Preservative #1 | HNO3 |
| ID | SWIA-012-050b |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SWIA-012-032-01 |
| Volume (mL) | 100 |
| Prep. Date | 2/20/24 |
| Exp. Date | 8/20/24 |
| Prepared By | TH |

Micropipette ID:

- ☑ 542740566 ☑ D42781151
- ☐ C42761044 ☑ D42761999
- ☐ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Ni | SMIA-025-04-09 | 1000 | 2.5 | 2.5 |
| Tl | -06-09 | 1000 | 2.5 | 2.5 |
| Zn | SMIA-018-16-04 | 1000 | 2.5 | 2.5 |
| Sn | SMIA-018-12-08 | 10,000 | 0.05 | 0.5 |
| Li | SMIA-025-04-02 | 1000 | 0.5 | 0.5 |
| Ag | -10-02 | 1000 | 0.5 | 0.5 |
| Sr | -04-10 | 1000 | 0.5 | 0.5 |
| Ti | -05-01 | 1000 | 0.5 | 0.5 |

TH 2/20/24

| Standard ID | SM1B-29-19-02 |
|---|---|
| Name | |
| Final Volume (mL) | |
| Solvent | Reagent Water |
| Solvent ID | |
| Preservative #1 | |
| ID | |
| Volume (mL) | |
| Preservative #2 | |
| ID | |
| Volume (mL) | |
| Prep. Date | |
| Exp. Date | |
| Prepared By | |

Micropipette ID:

- ☐ 542740566 ☐
- ☐ C42761044 ☐
- ☐ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Al | SM1A-025-04-08 | 10,000 | 0.02 | 0.2 |
| Sb | ↓ 10-07 | 10,000 | 0.01 | 0.1 |
| As | ↓ 10-03 | 1000 | 0.01 | 0.01 |
| Ba | SM1A-018-15-08 | 1000 | 0.01 | 0.01 |
| Be | SM1A-025-03-10 | 1000 | 0.01 | 0.01 |
| B | SM1A-018-16-01 | 1000 | 0.1 | 0.1 |
| Cd | ↓ 16-02 | 1000 | 0.01 | 0.01 |
| Ca | SM1A-025-10-01 | 10,000 | 0.1 | 1.0 |
| Cr | SM1A-018-25 10-06 TH 2/20/24 | 1000 | 0.01 | 0.01 |
| Co | SM1A-025-04-01 | 1000 | 0.01 | 0.01 |
| Cu | SM1A-018-25 06-06 TH 2/20/24 | 1000 | 0.01 | 0.01 |
| Fe | SM1A-025-06-05 | 10,000 | 0.02 | 0.2 |
| Pb | SM1A-018-16-03 | 1000 | 0.01 | 0.01 |
| Li | SM1A-025-04-02 | 1000 | 0.01 | 0.01 |
| Mg | ↓ 06-07 | 10,000 | 0.1 | 1.0 |
| Mn | SM1A-018-06-08 | 1000 | 0.01 | 0.01 |
| Mo | ↓ 15-09 | 1000 | 0.01 | 0.01 |
| Ni | SM1A-025-04-09 | 1000 | 0.01 | 0.01 |
| K | ↓ -01-06 | 10,000 | 0.1 | 1.0 |
| Se | ↓ 10-08 | 1000 | 0.01 | 0.01 |

| Standard ID | SM1B-29-20-01 |
|---|---|
| Name | MRL EMAX |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-080 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-0506 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-030 |
| Volume (mL) | 100 |
| Prep. Date | 2/20/24 |
| Exp. Date | 8/20/24 |
| Prepared By | TH |

Micropipette ID:

| | |
|---|---|
| ☑ 542740566 | ☑ D42761999 |
| ☐ C42761044 | ☑ D42781151 |
| ☐ 942780530 | ☐ |

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Ag | SM1A-025-10-02 | 1000 | 0.01 | 0.01 |
| Sr | ↓ 04-10 | 1000 | 0.01 | 0.01 |
| Na | ↓ -01-07 | 10,000 | 0.1 | 1.0 |
| Tl | ↓ -06-09 | 1000 | 0.01 | 0.01 |
| Sn | SM1A-018-12-08 | 10,000 | 0.01 TH 2/20 | 0.01 0.01 |
| Ti | SM1A-025-05-01 | 1000 | 0.01 | 0.01 |
| V | ↓ 06-10 | 1000 | 0.01 | 0.01 |
| Zn | SM1A-018-16-04 | 1000 | 0.02 | 0.02 |

TH 2/20/24

| Standard ID | SM1B-29-20-02 |
|---|---|
| Name | |
| Final Volume (mL) | |
| Solvent | Reagent Water |
| Solvent ID | |
| Preservative #1 | |
| ID | |
| Volume (mL) | |
| Preservative #2 | |
| ID | |
| Volume (mL) | |
| Prep. Date | |
| Exp. Date | |
| Prepared By | |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☐ |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Al | SM1A025-0408 | 10,000 | 40 | 400 |
| Fe | -0605 | 10,000 | 20 | 200 |
| Ca | -1001 | 10,000 | 50 | 500 |
| Mg | 0607 | 10,000 | 20 | 200 |
| | | | | |
| | | | TH 2/23/24 | |

| Standard ID | SM1B-29-24-01 |
|---|---|
| Name | ICSA |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-0404 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-0901 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-0301 |
| Volume (mL) | 100 |
| Prep. Date | 2/23/24 |
| Exp. Date | 8/23/24 |
| Prepared By | TH |

Micropipette ID:

☐ 542740566 ☑ D42781151

☐ C42761044 ☐

☐ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| As | SM1A025-10-03 | 1000 | 0.5 | 0.5 |
| Li | -0402 | 1000 | 0.2 | 02 |
| Se | -1008 | 1000 | 0.5 | 0.5 |
| Ag | -10-02 | 1000 | 0.2 | 0.2 |
| Sr | -04-10 | 1000 | 0.2 | 0.2 |
| Sn | SM1A-018-1208 | 10,000 | 0.02 | 0.2 |
| Ti | SM1A025-05-01 | 1000 | 0.2 | 0.2 |
| Zn | SM1A018-16-04 | 1000 | 1.0 | 1.0 |
| | | | | |
| | | | TH 2/23/24 | |

| Standard ID | SM1B-29-24-02 |
|---|---|
| Name | S30 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-0404 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-0901 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-0301 |
| Volume (mL) | 100 |
| Prep. Date | 2/23/24 |
| Exp. Date | 8/23/24 |
| Prepared By | TH |

Micropipette ID:

☑ 542740566 ☑ D42761999

☐ C42761044 ☐

☐ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| As | SM1A-025-1203 | 1000 | 2.0 | 2.0 |
| Li | 0402 | 1000 | 1.0 | 1.0 |
| Se | 10-08 | 1000 | 2.0 | 2.0 |
| Ag | 10-02 | 1000 | 1.0 | 1.0 |
| Sr | 0410 | 1000 | 1.0 | 1.0 |
| Sn | SM1A018-1208 | 10,000 | 0.1 | 1.0 |
| Ti | SM1A025-0501 | 1000 | 1.0 | 1.0 |
| Zn | SM1A018-1604 | 1000 | 10 | 10 |
| | | | TH 2/23/24 | |

| Standard ID | SM1B-29-25-01 |
|---|---|
| Name | S31 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-0904 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-0901 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-0301 |
| Volume (mL) | 100 |
| Prep. Date | 2/23/24 |
| Exp. Date | 8/23/24 |
| Prepared By | TH |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☑ D42781151 |
| ☐ C42761044 | ☑ D42761999 |
| ☐ 942780530 | ☐ |

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| | | | | |

| Standard ID | SM1B-29-25-02 |
|---|---|
| Name | |
| Final Volume (mL) | |
| Solvent | Reagent Water |
| Solvent ID | |
| Preservative #1 | |
| ID | |
| Volume (mL) | |
| Preservative #2 | |
| ID | |
| Volume (mL) | |
| Prep. Date | |
| Exp. Date | |
| Prepared By | |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☐ |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| MIX IIA | SM1A-025-11-08 | MIXED | 10 | MIXED |
| MIX IIB | SM1A-025-11-09 | MIXED | 10 | MIXED |
| Al | SM1A-025-11-10 | 10,000 | 40 | 400 |
| Fe | SM1A-025-10-10 | 10,000 | 20 | 200 |
| Ca | SM1A-025-10-09 | 10,000 | 50 | 500 |
| Mg | SM1A-025-11-01 | 10,000 | 20 | 200 |
| B | SM1A-025-07-07 | 1,000 | 0.5 | 0.5 |
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| | | | | JC 3/4/24 |

| Standard ID | SM1B-29-37-01 |
|---|---|
| Name | ICSAB (6010) |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SWIA-012-09-04 |
| Preservative #1 | HNO3 |
| ID | SWIA-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SWIA-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 3/4/24 |
| Exp. Date | 9/4/24 |
| Prepared By | JC |

Micropipette ID:

- ☐ 542740566 ☑ D42781151
- ☐ C42761044 ☑ D42768999
- ☐ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| 3/4/24 MIX C.IS | SM1A-025-10-08 | MIXED | 1.0 | MIXED |
| Sb | SM1A-025-08-07 | 1000 | 0.01 | 0.01 |
| Pb | SM1A-025-08-06 | 1,000 | 0.001 | 0.001 |
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| | | | | JC 3/4/24 |

| Standard ID | SM1B 29-37-02 |
|---|---|
| Name | MRL AECEE |
| Final Volume (mL) | 1,000 |
| Solvent | Reagent Water |
| Solvent ID | SWIA-012-09-04 |
| Preservative #1 | 3/4/24 HNO3 |
| ID | SWIA-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SWIA-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 3/4/24 |
| Exp. Date | 9/4/24 |
| Prepared By | JC |

Micropipette ID:

- ☐ 542740566 ☑ D42761044
- ☐ C42761044 ☑ GSNA-07
- ☐ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| MIX 12A | SM1A - 025 - 09-08 | MIXED | 2.5 | MIXED |
| MIX 12B | -09- 09 | MIXED | 2.5 | MIXED |
| Al | - 11 - 10 | 10,000 | 2.5 | 25 |
| Fe | - 10 - 10 | 10,000 | 0.625 | 6.25 |
| Ca | - 10 - 09 | 10,000 | 1.875 | 18.75 |
| Mn | - 08 - 09 | 1,000 | 1.875 | 1.875 |
| Tl | - 08 - 01 | 1,000 | 1.875 | 1.875 |
| Mo | - 07 - 10 | 1,000 | 0.678 | 0.625 |
| Co | - 09 - 03 | 1,000 | 1.75 | 1.75 |

JC 3/11/24

| Standard ID | SM1B-29-38-01 |
|---|---|
| Name | ICV WW |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-09-04 |
| Preservative #1 | $HNO_3$ |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 3/11/24 |
| Exp. Date | 9/11/24 |
| Prepared By | JC |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☑ D427811151 |
| ☐ C42761044 | ☑ D427619999 |
| ☐ 942780530 | ☐ |

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|

4/29/24
JF

| Standard ID | SM1B-29-38-02 |
|---|---|
| Name | SO |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-09-04 |
| Preservative #1 | $HNO_3$ |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 4/29/24 |
| Exp. Date | 10/29/24 |
| Prepared By | JF |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☐ |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Be | SM1A-025-03-10 | 1,000 | 1.0 | 1.0 |
| Cd | SM1A-018-16-02 | 1,000 | 1.0 | 1.0 |
| Mn | SM1A-025-06-08 | 1,000 | 1.0 | 1.0 |
| Pb | SM1A-018-16-03 | 1,000 | 1.0 | 1.0 |

4/30/24 JF

| Standard ID | SM1B-29-39-01 |
|---|---|
| Name | S20 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-09-04 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl 4/30/24 |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 4/30/24 |
| Exp. Date | 10/30/24 |
| Prepared By | JF |

Micropipette ID:

- ☐ 542740566 ☑ D42761999
- ☒ C42761044 ☐ 4/30/24 JF
- ☐ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Be | SM1A-025-03-10 | 1000 | 1.0 | 1.0 |
| Cd | SM1A-018-16-02 | 1000 | 1.0 | 1.0 |
| Mn | SM1A-025-06-08 | 1000 | 1.0 | 1.0 |
| Pb | SM1A-018-16-03 | 1000 | 1.0 | 1.0 |

4/30/24 JF

| Standard ID | SM1B-29-39-02 |
|---|---|
| Name | S21 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-09-04 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | 4/30/24 JF ~~HNO3~~ HCl 4/30/24 JF |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 4/30/24 |
| Exp. Date | 10/30/24 |
| Prepared By | JF |

Micropipette ID:

- ☐ 542740566 ☑ D42781151
- ☐ C42761044 ☐
- ☒ 942780530 ☐ 4/30/24 JF

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Mixed 12A | SM1A-025-09-08 | Mixed | 10 | Mixed |
| Mixed 12B | -09-09 | Mixed | 10 | Mixed |
| Al | -10-04 | 10000 | 10 | 100 |
| Ca | -10-09 | 10000 | 75 | 75 |
| Fe | -10-10 | 10000 | 25 | 25 |
| * Mo | -07-10 | 1000 | 2.5 | 25 |
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| | | | | 6/17/24 JF |

| Standard ID | SM1B-29-40-01 |
|---|---|
| Name | ICV (6010) |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-11-09 |
| Preservative #1 | $HNO_3$ |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 6/17/24 JF ~~6/12/24~~ |
| Exp. Date | 6/17/24 JF ~~12/12/24~~ 11/25/24 |
| Prepared By | JF |

Micropipette ID:

- ☐ 542740566 ☑ D4276099
- ☐ C42761044 ☐
- ☐ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
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| Standard ID | SM1B-29-40-02 |
|---|---|
| Name | |
| Final Volume (mL) | |
| Solvent | Reagent Water |
| Solvent ID | |
| Preservative #1 | |
| ID | |
| Volume (mL) | |
| Preservative #2 | |
| ID | |
| Volume (mL) | |
| Prep. Date | |
| Exp. Date | |
| Prepared By | |

Micropipette ID:

- ☐ 542740566 ☐
- ☐ C42761044 ☐
- ☐ 942780530 ☐

Comments:

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| B | SM1A-018-16-01 | 1000 | 1.0 | 1.0 |
| Mo | SM1A-018-15-09 | 1000 | 1.0 | 1.0 |
| Na | SM1A-025-01-07 | 10000 | 6.0 | 60 |

| Standard ID | SM1B-29-43-01 |
|---|---|
| Name | S24 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-11-02 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 6/8/24 |
| Exp. Date | 11/8/24 |
| Prepared By | JF |

Micropipette ID:

- ☒ 542740566 ☑ D42761999
- ☐ C42761044 ☑ D42781151
- ☐ 942780530 ☐

Comments:

5/8/24 JF

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| B | SM1A-018-16-01 | 1000 | 10 | 10 |
| Mo | SM1A-018-15-09 | 1000 | 10 | 10 |
| Na | SM1A-025-01-07 | 10000 | 30 | 300 |

| Standard ID | SM1B-29-43-02 |
|---|---|
| Name | S25 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-11-02 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 5/8/24 |
| Exp. Date | 11/8/24 |
| Prepared By | JF |

Micropipette ID:

- ☐ 542740566 ☑ D42761999
- ☐ C42761044 ☑ D42781151
- ☐ 942780530 ☐

Comments:

5/8/24 JF

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Al | SM1A-025-04-08 | 10000 | 0.2 | 2.0 |
| Ca | SM1A-025-10-01 | 10000 | 5.0 | 50 |
| K | SM1A-018 ~~-09 = 06~~ 5/28/24 JF | 10000 | 5.0 | 50 |
| Cr | SM1A-025-10-06 | 1000 | 1.0 | 1.0 |
| Ni | SM1A-025-04-09 | 1000 | 1.0 | 1.0 |
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| | | | | 5/28/24 JF |

| Standard ID | SM1B-29-44-01 |
|---|---|
| Name | S26 |
| Final Volume (mL) | 1,000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-11-09 |
| Preservative #1 | $HNO_3$ |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 5/28/24 |
| Exp. Date | 11/28/24 |
| Prepared By | JF |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☑ D4276199 |
| ☐ C42761044 | ☑ D4278151 |
| ☐ 942780530 | ☐ |

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Al | SM1A-025-04-08 | 10000 | 20 | 200 |
| Ca | SM1A-025-10-01 | 10000 | 50 | 500 |
| K | SM1A-025-01-06 | 10000 | 50 | 500 |
| Cr | SM1A-025-10-06 | 1000 | 10 | 10 |
| Ni | SM1A-025-04-09 | 1000 | 10 | 10 |
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| | | | | 5/28/24 JF |

| Standard ID | SM1B-29-44-02 |
|---|---|
| Name | S27 |
| Final Volume (mL) | 1,000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-11-09 |
| Preservative #1 | $HNO_3$ |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 5/28/24 |
| Exp. Date | 11/28/24 |
| Prepared By | JF |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☑ D4276199 |
| ☐ C42761044 | ☑ D4278151 |
| ☐ 942780530 | ☐ |

Comments:

125 Market Street
New Haven, CT 06513
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Recv 4/6/22 NT

# CERTIFICATE OF ANALYSIS

SM1A-025-04-08
opened 6/13/22 NT

## AccuTrace™ Reference Standard

**Catalog No:** ICP-01N-10X-5
**Description:** Aluminum ICP Standard
**Element:** Aluminum (Al)
**SRM:** 3101a
**Lot:** 221095060
**Matrix:** 5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Sep 15, 2021
**Expiration:** Sep 15, 2026
**Density:** 1.075 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Tl | nd<0.02 |
| Al | * | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Ti | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | 1.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | 0.08 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | 0.15 | Fe | 0.18 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | 0.19 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



*For use in routine laboratory analysis.*

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# CERTIFICATE OF ANALYSIS

Rec. 8/9/23 NT
SMIA-025-09-10

## AccuTrace™ Reference Standard

**Catalog No:** ICP-01N-10X-5
**Description:** Aluminum ICP Standard
**Element:** Aluminum (Al)
**SRM:** 3101a
**Lot:** 221095060
**Matrix:** 5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Sep 15, 2021
**Expiration:** Sep 15, 2026
**Density:** 1.075 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**




### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | * | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | 1.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | 0.08 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | 0.15 | Fe | 0.18 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | 0.19 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



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# CERTIFICATE OF ANALYSIS

Rec 12/7/23 NT
SM1A-025-10-07

## AccuTrace™ Reference Standard

**Catalog No:** ICP-MS-02N-1
**Description:** Antimony ICP-MS Standard
**Element:** Antimony (Sb)
**SRM:** 3102a
**Lot:** 223105012
**Matrix:** 2-5% HNO3, tr. Tartaric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Oct 3, 2023
**Expiration:** Oct 3, 2028
**Density:** 1.040 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

## Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Tl | 0.02 |
| Al | 0.31 | Co | nd<0.02 | Ge | nd<0.2 | Mg | 0.11 | Pd | nd<0.2 | Se | N/A | Tl | nd<0.2 |
| As | nd<0.2 | Cr | 0.03 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | 0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | 0.04 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | 0.38 | Fe | 0.08 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | * | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)
This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #19305, traceable to NIST.
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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Rec. 8/9/23 NT
SM1A-025-10-03

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-03N-1
**Description:** Arsenic ICP Standard
**Element:** Arsenic (As)
**SRM:** 3103a
**Lot:** 222065166
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jun 27, 2022
**Expiration:** Jun 27, 2027
**Density:** 1.012 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | nd<0.02 | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Tl** | nd<0.02 |
| **Al** | nd<0.02 | **Co** | nd<0.02 | **Ge** | nd<0.2 | **Mg** | nd<0.02 | **Pd** | nd<0.2 | **Se** | nd<0.2 | **Tl** | nd<0.2 |
| **As** | * | **Cr** | nd<0.02 | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | nd<0.2 | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | nd<0.2 | **Cu** | N/A | **Ho** | nd<0.02 | **Na** | nd<0.02 | **Rb** | N/A | **Sn** | N/A | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | N/A | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | nd<0.02 | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | nd<0.2 | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | N/A | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #19305, traceable to NIST.

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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# CERTIFICATE OF ANALYSIS

Rec. 8/25/20 NT
SM1A-018-15-08

## AccuTrace™ Reference Standard

**Catalog No:** ICP-04N-1
**Description:** Barium ICP Standard
**Element:** Barium (Ba)
**SRM:** 3104a
**Lot:** 218055112-01
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** May 12, 2020
**Expiration:** May 12, 2025
**Density:** 1.014 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

## Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | N/A | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | * | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #928 (lead nitrate).

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 822-275872-11

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



*For use in routine laboratory analysis.*

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# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

SM1A-025-0310

Rec 1/11/22 TH

**Catalog No:** ICP-05N-1
**Description:** Beryllium ICP Standard
**Element:** Beryllium (Be)
**SRM:** 3105a
**Lot:** 221105162
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Oct 28, 2021
**Expiration:** Oct 28, 2026
**Density:** 1.019 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | N/A | Co | nd<0.02 | Ge | N/A | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | N/A |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | N/A | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | * | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed gravimetrically, using a balance calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

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SM1A-018-16-01
rec. 12/9/20 NT

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-07W-1
**Description:** Boron ICP Standard
**Element:** Boron (B)
**SRM:** 3107
**Lot:** 220025114
**Matrix:** Water, tr. NH4OH
**Hazards:** *Refer to SDS for complete safety information*

GHS

**Signal Word: None**

**Date Certified:** Feb 27, 2020
**Expiration:** Feb 27, 2025
**Density:** 1.004 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | N/A | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | * | Cu | nd<0.02 | Ho | nd<0.02 | Na | 0.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | N/A | Sr | N/A | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | N/A | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | N/A | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed by acid/base titration using NaOH which was standardized against NIST SRM #84J (potassium hydrogen pthalate).

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

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SMA-018-16-02
Rec. 12/9/20 NT

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-08N-1
**Description:** Cadmium ICP Standard
**Element:** Cadmium (Cd)
**SRM:** 3108
**Lot:** 220065069
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jun 18, 2020
**Expiration:** Jun 18, 2025
**Density:** 1.013 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | N/A | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | N/A | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | N/A | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | N/A | Zn | nd<0.02 |
| Cd | * | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #928 (lead nitrate).

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



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Rec. 8/9/23 MT

# CERTIFICATE OF ANALYSIS

SM1A-025-10-01

## AccuTrace™ Reference Standard

**Catalog No:** ICP-09N-10X-5
**Description:** Calcium ICP Standard
**Element:** Calcium (Ca)
**SRM:** 3109a
**Lot:** 223045009
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 6, 2023
**Expiration:** Apr 6, 2028
**Density:** 1.043 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**




### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Tl | nd<0.02 |
| Al | N/A | Co | nd<0.02 | Ge | N/A | Mg | 1.84 | Pd | nd<0.2 | Se | N/A | Ti | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | 0.08 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | 0.04 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | * | Fe | nd<0.02 | La | N/A | Os | N/A | S | N/A | Te | nd<0.2 | Zn | 0.04 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)
This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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# CERTIFICATE OF ANALYSIS

SM1A-025-01-05
Rec. 9/27/21 NT
Exp 8/30/26

## AccuTrace™ Reference Standard

**Catalog No:** ICP-09N-10X-5
**Description:** Calcium ICP Standard
**Element:** Calcium (Ca)
**SRM:** 3109a
**Lot:** 221085109
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 30, 2021
**Expiration:** Aug 30, 2026
**Density:** 1.043 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ilac-MRA

### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | N/A | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | N/A | Co | nd<0.02 | Ge | N/A | Mg | 0.04 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | 0.12 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | N/A | Nb | nd<0.2 | Re | nd<0.2 | Sr | 0.10 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | * | Fe | nd<0.02 | La | N/A | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

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Rec. 12/7/23 MT
SM1A-025-10-06

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-13H-1
**Description:** Chromium ICP Standard
**Element:** Chromium (Cr)
**SRM:** 3112a
**Lot:** 222115119
**Matrix:** 5% Hydrochloric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Nov 17, 2022
**Expiration:** Nov 17, 2027
**Density:** 1.015 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | N/A | Ce | nd<0.2 | Gd | N/A | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Tl | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | N/A |
| As | nd<0.2 | Cr | * | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | N/A | Pt | nd<0.2 | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | N/A | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | 0.06 | La | nd<0.02 | Os | N/A | S | N/A | Te | N/A | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | N/A | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #NJ86563, traceable to NIST

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

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# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

SM1A-025-04-01
Rec 1/11/22 TH

**Catalog No:** ICP-14N-1
**Description:** Cobalt ICP Standard
**Element:** Cobalt (Co)
**SRM:** 3113
**Lot:** 221045116
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 27, 2021
**Expiration:** Apr 27, 2026
**Density:** 1.014 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | * | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | N/A |
| As | nd<0.2 | Cr | N/A | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | N/A | Cs | N/A | Hg | N/A | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | N/A | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | N/A | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | N/A | La | nd<0.02 | Os | N/A | S | 1.9 | Te | N/A | Zn | nd<0.02 |
| Cd | N/A | Ga | N/A | Li | nd<0.02 | P | N/A | Sb | N/A | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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SM1A-025-06-06
Rec. 1/17/23 NT

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-15N-1
**Description:** Copper ICP Standard
**Element:** Copper (Cu)
**SRM:** 3114
**Lot:** 221075081
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jul 28, 2021
**Expiration:** Jul 28, 2026
**Density:** 1.011 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | N/A | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Tl** | nd<0.02 |
| **Al** | nd<0.02 | **Co** | nd<0.02 | **Ge** | N/A | **Mg** | nd<0.02 | **Pd** | nd<0.2 | **Se** | nd<0.2 | **Ti** | nd<0.2 |
| **As** | nd<0.2 | **Cr** | nd<0.02 | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | N/A | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | nd<0.2 | **Cu** | * | **Ho** | nd<0.02 | **Na** | nd<0.02 | **Rb** | N/A | **Sn** | nd<0.02 | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | nd<0.2 | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | N/A | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | nd<0.02 | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | N/A | **Zn** | N/A |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager



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Rec 12/8/22 NT
SM1A-025-06-05
Exp. 4/5/27

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-27N-10X-5
**Description:** Iron ICP Standard
**Element:** Iron (Fe)
**SRM:** 3126a
**Lot:** 222035160
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 5, 2022
**Expiration:** Apr 5, 2027
**Density:** 1.061 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

ISO 17034

### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | N/A | Ge | N/A | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | N/A | Mo | nd<0.02 | Pt | N/A | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | N/A | Ho | nd<0.02 | Na | 0.13 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | N/A | Yb | nd<0.02 |
| Ca | 0.14 | Fe | * | La | nd<0.02 | Os | N/A | S | N/A | Te | N/A | Zn | N/A |
| Cd | nd<0.02 | Ga | N/A | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | N/A |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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SM1A-018-16-03
Rec. 12/9/20 HT

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-29N-1
**Description:** Lead ICP Standard
**Element:** Lead (Pb)
**SRM:** 3128
**Lot:** 220055040
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** May 12, 2020
**Expiration:** May 12, 2025
**Density:** 1.013 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | * | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | N/A | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All glassware used in preparation is Class A.
All weights are traceable through NIST, Test No. 684/289871-17
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

SM1A-025-0402
Rec 1/11/22 TH

**Catalog No:** ICP-30N-1
**Description:** Lithium ICP Standard
**Element:** Lithium (Li)
**SRM:** 3129a
**Lot:** 221115031
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*

**Date Certified:** Nov 5, 2021
**Expiration:** Nov 5, 2026
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**



**Signal Word: Danger**

ANAB ACCREDITED AR-1463

ISO Guide 34

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | N/A | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | N/A | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | * | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



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# CERTIFICATE OF ANALYSIS

SMIA-025-06-07
Rec. 1/17/23 NT

## AccuTrace™ Reference Standard

**Catalog No:** ICP-32N-10X-5
**Description:** Magnesium ICP Standard
**Element:** Magnesium (Mg)
**SRM:** 3131a
**Lot:** 222015045
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jan 14, 2022
**Expiration:** Jan 14, 2027
**Density:** 1.055 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | nd<0.02 | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Tl** | nd<0.02 |
| **Al** | nd<0.02 | **Co** | nd<0.02 | **Ge** | nd<0.2 | **Mg** | * | **Pd** | nd<0.2 | **Se** | nd<0.2 | **Tl** | nd<0.2 |
| **As** | nd<0.2 | **Cr** | nd<0.02 | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | nd<0.2 | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | nd<0.2 | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | nd<0.2 | **Cu** | nd<0.02 | **Ho** | nd<0.02 | **Na** | 0.03 | **Rb** | N/A | **Sn** | nd<0.02 | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | nd<0.2 | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | 0.2 | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | nd<0.2 | **Zr** | 0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



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SMA-025-06-08
Rec 1/17/23 NT

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-33N-1
**Description:** Manganese ICP Standard
**Element:** Manganese (Mn)
**SRM:** 3132
**Lot:** 222035090
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Mar 21, 2022
**Expiration:** Mar 21, 2027
**Density:** 1.011 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | nd<0.02 | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Ti** | nd<0.02 |
| **Al** | N/A | **Co** | nd<0.02 | **Ge** | N/A | **Mg** | 0.04 | **Pd** | nd<0.2 | **Se** | N/A | **Tl** | nd<0.2 |
| **As** | N/A | **Cr** | N/A | **Hf** | nd<0.02 | **Mn** | * | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | N/A | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | N/A | **Cu** | nd<0.02 | **Ho** | nd<0.02 | **Na** | nd<0.02 | **Rb** | N/A | **Sn** | nd<0.02 | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | N/A | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | N/A | **Y** | nd<0.02 |
| **Bi** | N/A | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | N/A | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | 0.02 | **Fe** | N/A | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | nd<0.2 | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025
This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/289871-17
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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# CERTIFICATE OF ANALYSIS

rec. 8/25/20 HT
SHIA-018-15-09

## AccuTrace™ Reference Standard

**Catalog No:** ICP-35W-1
**Description:** Molybdenum ICP Standard
**Element:** Molybdenum (Mo)
**SRM:** 3134
**Lot:** 218065027-02
**Matrix:** Water, dilute NH4OH
**Hazards:** *Refer to SDS for complete safety information*

None Required

**Signal Word:** Warning

**Date Certified:** Jun 22, 2020
**Expiration:** Jun 22, 2025
**Density:** 1.000 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | N/A | Ce | nd<0.2 | Gd | N/A | Lu | nd<0.02 | Pb | N/A | Sc | N/A | Tl | nd<0.02 |
| Al | N/A | Co | N/A | Ge | N/A | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | nd<0.2 |
| As | N/A | Cr | N/A | Hf | N/A | Mn | nd<0.02 | Pr | N/A | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | * | Pt | nd<0.2 | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | N/A | Ho | nd<0.02 | Na | N/A | Rb | N/A | Sn | nd<0.02 | V | N/A |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | N/A | Nd | nd<0.02 | Rh | N/A | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | N/A | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | N/A | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | N/A | Zr | N/A |

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #19305 , traceable to NIST.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 822-275872-11

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Megan O'Leary
Megan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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Recv 4/6/22 NT

# CERTIFICATE OF ANALYSIS

SM1A-025-04-09

## AccuTrace™ Reference Standard

**Catalog No:** ICP-37N-1
**Description:** Nickel ICP Standard
**Element:** Nickel (Ni)
**SRM:** 3136
**Lot:** 220075062
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jul 14, 2020
**Expiration:** Jul 14, 2025
**Density:** 1.014 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**




### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Tl | nd<0.02 |
| Al | N/A | Co | N/A | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | N/A | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | N/A | Mo | nd<0.02 | Pt | N/A | Sm | nd<0.2 | U | nd<0.2 |
| B | N/A | Cu | nd<0.02 | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | N/A | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | * | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | N/A | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | N/A | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025
This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/289871-17
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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# CERTIFICATE OF ANALYSIS

JHIA-025-01-06
rec. 9/27/21 NT
Exp 9/17/26

## AccuTrace™ Reference Standard

**Catalog No:** ICP-43N-10X-5
**Description:** Potassium ICP Std.
**Element:** Potassium (K)
**SRM:** 3141a
**Lot:** 221095092
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Sep 17, 2021
**Expiration:** Sep 17, 2026
**Density:** 1.031g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1469 ilac-MRA

### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | N/A | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | 0.47 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | * | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | 0.12 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | 0.05 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025
This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All glassware used in preparation is Class A.
All weights are traceable through NIST, Test No. 684/289871-17
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Megan O'Leary
Megan O'Leary, Inorganic QC Manager

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# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

SMIA-250701

Rec 3/6/23 TH

**Catalog No:** ICP-50N-5
**Description:** Scandium ICP Standard
**Element:** Scandium (Sc)
**SRM:** 3148a
**Lot:** 222085106
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*

**Signal Word: Danger**

**Date Certified:** Sep 1, 2022
**Expiration:** Sep 1, 2027
**Density:** 1.013 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | N/A | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | * | **Ti** | N/A |
| **Al** | nd<0.02 | **Co** | nd<0.02 | **Ge** | N/A | **Mg** | nd<0.02 | **Pd** | nd<0.2 | **Se** | N/A | **Tl** | nd<0.2 |
| **As** | nd<0.2 | **Cr** | nd<0.02 | **Hf** | **0.04** | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | N/A | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | N/A |
| **B** | N/A | **Cu** | N/A | **Ho** | nd<0.02 | **Na** | N/A | **Rb** | N/A | **Sn** | nd<0.02 | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | N/A | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | N/A | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | nd<0.2 | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | N/A | **Yb** | nd<0.02 |
| **Ca** | **0.05** | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | N/A | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | N/A | **Zr** | **0.08** |

This Certified Reference Material was verified in accordance with ISO/IEC 17025
This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/289871-17
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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# CERTIFICATE OF ANALYSIS

Rec 12/7/23 NT
SM1A-025-10-08

## AccuTrace™ Reference Standard

**Catalog No:** ICP-51N-1
**Description:** Selenium ICP Standard
**Element:** Selenium (Se)
**SRM:** 3149
**Lot:** 223045074
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 26, 2023
**Expiration:** Apr 26, 2028
**Density:** 1.011 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | nd<0.02 | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Ti** | nd<0.02 |
| **Al** | nd<0.02 | **Co** | nd<0.02 | **Ge** | nd<0.2 | **Mg** | nd<0.02 | **Pd** | nd<0.2 | **Se** | * | **Tl** | nd<0.2 |
| **As** | nd<0.2 | **Cr** | nd<0.02 | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | nd<0.2 | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | nd<0.2 | **Cu** | nd<0.02 | **Ho** | nd<0.02 | **Na** | 0.02 | **Rb** | N/A | **Sn** | nd<0.02 | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | nd<0.2 | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | nd<0.02 | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | nd<0.2 | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)
This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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Rec. 8/9/23 NT
SMIA-025-10-02

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-53N-1
**Description:** Silver ICP Standard
**Element:** Silver (Ag)
**SRM:** 3151
**Lot:** 221085036
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 13, 2021
**Expiration:** Aug 13, 2026
**Density:** 1.011 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**




### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | * | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Ti** | nd<0.02 |
| **Al** | N/A | **Co** | nd<0.02 | **Ge** | nd<0.2 | **Mg** | nd<0.02 | **Pd** | nd<0.2 | **Se** | nd<0.2 | **Tl** | nd<0.2 |
| **As** | nd<0.2 | **Cr** | nd<0.02 | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | nd<0.2 | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | nd<0.2 | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | nd<0.2 | **Cu** | nd<0.02 | **Ho** | nd<0.02 | **Na** | 0.02 | **Rb** | N/A | **Sn** | N/A | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | N/A |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | N/A | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | nd<0.02 | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | nd<0.2 | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using a Volhard titration calibrated against 99.999% silver shot.

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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# CERTIFICATE OF ANALYSIS

SMIA-025-01-07
Rec. 9/27/21 HT
Exp 9/27/26

## AccuTrace™ Reference Standard

**Catalog No:** ICP-54N-10X-5
**Description:** Sodium ICP Standard
**Element:** Sodium (Na)
**SRM:** 3152a
**Lot:** 221085140
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



Signal Word: Danger

**Date Certified:** Sep 1, 2021
**Expiration:** Sep 1, 2026
**Density:** 1.036 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

ilac-MRA

### Certified Concentration: 10000 µg/mL

Trace Elements in µg/mL

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | * | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | 0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | 0.04 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | 0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I-18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



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Recv 4/6/22 NT

# CERTIFICATE OF ANALYSIS

SMA-025-04-10

## AccuTrace™ Reference Standard

**Catalog No:** ICP-55N-1
**Description:** Strontium ICP Standard
**Element:** Strontium (Sr)
**SRM:** 3153a
**Lot:** 219065099-02
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Feb 8, 2022
**Expiration:** Feb 8, 2027
**Density:** 1.013 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1483

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | N/A | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | N/A | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | 0.12 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | * | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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# CERTIFICATE OF ANALYSIS

SM1A-025-06-09

## AccuTrace™ Reference Standard rec. 2/1/23 NT

**Catalog No:** ICP-60N-1
**Description:** Thallium ICP Standard
**Element:** Thallium (Tl)
**SRM:** 3158
**Lot:** 222065021
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jun 6, 2022
**Expiration:** Jun 6, 2027
**Density:** 1.012 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | nd<0.02 | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | nd<0.2 | **Sc** | nd<0.02 | **Ti** | nd<0.02 |
| **Al** | nd<0.02 | **Co** | nd<0.02 | **Ge** | nd<0.2 | **Mg** | nd<0.02 | **Pd** | nd<0.2 | **Se** | nd<0.2 | **Tl** | * |
| **As** | nd<0.2 | **Cr** | nd<0.02 | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | nd<0.2 | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | nd<0.2 | **Cu** | nd<0.02 | **Ho** | nd<0.02 | **Na** | nd<0.02 | **Rb** | N/A | **Sn** | N/A | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | nd<0.2 | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | nd<0.2 | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | N/A | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | N/A | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | nd<0.2 | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



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# CERTIFICATE OF ANALYSIS

SM1A-018-12-08
Rcvd. 01/03/20 LW

## AccuTrace™ Reference Standard

**Catalog No:** ICP-63H-10X-1
**Description:** Tin ICP Standard
**Element:** Tin (Sn)
**SRM:** 3161a
**Lot:** 217115110-01
**Matrix:** 20% Hydrochloric acid
**Hazards:** *Refer to SDS for complete safety information*



Signal Word: Danger

**Date Certified:** Dec 10, 2019
**Expiration:** Dec 10, 2024
**Density:** 1.045 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

## Certified Concentration: 9999 µg/mL

Trace Elements in µg/mL

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | * | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | 0.03 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #19305, traceable to NIST.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A and calibrated regularly.

All weights are traceable through NIST, Test No. 822-275872-11

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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# CERTIFICATE OF ANALYSIS

Rec. 5/17/22 NT
SM1A-025-05-01

## AccuTrace™ Reference Standard

**Catalog No:** ICP-64W-1
**Description:** Titanium ICP Standard
**Element:** Titanium (Ti)
**SRM:** 3162a
**Lot:** 220115136
**Matrix:** Water, tr. HF
**Hazards:** *Refer to SDS for complete safety information*

**Signal Word: Warning**

**Date Certified:** Nov 20, 2020
**Expiration:** Nov 20, 2025
**Density:** 1.004 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

ilac-MRA

## Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | N/A | **Ce** | nd<0.2 | **Gd** | N/A | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Ti** | * |
| **Al** | N/A | **Co** | nd<0.02 | **Ge** | N/A | **Mg** | nd<0.02 | **Pd** | N/A | **Se** | nd<0.2 | **Tl** | nd<0.2 |
| **As** | nd<0.2 | **Cr** | N/A | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | N/A |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | nd<0.2 | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | N/A |
| **B** | nd<0.2 | **Cu** | nd<0.02 | **Ho** | nd<0.02 | **Na** | nd<0.02 | **Rb** | N/A | **Sn** | N/A | **V** | N/A |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | 0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | N/A | **Y** | nd<0.02 |
| **Bi** | N/A | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | nd<0.02 | **Fe** | nd<0.02 | **La** | N/A | **Os** | N/A | **S** | N/A | **Te** | N/A | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | N/A | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025
This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/289871-17
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan C. O'Leary

Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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# CERTIFICATE OF ANALYSIS

SM1A-025-06-10

## AccuTrace™ Reference Standard Rec. 2/1/23 NT

**Catalog No:** ICP-67N-1
**Description:** Vanadium ICP Standard
**Element:** Vanadium (V)
**SRM:** 3165
**Lot:** 221065136
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jun 29, 2021
**Expiration:** Jun 29, 2026
**Density:** 1.014 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | N/A |
| Al | N/A | Co | nd<0.02 | Ge | N/A | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | nd<0.2 |
| As | N/A | Cr | N/A | Hf | nd<0.02 | Mn | N/A | Pr | N/A | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | N/A | Mo | nd<0.02 | Pt | N/A | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | N/A | Rb | N/A | Sn | N/A | V | * |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | N/A | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | N/A | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | N/A | Yb | nd<0.02 |
| Ca | N/A | Fe | N/A | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | N/A | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025
This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/289871-17
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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SHIA-018-16-04
rec. 12/9/20 NT

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-70N-1
**Description:** Zinc ICP Standard
**Element:** Zinc (Zn)
**SRM:** 3168a
**Lot:** 220065027
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jun 9, 2020
**Expiration:** Jun 9, 2025
**Density:** 1.014 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AI-1339 ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | N/A | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | N/A | Zn | * |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



**AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015**

QR-ORG/INO-001
Rev. 7/20

CPI INTERNATIONAL

SM1A-025-10-04
Rec 8/29/23 NT
Exp 2/22/25

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100011

**Aluminum (Al)** – 1000 µg/mL

Lot #: 1136191-68

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Al | 1002 ± 2 µg/mL (w/v) |
| | 991.0 ± 2.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure aluminum nitrate [$Al(NO_3)_3$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3101a, lot #140903**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | MAJOR | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | 2 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | 41 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | 2 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | 5 | Y | <0.5 |
| Ca | 44 | Fe | 20 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | 39 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

August 22, 2023
**Certification Date**

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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SM1A-025-11-10

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Rec 2/28/24 TH

Product #: S4400-10M11

**Aluminum (Al)** – 10,000 µg/mL

Lot #: 1440218

Matrix: 5% $HNO_3$

*Expiration Date: 9 July 2026

| Element | Certified Concentration & Uncertainty |
|---|---|
| Al | 10,025 ± 37 µg/mL (w/v) |
| | 9400 ± 34 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure aluminum nitrate [$Al(NO_3)_3$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3101a, lot #140903**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | <10 | Ge | <5 | Lu | <2 | P | <1000 | Sb | 15 | Te | <10 |
| Al | MAJOR | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | 28 | Hg | <5 | Mn | <10 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | 12 |
| Ba | 11 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | <5 | W | <5 |
| Bi | <5 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | 361 | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | 296 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

25 July 2023

**Chuck Goudreau, Certifying Officer** — **Certification Date** — **Date Opened**

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SMIA-025-08-07
Rec. 5/31/23 HT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100023

**Antimony (Sb)** – 1000 µg/mL

Lot #: 1225595-14

Matrix: 5% $HNO_3$/0.1% HF

| Element | Certified Concentration & Uncertainty |
|---|---|
| Sb | 1001 ± 2 µg/mL (w/v) |
| | 980.0 ± 2.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure antimony (Sb) The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3102a, lot #140911**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | MAJOR | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | 0.9 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | 2 | Rb | 3 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | 7 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100031

**Arsenic (As)** – 1000 µg/mL

Lot #: 1218353-64

NT 5/31/23

25 SMIA 08-08-10

Rec. 5/31/23

Exp. 11/25/24

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| As | 1002 ± 3 µg/mL (w/v) |
| | 987.0 ± 3.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure arsenic (As). The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3103a, lot #100818**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | 3 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | MAJOR | Cr | <0.5 | Hg | <0.5 | Mn | 4 | Pd | 2 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | 2 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | 0.4 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | 19 | Ru | 24 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023

**Certification Date**

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SMLA-025-09-07
Rec 5/3/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100041

**Barium (Ba)** – 1000 µg/mL

Lot #: 1361521-1

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Ba | 998.0 ± 4.0 µg/mL (w/v) |
| | 988.0 ± 4.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure barium nitrate [$Ba(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3104a, lot #140909**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | 0.92 | V | <1 |
| Ba | MAJOR | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | 10.89 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | 8.892 | Y | 0.83 |
| Ca | <25 | Fe | <10 | La | 2.118 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SM1A-025-09-01
Rec. 5/31/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100051

**Beryllium (Be)** – 1000 µg/mL

Lot #: 1273018-32

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Be | 995.0 ± 5.0 µg/mL (w/v) |
| | 984.0 ± 5.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to, **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.995% pure beryllium acetate [$Be_4O(C_2H_3O_2)_6$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3105a, lot #090514**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | 2 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | 4 | Te | 12 |
| Al | <2 | Cs | <0.5 | Hf | 2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | 0.7 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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CPI INTERNATIONAL

NT 5/31/23 Stet SM1A-025-07-07 Rec. 5/31/23 NT Exp. 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100074

**Boron (B)** – 1000 µg/mL

Lot #: 1284162-23

Matrix: $H_2O$

| Element | Certified Concentration & Uncertainty |
|---|---|
| B | 995.0 ± 3.0 µg/mL (w/v) |
| | 997.0 ± 3.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9995% pure boric acid ($H_3BO_3$) dissolved and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration prvider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3107, lot #190605**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | 2 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | MAJOR | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | 0.7 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | 18 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | 16 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | 8 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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Rec. 12/8/23 TH
SMA-025-10-09

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M91

**Calcium (Ca)** – 10,000 µg/mL

Lot #: 1420618

Matrix: 4% $HNO_3$

*Expiration Date: 25 February 2026

| Element | Certified Concentration & Uncertainty |
|---|---|
| Ca | 10,050 ± 35 µg/mL (w/v) |
| | 9696 ± 34 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure calcium carbonate ($CaCO_3$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3109a, lot #130213**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | <10 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | 51 | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | <5 | Hg | <5 | Mn | <10 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | <10 |
| Ba | <10 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | <5 | W | <5 |
| Bi | 2.01 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | 76 | Y | <5 |
| Ca | MAJOR | Fe | <100 | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | <5 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

13 March 2023
**Certification Date**

**Date Opened**

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SHI A-025-07-06
Rec. 5/31/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000121

**Chromium (Cr)** – 1000 µg/mL

Lot #: 1222801-30

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Cr | 1004 ± 3 µg/mL (w/v) |
| | 997.0 ± 3.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.996% pure chromium (Cr). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3112a, lot #170630**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | 5 |
| Al | <2 | Cs | <0.5 | Hf | 2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | MAJOR | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | 84 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | 1 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | 0.8 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023

**Certification Date**

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SMA-025-09-02
Rec. 5/31/23 HT
Exp 6/9/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100081

**Cadmium (Cd)** – 1000 µg/mL

Lot #: 1363528-3

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Cd | 999.0 ± 4.0 µg/mL (w/v) |
| | 994.0 ± 4.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure cadmium (Cd) dissolved in high purity nitric acid ($HNO_3$) and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3108, lot #130116**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | 1.053 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | MAJOR | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | 4 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SMA-025-09-03
Rec 5/31/23 NT

# CERTIFICATE OF ANALYSIS Exp 11/25/24

Single-Element Aqueous CRM

Product #: S4400-1000131

**Cobalt (Co)** – 1000 µg/mL

Lot #: 1222807-57

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Co | 991.0 ± 3.0 µg/mL (w/v) |
| | 985.0 ± 3.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001, ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.998% pure cobalt (Co) dissolved in high purity nitric acid ($HNO_3$) and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3113, lot #190630**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | MAJOR | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | 28 | Sc | <5 | Ti | <2 |
| As | 75 | Cr | 5 | Hg | <0.5 | Mn | 5 | Pd | <0.5 | Se | 4 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | 2 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | 5 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | 7 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | 1 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SMA-025-09-05
Rec 5/31/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S 4400-1000141

**Copper (Cu)** – 1000 µg/mL

Lot #: 1259550-18

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Cu | 1008 ± 3 µg/mL (w/v) |
| | 998.0 ± 3.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure copper (Cu). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3114, lot #121207**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | <10 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | <20 | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | <5 | Hg | <5 | Mn | <10 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | MAJOR | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | <10 |
| Ba | <10 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | <5 | W | <5 |
| Bi | <2 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | <100 | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | <5 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M261 (1)

**Iron (Fe)** – 10,000 µg/mL

Lot #: 1240670-6

SMA-025-06-01
Rec 9|13|22 NT
Exp 3|6|24

Matrix: 4% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Fe | 9981 ± 39 µg/mL (w/v) |
| | 9562 ± 38 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure iron nitrate nonahydrate [$Fe(NO_3)_3$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3126a, lot #140812**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | 19 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | <20 | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | 17 | Hg | <5 | Mn | 14 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | <10 |
| Ba | <10 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | <5 | W | <5 |
| Bi | <2 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | MAJOR | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | <5 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

September 6, 2022
**Certification Date**

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Rec. 12/8/23 TH
SM1A-025-10-10

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M261

**Iron (Fe)** – 10,000 µg/mL

Lot #: 1420611

Matrix: 4% $HNO_3$

*Expiration Date: 29 March 2026

| Element | Certified Concentration & Uncertainty |
|---|---|
| Fe | 10,030 ± 39 µg/mL (w/v) |
| | 9631 ± 37 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure iron nitrate nonahydrate [$Fe(NO_3)_3$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3126a, lot #140812**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | 18 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | <20 | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | 9 | Hg | <5 | Mn | <10 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | <10 |
| Ba | <10 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | <5 | W | <5 |
| Bi | <2 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | MAJOR | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | 11 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

12 April 2023
**Certification Date**

**Date Opened**

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SM1A-025-08-06
Rec. 5/31/23
Exp 11/25/2324
NT 5/31/23

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000281

**Lead (Pb)** – 1000 µg/mL

Lot #: 1292047-29

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Pb | 998.0 ± 4.0 µg/mL (w/v) |
| | 993.0 ± 4.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure lead (Pb). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3128, lot #101026**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | MAJOR | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | 3 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | 4 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | 36 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | 6 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SM1A – 025 – 11-06
rcv. 01/16/24 HC

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM — Product #: S4400-1000291

**Lithium (Li)** – 1000 µg/mL — Lot #: 1421712

Matrix: 3% $HNO_3$ — *Expiration Date: 19 February 2026

| Element | Certified Concentration & Uncertainty |
|---|---|
| Li | 1010 ± 3 µg/mL (w/v) |
| | 1002 ± 3 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure lithium carbonate ($Li_2CO_3$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3129a, lot #100714**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | 1 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | MAJOR | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer** — 28 February 2023 **Certification Date** — **Date Opened**

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Rec. 12/8/23 TH
SM1A-025-11-01

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

**Magnesium (Mg)** – 10,000 µg/mL

Matrix: 4% $HNO_3$

Product #: S4400-10M311

Lot #: 1412370

*Expiration Date: 30 September 2026

| Element | Certified Concentration & Uncertainty |
|---|---|
| Mg | 10,087 ± 23 µg/mL (w/v) |
| | 9599 ± 22 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure magnesium nitrate [$Mg(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3131a, lot #140110**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | <10 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | <20 | Cs | <5 | Hf | <2 | Mg | MAJOR | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | <5 | Hg | <5 | Mn | 18 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | <10 |
| Ba | 12 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | 14 | W | <5 |
| Bi | <2 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | <100 | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | <5 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

16 October 2023
**Certification Date**

**Date Opened**

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SM1A-025-08-08
Rec. 5/31/23 DT
Exp. 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000321

**Manganese (Mn)** – 1000 µg/mL

Lot #: 1137585-82

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Mn | 1010 ± 5 µg/mL (w/v) |
| | 1005 ± 5 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.98% pure manganese (Mn). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3132, lot #050429**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | 13 | Cs | <0.5 | Hf | <0.2 | Mg | 30 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | 12 | Hg | <0.5 | Mn | MAJOR | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | 0.6 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SMA-025-07-10
Rec. 5/31/23 NT
Exp. 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000343

**Molybdenum (Mo)** – 1000 µg/mL

Lot #: 1339101-6

Matrix: 2% $HNO_3$/0.1% HF

| Element | Certified Concentration & Uncertainty |
|---|---|
| Mo | 1005 ± 4 µg/mL (w/v) |
| | 986.0 ± 4.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure molybdenum (Mo). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3134, lot #130418**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | 1 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | 0.7 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | 102 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | 2 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | MAJOR | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | 6 | Rb | <0.5 | Sn | 1 | W | 74 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | 8 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | 33 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | 3 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SMA-025-08-09
Rec. 5/31/23 NT
Exp. 11/25/24

# REPORT OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000361

**Nickel (Ni)** – 1000 µg/mL

Lot #: 1338414-10

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Ni | 998.0 ± 4.0 µg/mL (w/v) |
| | 989.0 ± 4.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.996% pure nickel (Ni). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3136 lot #120619.** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | 5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | 45 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | MAJOR | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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Rec. 12/8/23 TH
SMA-025-11-02

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

**Potassium (K)** – 10,000 µg/mL

Matrix: 1% $HNO_3$

Product #: S4400-10M411

Lot #: 1402510

*Expiration Date: 2 January 2026

| Element | Certified Concentration & Uncertainty |
|---|---|
| K | 9974 ± 48 µg/mL (w/v) |
| | 9747 ± 47 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure potassium nitrate ($KNO_3$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3141a, lot #140813**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | <10 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | <20 | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | <5 | Hg | <5 | Mn | <10 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | <10 |
| Ba | 16 | Er | <2 | Ir | <2 | Nb | <5 | Rb | 53 | Sn | <5 | W | <5 |
| Bi | <2 | Eu | <2 | K | MAJOR | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | <100 | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | <5 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

9 January 2023
**Certification Date**

**Date Opened**

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SMIA-025-07-09
Rec. 5/31/23 HT

# CERTIFICATE OF ANALYSIS

Exp 11/25/24

Single-Element Aqueous CRM

Product #: S4400-1000491

**Selenium (Se)** – 1000 µg/mL

Lot #: 1242587-28

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Se | 993.0 ± 5.0 µg/mL (w/v) |
| | 985.0 ± 5.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure selenium (Se). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3149, lot #100901**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | MAJOR | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | 0.92 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SM4-025-09-04
Rec. 5/31/23 HT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000511

**Silver (Ag)** – 1000 µg/mL

Lot #: 1211976-63

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Ag | 1006 ± 2 µg/mL (w/v) |
| | 999.0 ± 2.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure silver (Ag) dissolved in high purity nitric acid ($HNO_3$) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3151, lot #160729**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | MAJOR | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | 0.6 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | 0.6 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SWA-025-08-03
Rec. 5/31/23 HT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M521

**Sodium (Na)** – 10,000 µg/mL

Lot #: 1339275-8

Matrix: 3% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Na | 10,050 ± 22 µg/mL (w/v) |
| | 9758 ± 21 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure sodium carbonate ($Na_2CO_3$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3152a, lot #200413**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | <10 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | <20 | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | <5 | Hg | <5 | Mn | <10 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | MAJOR | Pt | <5 | Sm | <2 | V | <10 |
| Ba | <10 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | <5 | W | <5 |
| Bi | <2 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | <100 | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | <5 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SMA-025-09-06
Rec. 5/31/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000531

**Strontium (Sr)** – 1000 µg/mL

Lot #: 1303809-5

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Sr | 996.0 ± 5.0 µg/mL (w/v) |
| | 993.0 ± 5.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9965% pure strontium nitrate [$Sr(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3153a, lot #990906**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | 0.7 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | 81 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | MAJOR | Y | 2 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | 2 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | 0.6 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SMA-025-08-01
Rec. 5/31/23 NT
Exp. 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000581

**Thallium (Tl)** – 1000 µg/mL

Lot #: 1239312-24

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Tl | 994.0 ± 6.0 µg/mL (w/v) |
| | 935.0 ± 5.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure thallium (Tl) dissolved in high purity nitric acid ($HNO_3$) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3158, lot #151215**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | 2 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | 24 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | 9 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | 51 | Mn | <1 | Pd | 19 | Se | 5 | Tl | MAJOR |
| Au | <0.5 | Cu | 8 | Ho | <0.2 | Mo | 15 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | 1 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | 0.6 |
| Bi | 0.4 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | 0.4 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | 4 | Ni | <2 | Rh | 5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | 3 | Ru | 9 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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Rec. 5/31/23 NT
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# CERTIFICATE OF ANALYSIS

## Single-Element Aqueous CRM

Product #: S4400-1000613

## Tin (Sn) – 1000 µg/mL

Lot #: 1222809-18

Matrix: 2% $HNO_3$/0.5% HF

| Element | Certified Concentration & Uncertainty |
|---|---|
| Sn | 1000 ± 3 µg/mL (w/v) |
| | 982.0 ± 3.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure tin (Sn). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3161a, lot #140917**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | 35 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | 4 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | 2 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | 2 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | 1 | Sn | MAJOR | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | 190 | Rh | <0.5 | Ta | 1 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000623

**Titanium (Ti)** – 1000 µg/mL

Lot #: 1195496-37

Matrix: 2% $HNO_3$/0.5% HF

| Element | Certified Concentration & Uncertainty |
|---|---|
| Ti | 999.0 ± 2.0 µg/mL (w/v) |
| | 978.0 ± 2.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99+% pure titanium (Ti). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3162a, lot #130925**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | 0.697 | Co | 1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | 10 | Cs | <0.5 | Hf | 23 | Mg | 1171 | Pb | <1 | Sc | <5 | Ti | MAJOR |
| As | 30 | Cr | 2 | Hg | <0.5 | Mn | <1 | Pd | 1 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | 11 | Ho | <0.2 | Mo | 55.97 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | 83 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | 2 | Nb | 0.7 | Rb | 0.7 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | 196.8 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | 24 | La | <0.5 | Ni | 8 | Rh | <0.5 | Ta | 1 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | 5 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000641

**Uranium (U)** – 1000 µg/mL

Lot #: 1249254-17

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| U | 995.0 ± 5.0 µg/mL (w/v) |
| | 990.0 ± 5.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure uranyl nitrate hexahydrate $[UO_2(NO_3)_2{\cdot}6H_2O]$. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3164, lot #080521**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | 4 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | 3 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SMA-025-07-05
Rec. 5/31/25 PT
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# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000651

**Vanadium (V)** – 1000 µg/mL

Lot #: 1361538-2

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| V | 996.0 ± 5.0 µg/mL (w/v) |
| | 982.0 ± 4.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.995% pure vanadium pentoxide ($V_2O_5$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3165, lot #160906**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | 0.7 | Te | <1 |
| Al | 13 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | 18 |
| As | <2 | Cr | 185 | Hg | <0.5 | Mn | 10 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | 1 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | MAJOR |
| Ba | 1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | 1 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | 168.6 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | 0.9 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | 13 |
| Ce | 0.3 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

CPI international waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

SM1A-025-08-04
Rec. 5/31/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000681

**Zinc (Zn)** – 1000 µg/mL

Lot #: 1216101-67

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Zn | 1010 ± 6 µg/mL (w/v) |
| | 1002 ± 6 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a, lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | MAJOR |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SM1A-025-10-05
Rec 9/5/23 NT
Exp. 2/28/25

# Certificate of Analysis

## Custom Standard

**Catalog Number:** 4400-110117RH09-100 (MRL AFCEE)
**Lot Number:** 2324017
**Manufacture Date:** August 28, 2023

**Expiration:** February 28, 2025
**Matrix:** 5% HNO3 / Tr HF

| Analyte | Certified Concentration (µg/mL) | Analyte | Certified Concentration (µg/mL) |
|---|---|---|---|
| Ag | 10.0 ± 0.1 | Mg | 200 ± 2 |
| Al | 200 ± 2 | Mn | 5.00 ± 0.05 |
| As | 10.0 ± 0.1 | Mo | 10.0 ± 0.1 |
| B | 100 ± 1 | Na | 500 ± 5 |
| Ba | 5.00 ± 0.05 | Ni | 10.0 ± 0.1 |
| Be | 4.00 ± 0.04 | Pb | 3.00 ± 0.03 |
| Ca | 500 ± 5 | Sb | 50.0 ± 0.5 |
| Cd | 5.00 ± 0.05 | Se | 10.0 ± 0.1 |
| Co | 10.0 ± 0.1 | Sr | 10.0 ± 0.1 |
| Cr | 10.0 ± 0.1 | Ti | 10.0 ± 0.1 |
| Cu | 10.0 ± 0.1 | Tl | 10.0 ± 0.1 |
| Fe | 100 ± 1 | V | 10.0 ± 0.1 |
| K | 1000 ± 10 | Zn | 10.0 ± 0.1 |
| Li | 100 ± 1 | | |

### Packaging, Storage, Instructions For Use

**Store at room temperature (15-30°C)**

This certified reference material (CRM) is packaged in HDPE as a whole volume ready to use sample. No secondary preparative steps are necessary. Allow to equilibrate to room temperature before use. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by Perry Johnson), ISO/IEC 17025 (accredited by ANAB), and ISO 17034 (accredited by ANAB) quality system.

### Traceability Information

**Analyte Source Materials:** The highest purity analyte source materials are used in the manufacture of this CRM. The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties.

**Method:** This CRM was verified by ICP.

**Balance:** The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in 'NIST Weights and Measures Measurement Assurance Program' with a certificate of measurement traceability to NIST primary standards. The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

**Thermometer:** The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

**Glassware:** All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. The calibrations of volumetric vessels are verified using the ASTM method E542.

CPI INTERNATIONAL

SM1A-025-06-04
Rec. 9/15/22 TH
Exp. 3/31/24

# Certificate of Analysis

## Mix 12 A

**Catalog Number:** 4400-110117RH12 (Soln A)
**Lot Number:** 220824
**Manufacture Date:** 09/02/22

Rec 9/15/22 TH

**Expiration:** 03/31/2024
**Matrix:** 2% HNO3
**Hazards:** Irritant, Corrosive

| Analyte | Certified Concentration (ppm) |
|---|---|
| Arsenic (As) | 100 ± 0.575 |
| Barium (Ba) | 200 ± 1.15 |
| Beryllium (Be) | 150 ± 0.863 |
| Boron (B) | 250 ± 1.44 |
| Cadmium (Cd) | 200 ± 1.15 |
| Chromium (Cr) | 250 ± 1.44 |
| Cobalt (Co) | 100 ± 0.575 |
| Copper (Cu) | 250 ± 1.44 |
| Lead (Pb) | 250 ± 1.44 |
| Lithium (Li) | 50.0 ± 0.288 |
| Magnesium (Mg) | 6000 ± 34.5 |
| Manganese (Mn) | 250 ± 1.44 |
| Nickel (Ni) | 250 ± 1.44 |
| Potassium (K) | 6000 ± 34.5 |
| Selenium (Se) | 100 ± 0.575 |
| Silver (Ag) | 50.0 ± 0.288 |
| Sodium (Na) | 6000 ± 34.5 |
| Strontium (Sr) | 50.0 ± 0.288 |
| Thallium (Tl) | 250 ± 1.44 |
| Vanadium (V) | 150 ± 0.863 |
| Zinc (Zn) | 250 ± 1.44 |

**Catalog Number:** 4400-110117RH12 (Soln B)
**Lot Number:** 220723
**Manufacture Date:** 08/04/22

Mix 12 B

**Expiration:** 02/29/2024
**Matrix:** 5% HNO3/tr. HF
**Hazards:** Irritant, Corrosive

SM1A-025-05-08
Rec. 8/15/22 NT
Exp. 2/29/24

| Analyte | Certified Concentration (ppm) |
|---|---|
| Antimony (Sb) | 150 ± 0.863 |
| Tin (Sn) | 50.0 ± 0.288 |
| Titanium (Ti) | 50.0 ± 0.288 |

Mixed 12A
SM1A-025-09-08
Rec. 7/11/23 NT
Exp. 1/31/25

# Certificate of Analysis

## Custom Standard

**Catalog Number:** 4400-110117RH12-A-100
**Lot Number:** 2318102
**Manufacture Date:** July 3, 2023

**Expiration:** January 31, 2025
**Matrix:** 2% HNO3

| Analyte | Certified Concentration (µg/mL) | Analyte | Certified Concentration (µg/mL) |
|---|---|---|---|
| Ag | 50.0 ± 0.5 | Mg | 6000 ± 40 |
| As | 100 ± 1 | Mn | 250 ± 4 |
| B | 250 ± 3 | Na | 6000 ± 40 |
| Ba | 200 ± 2 | Ni | 250 ± 3 |
| Be | 150 ± 2 | Pb | 250 ± 3 |
| Cd | 200 ± 2 | Se | 100 ± 1 |
| Co | 100 ± 1 | Sr | 50.0 ± 0.5 |
| Cr | 250 ± 3 | Tl | 250 ± 3 |
| Cu | 250 ± 3 | V | 150 ± 2 |
| K | 6000 ± 60 | Zn | 250 ± 3 |
| Li | 50.0 ± 0.5 | | |

### Packaging, Storage, Instructions For Use

**Store at room temperature (15-30°C)**

This certified reference material (CRM) is packaged in HDPE as a whole volume ready to use sample. No secondary preparative steps are necessary. Allow to equilibrate to room temperature before use. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by Perry Johnson), ISO/IEC 17025 (accredited by ANAB), and ISO 17034 (accredited by ANAB) quality system.

### Traceability Information

**Analyte Source Materials:** The highest purity analyte source materials are used in the manufacture of this CRM. The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties.

**Method:** This CRM was verified by ICP.

**Balance:** The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in 'NIST Weights and Measures Measurement Assurance Program' with a certificate of measurement traceability to NIST primary standards. The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

**Thermometer:** The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

**Glassware:** All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. The calibrations of volumetric vessels are verified using the ASTM method E542.

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Mixed 12 B
SMA-025-09-09
Rec. 7/11/23 NT
Exp. 1/31/25

# Certificate of Analysis

## Custom Standard

**Catalog Number:** 4400-110117RH12-B-100
**Lot Number:** 2318123
**Manufacture Date:** June 30, 2023

**Expiration:** January 31, 2025
**Matrix:** 5% HNO3 / 0.5% HF

| Analyte | Certified Concentration (µg/mL) |
|---|---|
| Sb | 150 ± 2 |
| Sn | 50.0 ± 0.5 |
| Ti | 50.0 ± 0.5 |

### Packaging, Storage, Instructions For Use

**Store at room temperature (15-30°C)**

This certified reference material (CRM) is packaged in HDPE as a whole volume ready to use sample. No secondary preparative steps are necessary. Allow to equilibrate to room temperature before use. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by Perry Johnson), ISO/IEC 17025 (accredited by ANAB), and ISO 17034 (accredited by ANAB) quality system.

### Traceability Information

**Analyte Source Materials:** The highest purity analyte source materials are used in the manufacture of this CRM. The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties.

**Method:** This CRM was verified by ICP.

**Balance:** The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in 'NIST Weights and Measures Measurement Assurance Program' with a certificate of measurement traceability to NIST primary standards. The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

**Thermometer:** The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

**Glassware:** All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. The calibrations of volumetric vessels are verified using the ASTM method E542.

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# Certificate of Analysis

## Mix 11 Solutions A & B

**Catalog Number:** 4400-110117RH11 (Soln A)
**Lot Number:** 220718
**Manufacture Date:** 08/02/22

**Expiration:** 02/29/2024
**Matrix:** 2% HNO3
**Hazards:** Irritant, Corrosive

SMIA-025-05.05
Rec. 8/15/22 NT
Exp. 2/29/24

| Analyte | Certified Concentration (ppm) |
|---|---|
| Arsenic (As) | 100 ± 0.575 |
| Barium (Ba) | 50.0 ± 0.288 |
| Beryllium (Be) | 50.0 ± 0.288 |
| Boron (B) | 50.0 ± 0.288 |
| Cadmium (Cd) | 100 ± 0.575 |
| Chromium (Cr) | 50.0 ± 0.288 |
| Cobalt (Co) | 50.0 ± 0.288 |
| Copper (Cu) | 50.0 ± 0.288 |
| Lead (Pb) | 100 ± 0.575 |
| Lithium (Li) | 100 ± 0.575 |
| Manganese (Mn) | 50.0 ± 0.288 |
| Nickel (Ni) | 100 ± 0.575 |
| Potassium (K) | 7500 ± 43.1 |
| Selenium (Se) | 100 ± 0.575 |
| Silver (Ag) | 100 ± 0.575 |
| Sodium (Na) | 7500 ± 43.1 |
| Strontium (Sr) | 50.0 ± 0.288 |
| Thallium (Tl) | 100 ± 0.575 |
| Vanadium (V) | 50.0 ± 0.288 |
| Zinc (Zn) | 100 ± 0.575 |

**Catalog Number:** 4400-110117RH11 (Soln B)
**Lot Number:** 220719
**Manufacture Date:** 08/01/22

**Expiration:** 02/29/2024
**Matrix:** 5% HNO3/1% HF
**Hazards:** Irritant, Corrosive

SMIA-025-05-06
Rec. 8/15/22 HT
Exp. 2/29/24

| Analyte | Certified Concentration (ppm) |
|---|---|
| Antimony (Sb) | 100 ± 0.575 |
| Molybdenum (Mo) | 100 ± 0.575 |
| Tin (Sn) | 100 ± 0.575 |
| Titanium (Ti) | 100 ± 0.575 |

CPI INTERNATIONAL

# Certificate of Analysis

SM1A-025-11-08
Rec: 2/13/24 JC
Exp: 7/31/25

## Custom Standard (Mix 11A)

**Catalog Number:** 4400-110117RH11-A-100
**Lot Number:** 2401901
**Manufacture Date:** January 19, 2024
**Expiration:** July 31, 2025
**Matrix:** 2% HNO3

| Analyte | Certified Concentration (µg/mL) | Analyte | Certified Concentration (µg/mL) |
|---|---|---|---|
| Ag | 100 ± 1 | Li | 100 ± 1 |
| As | 100 ± 1 | Mn | 50.0 ± 0.8 |
| B | 50.0 ± 0.5 | Na | 7500 ± 50 |
| Ba | 50.0 ± 0.5 | Ni | 100 ± 1 |
| Be | 50.0 ± 0.5 | Pb | 100 ± 1 |
| Cd | 100 ± 1 | Se | 100 ± 1 |
| Co | 50.0 ± 0.5 | Sr | 50.0 ± 0.5 |
| Cr | 50.0 ± 0.5 | Tl | 100 ± 1 |
| Cu | 50.0 ± 0.5 | V | 50.0 ± 0.5 |
| K | 7500 ± 80 | Zn | 100 ± 1 |

### Packaging, Storage, Instructions For Use

**Store at room temperature (15-30°C)**

This certified reference material (CRM) is packaged in HDPE as a whole volume ready to use sample. No secondary preparative steps are necessary. Allow to equilibrate to room temperature before use. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by Perry Johnson), ISO/IEC 17025 (accredited by ANAB), and ISO 17034 (accredited by ANAB) quality system.

### Traceability Information

**Analyte Source Materials:** The highest purity analyte source materials are used in the manufacture of this CRM. The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties.

**Method:** This CRM was verified by ICP.

**Balance:** The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in 'NIST Weights and Measures Measurement Assurance Program' with a certificate of measurement traceability to NIST primary standards. The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

**Thermometer:** The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

**Glassware:** All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. The calibrations of volumetric vessels are verified using the ASTM method E542.

CPI INTERNATIONAL

# Certificate of Analysis

SM1A-025-11-09
Rec: 2/13/24 JC
Exp: 7/31/25

## Custom Standard (MIX 11B)

**Catalog Number:** 4400-110117RH11-B-100
**Lot Number:** 2402029
**Manufacture Date:** January 22, 2024
**Expiration:** July 31, 2025
**Matrix:** 5% HNO3 / 1% HF

| Analyte | Certified Concentration (µg/mL) |
|---|---|
| Mo | 100 ± 1 |
| Sb | 100 ± 1 |
| Sn | 100 ± 1 |
| Ti | 100 ± 1 |

### Packaging, Storage, Instructions For Use

**Store at room temperature (15-30°C)**

This certified reference material (CRM) is packaged in HDPE as a whole volume ready to use sample. No secondary preparative steps are necessary. Allow to equilibrate to room temperature before use. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by Perry Johnson), ISO/IEC 17025 (accredited by ANAB), and ISO 17034 (accredited by ANAB) quality system.

### Traceability Information

**Analyte Source Materials:** The highest purity analyte source materials are used in the manufacture of this CRM. The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties.

**Method:** This CRM was verified by ICP.

**Balance:** The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in 'NIST Weights and Measures Measurement Assurance Program' with a certificate of measurement traceability to NIST primary standards. The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

**Thermometer:** The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

**Glassware:** All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. The calibrations of volumetric vessels are verified using the ASTM method E542.

# CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: 4400-131927

SMIA-MS-07-02

**Custom EMAX Mix 4**

exp 10/4/2024

Lot #: 1358563

Matrix: 3% $HNO_3$

LCS 1

| Element | Certified Concentration & Uncertainty | Element | Certified Concentration & Uncertainty | Element | Certified Concentration & Uncertainty |
|---|---|---|---|---|---|
| Ag | 100.0 ± 0.5 µg/mL | Co | 100.0 ± 0.5 µg/mL | Pb | 100.0 ± 0.5 µg/mL |
| Al | 1000 ± 5 µg/mL | Cr | 100.0 ± 0.5 µg/mL | Se | 100.0 ± 0.5 µg/mL |
| As | 100.0 ± 0.5 µg/mL | Cu | 99.99 ± 0.50 µg/mL | Tl | 100.0 ± 0.5 µg/mL |
| Ba | 100.0 ± 0.5 µg/mL | Fe | 1000 ± 5 µg/mL | V | 100.0 ± 0.5 µg/mL |
| Be | 100.0 ± 0.5 µg/mL | Mn | 100.0 ± 0.5 µg/mL | Zn | 100.0 ± 0.5 µg/mL |
| Cd | 100.0 ± 0.5 µg/mL | Ni | 100.0 ± 0.5 µg/mL | | |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited **ISO 17034, ISO/IEC 17025 and** to **ISO 9001**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

April 4, 2023
**Certification Date**

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

# CERTIFICATE OF ANALYSIS LCS2

Multi-Element Aqueous CRM

Product #: 4400-110110RH01

**Custom Standard Mix 5 Solution A** SMIA-025-0703

Lot #: 1358562

Matrix: 5% $HNO_3$/0.6% HF

| Element | Certified Concentration & Uncertainty | Element | Certified Concentration & Uncertainty | Element | Certified Concentration & Uncertainty |
|---|---|---|---|---|---|
| B | 99.96 ± 0.50 µg/mL | Sb | 500.0 ± 2.5 µg/mL | Sr | 99.98 ± 0.50 µg/mL |
| Mo | 100.0 ± 0.5 µg/mL | Sn | 99.99 ± 0.50 µg/mL | Ti | 100.0 ± 0.5 µg/mL |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited **ISO 17034, ISO/IEC 17025 and** to **ISO 9001**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

April 4, 2023
**Certification Date**

Exp 10/4/24

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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# CERTIFICATE OF ANALYSIS LCS3

Multi-Element Aqueous CRM

Product #: 4400-110110RH02

**Custom Standard Mix 5 Solution B** SM1A-025-07-04

Lot #: 1283861-5

Matrix: 5% $HNO_3$

| Element | Certified Concentration & Uncertainty | Element | Certified Concentration & Uncertainty |
|---|---|---|---|
| Ca | 5000 ± 25 µg/mL | Mg | 5000 ± 25 µg/mL |
| K | 5000 ± 25 µg/mL | Na | 5000 ± 25 µg/mL |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited **ISO 17034**, **ISO/IEC 17025 and** to **ISO 9001**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

April 4, 2023
**Certification Date**

Exp 10/4/2024

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MT 6/9/23

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# METALS
# (SOIL)

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F034

METHOD 3050B/6010C
METALS BY TRACE ICP

One(1) soil sample was received on 06/07/24 to be analyzed for Metals by Trace ICP in accordance with Method 3050B/6010C and project specific requirements.

Holding Time
The sample was digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IPF010SB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IPF010SL/IPF010SC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed and the following were noted: F034-02M/F034-02S - Percent recoveries for Antimony, Selenium and Thallium were not within MS/MSD QC limits. Percent recoveries for Barium and Nickel(1X) was not within MS QC limit. Presence of matrix interference was suspected. The rest of the analytes were in control. Analytical spike and serial dilution were analyzed and evaluated as appropriate. Results were within expected values. Refer to Matrix QC summary form for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

LAB CHRONICLE
METALS BY TRACE ICP

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F034
Instrument ID : D8

SOIL

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| MBLK1S | IPF010SB | 1.000 | NA | 06/20/2418:26 | 06/14/2409:36 | ID8F008050 | ID8F008045 | IPF010S | Method Blank |
| LCS1S | IPF010SL | 1.000 | NA | 06/20/2418:31 | 06/14/2409:36 | ID8F008051 | ID8F008045 | IPF010S | Lab Control Sample (LCS) |
| LCD1S | IPF010SC | 1.000 | NA | 06/20/2418:36 | 06/14/2409:36 | ID8F008052 | ID8F008045 | IPF010S | LCS Duplicate |
| IDW-SOIL_JUN24 | F034-02A | 1.000 | 10.5 | 06/20/2418:50 | 06/14/2409:36 | ID8F008055 | ID8F008053 | IPF010S | Analytical Spike Sample |
| IDW-SOIL_JUN24 | F034-02 | 1.000 | 10.5 | 06/20/2418:55 | 06/14/2409:36 | ID8F008056 | ID8F008053 | IPF010S | Field Sample |
| IDW-SOIL_JUN24 | F034-02J | 5.000 | 10.5 | 06/20/2419:00 | 06/14/2409:36 | ID8F008057 | ID8F008053 | IPF010S | Diluted Sample |
| IDW-SOIL_JUN24MS | F034-02M | 1.000 | 10.5 | 06/20/2419:05 | 06/14/2409:36 | ID8F008058 | ID8F008053 | IPF010S | Matrix Spike Sample (MS) |
| IDW-SOIL_JUN24MSD | F034-02S | 1.000 | 10.5 | 06/20/2419:10 | 06/14/2409:36 | ID8F008059 | ID8F008053 | IPF010S | MS Duplicate (MSD) |

FN - Filename
% Moist - Percent Moisture

METHOD 3050B/6010C
METALS BY TRACE ICP

| | | | |
|---|---|---|---|
| Client | : PARSONS | Date Collected: | 06/06/24 11:20 |
| Project | : TITAN 1-A | Date Received: | 06/07/24 |
| SDG NO. | : 24F034 | Date Extracted: | 06/14/24 09:36 |
| Sample ID: | IDW-SOIL_JUN24 | Date Analyzed: | 06/20/24 18:55 |
| Lab Samp ID: | F034-02 | Dilution Factor: | 1 |
| Lab File ID: | ID8F008056 | Matrix: | SOIL |
| Ext Btch ID: | IPF010S | % Moisture: | 10.5 |
| Calib. Ref.: | ID8F008053 | Instrument ID: | D8 |

| PARAMETERS | Result (mg/kg) | LOQ (mg/kg) | DL (mg/kg) | LOD (mg/kg) |
|---|---|---|---|---|
| Antimony | ND | 10.8 | 1.08 | 3.25 |
| Arsenic | 12.8 | 2.17 | 0.542 | 1.08 |
| Barium | 197 | 1.08 | 0.217 | 0.542 |
| Beryllium | 0.679 | 0.542 | 0.108 | 0.217 |
| Cadmium | ND | 0.542 | 0.108 | 0.217 |
| Chromium | 63.1 | 1.08 | 0.271 | 0.542 |
| Cobalt | 12.9 | 1.08 | 0.108 | 0.217 |
| Copper | 21.3 | 1.08 | 0.271 | 0.542 |
| Lead | 4.47 | 2.17 | 0.542 | 1.08 |
| Molybdenum | 0.624J | 1.08 | 0.271 | 0.542 |
| Nickel | 29.2 | 1.08 | 0.271 | 0.542 |
| Selenium | ND | 2.17 | 0.542 | 1.08 |
| Silver | ND | 1.08 | 0.108 | 0.217 |
| Thallium | ND | 1.08 | 0.271 | 0.542 |
| Vanadium | 82.8 | 1.08 | 0.108 | 0.217 |
| Zinc | 48.3 | 10.8 | 2.17 | 5.42 |

Note: Detection limits are reported relative to sample result significant figures.

| | | | |
|---|---|---|---|
| Sample Amount | : 1.03g | Final Volume: | 100ml |
| Prepared by | : JChun | Analyzed by: | JFeng/JChun |

METHOD 3050B/6010C
METALS BY TRACE ICP

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Sample ID: MBLK1S
Lab Samp ID: IPF010SB
Lab File ID: ID8F008050
Ext Btch ID: IPF010S
Calib. Ref.: ID8F008045

Date Collected: NA
Date Received: NA
Date Extracted: 06/14/24 09:36
Date Analyzed: 06/20/24 18:26
Dilution Factor: 1
Matrix: SOIL
% Moisture: NA
Instrument ID: D8

| PARAMETERS | Result (mg/kg) | LOQ (mg/kg) | DL (mg/kg) | LOD (mg/kg) |
|---|---|---|---|---|
| Antimony | ND | 10.0 | 1.00 | 3.00 |
| Arsenic | ND | 2.00 | 0.500 | 1.00 |
| Barium | ND | 1.00 | 0.200 | 0.500 |
| Beryllium | ND | 0.500 | 0.100 | 0.200 |
| Cadmium | ND | 0.500 | 0.100 | 0.200 |
| Chromium | ND | 1.00 | 0.250 | 0.500 |
| Cobalt | ND | 1.00 | 0.100 | 0.200 |
| Copper | ND | 1.00 | 0.250 | 0.500 |
| Lead | ND | 2.00 | 0.500 | 1.00 |
| Molybdenum | ND | 1.00 | 0.250 | 0.500 |
| Nickel | ND | 1.00 | 0.250 | 0.500 |
| Selenium | ND | 2.00 | 0.500 | 1.00 |
| Silver | ND | 1.00 | 0.100 | 0.200 |
| Thallium | ND | 1.00 | 0.250 | 0.500 |
| Vanadium | ND | 1.00 | 0.100 | 0.200 |
| Zinc | ND | 10.0 | 2.00 | 5.00 |

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 1g
Prepared by : JChun

Final Volume:100ml
Analyzed by:JFeng/JChun

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : 3050B/6010C

| | | | |
|---|---|---|---|
| MATRIX | : SOIL | | % MOISTURE:NA |
| DILUTION FACTOR | : 1.000 | 1.000 | 1.000 |
| SAMPLE ID | : MBLK1S | LCS1S | LCD1S |
| LAB SAMPLE ID | : IPF010SB | IPF010SL | IPF010SC |
| LAB FILE ID | : ID8F008050 | ID8F008051 | ID8F008052 |
| DATE PREPARED | : 06/14/24 09:36 | 06/14/24 09:36 | 06/14/24 09:36 |
| DATE ANALYZED | : 06/20/24 18:26 | 06/20/24 18:31 | 06/20/24 18:36 |
| PREP BATCH | : IPF010S | IPF010S | IPF010S |
| CALIBRATION REF | : ID8F008045 | ID8F008045 | ID8F008045 |

ACCESSION:

| PARAMETERS | MBResult (mg/kg) | SpikeAmt (mg/kg) | LCSResult (mg/kg) | LCSRec (%) | SpikeAmt (mg/kg) | LCDResult (mg/kg) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 250 | 231 | 92 | 250 | 224 | 90 | 3 | 79-114 | 20 |
| Arsenic | ND | 50 | 48.5 | 97 | 50 | 47.0 | 94 | 3 | 82-111 | 20 |
| Barium | ND | 50 | 47.7 | 95 | 50 | 46.9 | 94 | 2 | 83-113 | 20 |
| Beryllium | ND | 50 | 48.3 | 97 | 50 | 47.4 | 95 | 2 | 83-113 | 20 |
| Cadmium | ND | 50 | 49.0 | 98 | 50 | 47.7 | 95 | 3 | 82-113 | 20 |
| Chromium | ND | 50 | 47.8 | 96 | 50 | 46.8 | 94 | 2 | 85-113 | 20 |
| Cobalt | ND | 50 | 48.0 | 96 | 50 | 47.2 | 94 | 2 | 85-112 | 20 |
| Copper | ND | 50 | 46.9 | 94 | 50 | 46.1 | 92 | 2 | 81-117 | 20 |
| Lead | ND | 50 | 46.4 | 93 | 50 | 45.5 | 91 | 2 | 81-112 | 20 |
| Molybdenum | ND | 50 | 51.4 | 103 | 50 | 50.2 | 100 | 2 | 82-116 | 20 |
| Nickel | ND | 50 | 50.9 | 102 | 50 | 50.0 | 100 | 2 | 83-113 | 20 |
| Selenium | ND | 50 | 48.4 | 97 | 50 | 47.0 | 94 | 3 | 78-111 | 20 |
| Silver | ND | 50 | 46.8 | 94 | 50 | 46.0 | 92 | 2 | 82-112 | 20 |
| Thallium | ND | 50 | 46.1 | 92 | 50 | 45.0 | 90 | 2 | 83-111 | 20 |
| Vanadium | ND | 50 | 48.5 | 97 | 50 | 47.6 | 95 | 2 | 82-114 | 20 |
| Zinc | ND | 50 | 51.5 | 103 | 50 | 50.6 | 101 | 2 | 82-113 | 20 |

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : 3050B/6010C

MATRIX : SOIL % MOISTURE: 10.5
DILUTION FACTOR: 1 1 1
SAMPLE ID : IDW-SOIL_JUN24 IDW-SOIL_JUN24MS IDW-SOIL_JUN24MSD
LAB SAMPLE ID : F034-02 F034-02M F034-02S
LAB FILE ID : ID8F008056 ID8F008058 ID8F008059
DATE PREPARED : 06/14/24 09:36 06/14/24 09:36 06/14/24 09:36
DATE ANALYZED : 06/20/24 18:55 06/20/24 19:05 06/20/24 19:10
PREP BATCH : IPF010S IPF010S IPF010S
CALIBRATION REF: ID8F008053 ID8F008053 ID8F008053

ACCESSION:

| PARAMETERS | PSResult (mg/kg) | SpikeAmt (mg/kg) | MSResult (mg/kg) | MSRec (%) | SpikeAmt (mg/kg) | MSDResult (mg/kg) | MSDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 271 | 186 | 69* | 271 | 183 | 68* | 2 | 79-114 | 20 |
| Arsenic | 12.8 | 54.2 | 65.5 | 97 | 54.2 | 60.9 | 89 | 7 | 82-111 | 20 |
| Barium | 197 | 54.2 | 259 | 114* | 54.2 | 252 | 101 | 3 | 83-113 | 20 |
| Beryllium | 0.679 | 54.2 | 51.6 | 94 | 54.2 | 51.1 | 93 | 1 | 83-113 | 20 |
| Cadmium | ND | 54.2 | 49.3 | 91 | 54.2 | 49.1 | 91 | 0 | 82-113 | 20 |
| Chromium | 63.1 | 54.2 | 121 | 107 | 54.2 | 118 | 101 | 3 | 85-113 | 20 |
| Cobalt | 12.9 | 54.2 | 67.0 | 100 | 54.2 | 65.4 | 97 | 2 | 85-112 | 20 |
| Copper | 21.3 | 54.2 | 71.4 | 92 | 54.2 | 70.7 | 91 | 1 | 81-117 | 20 |
| Lead | 4.47 | 54.2 | 55.5 | 94 | 54.2 | 54.8 | 93 | 1 | 81-112 | 20 |
| Molybdenum | 0.624J | 54.2 | 54.9 | 100 | 54.2 | 53.7 | 98 | 2 | 82-116 | 20 |
| Nickel | 29.2 | 54.2 | 91.4 | 115* | 54.2 | 86.5 | 106 | 6 | 83-113 | 20 |
| Selenium | ND | 54.2 | 40.7 | 75* | 54.2 | 40.9 | 75* | 0 | 78-111 | 20 |
| Silver | ND | 54.2 | 49.7 | 92 | 54.2 | 49.1 | 91 | 1 | 82-112 | 20 |
| Thallium | ND | 54.2 | 43.1 | 80* | 54.2 | 42.6 | 79* | 1 | 83-111 | 20 |
| Vanadium | 82.8 | 54.2 | 143 | 111 | 54.2 | 141 | 107 | 1 | 82-114 | 20 |
| Zinc | 48.3 | 54.2 | 109 | 112 | 54.2 | 107 | 108 | 2 | 82-113 | 20 |

PSResult - Parent Sample Result
* Out of QC limit

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : 3050B/6010C

MATRIX : SOIL % MOISTURE: 10.5
DILUTION FACTOR: 1 1
SAMPLE ID : IDW-SOIL_JUN24 IDW-SOIL_JUN24
LAB SAMPLE ID : F034-02 F034-02A
LAB FILE ID : ID8F008056 ID8F008055
DATE PREPARED : 06/14/24 09:36 06/14/24 09:36
DATE ANALYZED : 06/20/24 18:55 06/20/24 18:50
PREP BATCH : IPF010S IPF010S
CALIBRATION REF: ID8F008053 ID8F008053

ACCESSION:

| PARAMETERS | Sample Result (mg/kg) | Spike Amt (mg/kg) | AS Result (mg/kg) | AS Rec (%) | QC Limit (%) |
|---|---|---|---|---|---|
| Antimony | ND | 271 | 275 | 101 | 80-120 |
| Arsenic | 12.8 | 54.2 | 68.4 | 102 | 80-120 |
| Barium | 197 | 54.2 | 250 | 98 | 80-120 |
| Beryllium | 0.679 | 54.2 | 56.6 | 103 | 80-120 |
| Cadmium | ND | 54.2 | 54.9 | 101 | 80-120 |
| Chromium | 63.1 | 54.2 | 116 | 98 | 80-120 |
| Cobalt | 12.9 | 54.2 | 71.8 | 109 | 80-120 |
| Copper | 21.3 | 54.2 | 75.8 | 100 | 80-120 |
| Lead | 4.47 | 54.2 | 60.4 | 103 | 80-120 |
| Molybdenum | 0.624J | 54.2 | 62.2 | 114 | 80-120 |
| Nickel | 29.2 | 54.2 | 90.9 | 114 | 80-120 |
| Selenium | ND | 54.2 | 46.3 | 85 | 80-120 |
| Silver | ND | 54.2 | 50.0 | 92 | 80-120 |
| Thallium | ND | 54.2 | 48.3 | 89 | 80-120 |
| Vanadium | 82.8 | 54.2 | 136 | 98 | 80-120 |
| Zinc | 48.3 | 54.2 | 113 | 119 | 80-120 |

AS - Analytical Spike

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : 3050B/6010C

MATRIX : SOIL % MOISTURE: 10.5
DILUTION FACTOR: 1 5
SAMPLE ID : IDW-SOIL_JUN24 IDW-SOIL_JUN24
LAB SAMPLE ID : F034-02 F034-02J
LAB FILE ID : ID8F008056 ID8F008057
DATE PREPARED : 06/14/24 09:36 06/14/24 09:36
DATE ANALYZED : 06/20/24 18:55 06/20/24 19:00
PREP BATCH : IPF010S IPF010S
CALIBRATION REF: ID8F008053 ID8F008053

ACCESSION:

| PARAMETERS | Sample Result (mg/kg) | SD Result (mg/kg) | %Difference (%) | Max %D (%) |
|---|---|---|---|---|
| Antimony | ND | ND | 0 | 10 |
| Arsenic | 12.8 | 12.4 | 3 | 10 |
| Barium | 197 | 199 | 1 | 10 |
| Beryllium | 0.679 | 0.575J | NA | 10 |
| Cadmium | ND | ND | 0 | 10 |
| Chromium | 63.1 | 65.5 | 4 | 10 |
| Cobalt | 12.9 | 12.3 | 5 | 10 |
| Copper | 21.3 | 21.6 | 1 | 10 |
| Lead | 4.47 | 4.32J | NA | 10 |
| Molybdenum | 0.624J | ND | NA | 10 |
| Nickel | 29.2 | 27.5 | 6 | 10 |
| Selenium | ND | ND | 0 | 10 |
| Silver | ND | ND | 0 | 10 |
| Thallium | ND | ND | 0 | 10 |
| Vanadium | 82.8 | 84.3 | 2 | 10 |
| Zinc | 48.3 | 43.8J | NA | 10 |

SD - Serial Dilution

# ICP (6010) QC CHECK TABLE

| QC | ICV | CCV | ICSAB | ICSA |
|---|---|---|---|---|
| Limit% | 90-110 | 90-110 | 80-120 | 80-120 |
| Comp | mg/L | mg/L | mg/L | mg/L |
| Al | 100 | 100 | 400 | 400 |
| Sb | 1.5 | 1.5 | 1 | 0 |
| As | 1 | 1 | 1 | 0 |
| Ba | 2 | 2 | 0.5 | 0 |
| Be | 1.5 | 1.5 | 0.5 | 0 |
| B | 2.5 | 2.5 | 1 | 0 |
| Cd | 2 | 2 | 1 | 0 |
| Ca | 75 | 75 | 500 | 500 |
| Cr | 2.5 | 2.5 | 0.5 | 0 |
| Co | 1 | 1 | 0.5 | 0 |
| Cu | 2.5 | 2.5 | 0.5 | 0 |
| Fe | 25 | 25 | 200 | 200 |
| Pb | 2.5 | 2.5 | 1 | 0 |
| Li | 0.5 | 0.5 | 1 | 0 |
| Mg | 60 | 60 | 200 | 200 |
| Mn | 2.5 | 2.5 | 0.5 | 0 |
| Mo | 2.5 | 2.5 | 1 | 0 |
| Ni | 2.5 | 2.5 | 1 | 0 |
| K | 60 | 60 | 75 | 0 |
| Se | 1 | 1 | 1 | 0 |
| Ag | 0.5 | 0.5 | 1 | 0 |
| Na | 60 | 60 | 75 | 0 |
| Sr | 0.5 | 0.5 | 0.5 | 0 |
| Tl | 2.5 | 2.5 | 1 | 0 |
| Sn | 0.5 | 0.5 | 1 | 0 |
| Ti | 0.5 | 0.5 | 1 | 0 |
| V | 1.5 | 1.5 | 0.5 | 0 |
| Zn | 2.5 | 2.5 | 1 | 0 |

**Note:** For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

**Start Date:** 6/20/24 12:28
**End Date:** 6/21/24 00:35

| SOP # | Rev. # |
|---|---|
| ☑ EMAX-6010 | 9 |
| ☑ EMAX-6010C | 3 |
| ☐ EMAX-200.7 | 6 |
| ☐ EMAX- | |

**Comments:** See Analytical Sequence

**Book #:** AD8-075
**Instrument No.:** D8
**Analytical Batch:** ID8F003
**Analytical Sequence:** S-24F6010 (v19)
**Method File:** 6/20/24 24F6010 (v19)
**Database:** EMAX31
**Micropipette ID:** ☐ 942780530
**Micropipette ID:** ☑ D42761999
**Micropipette ID:** ☑ S42740566
**Micropipette ID:** ☑ D42781151
**Micropipette ID:** ☐

| | STANDARDS ID | | STANDARDS ID |
|---|---|---|---|
| S0 | SMIB-29-38-02 | S26 | SMIB-29-44-01 |
| S1 | N/A | S27 | -44-02 |
| S2 | | S28 | -18-01 |
| S3 | | S29 | -18-02 |
| S4 | | S30 | -24-02 |
| S5 | | S31 | -25-01 |
| S6 | | ICV | SMIB-29-40-01 |
| S7 | | CCV | -19-01 |
| S8 | | ICSA | -24-01 |
| S9 | | ICSAB | -37-01 |
| S10 | | CRI/MRL1 | -26-01 |
| S11 | | CRI/MRL2 | -37-02 |
| S12 | | CRI/MRL3 | -20-01(2x) |
| S16 | | CRI/MRL4 | -12-01 |
| S17 | | Internal Standard | SMIA-025-12-04 |
| S18 | | Post-Spike 1 | -07-02 |
| S20 | SMIB-29-39-01 | Post-Spike 2 | -07-03 |
| S21 | -39-02 | Post-Spike 3 | -07-04 |
| S22 | -16-02 | | |
| S23 | -17-01 | | |
| S24 | -43-01 | | |
| S25 | -43-02 | | |

Analyzed By: JF/JC
Date: 6/20/24

SEQUENCE FILE : ID8F008

| 4-18 | 19-33 | 34-43 | 44-53 | 54-63 |
|---|---|---|---|---|
| LFID | LSID | TIME | DATE | DF |
| ID8F008001 | S024F6010 | 12:28 | 06/20/24 | 1.000 |
| ID8F008002 | S20 | 12:33 | 06/20/24 | 1.000 |
| ID8F008003 | S21 | 12:38 | 06/20/24 | 1.000 |
| ID8F008004 | S22 | 12:43 | 06/20/24 | 1.000 |
| ID8F008005 | S23 | 12:48 | 06/20/24 | 1.000 |
| ID8F008006 | S24 | 12:54 | 06/20/24 | 1.000 |
| ID8F008007 | S25 | 12:58 | 06/20/24 | 1.000 |
| ID8F008008 | S26 | 13:04 | 06/20/24 | 1.000 |
| ID8F008009 | S27 | 13:08 | 06/20/24 | 1.000 |
| ID8F008010 | S28 | 13:13 | 06/20/24 | 1.000 |
| ID8F008011 | S29 | 13:18 | 06/20/24 | 1.000 |
| ID8F008012 | S30 | 13:23 | 06/20/24 | 1.000 |
| ID8F008013 | S31 | 13:28 | 06/20/24 | 1.000 |
| ID8F008014 | ICV | 13:33 | 06/20/24 | 1.000 |
| ID8F008015 | ICB | 13:38 | 06/20/24 | 1.000 |
| ID8F008016 | MRLF2001 | 13:43 | 06/20/24 | 1.000 |
| ID8F008017 | MRLF2002 | 13:48 | 06/20/24 | 1.000 |
| ID8F008018 | ICSA1 | 13:53 | 06/20/24 | 1.000 |
| ID8F008019 | ICSAB1 | 13:58 | 06/20/24 | 1.000 |
| ID8F008020 | MRLF2003 | 14:03 | 06/20/24 | 1.000 |
| ID8F008021 | MRLF2004 | 14:08 | 06/20/24 | 1.000 |
| ID8F008022 | CCV1 | 14:12 | 06/20/24 | 1.000 |
| ID8F008023 | CCB1 | 14:17 | 06/20/24 | 1.000 |
| ID8F008024 | IPF005WB | 16:17 | 06/20/24 | 1.000 |
| ID8F008025 | IPF005WL | 16:22 | 06/20/24 | 1.000 |
| ID8F008026 | IPF005WC | 16:27 | 06/20/24 | 1.000 |
| ID8F008027 | F020-02 | 16:31 | 06/20/24 | 1.000 |
| ID8F008028 | F020-03A | 16:36 | 06/20/24 | 1.000 |
| ID8F008029 | F020-03 | 16:41 | 06/20/24 | 1.000 |
| ID8F008030 | F020-03J | 16:46 | 06/20/24 | 5.000 |
| ID8F008031 | F020-03M | 16:51 | 06/20/24 | 1.000 |
| ID8F008032 | F020-03S | 16:56 | 06/20/24 | 1.000 |
| ID8F008033 | CCV2 | 17:01 | 06/20/24 | 1.000 |
| ID8F008034 | CCB2 | 17:06 | 06/20/24 | 1.000 |
| ID8F008035 | F020-04 | 17:11 | 06/20/24 | 1.000 |
| ID8F008036 | F020-05 | 17:15 | 06/20/24 | 1.000 |
| ID8F008037 | F020-06 | 17:20 | 06/20/24 | 1.000 |
| ID8F008038 | TXF002SB | 17:25 | 06/20/24 | 1.000 |
| ID8F008039 | F008-04A | 17:30 | 06/20/24 | 1.000 |
| ID8F008040 | F008-04 | 17:35 | 06/20/24 | 1.000 |
| ID8F008041 | F008-04J | 17:40 | 06/20/24 | 5.000 |
| ID8F008042 | F008-04M | 17:45 | 06/20/24 | 1.000 |
| ID8F008043 | F008-04S | 17:50 | 06/20/24 | 1.000 |
| ID8F008044 | TXF003SB | 17:55 | 06/20/24 | 1.000 |
| ID8F008045 | CCV3 | 18:00 | 06/20/24 | 1.000 |
| ID8F008046 | CCB3 | 18:05 | 06/20/24 | 1.000 |
| ID8F008047 | F032-05 | 18:10 | 06/20/24 | 1.000 |
| ID8F008048 | F034-02 | 18:16 | 06/20/24 | 1.000 |
| ID8F008049 | F428-01 | 18:21 | 06/20/24 | 1.000 |
| ID8F008050 | IPF010SB | 18:26 | 06/20/24 | 1.000 |
| ID8F008051 | IPF010SL | 18:31 | 06/20/24 | 1.000 |
| ID8F008052 | IPF010SC | 18:36 | 06/20/24 | 1.000 |
| ID8F008053 | CCV4 | 18:40 | 06/20/24 | 1.000 |
| ID8F008054 | CCB4 | 18:45 | 06/20/24 | 1.000 |
| ID8F008055 | F034-02A | 18:50 | 06/20/24 | 1.000 |
| ID8F008056 | F034-02 | 18:55 | 06/20/24 | 1.000 |
| ID8F008057 | F034-02J | 19:00 | 06/20/24 | 5.000 |
| ID8F008058 | F034-02M | 19:05 | 06/20/24 | 1.000 |
| ID8F008059 | F034-02S | 19:10 | 06/20/24 | 1.000 |
| ID8F008060 | IPF009WB | 19:15 | 06/20/24 | 1.000 |
| ID8F008061 | IPF009WL | 19:20 | 06/20/24 | 1.000 |
| ID8F008062 | IPF009WC | 19:24 | 06/20/24 | 1.000 |

| | | | | |
|---|---|---|---|---|
| ID8F008063 | CCV5 | 19:29 | 06/20/24 | 1.000 |
| ID8F008064 | CCB5 | 19:34 | 06/20/24 | 1.000 |
| ID8F008065 | F034-01A | 19:39 | 06/20/24 | 1.000 |
| ID8F008066 | F034-01 | 19:44 | 06/20/24 | 1.000 |
| ID8F008067 | F034-01J | 19:49 | 06/20/24 | 5.000 |
| ID8F008068 | F034-01M | 19:54 | 06/20/24 | 1.000 |
| ID8F008069 | F034-01S | 19:59 | 06/20/24 | 1.000 |
| ID8F008070 | CCV6 | 20:03 | 06/20/24 | 1.000 |
| ID8F008071 | CCB6 | 20:08 | 06/20/24 | 1.000 |
| ID8F008072 | IPF011WB | 20:13 | 06/20/24 | 1.000 |
| ID8F008073 | IPF011WL | 20:18 | 06/20/24 | 1.000 |
| ID8F008074 | IPF011WC | 20:23 | 06/20/24 | 1.000 |
| ID8F008075 | TX004WB | 20:28 | 06/20/24 | 1.000 |
| ID8F008076 | F058-01A | 20:33 | 06/20/24 | 1.000 |
| ID8F008077 | F058-01 | 20:38 | 06/20/24 | 1.000 |
| ID8F008078 | F058-01J | 20:43 | 06/20/24 | 5.000 |
| ID8F008079 | F058-01M | 20:48 | 06/20/24 | 1.000 |
| ID8F008080 | F058-01S | 20:52 | 06/20/24 | 1.000 |
| ID8F008081 | CCV7 | 20:57 | 06/20/24 | 1.000 |
| ID8F008082 | CCB7 | 21:02 | 06/20/24 | 1.000 |
| ID8F008083 | IPF006SB | 21:07 | 06/20/24 | 1.000 |
| ID8F008084 | IPF006SL | 21:12 | 06/20/24 | 1.000 |
| ID8F008085 | IPF006SC | 21:17 | 06/20/24 | 1.000 |
| ID8F008086 | F427-01A | 21:22 | 06/20/24 | 1.000 |
| ID8F008087 | F427-01 | 21:27 | 06/20/24 | 1.000 |
| ID8F008088 | F427-01J | 21:32 | 06/20/24 | 5.000 |
| ID8F008089 | F427-01M | 21:37 | 06/20/24 | 1.000 |
| ID8F008090 | F427-01S | 21:41 | 06/20/24 | 1.000 |
| ID8F008091 | CCV8 | 21:46 | 06/20/24 | 1.000 |
| ID8F008092 | CCB8 | 21:51 | 06/20/24 | 1.000 |
| ID8F008093 | IPF015SB | 21:56 | 06/20/24 | 1.000 |
| ID8F008094 | IPF015SL | 22:01 | 06/20/24 | 1.000 |
| ID8F008095 | IPF015SC | 22:06 | 06/20/24 | 1.000 |
| ID8F008096 | F476-01A | 22:11 | 06/20/24 | 1.000 |
| ID8F008097 | F476-01 | 22:15 | 06/20/24 | 1.000 |
| ID8F008098 | F476-01J | 22:20 | 06/20/24 | 5.000 |
| ID8F008099 | F476-01M | 22:25 | 06/20/24 | 1.000 |
| ID8F008100 | F476-01S | 22:30 | 06/20/24 | 1.000 |
| ID8F008101 | CCV9 | 22:35 | 06/20/24 | 1.000 |
| ID8F008102 | CCB9 | 22:40 | 06/20/24 | 1.000 |
| ID8F008103 | IPF016WB | 22:45 | 06/20/24 | 1.000 |
| ID8F008104 | IPF016WL | 22:50 | 06/20/24 | 1.000 |
| ID8F008105 | IPF016WC | 22:55 | 06/20/24 | 1.000 |
| ID8F008106 | CCV10 | 23:00 | 06/20/24 | 1.000 |
| ID8F008107 | CCB10 | 23:05 | 06/20/24 | 1.000 |
| ID8F008108 | WTF002SB | 23:10 | 06/20/24 | 5.000 |
| ID8F008109 | E112-01A | 23:15 | 06/20/24 | 5.000 |
| ID8F008110 | E112-01 | 23:20 | 06/20/24 | 5.000 |
| ID8F008111 | E112-01J | 23:25 | 06/20/24 | 25.000 |
| ID8F008112 | E112-01M | 23:30 | 06/20/24 | 5.000 |
| ID8F008113 | E112-01S | 23:35 | 06/20/24 | 5.000 |
| ID8F008114 | CCV11 | 23:40 | 06/20/24 | 1.000 |
| ID8F008115 | CCB11 | 23:45 | 06/20/24 | 1.000 |
| ID8F008116 | MRL2005 | 23:50 | 06/20/24 | 1.000 |
| ID8F008117 | MRL2006 | 23:55 | 06/20/24 | 1.000 |
| ID8F008118 | WTF001SB | 00:00 | 06/21/24 | 5.000 |
| ID8F008119 | F034-02A | 00:05 | 06/21/24 | 5.000 |
| ID8F008120 | F034-02 | 00:10 | 06/21/24 | 5.000 |
| ID8F008121 | F034-02J | 00:15 | 06/21/24 | 25.000 |
| ID8F008122 | F034-02M | 00:20 | 06/21/24 | 5.000 |
| ID8F008123 | F034-02S | 00:25 | 06/21/24 | 5.000 |
| ID8F008124 | CCV12 | 00:30 | 06/21/24 | 1.000 |
| ID8F008125 | CCB12 | 00:35 | 06/21/24 | 1.000 |

# INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Method : METHOD 3050B/6010C
Sequence : ID8F008
InstrumentID: D8

| Lab Samp ID : | | ICV | | | | ICSA1 | | | ICSAB1 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| QC Limit : | | %R:90-110/RSD:<5 | | | | %R:80-120/<LOD | | | %R:80-120 | | |
| Lab File ID : | | ID8F008014 | | | | ID8F008018 | | | ID8F008019 | | |
| DateAnalyed : | | 06/20/2413:33 | | | | 06/20/2413:53 | | | 06/20/2413:58 | | |
| Parameter | | Result | ICV EV | RSD | %Recovery | Result | ICSA EV | %Rec/LOD | Result | ICSAB EV | %Recovery |
| Aluminum | | 97.211 | 100 | 1.0598 | 97 | 427.13 | 400 | 107 | 393.82 | 400 | 98 |
| Antimony | T | 1.5120 | 1.5 | .48754 | 101 | .00341 | 0 | <0.030 | .98030 | 1 | 98 |
| Arsenic | T | .97284 | 1.0 | .79739 | 97 | .00052 | 0 | <0.02 | .99520 | 1 | 100 |
| Barium | T | 1.8909 | 2.0 | .16430 | 95 | .00038 | 0 | <0.002 | .46414 | 0.5 | 93 |
| Beryllium | T | 1.4106 | 1.5 | .17814 | 94 | -.00002 | 0 | <0.002 | .45548 | 0.5 | 91 |
| Boron | | 2.3651 | 2.5 | .09104 | 95 | -.00519 | 0 | <0.01 | .97195 | 1.0 | 97 |
| Cadmium | T | 1.9290 | 2.0 | .30745 | 96 | -.00088 | 0 | <0.005 | .90537 | 1 | 91 |
| Calcium | | 74.758 | 75 | .05652 | 100 | 491.83 | 500 | 98 | 452.47 | 500 | 90 |
| Chromium | T | 2.3623 | 2.5 | .07450 | 94 | .00173 | 0 | <0.005 | .45155 | 0.5 | 90 |
| Cobalt | T | .91737 | 1.0 | .05552 | 92 | -.00021 | 0 | <0.002 | .45867 | 0.5 | 92 |
| Copper | T | 2.3152 | 2.5 | .09362 | 93 | .00004 | 0 | <0.005 | .46089 | 0.5 | 92 |
| Iron | | 23.705 | 25 | .11138 | 95 | 191.00 | 200 | 96 | 170.99 | 200 | 85 |
| Lead | T | 2.2661 | 2.5 | .09844 | 91 | -.00398 | 0 | <0.005 | .89361 | 1 | 89 |
| Lithium | | .49770 | 0.5 | .09084 | 100 | .00000 | 0 | <0.05 | .94251 | 1 | 94 |
| Magnesium | | 55.879 | 60 | .15134 | 93 | 187.56 | 200 | 94 | 170.38 | 200 | 85 |
| Manganese | | 2.2925 | 2.5 | .13963 | 92 | -.00177 | 0 | <0.003 | .45355 | 0.5 | 91 |
| Molybdenum | T | 2.4067 | 2.5 | .08768 | 96 | .00077 | 0 | <0.005 | .99245 | 1 | 99 |
| Nickel | T | 2.4347 | 2.5 | .08786 | 97 | -.00044 | 0 | <0.005 | .96364 | 1 | 96 |
| Potassium | | 60.684 | 60 | .25992 | 101 | .06875 | 0 | <0.1 | 74.837 | 75 | 100 |
| Selenium | T | .98453 | 1.0 | .44386 | 98 | .00157 | 0 | <0.01 | .93145 | 1 | 93 |
| Silver | T | .47292 | 0.5 | .06232 | 95 | -.00063 | 0 | <0.005 | .98569 | 1 | 99 |
| Sodium | | 60.526 | 60 | .07110 | 101 | .14504 | 0 | >0.1 | 74.826 | 75 | 100 |
| Strontium | | .46511 | 0.5 | .12812 | 93 | -.00056 | 0 | <0.001 | .45968 | 0.5 | 92 |
| Thallium | T | 2.2792 | 2.5 | .43089 | 91 | .00017 | 0 | <0.005 | .82674 | 1 | 83 |
| Tin | | .48910 | 0.5 | .19450 | 98 | .00033 | 0 | <0.005 | .95942 | 1 | 96 |
| Titanium | | .47216 | 0.5 | .21530 | 94 | .00000 | 0 | <0.005 | .90409 | 1 | 90 |
| Vanadium | T | 1.3869 | 1.5 | .10397 | 92 | -.00001 | 0 | <0.002 | .45211 | 0.5 | 90 |
| Zinc | T | 2.5064 | 2.5 | .09736 | 100 | .00300 | 0 | <0.02 | .99515 | 1 | 100 |

| Unit: mg/L
| T: Target analyte
| EV: Expected Value
| Comment:

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Method : 3050B/6010C
Sequence : ID8F008
Instrument ID: D8

| CCV SampleID | | : CCV3 | | | CCV4 | | | CCV5 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CCV DataFileID | | : ID8F008C45 | | | ID8F0C8053 | | | ID8F0C8063 | | |
| CCV DateTime | | : 06/20/24 18:00 | | | 06/20/24 18:40 | | | 06/20/24 19:29 | | |
| PARAMETER | | CCV EV RESULT | %REC | RSD | RESULT | %REC | RSD | RESULT | %REC | RSD |
| Aluminum | | 100 | 96.8 | 97 | .51633 | 95.5 | 96 | .19554 | 94.3 | 94 | .69280 |
| Antimony | T | 1.5 | 1.5 | 100 | .22495 | 1.5 | 100 | .29934 | 1.51 | 101 | .60562 |
| Arsenic | T | 1.0 | 0.961 | 96 | .40587 | 0.961 | 96 | .63346 | 0.971 | 97 | .03805 |
| Barium | T | 2.0 | 1.9 | 95 | .24650 | 1.89 | 95 | .05464 | 1.92 | 96 | .16021 |
| Beryllium | T | 1.5 | 1.42 | 95 | .18968 | 1.42 | 94 | .11839 | 1.43 | 95 | .10693 |
| Boron | | 2.5 | 2.35 | 94 | .14233 | 2.34 | 94 | .22776 | 2.36 | 94 | .21626 |
| Cadmium | T | 2.0 | 1.92 | 96 | .27562 | 1.93 | 96 | .07084 | 1.94 | 97 | .32249 |
| Calcium | | 75 | 75.1 | 100 | .14952 | 75.3 | 100 | .13657 | 75.4 | 100 | .14916 |
| Chromium | T | 2.5 | 2.33 | 93 | .09302 | 2.32 | 93 | .13710 | 2.38 | 95 | .21813 |
| Cobalt | T | 1.0 | 0.918 | 92 | .26298 | 0.916 | 92 | .11887 | 0.916 | 92 | .13443 |
| Copper | T | 2.5 | 2.3 | 92 | .06179 | 2.3 | 92 | .12995 | 2.31 | 93 | .19803 |
| Iron | | 25 | 22.6 | 90 | .42877 | 22.5 | 90 | .21289 | 23 | 92 | .43358 |
| Lead | T | 2.5 | 2.26 | 91 | .12563 | 2.26 | 90 | .07493 | 2.25 | 91 | .12073 |
| Lithium | | 0.5 | 0.503 | 101 | .45686 | 0.497 | 99 | .90178 | 0.531 | 106 | .87207 |
| Magnesium | | 60 | 55.2 | 92 | .32284 | 55 | 92 | .34819 | 57.5 | 96 | .26164 |
| Manganese | | 2.5 | 2.32 | 93 | .18035 | 2.33 | 93 | .09185 | 2.36 | 94 | .08025 |
| Molybdenum | T | 2.5 | 2.41 | 96 | .04966 | 2.41 | 96 | .02517 | 2.41 | 96 | .03996 |
| Nickel | T | 2.5 | 2.43 | 97 | .11069 | 2.43 | 97 | .03676 | 2.44 | 97 | .04493 |
| Potassium | | 60 | 60.4 | 101 | .18533 | 60.1 | 100 | .31582 | 63.3 | 106 | .21253 |
| Selenium | T | 1.0 | 0.98 | 98 | .52711 | 0.979 | 98 | .43813 | 0.984 | 98 | .26532 |
| Silver | T | 0.5 | 0.47 | 94 | .44780 | 0.468 | 94 | .24923 | 0.479 | 96 | .51048 |
| Sodium | | 60 | 61.1 | 102 | .09268 | 61 | 102 | .03485 | 62.2 | 104 | .06022 |
| Strontium | | 0.5 | 0.465 | 93 | .11465 | 0.465 | 93 | .21449 | 0.463 | 93 | .05136 |
| Thallium | T | 2.5 | 2.25 | 91 | .42170 | 2.28 | 91 | .15498 | 2.28 | 91 | .24580 |
| Tin | | 0.5 | 0.49 | 98 | .23263 | 0.492 | 98 | .04726 | 0.489 | 98 | .50584 |
| Titanium | | 0.5 | 0.469 | 94 | .06259 | 0.465 | 93 | .29386 | 0.48 | 96 | .37143 |
| Vanadium | T | 1.5 | 1.38 | 92 | .27271 | 1.38 | 92 | .21122 | 1.4 | 93 | .29272 |
| Zinc | T | 2.5 | 2.51 | 100 | .06477 | 2.51 | 100 | .03054 | 2.51 | 100 | .06421 |

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment:

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : PARSONS
Project : TITAN 1-A
SDG NO. : 24F034
Method : 3050B/6010C
Sequence : ID8F008
Instrument ID: D8

| CB SampleID | | : ICB | CCB3 | CCB4 | CCB5 |
|---|---|---|---|---|---|
| CB DataFileID | | : ID8F008015 | ID8F008046 | ID8F008054 | ID8F008064 |
| CB DateTime | | : 06/20/2413:38 | 06/20/2418:05 | 06/20/2418:45 | 06/20/2419:34 |

| PARAMETER | | LCD | RESULT | < LOD > | RESULT | < LOD > | RESULT | < LOD > | RESULT | < LOD > |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.03 | 0.009 | <0.03 | 0.01 | <0.03 | 0.02 | <0.03 | 0.02 | <0.03 |
| Antimony | T | 0.030 | 0.0007 | <0.030 | 0.0008 | <0.030 | 0.00001 | <0.030 | 0.0008 | <0.030 |
| Arsenic | T | 0.02 | 0.00006 | <0.02 | 0.0002 | <0.02 | 0.0002 | <0.02 | 0.0007 | <0.02 |
| Barium | T | 0.002 | 0.0001 | <0.002 | 0.00005 | <0.002 | 0.0002 | <0.002 | 0.00003 | <0.002 |
| Beryllium | T | 0.002 | 0.0002 | <0.002 | 0.0003 | <0.002 | 0.0003 | <0.002 | 0.0002 | <0.002 |
| Boron | | 0.01 | 0.007 | <0.01 | 0.004 | <0.01 | 0.004 | <0.01 | 0.005 | <0.01 |
| Cadmium | T | 0.005 | 0.00 | <0.005 | 0.00008 | <0.005 | 0.00004 | <0.005 | 0.00001 | <0.005 |
| Calcium | | 0.1 | 0.17 | >0.1 | 0.17 | >0.1 | 0.17 | >0.1 | 0.16 | >0.1 |
| Chromium | T | 0.005 | 0.0002 | <0.005 | 0.0004 | <0.005 | 0.0001 | <0.005 | 0.0005 | <0.005 |
| Cobalt | T | 0.002 | 0.0001 | <0.002 | 0.00006 | <0.002 | 0.00009 | <0.002 | 0.00001 | <0.002 |
| Copper | T | 0.005 | 0.0001 | <0.005 | 0.0001 | <0.005 | 0.0001 | <0.005 | 0.0002 | <0.005 |
| Iron | | 0.04 | 0.003 | <0.04 | 0.004 | <0.04 | 0.004 | <0.04 | 0.006 | <0.04 |
| Lead | T | 0.005 | 0.00009 | <0.005 | 0.0003 | <0.005 | 0.0001 | <0.005 | 0.0003 | <0.005 |
| Lithium | | 0.05 | 0.002 | <0.05 | 0.0009 | <0.05 | 0.0002 | <0.05 | 0.001 | <0.05 |
| Magnesium | | 0.1 | 0.01 | <0.1 | 0.008 | <0.1 | 0.01 | <0.1 | 0.0006 | <0.1 |
| Manganese | | 0.003 | 0.0002 | <0.003 | 0.0002 | <0.003 | 0.0003 | <0.003 | 0.0004 | <0.003 |
| Molybdenum | T | 0.005 | 0.0004 | <0.005 | 0.0002 | <0.005 | 0.00005 | <0.005 | 0.0002 | <0.005 |
| Nickel | T | 0.005 | 0.0004 | <0.005 | 0.0005 | <0.005 | 0.0005 | <0.005 | 0.0004 | <0.005 |
| Potassium | | 0.1 | 0.11 | >0.1 | 0.009 | <0.1 | 0.04 | <0.1 | 0.02 | <0.1 |
| Selenium | T | 0.01 | 0.002 | <0.01 | 0.002 | <0.01 | 0.0005 | <0.01 | 0.002 | <0.01 |
| Silver | T | 0.005 | 0.00004 | <0.005 | 0.00007 | <0.005 | 0.0004 | <0.005 | 0.0003 | <0.005 |
| Sodium | | 0.1 | 0.01 | <0.1 | 0.05 | <0.1 | 0.04 | <0.1 | 0.02 | <0.1 |
| Strontium | | 0.001 | 0.0004 | <0.001 | 0.0004 | <0.001 | 0.0005 | <0.001 | 0.0003 | <0.001 |
| Thallium | T | 0.005 | 0.0005 | <0.005 | 0.0001 | <0.005 | 0.0005 | <0.005 | 0.002 | <0.005 |
| Tin | | 0.005 | 0.0005 | <0.005 | 0.00009 | <0.005 | 0.00003 | <0.005 | 0.0002 | <0.005 |
| Titanium | | 0.005 | 0.0006 | <0.005 | 0.0005 | <0.005 | 0.0002 | <0.005 | 0.0006 | <0.005 |
| Vanadium | T | 0.002 | 0.00005 | <0.002 | 0.00007 | <0.002 | 0.00009 | <0.002 | 0.00006 | <0.002 |
| Zinc | T | 0.02 | 0.003 | <0.02 | 0.003 | <0.02 | 0.002 | <0.02 | 0.002 | <0.02 |

Unit: mg/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

| | Pos ID | Rack | Row | Col | Type | Samplename | Comment | Date File | Type | Anaylst | CorrFact | Check | Check Table | Fail Action |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | Unk | S0 | | ID8F008001 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 2 | 0 | 0 | 0 | 0 | Unk | S20 | | ID8F008002 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 3 | 0 | 0 | 0 | 0 | Unk | S21 | | ID8F008003 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 4 | 0 | 0 | 0 | 0 | Unk | S22 | | ID8F008004 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 5 | 0 | 0 | 0 | 0 | Unk | S23 | | ID8F008005 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 6 | 0 | 0 | 0 | 0 | Unk | S24 | | ID8F008006 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 7 | 0 | 0 | 0 | 0 | Unk | S25 | | ID8F008007 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 8 | 0 | 0 | 0 | 0 | Unk | S26 | | ID8F008008 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 9 | 0 | 0 | 0 | 0 | Unk | S27 | | ID8F008009 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 10 | 0 | 0 | 0 | 0 | Unk | S28 | | ID8F008010 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 11 | 0 | 0 | 0 | 0 | Unk | S29 | | ID8F008011 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 12 | 0 | 0 | 0 | 0 | Unk | S30 | | ID8F008012 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 13 | 0 | 0 | 0 | 0 | Unk | S31 | | ID8F008013 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 14 | 1 | 2 | 1 | 1 | QC | ICV | | ID8F008014 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 15 | 2 | 2 | 2 | 1 | QC | ICB | | ID8F008015 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 16 | 3 | 2 | 3 | 1 | QC | MRLF2001 | | ID8F008016 | | JFeng/JChun | 1 | ☒ | MRL-EMAX | None |
| 17 | 4 | 2 | 4 | 1 | QC | MRLF2002 | | ID8F008017 | | JFeng/JChun | 1 | ☒ | MRL-AFCEE | None |
| 18 | 5 | 2 | 5 | 1 | QC | ICSA1 | | ID8F008018 | | JFeng/JChun | 1 | ☒ | ICSA-DoD | None |
| 19 | 6 | 2 | 6 | 1 | QC | ICSAB1 | | ID8F008019 | | JFeng/JChun | 1 | ☒ | ICSAB | None |
| 20 | 7 | 2 | 7 | 1 | Unk | MRLF2003 | | ID8F008020 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 21 | 8 | 2 | 8 | 1 | Unk | MRLF2004 | | ID8F008021 | | JFeng/JChun | 1 | ☒ | unk6010C | --- |
| 22 | 9 | 2 | 9 | 1 | QC | CCV1 | | ID8F008022 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 23 | 10 | 2 | 10 | 1 | QC | CCB1 | | ID8F008023 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 24 | 61 | 3 | 1 | 1 | QC | IPF005WB | | ID8F008024 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 25 | 62 | 3 | 2 | 1 | QC | IPF005WL | | ID8F008025 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 26 | 63 | 3 | 3 | 1 | QC | IPF005WC | | ID8F008026 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 27 | 64 | 3 | 4 | 1 | Unk | F020-02 | | ID8F008027 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 28 | 65 | 3 | 5 | 1 | Unk | F020-03A | | ID8F008028 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 29 | 66 | 3 | 6 | 1 | Unk | F020-03 | | ID8F008029 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 30 | 67 | 3 | 7 | 1 | Unk | F020-03J | | ID8F008030 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 31 | 68 | 3 | 8 | 1 | Unk | F020-03M | | ID8F008031 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 32 | 69 | 3 | 9 | 1 | Unk | F020-03S | | ID8F008032 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 33 | 157 | 4 | 1 | 4 | QC | CCV2 | | ID8F008033 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 34 | 169 | 4 | 1 | 5 | QC | CCB2 | | ID8F008034 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 35 | 70 | 3 | 10 | 1 | Unk | F020-04 | | ID8F008035 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 36 | 71 | 3 | 11 | 1 | Unk | F020-05 | | ID8F008036 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 37 | 72 | 3 | 12 | 1 | Unk | F020-06 | | ID8F008037 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 38 | 73 | 3 | 1 | 2 | QC | TXF002SB | | ID8F008038 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 39 | 74 | 3 | 2 | 2 | Unk | F008-04A | TCLP | ID8F008039 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 40 | 75 | 3 | 3 | 2 | Unk | F008-04 | TCLP | ID8F008040 | | JFeng/JChun | 1 | ☒ | unk | --- |

| | Pos ID | Rack | Row | Col | Type | Samplename | Comment | Date File | Type | Anaylst | CorrFact | Check | Check Table | Fail Action |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 41 | 76 | 3 | 4 | 2 | Unk | F008-04J | TCLP | ID8F008041 | | JFeng/JChun | 1 | ☒ | unk | — |
| 42 | 77 | 3 | 5 | 2 | Unk | F008-04M | TCLP | ID8F008042 | | JFeng/JChun | 1 | ☒ | unk | — |
| 43 | 78 | 3 | 6 | 2 | Unk | F008-04S | TCLP | ID8F008043 | | JFeng/JChun | 1 | ☒ | unk | — |
| 44 | 79 | 3 | 7 | 2 | QC | TXF003SB | | ID8F008044 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 45 | 158 | 4 | 2 | 4 | QC | CCV3 | | ID8F008045 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 46 | 170 | 4 | 2 | 5 | QC | CCB3 | | ID8F008046 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 47 | 80 | 3 | 8 | 2 | Unk | F032-05 | TCLP | ID8F008047 | | JFeng/JChun | 1 | ☒ | unk | — |
| 48 | 81 | 3 | 9 | 2 | Unk | F034-02 | TCLP | ID8F008048 | | JFeng/JChun | 1 | ☒ | unk | — |
| 49 | 82 | 3 | 10 | 2 | Unk | F428-01 | TCLP | ID8F008049 | | JFeng/JChun | 1 | ☒ | unk | — |
| 50 | 83 | 3 | 11 | 2 | QC | IPF010SB | | ID8F008050 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 51 | 84 | 3 | 12 | 2 | QC | IPF010SL | | ID8F008051 | | JFeng/JChun | 1 | ☒ | LCS-SDoD | None |
| 52 | 85 | 3 | 1 | 3 | QC | IPF010SC | | ID8F008052 | | JFeng/JChun | 1 | ☒ | LCS-SDoD | None |
| 53 | 159 | 4 | 3 | 4 | QC | CCV4 | | ID8F008053 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 54 | 171 | 4 | 3 | 5 | QC | CCB4 | | ID8F008054 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 55 | 86 | 3 | 2 | 3 | Unk | F034-02A | | ID8F008055 | | JFeng/JChun | 1 | ☒ | unk | — |
| 56 | 87 | 3 | 3 | 3 | Unk | F034-02 | | ID8F008056 | | JFeng/JChun | 1 | ☒ | unk | — |
| 57 | 88 | 3 | 4 | 3 | Unk | F034-02J | | ID8F008057 | | JFeng/JChun | 1 | ☒ | unk | — |
| 58 | 89 | 3 | 5 | 3 | Unk | F034-02M | | ID8F008058 | | JFeng/JChun | 1 | ☒ | unk | — |
| 59 | 90 | 3 | 6 | 3 | Unk | F034-02S | | ID8F008059 | | JFeng/JChun | 1 | ☒ | unk | — |
| 60 | 91 | 3 | 7 | 3 | QC | IPF009WB | | ID8F008060 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 61 | 92 | 3 | 8 | 3 | QC | IPF009WL | | ID8F008061 | | JFeng/JChun | 1 | ☒ | LCS-WDoD | None |
| 62 | 93 | 3 | 9 | 3 | QC | IPF009WC | | ID8F008062 | | JFeng/JChun | 1 | ☒ | LCS-WDoD | None |
| 63 | 160 | 4 | 4 | 4 | QC | CCV5 | | ID8F008063 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 64 | 172 | 4 | 4 | 5 | QC | CCB5 | | ID8F008064 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 65 | 94 | 3 | 10 | 3 | Unk | F034-01A | | ID8F008065 | | JFeng/JChun | 1 | ☒ | unk | — |
| 66 | 95 | 3 | 11 | 3 | Unk | F034-01 | | ID8F008066 | | JFeng/JChun | 1 | ☒ | unk | — |
| 67 | 96 | 3 | 12 | 3 | Unk | F034-01J | | ID8F008067 | | JFeng/JChun | 1 | ☒ | unk | — |
| 68 | 97 | 3 | 1 | 4 | Unk | F034-01M | | ID8F008068 | | JFeng/JChun | 1 | ☒ | unk | — |
| 69 | 98 | 3 | 2 | 4 | Unk | F034-01S | | ID8F008069 | | JFeng/JChun | 1 | ☒ | unk | — |
| 70 | 161 | 4 | 5 | 4 | QC | CCV6 | | ID8F008070 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 71 | 173 | 4 | 5 | 5 | QC | CCB6 | | ID8F008071 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 72 | 99 | 3 | 3 | 4 | QC | IPF011WB | | ID8F008072 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 73 | 100 | 3 | 4 | 4 | QC | IPF011WL | | ID8F008073 | | JFeng/JChun | 1 | ☒ | LCS-WDoD | None |
| 74 | 101 | 3 | 5 | 4 | QC | IPF011WC | | ID8F008074 | | JFeng/JChun | 1 | ☒ | LCS-WDoD | None |
| 75 | 102 | 3 | 6 | 4 | QC | TX004WB | TCLP | ID8F008075 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 76 | 103 | 3 | 7 | 4 | Unk | F058-01A | TCLP | ID8F008076 | | JFeng/JChun | 1 | ☒ | unk6010C | — |
| 77 | 104 | 3 | 8 | 4 | Unk | F058-01 | TCLP | ID8F008077 | | JFeng/JChun | 1 | ☒ | unk6010C | — |
| 78 | 105 | 3 | 9 | 4 | Unk | F058-01J | TCLP | ID8F008078 | | JFeng/JChun | 1 | ☒ | unk6010C | — |
| 79 | 106 | 3 | 10 | 4 | Unk | F058-01M | TCLP | ID8F008079 | | JFeng/JChun | 1 | ☒ | unk6010C | — |
| 80 | 107 | 3 | 11 | 4 | Unk | F058-01S | TCLP | ID8F008080 | | JFeng/JChun | 1 | ☒ | unk6010C | — |

| | Pos ID | Rack | Row | Col | Type | Samplename | Comment | Date File | Type | Anaylst | CorrFact | Check | Check Table | Fail Action |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | 162 | 4 | 6 | 4 | QC | CCV7 | | ID8F008081 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 82 | 174 | 4 | 6 | 5 | QC | CCB7 | | ID8F008082 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 83 | 108 | 3 | 12 | 4 | QC | IPF006SB | | ID8F008083 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 84 | 109 | 3 | 1 | 5 | QC | IPF006SL | | ID8F008084 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 85 | 110 | 3 | 2 | 5 | QC | IPF006SC | | ID8F008085 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 86 | 111 | 3 | 3 | 5 | Unk | F427-01A | | ID8F008086 | | JFeng/JChun | 1 | ☒ | unk | — |
| 87 | 112 | 3 | 4 | 5 | Unk | F427-01 | | ID8F008087 | | JFeng/JChun | 1 | ☒ | unk | — |
| 88 | 113 | 3 | 5 | 5 | Unk | F427-01J | | ID8F008088 | | JFeng/JChun | 1 | ☒ | unk | — |
| 89 | 114 | 3 | 6 | 5 | Unk | F427-01M | | ID8F008089 | | JFeng/JChun | 1 | ☒ | unk | — |
| 90 | 115 | 3 | 7 | 5 | Unk | F427-01S | | ID8F008090 | | JFeng/JChun | 1 | ☒ | unk | — |
| 91 | 163 | 4 | 7 | 4 | QC | CCV8 | | ID8F008091 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 92 | 175 | 4 | 7 | 5 | QC | CCB8 | | ID8F008092 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 93 | 116 | 3 | 8 | 5 | QC | IPF015SB | | ID8F008093 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 94 | 117 | 3 | 9 | 5 | QC | IPF015SL | | ID8F008094 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 95 | 118 | 3 | 10 | 5 | QC | IPF015SC | | ID8F008095 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 96 | 119 | 3 | 11 | 5 | Unk | F476-01A | | ID8F008096 | | JFeng/JChun | 1 | ☒ | unk | — |
| 97 | 120 | 3 | 12 | 5 | Unk | F476-01 | | ID8F008097 | | JFeng/JChun | 1 | ☒ | unk | — |
| 98 | 121 | 4 | 1 | 1 | Unk | F476-01J | | ID8F008098 | | JFeng/JChun | 1 | ☒ | unk | — |
| 99 | 122 | 4 | 2 | 1 | Unk | F476-01M | | ID8F008099 | | JFeng/JChun | 1 | ☒ | unk | — |
| 100 | 123 | 4 | 3 | 1 | Unk | F476-01S | | ID8F008100 | | JFeng/JChun | 1 | ☒ | unk | — |
| 101 | 164 | 4 | 8 | 4 | QC | CCV9 | | ID8F008101 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 102 | 176 | 4 | 8 | 5 | QC | CCB9 | | ID8F008102 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 103 | 124 | 4 | 4 | 1 | QC | IPF016WB | | ID8F008103 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 104 | 125 | 4 | 5 | 1 | QC | IPF016WL | | ID8F008104 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 105 | 126 | 4 | 6 | 1 | QC | IPF016WC | | ID8F008105 | | JFeng/JChun | 1 | ☒ | LCS | None |
| 106 | 165 | 4 | 9 | 4 | QC | CCV10 | | ID8F008106 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 107 | 177 | 4 | 9 | 5 | QC | CCB10 | | ID8F008107 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 108 | 127 | 4 | 7 | 1 | QC | WTF002SB | STLC 5X | ID8F008108 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 109 | 128 | 4 | 8 | 1 | Unk | E112-01A | STLC 5X | ID8F008109 | | JFeng/JChun | 1 | ☒ | unk | — |
| 110 | 129 | 4 | 9 | 1 | Unk | E112-01 | STLC 5X | ID8F008110 | | JFeng/JChun | 1 | ☒ | unk | — |
| 111 | 130 | 4 | 10 | 1 | Unk | E112-01J | STLC 25X | ID8F008111 | | JFeng/JChun | 1 | ☒ | unk | — |
| 112 | 131 | 4 | 11 | 1 | Unk | E112-01M | STLC 5X | ID8F008112 | | JFeng/JChun | 1 | ☒ | unk | — |
| 113 | 132 | 4 | 12 | 1 | Unk | E112-01S | STLC 5X | ID8F008113 | | JFeng/JChun | 1 | ☒ | unk | — |
| 114 | 166 | 4 | 10 | 4 | QC | CCV11 | | ID8F008114 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 115 | 178 | 4 | 10 | 5 | QC | CCB11 | | ID8F008115 | | JFeng/JChun | 1 | ☒ | LOD | None |
| 116 | 168 | 4 | 12 | 4 | QC | MRL2005 | | ID8F008116 | | JFeng/JChun | 1 | ☒ | MRL-EMAX | None |
| 117 | 180 | 4 | 12 | 5 | QC | MRL2006 | | ID8F008117 | | JFeng/JChun | 1 | ☒ | MRL-EMAX | None |
| 118 | 133 | 4 | 1 | 2 | QC | WTF001SB | STLC 5X | ID8F008118 | | JFeng/JChun | 1 | ☒ | 1/2LOQ | None |
| 119 | 134 | 4 | 2 | 2 | Unk | F034-02A | STLC 5X | ID8F008119 | | JFeng/JChun | 1 | ☒ | unk | — |
| 120 | 135 | 4 | 3 | 2 | Unk | F034-02 | STLC 5X | ID8F008120 | | JFeng/JChun | 1 | ☒ | unk | — |

| | Pos ID | Rack | Row | Col | Type | Samplename | Comment | Date File | Type | Anaylst | CorrFact | Check | Check Table | Fail Action |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 121 | 136 | 4 | 4 | 2 | Unk | F034-02J | STLC 25X | ID8F008121 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 122 | 137 | 4 | 5 | 2 | Unk | F034-02M | STLC 5X | ID8F008122 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 123 | 138 | 4 | 6 | 2 | Unk | F034-02S | STLC 5X | ID8F008123 | | JFeng/JChun | 1 | ☒ | unk | --- |
| 124 | 167 | 4 | 11 | 4 | QC | CCV12 | | ID8F008124 | | JFeng/JChun | 1 | ☒ | CCV | None |
| 125 | 179 | 4 | 11 | 5 | QC | CCB12 | | ID8F008125 | | JFeng/JChun | 1 | ☒ | LOD | None |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) | Correlation | Std Error of Est | Predicted MDL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Al 308.215 {109} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.000276 | 0.017897 | 0.000000 | 1.000000 | 0.999975 | 0.000138 | 0.035575 |
| Sb 206.833 {463} | 06/20/2024 15:33:38 | 06/20/2024 13:23:39 | Linear | 1/Conc | 0.000011 | 0.005403 | 0.000000 | 1.000000 | 0.999997 | 0.000003 | 0.002072 |
| As 189.042 {478} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.000023 | 0.002754 | 0.000000 | 1.000000 | 0.999996 | 0.000000 | 0.002817 |
| Ba 455.403 { 74} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.001346 | 0.724162 | 0.000000 | 1.000000 | 1.000000 | 0.000052 | 0.000358 |
| Be 313.042 {108} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | 0.001162 | 0.717046 | 0.000000 | 1.000000 | 0.999992 | 0.000517 | 0.000145 |
| B 249.773 {135} | 06/20/2024 15:33:38 | 06/20/2024 13:03:57 | Linear | 1/Conc | 0.000287 | 0.131674 | 0.000000 | 1.000000 | 0.999962 | 0.000207 | 0.000342 |
| Cd 226.502 {449} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | -0.000043 | 0.141311 | 0.000000 | 1.000000 | 0.999886 | 0.000388 | 0.000111 |
| Ca 317.933 {106} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.006429 | 0.033166 | 0.000000 | 1.000000 | 0.999751 | 0.006714 | 0.003640 |
| Cr 267.716 {126} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.000500 | 0.157130 | 0.000000 | 1.000000 | 1.000000 | 0.000026 | 0.000316 |
| Co 228.616 {447} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | -0.000292 | 0.678009 | 0.000000 | 1.000000 | 0.999959 | 0.000223 | 0.000300 |
| Cu 324.754 {104} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.000731 | 0.225991 | 0.000000 | 1.000000 | 0.999954 | 0.000389 | 0.000341 |
| Fe 271.441 {124} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.000021 | 0.006859 | 0.000000 | 1.000000 | 0.999993 | 0.000032 | 0.006722 |
| Pb 220.353 {453} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | -0.000485 | 0.346577 | 0.000000 | 1.000000 | 0.999951 | 0.000625 | 0.000767 |
| Li 670.784 { 50} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.000828 | 0.119696 | 0.000000 | 1.000000 | 0.999949 | 0.000032 | 0.004072 |
| Mg 279.079 {121} | 06/20/2024 15:33:38 | 06/20/2024 13:23:39 | Linear | 1/Conc | -0.000369 | 0.003749 | 0.000000 | 1.000000 | 0.999983 | 0.000040 | 0.035998 |
| Mn 257.610 {131} | 06/20/2024 15:33:38 | 06/20/2024 12:43:47 | Linear | 1/Conc | 0.000005 | 0.151351 | 0.000000 | 1.000000 | 0.999954 | 0.000264 | 0.000465 |
| Mo 202.030 {467} | 06/20/2024 15:33:38 | 06/20/2024 13:03:57 | Linear | 1/Conc | -0.000331 | 0.544414 | 0.000000 | 1.000000 | 1.000000 | 0.000044 | 0.000301 |
| Ni 231.604 {446} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | 0.001349 | 0.784881 | 0.000000 | 1.000000 | 0.999991 | 0.000593 | 0.000348 |
| K 766.490 { 44} | 06/20/2024 15:33:38 | 06/20/2024 13:13:52 | Linear | 1/Conc | -0.003358 | 0.005706 | 0.000000 | 1.000000 | 0.999878 | 0.000810 | 0.063357 |
| Se 196.090 {472} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.000018 | 0.002900 | 0.000000 | 1.000000 | 0.999994 | 0.000001 | 0.002942 |
| Si 212.412 {459} | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| Ag 328.068 {103} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.000187 | 0.173641 | 0.000000 | 1.000000 | 0.999967 | 0.000038 | 0.000489 |
| Na 589.592 { 57} | 06/20/2024 15:33:38 | 06/20/2024 13:03:57 | Linear | 1/Conc | -0.001230 | 0.018063 | 0.000000 | 1.000000 | 0.999848 | 0.002283 | 0.018029 |
| Sr 421.552 { 80} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | -0.001069 | 0.840338 | 0.000000 | 1.000000 | 0.999987 | 0.000114 | 0.000263 |
| Ti 190.856 {477} | 06/20/2024 15:33:38 | 06/20/2024 13:23:39 | Linear | 1/Conc | 0.000001 | 0.005817 | 0.000000 | 1.000000 | 0.999589 | 0.000020 | 0.001571 |
| Sn 189.989 {477} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.000061 | 0.098434 | 0.000000 | 1.000000 | 0.999915 | 0.000035 | 0.000927 |
| Ti 334.941 {101} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.000261 | 0.096682 | 0.000000 | 1.000000 | 0.999988 | 0.000013 | 0.001288 |
| U 409.014 { 82} | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| V 292.402 {115} | 06/20/2024 15:33:38 | 06/20/2024 12:53:55 | Linear | 1/Conc | 0.000005 | 0.157811 | 0.000000 | 1.000000 | 0.999999 | 0.000045 | 0.000351 |
| Zn 206.200 {463} | 06/20/2024 15:33:38 | 06/20/2024 13:33:29 | Linear | 1/Conc | 0.002579 | 0.776066 | 0.000000 | 1.000000 | 0.999973 | 0.001041 | 0.000174 |
| Sc 227.318 {448}* | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| Sc 361.384 { 93}* | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |
| Sc 364.531 { 92}* | 06/20/2024 15:33:38 | 06/20/2024 12:33:45 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -1.000000 |

ID8F008
6/20/24 JF

## Status

| | | | | | |
|---|---|---|---|---|---|
| Revision | 19 | | | | |
| Date Created | 08/14/2006 16:36:29 | by admin | | | |
| Date Modified | 06/20/2024 15:33:37 | by admin | | | |
| Date Calibrated | 06/20/2024 15:33:38 | | | | |
| Current Status | by admin | | | | |
| Number of Elements | 31 | | | | |
| Number of Wavelengths | 33 | | | | |
| Calibration Type | External | | | | |
| Notes: | | | | | |

## Analysis Preferences

| | | | | | |
|---|---|---|---|---|---|
| Sample Options | # Repeats: | 3 | | | |
| | Delay Time: | 0.0 seconds | | | |
| | Sample Flush Time: | 50 seconds | | | |
| | Analysis mode | Speed | | | |
| Source | Sample Introduction | Nebulizer | | | |
| | Plasma View: | Line Selection | | | |
| Analysis Maximum Integration Times (sec) | Low WL Range | Axial | 15 | Radial | 15 |
| | High WL Range: | Axial | 10 | Radial | 5 |
| Calibration Mode | Concentration | | | | |
| Trailing Full Frame Options | Intelli-Frame: | | No | | |
| | Max Integration Time (sec): | | 30 | | |
| | WL Range: | | Low | | |
| | View: | | Axial | | |
| | Auto-Increment Sample Names: | | Yes | | |
| | Use Sample Weight Corrections: | | No | | |

## Source Settings

| | | | |
|---|---|---|---|
| Nebulizer Pump | Flush Pump Rate (rpm): | 88 | |
| | Analysis Pump Rate (rpm): | 36 | |
| | Pump Relaxation Time (sec): | 5 | |
| | Pump Tubing Type: | Tygon Orange/White | |
| | RF Power: | 1150 | W |

ID8F008
6/20/24 JF

Sample Name: S024F6010 Acquired: 06/20/2024 12:28:51 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .00028 | .00001 | -.00002 | .00135 | .00115 | .00029 | -.00005 | .00632 | .00050 | -.00029 |
| Stddev | .00052 | .00001 | .00000 | .00013 | .00005 | .00003 | .00001 | .00014 | .00005 | .00013 |
| %RSD | 186.16 | 133.21 | 18.238 | 9.5072 | 3.9680 | 11.762 | 27.781 | 2.2064 | 9.8259 | 43.988 |
| #1 | .00086 | .00001 | -.00002 | .00122 | .00114 | .00025 | -.00005 | .00619 | .00055 | -.00043 |
| #2 | -.00014 | .00000 | -.00003 | .00148 | .00120 | .00032 | -.00003 | .00631 | .00049 | -.00022 |
| #3 | .00011 | .00002 | -.00002 | .00133 | .00111 | .00030 | -.00006 | .00647 | .00046 | -.00021 |

| Elem | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .00073 | .00002 | -.00050 | -.00083 | -.00037 | .00000 | -.00033 | .00134 | -.00337 | .00002 |
| Stddev | .00004 | .00001 | .00015 | .00002 | .00003 | .00003 | .00001 | .00018 | .00026 | .00001 |
| %RSD | 5.5622 | 61.611 | 30.384 | 2.9483 | 8.0148 | 3048.7 | 4.1362 | 13.454 | 7.7921 | 52.295 |
| #1 | .00068 | .00002 | -.00063 | -.00082 | -.00035 | -.00003 | -.00033 | .00118 | -.00314 | .00001 |
| #2 | .00075 | .00001 | -.00052 | -.00086 | -.00036 | -.00001 | -.00032 | .00153 | -.00366 | .00002 |
| #3 | .00074 | .00003 | -.00034 | -.00081 | -.00040 | .00003 | -.00034 | .00131 | -.00331 | .00003 |

| Elem | Ag | Na | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | -.00019 | -.00126 | -.00107 | .00000 | .00006 | .00026 | .00001 | .00256 |
| Stddev | .00003 | .00026 | .00011 | .00001 | .00010 | .00006 | .00005 | .00012 |
| %RSD | 16.422 | 20.382 | 10.573 | 1859.3 | 168.99 | 22.391 | 838.16 | 4.7798 |
| #1 | -.00022 | -.00097 | -.00102 | .00001 | .00017 | .00020 | -.00004 | .00270 |
| #2 | -.00016 | -.00135 | -.00100 | -.00001 | .00005 | .00026 | .00000 | .00246 |
| #3 | -.00018 | -.00147 | -.00120 | .00000 | -.00004 | .00032 | .00005 | .00253 |

Sample Name: S024F6010 Acquired: 06/20/2024 12:28:51 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5543.7 | 42943. | 93337. |
| Stddev | 14.5 | 352. | 127. |
| %RSD | .26210 | .81975 | .13572 |
| #1 | 5531.5 | 43341. | 93463. |
| #2 | 5559.8 | 42814. | 93338. |
| #3 | 5539.8 | 42673. | 93210. |

Sample Name: S20 Acquired: 06/20/2024 12:33:48 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Be | Cd | Pb | Mn |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .72720 | .14802 | .35697 | .15595 |
| Stddev | .00171 | .00004 | .00037 | .00011 |
| %RSD | .23507 | .02698 | .10409 | .07295 |
| #1 | .72898 | .14807 | .35731 | .15583 |
| #2 | .72557 | .14801 | .35703 | .15606 |
| #3 | .72705 | .14799 | .35657 | .15594 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5609.0 | 43142. | 95140. |
| Stddev | 13.6 | 282. | 132. |
| %RSD | .24188 | .65350 | .13849 |
| #1 | 5595.0 | 42837. | 95015. |
| #2 | 5622.2 | 43196. | 95278. |
| #3 | 5609.7 | 43394. | 95126. |

Sample Name: S21 Acquired: 06/20/2024 12:38:42 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Be | Cd | Pb | Mn |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **7.1626** | **1.4063** | **3.4544** | **1.5089** |
| Stddev | .0816 | .0134 | .0047 | .0019 |
| %RSD | 1.1392 | .94932 | .13541 | .12749 |
| #1 | 7.0686 | 1.3960 | 3.4565 | 1.5068 |
| #2 | 7.2142 | 1.4214 | 3.4576 | 1.5106 |
| #3 | 7.2051 | 1.4015 | 3.4490 | 1.5094 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **5626.3** | **43828.** | **95219.** |
| Stddev | 22.1 | 369. | 183. |
| %RSD | .39274 | .84193 | .19242 |
| #1 | 5611.3 | 44151. | 95422. |
| #2 | 5616.0 | 43426. | 95067. |
| #3 | 5651.7 | 43908. | 95167. |

Sample Name: S22 Acquired: 06/20/2024 12:43:51 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Ba | Co | Cu | Fe | V |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .72642 | .13143 | .23328 | .01774 | .15709 |
| Stddev | .00161 | .00051 | .00041 | .00005 | .00015 |
| %RSD | .22138 | .38548 | .17416 | .26374 | .09817 |
| #1 | .72625 | .13162 | .23360 | .01770 | .15694 |
| #2 | .72810 | .13085 | .23341 | .01779 | .15724 |
| #3 | .72490 | .13181 | .23282 | .01774 | .15711 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5629.6 | 43448. | 94979. |
| Stddev | 4.2 | 134. | 67. |
| %RSD | .07462 | .30911 | .07087 |
| #1 | 5625.8 | 43404. | 94917. |
| #2 | 5634.1 | 43340. | 95051. |
| #3 | 5628.9 | 43598. | 94970. |

Sample Name: S23 Acquired: 06/20/2024 12:48:49 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Ba | Co | Cu | Fe | V |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 7.2421 | 1.3596 | 2.2362 | 1.3712 | 1.5842 |
| Stddev | .0552 | .0008 | .0278 | .0040 | .0021 |
| %RSD | .76193 | .05637 | 1.2438 | .29323 | .13031 |
| #1 | 7.1978 | 1.3598 | 2.2117 | 1.3669 | 1.5822 |
| #2 | 7.3039 | 1.3588 | 2.2664 | 1.3749 | 1.5863 |
| #3 | 7.2246 | 1.3603 | 2.2304 | 1.3717 | 1.5840 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5359.5 | 45111. | 96740. |
| Stddev | 16.2 | 426. | 750. |
| %RSD | .30216 | .94365 | .77541 |
| #1 | 5344.7 | 45065. | 97240. |
| #2 | 5357.0 | 44709. | 95877. |
| #3 | 5376.8 | 45557. | 97102. |

Sample Name: S24 Acquired: 06/20/2024 12:54:00 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | B | Mo | Na |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | .12835 | .54332 | .94050 |
| Stddev | .00027 | .00045 | .00123 |
| %RSD | .21061 | .08207 | .13101 |
| #1 | .12859 | .54382 | .93909 |
| #2 | .12840 | .54297 | .94109 |
| #3 | .12806 | .54316 | .94133 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5527.1 | 44720. | 93836. |
| Stddev | 5.7 | 177. | 218. |
| %RSD | .10251 | .39549 | .23275 |
| #1 | 5522.5 | 44696. | 93629. |
| #2 | 5533.4 | 44556. | 93815. |
| #3 | 5525.3 | 44907. | 94064. |

Sample Name: S25 Acquired: 06/20/2024 12:58:56 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | B | Mo | Na |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **1.3206** | **5.4446** | **5.3789** |
| Stddev | .0008 | .0014 | .0838 |
| %RSD | .06020 | .02493 | 1.5583 |
| #1 | 1.3215 | 5.4443 | 5.2838 |
| #2 | 1.3200 | 5.4434 | 5.4111 |
| #3 | 1.3204 | 5.4460 | 5.4419 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **5203.3** | **43787.** | **87968.** |
| Stddev | 6.6 | 220. | 162. |
| %RSD | .12711 | .50252 | .18453 |
| #1 | 5209.6 | 43885. | 88118. |
| #2 | 5196.4 | 43942. | 87990. |
| #3 | 5203.8 | 43535. | 87796. |

Sample Name: S26 Acquired: 06/20/2024 13:04:00 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Al | Ca | Cr | Ni | K |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .03355 | 1.7816 | .15719 | .79655 | .29605 |
| Stddev | .00039 | .0027 | .00019 | .00178 | .00090 |
| %RSD | 1.1660 | .15097 | .11952 | .22331 | .30241 |
| #1 | .03397 | 1.7793 | .15698 | .79528 | .29505 |
| #2 | .03350 | 1.7846 | .15722 | .79579 | .29677 |
| #3 | .03319 | 1.7810 | .15736 | .79859 | .29633 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5413.7 | 43990. | 92458. |
| Stddev | 9.0 | 462. | 248. |
| %RSD | .16661 | 1.0509 | .26837 |
| #1 | 5413.1 | 43458. | 92737. |
| #2 | 5405.1 | 44293. | 92264. |
| #3 | 5423.1 | 44219. | 92371. |

Sample Name: S27 Acquired: 06/20/2024 13:08:56 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Al | Ca | Cr | Ni | K |
|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 3.5821 | 16.473 | 1.5722 | 7.8398 | 2.8355 |
| Stddev | .0327 | .261 | .0025 | .0022 | .0080 |
| %RSD | .91254 | 1.5865 | .15908 | .02851 | .28149 |
| #1 | 3.6194 | 16.230 | 1.5715 | 7.8406 | 2.8266 |
| #2 | 3.5584 | 16.439 | 1.5702 | 7.8373 | 2.8420 |
| #3 | 3.5684 | 16.749 | 1.5750 | 7.8416 | 2.8380 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 4715.2 | 42287. | 82369. |
| Stddev | 8.4 | 472. | 449. |
| %RSD | .17855 | 1.1161 | .54567 |
| #1 | 4715.3 | 42817. | 82255. |
| #2 | 4706.7 | 41912. | 82864. |
| #3 | 4723.6 | 42131. | 81987. |

Sample Name: S28 Acquired: 06/20/2024 13:13:56 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Sb | Mg | Tl |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | .00537 | .03782 | .00615 |
| Stddev | .00001 | .00008 | .00001 |
| %RSD | .27916 | .20046 | .18102 |
| #1 | .00536 | .03775 | .00615 |
| #2 | .00536 | .03781 | .00614 |
| #3 | .00539 | .03790 | .00616 |

| Int. Std. | Sc3613_R | Sc3645_A |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | 44988. | 98199. |
| Stddev | 55. | 40. |
| %RSD | .12331 | .04119 |
| #1 | 44931. | 98245. |
| #2 | 44992. | 98168. |
| #3 | 45042. | 98184. |

Sample Name: S29 Acquired: 06/20/2024 13:18:49 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | Sb | Mg | Tl |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.05409** | .37384 | **.02294** |
| Stddev | .00013 | .00121 | .00006 |
| %RSD | .23807 | .32441 | .25816 |
| | | | |
| #1 | .05395 | .37316 | .02288 |
| #2 | .05410 | .37524 | .02293 |
| #3 | .05421 | .37311 | .02300 |

| Int. Std. | Sc3613_R | Sc3645_A |
|---|---|---|
| Units | Cts/S | Cts/S |
| Avg | **44634.** | **94189.** |
| Stddev | 407. | 191. |
| %RSD | .91149 | .20253 |
| | | |
| #1 | 44541. | 94257. |
| #2 | 44282. | 94336. |
| #3 | 45080. | 93973. |

Sample Name: S30 Acquired: 06/20/2024 13:23:43 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | As | Li | Se | Ag | Sr | Sn | Tl | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .00136 | .02365 | .00148 | .03517 | .16891 | .02032 | .01981 | .79677 |
| Stddev | .00002 | .00029 | .00002 | .00012 | .00009 | .00011 | .00012 | .00044 |
| %RSD | 1.6746 | 1.2382 | 1.2564 | .33823 | .05412 | .54131 | .60489 | .05464 |
| #1 | .00136 | .02394 | .00147 | .03531 | .16886 | .02043 | .01978 | .79701 |
| #2 | .00134 | .02366 | .00146 | .03509 | .16901 | .02021 | .01971 | .79627 |
| #3 | .00139 | .02335 | .00150 | .03512 | .16885 | .02033 | .01994 | .79703 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5705.0 | 43266. | 96063. |
| Stddev | 8.7 | 145. | 522. |
| %RSD | .15229 | .33515 | .54361 |
| #1 | 5700.2 | 43233. | 95723. |
| #2 | 5701.9 | 43424. | 96665. |
| #3 | 5716.0 | 43140. | 95803. |

Sample Name: S31 Acquired: 06/20/2024 13:28:39 Type: Cal
Method: 24F6010(v19) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

| Elem | As | Li | Se | Ag | Sr | Sn | Tl | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | .00548 | .11833 | .00581 | .17282 | .83736 | .09792 | .09673 | 7.7451 |
| Stddev | .00003 | .00057 | .00004 | .00032 | .00034 | .00009 | .00012 | .0100 |
| %RSD | .49930 | .48507 | .72773 | .18645 | .04110 | .09065 | .12591 | .12949 |
| #1 | .00547 | .11802 | .00581 | .17282 | .83729 | .09784 | .09667 | 7.7342 |
| #2 | .00551 | .11798 | .00585 | .17315 | .83773 | .09791 | .09687 | 7.7473 |
| #3 | .00545 | .11899 | .00576 | .17250 | .83705 | .09801 | .09666 | 7.7539 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5735.5 | 44109. | 96779. |
| Stddev | 10.6 | 57. | 279. |
| %RSD | .18463 | .12840 | .28793 |
| #1 | 5738.0 | 44091. | 96785. |
| #2 | 5744.6 | 44063. | 96497. |
| #3 | 5723.9 | 44172. | 97054. |

Sample Name: ICV Acquired: 06/20/2024 13:33:33 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008014 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 97.211 | 1.5120 | .97284 | 1.8909 | 1.4106 | 2.3651 | 1.9290 | 74.758 | 2.3623 | .91737 | 2.3152 |
| Stddev | 1.030 | .0074 | .00776 | .0031 | .0025 | .0022 | .0059 | .042 | .0018 | .00051 | .0022 |
| %RSD | 1.0598 | .48754 | .79739 | .16430 | .17814 | .09104 | .30745 | .05652 | .07450 | .05552 | .09362 |
| #1 | 96.032 | 1.5205 | .98179 | 1.8927 | 1.4091 | 2.3638 | 1.9357 | 74.712 | 2.3636 | .91729 | 2.3136 |
| #2 | 97.937 | 1.5076 | .96804 | 1.8873 | 1.4092 | 2.3640 | 1.9244 | 74.764 | 2.3603 | .91691 | 2.3144 |
| #3 | 97.665 | 1.5078 | .96869 | 1.8927 | 1.4135 | 2.3676 | 1.9268 | 74.796 | 2.3630 | .91792 | 2.3177 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 22.705 | 2.2661 | .49770 | 55.879 | 2.2925 | 2.4067 | 2.4347 | 60.684 | .98453 | .47292 | 60.526 |
| Stddev | .025 | .0022 | .00045 | .085 | .0032 | .0021 | .0021 | .158 | .00437 | .00029 | .043 |
| %RSD | .11138 | .09844 | .09084 | .15134 | .13963 | .08768 | .08786 | .25992 | .44386 | .06232 | .07110 |
| #1 | 22.732 | 2.2649 | .49783 | 55.793 | 2.2950 | 2.4086 | 2.4351 | 60.506 | .98726 | .47326 | 60.479 |
| #2 | 22.682 | 2.2648 | .49719 | 55.882 | 2.2889 | 2.4044 | 2.4323 | 60.807 | .97949 | .47278 | 60.537 |
| #3 | 22.701 | 2.2687 | .49807 | 55.962 | 2.2936 | 2.4070 | 2.4365 | 60.739 | .98684 | .47272 | 60.563 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

Sample Name: ICV Acquired: 06/20/2024 13:33:33 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008014 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46511 | 2.2792 | .48910 | .47216 | 1.3869 | 2.5064 |
| Stddev | .00060 | .0098 | .00095 | .00102 | .0014 | .0024 |
| %RSD | .12812 | .43089 | .19450 | .21530 | .10397 | .09736 |
| #1 | .46512 | 2.2899 | .48912 | .47184 | 1.3871 | 2.5067 |
| #2 | .46570 | 2.2707 | .48814 | .47134 | 1.3882 | 2.5038 |
| #3 | .46451 | 2.2770 | .49004 | .47330 | 1.3853 | 2.5087 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5152.6 | 43966. | 90069. |
| Stddev | 3.2 | 493. | 315. |
| %RSD | .06277 | 1.1208 | .34930 |
| #1 | 5149.7 | 43398. | 89710. |
| #2 | 5152.0 | 44278. | 90199. |
| #3 | 5156.1 | 44223. | 90298. |

Sample Name: ICB Acquired: 06/20/2024 13:38:17 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008015 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .00903 | -.00067 | .00006 | -.00014 | -.00015 | .00686 | .00000 | -.17178 | -.00022 | -.00013 | -.00010 |
| Stddev | .01011 | .00074 | .00080 | .00022 | .00008 | .00012 | .0001 | .00213 | .00012 | .00011 | .00020 |
| %RSD | 111.98 | 109.87 | 1289.0 | 154.47 | 52.215 | 1.7687 | 2237.1 | 1.2392 | 51.671 | 83.116 | 208.81 |
| #1 | .00304 | .00012 | .00036 | -.00016 | -.00007 | .00697 | .00003 | -.17418 | -.00034 | -.00013 | .00012 |
| #2 | .02070 | -.00135 | -.00084 | .00009 | -.00023 | .00687 | -.00008 | -.17102 | -.00022 | -.00002 | -.00029 |
| #3 | .00334 | -.00079 | .00067 | -.00035 | -.00014 | .00673 | .00004 | -.17013 | -.00011 | -.00024 | -.00012 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00301 | -.00009 | -.00152 | .01164 | .00015 | .00042 | -.00037 | .10900 | .00210 | .00004 | .01475 |
| Stddev | .00158 | .00040 | .00012 | .00997 | .00008 | .00023 | .00012 | .04234 | .00125 | .00056 | .00544 |
| %RSD | 52.532 | 440.04 | 7.7178 | 85.618 | 51.928 | 54.317 | 33.570 | 38.846 | 59.502 | 1491.9 | 36.898 |
| #1 | -.00300 | .00024 | -.00150 | .01247 | .00008 | .00017 | -.00025 | .08960 | .00135 | -.00006 | .02073 |
| #2 | -.00460 | .00003 | -.00165 | .02118 | .00023 | .00062 | -.00036 | .15756 | .00140 | .00064 | .01344 |
| #3 | -.00144 | -.00054 | -.00142 | .00129 | .00014 | .00047 | -.00050 | .07983 | .00354 | -.00047 | .01008 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: ICB Acquired: 06/20/2024 13:38:17 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008015 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00040 | .00047 | -.00045 | .00057 | .00005 | -.00257 |
| Stddev | .00028 | .00057 | .00083 | .00055 | .00019 | .00006 |
| %RSD | 69.913 | 120.40 | 186.23 | 95.665 | 381.56 | 2.2238 |
| #1 | -.00030 | .00100 | .00042 | .00083 | .00017 | -.00251 |
| #2 | -.00018 | -.00013 | -.00052 | .00094 | .00015 | -.00258 |
| #3 | -.00071 | .00054 | -.00124 | -.00006 | -.00017 | -.00262 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5907.9 | 44918. | 99093. |
| Stddev | 12.4 | 139. | 337. |
| %RSD | .20994 | .30980 | .33961 |
| #1 | 5893.6 | 45054. | 99450. |
| #2 | 5914.1 | 44925. | 98782. |
| #3 | 5916.1 | 44776. | 99047. |

Sample Name: MRLF2001 Acquired: 06/20/2024 13:43:15 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008016 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .21871 | .09685 | .01127 | .01015 | .00968 | .10162 | .00988 | 1.0159 | .01018 | .00967 | .01077 |
| Stddev | .02785 | .00132 | .00253 | .00015 | .00021 | .00047 | .00018 | .0016 | .00037 | .00002 | .00008 |
| %RSD | 12.733 | 1.3622 | 22.458 | 1.4516 | 2.2103 | .46244 | 1.8190 | .15419 | 3.6712 | .22652 | .76748 |
| #1 | .24130 | .09758 | .01346 | .00998 | .00943 | .10156 | .01009 | 1.0166 | .01001 | .00965 | .01068 |
| #2 | .22723 | .09532 | .01185 | .01026 | .00984 | .10118 | .00979 | 1.0170 | .01061 | .00969 | .01080 |
| #3 | .18760 | .09764 | .00850 | .01020 | .00976 | .10211 | .00976 | 1.0141 | .00992 | .00966 | .01084 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .20268 | .00983 | .01055 | 1.0412 | .01169 | .01000 | .01003 | 1.1427 | .00925 | .01095 | 1.1558 |
| Stddev | .00237 | .00017 | .00459 | .0104 | .00029 | .00021 | .00012 | .0288 | .00232 | .00027 | .0095 |
| %RSD | 1.1692 | 1.7407 | 43.531 | .99838 | 2.4468 | 2.1478 | 1.1705 | 2.5240 | 25.090 | 2.4243 | .82549 |
| #1 | .20012 | .00977 | .01378 | 1.0294 | .01148 | .00978 | .01015 | 1.1371 | .01183 | .01067 | 1.1466 |
| #2 | .20480 | .00969 | .00529 | 1.0489 | .01157 | .01021 | .00991 | 1.1739 | .00859 | .01120 | 1.1656 |
| #3 | .20311 | .01002 | .01259 | 1.0454 | .01202 | .00999 | .01003 | 1.1170 | .00734 | .01097 | 1.1552 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

Sample Name: MRLF2001 Acquired: 06/20/2024 13:43:15 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008016 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .00987 | .01082 | .10345 | .01088 | .00967 | .02102 |
| Stddev | .00003 | .00139 | .00163 | .00085 | .00023 | .00016 |
| %RSD | .30425 | 12.856 | 1.5721 | 7.8427 | 2.3652 | .77518 |
| #1 | .00988 | .01237 | .10170 | .01080 | .00949 | .02112 |
| #2 | .00984 | .00970 | .10373 | .01007 | .00993 | .02111 |
| #3 | .00989 | .01037 | .10492 | .01177 | .00959 | .02084 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5613.0 | 43052. | 94506. |
| Stddev | 5.0 | 278. | 342. |
| %RSD | .08923 | .64516 | .36240 |
| #1 | 5614.3 | 42834. | 94383. |
| #2 | 5617.2 | 43365. | 94242. |
| #3 | 5607.4 | 42957. | 94893. |

Sample Name: MRLF2002 Acquired: 06/20/2024 13:48:13 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008017 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .19993 | .05131 | .01110 | .00512 | .00383 | .10029 | .00506 | .45971 | .01032 | .00959 |
| Stddev | .02616 | .00217 | .00280 | .00035 | .00002 | .00030 | .00008 | .00315 | .00018 | .00006 |
| %RSD | 13.085 | 4.2229 | 25.240 | 6.8124 | .58722 | .29733 | 1.6056 | .68446 | 1.7606 | .59417 |
| #1 | .19641 | .05306 | .00823 | .00529 | .00380 | .10013 | .00514 | .45793 | .01025 | .00953 |
| #2 | .22767 | .05198 | .01122 | .00472 | .00384 | .10063 | .00498 | .46335 | .01053 | .00965 |
| #3 | .17570 | .04889 | .01383 | .00536 | .00384 | .10010 | .00505 | .45787 | .01019 | .00960 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Elem | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .01190 | .10685 | .00984 | .10214 | .22423 | .00582 | .01017 | .01046 | 1.1689 | .01097 |
| Stddev | .00017 | .00507 | .00050 | .00153 | .01467 | .00005 | .00014 | .00018 | .0692 | .00205 |
| %RSD | 1.4540 | 4.7433 | 5.1216 | 1.4961 | 6.5429 | .94378 | 1.3307 | 1.7319 | 5.9180 | 18.722 |
| #1 | .01181 | .11049 | .00964 | .10123 | .22026 | .00580 | .01031 | .01052 | 1.1790 | .00860 |
| #2 | .01179 | .10107 | .01041 | .10390 | .21195 | .00578 | .01004 | .01026 | 1.2325 | .01228 |
| #3 | .01210 | .10901 | .00947 | .10128 | .24048 | .00588 | .01018 | .01061 | 1.0952 | .01203 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

Sample Name: MRLF2002 Acquired: 06/20/2024 13:48:13 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008017 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Ag | Na | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .01048 | .58388 | .01005 | .01143 | .01036 | .01101 | .00980 | F .01353 |
| Stddev | .00063 | .00274 | .00024 | .00114 | .00039 | .00018 | .00019 | .00015 |
| %RSD | 6.0087 | .46911 | 2.4058 | 9.9622 | 3.7496 | 1.6746 | 1.9430 | 1.1421 |
| #1 | .01120 | .58126 | .00999 | .01044 | .01045 | .01099 | .01000 | .01363 |
| #2 | .01017 | .58672 | .00985 | .01118 | .00994 | .01084 | .00962 | .01335 |
| #3 | .01006 | .58366 | .01032 | .01267 | .01070 | .01121 | .00979 | .01361 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | | .01000 |
| Range | | | | | | | | 20.000% |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5634.6 | 43363. | 94938. |
| Stddev | 9.2 | 301. | 144. |
| %RSD | .16239 | .69411 | .15139 |
| #1 | 5628.9 | 43295. | 94813. |
| #2 | 5645.2 | 43101. | 95095. |
| #3 | 5629.8 | 43692. | 94906. |

Sample Name: ICSA1 Acquired: 06/20/2024 13:53:09 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008018 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 427.13 | .00341 | .00052 | .00038 | -.00002 | -.00519 | -.00088 | 491.83 | .00173 | -.00021 | .00004 |
| Stddev | 4.74 | .00011 | .00243 | .00032 | .00004 | .00219 | .00012 | 7.25 | .00019 | .00017 | .00005 |
| %RSD | 1.1097 | 3.2077 | 467.36 | 83.459 | 256.16 | 42.146 | 13.239 | 1.4735 | 10.961 | 79.279 | 130.89 |
| #1 | 421.92 | .00329 | .00208 | .00005 | .00002 | -.00567 | -.00095 | 500.16 | .00189 | -.00040 | .00010 |
| #2 | 431.19 | .00344 | -.00228 | .00068 | -.00001 | -.00709 | -.00075 | 486.97 | .00178 | -.00012 | .00001 |
| #3 | 428.26 | .00350 | .00176 | .00041 | -.00007 | -.00280 | -.00095 | 488.37 | .00152 | -.00011 | .00001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 191.00 | -.00398 | .00000 | 187.56 | -.00177 | .00077 | -.00044 | .06875 | .00157 | -.00063 | .14504 |
| Stddev | .38 | .00027 | .0061 | .50 | .00039 | .00031 | .00013 | .03548 | .00113 | .00072 | .01123 |
| %RSD | .19863 | 6.8899 | 2735800. | .26846 | 21.848 | 39.909 | 29.594 | 51.608 | 72.102 | 115.03 | 7.7441 |
| #1 | 191.38 | -.00368 | -.00632 | 188.12 | -.00192 | .00097 | -.00047 | .02781 | .00172 | .00008 | .13830 |
| #2 | 190.62 | -.00421 | .00583 | 187.14 | -.00133 | .00041 | -.00030 | .09060 | .00262 | -.00061 | .15801 |
| #3 | 190.99 | -.00405 | .00049 | 187.42 | -.00206 | .00091 | -.00056 | .08783 | .00037 | -.00136 | .13881 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: ICSA1 Acquired: 06/20/2024 13:53:09 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008018 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00056 | .00017 | .00033 | .00000 | -.00001 | .00300 |
| Stddev | .00005 | .00265 | .00144 | .00093 | .00037 | .00027 |
| %RSD | 9.4360 | 1556.2 | 442.25 | 1287e15 | 5723.8 | 8.8349 |
| #1 | -.00059 | -.00062 | .00036 | .00075 | -.00023 | .00284 |
| #2 | -.00059 | -.00199 | -.00113 | .00029 | -.00021 | .00286 |
| #3 | -.00050 | .00312 | .00175 | -.00104 | .00042 | .00331 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 4395.5 | 42207. | 81423. |
| Stddev | 11.1 | 462. | 96. |
| %RSD | .25241 | 1.0940 | .11741 |
| #1 | 4397.4 | 41676. | 81315. |
| #2 | 4383.5 | 42515. | 81458. |
| #3 | 4405.5 | 42430. | 81496. |

Sample Name: ICSAB1 Acquired: 06/20/2024 13:58:10 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008019 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 393.82 | .98030 | .99520 | .46414 | .45548 | .97195 | .90537 | 452.47 | .45155 | .45867 | .46089 |
| Stddev | 4.30 | .00284 | .00450 | .00114 | .00133 | .00072 | .00145 | 9.05 | .00070 | .00038 | .00088 |
| %RSD | 1.0920 | .29014 | .45174 | .24542 | .29190 | .07372 | .15994 | 2.0000 | .15544 | .08176 | .19126 |
| #1 | 398.79 | .98338 | .99613 | .46321 | .45404 | .97150 | .90700 | 442.95 | .45092 | .45855 | .46057 |
| #2 | 391.38 | .97976 | .99916 | .46382 | .45665 | .97158 | .90489 | 453.48 | .45143 | .45837 | .46189 |
| #3 | 391.30 | .97777 | .99031 | .46541 | .45577 | .97278 | .90423 | 460.96 | .45230 | .45909 | .46022 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 170.99 | .89361 | .94251 | 170.38 | .45355 | .99245 | .96364 | 74.837 | .93145 | .98569 | 74.826 |
| Stddev | .21 | .00360 | .00847 | .55 | .00175 | .00177 | .00086 | .162 | .00762 | .00089 | .147 |
| %RSD | .12072 | .40337 | .89881 | .32398 | .38646 | .17857 | .08877 | .21606 | .81801 | .09034 | .19584 |
| #1 | 170.76 | .89735 | .93516 | 169.82 | .45188 | .99414 | .96462 | 74.818 | .93991 | .98467 | 74.709 |
| #2 | 171.03 | .89330 | .94060 | 170.39 | .45538 | .99061 | .96304 | 74.686 | .92932 | .98633 | 74.778 |
| #3 | 171.17 | .89016 | .95178 | 170.92 | .45339 | .99260 | .96327 | 75.008 | .92512 | .98606 | 74.990 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

Sample Name: ICSAB1 Acquired: 06/20/2024 13:58:10 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008019 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .45968 | .82674 | .95942 | .90409 | .45211 | .99515 |
| Stddev | .00016 | .00326 | .00225 | .00450 | .00121 | .00146 |
| %RSD | .03482 | .39409 | .23493 | .49784 | .26806 | .14685 |
| #1 | .45965 | .82819 | .95927 | .89929 | .45072 | .99675 |
| #2 | .45985 | .82903 | .95724 | .90476 | .45280 | .99482 |
| #3 | .45954 | .82301 | .96174 | .90822 | .45283 | .99389 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 4762.7 | 45630. | 88099. |
| Stddev | 12.5 | 451. | 282. |
| %RSD | .26336 | .98862 | .31980 |
| #1 | 4749.8 | 46149. | 87785. |
| #2 | 4774.9 | 45407. | 88329. |
| #3 | 4763.5 | 45333. | 88182. |

Sample Name: MRLF2003 Acquired: 06/20/2024 14:03:03 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008020 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .10180 | .04857 | .00362 | .00513 | .00486 | .05173 | .00502 | .46226 | .00488 | .00485 | .00540 |
| Stddev | .02615 | .00154 | .00310 | .00014 | .00010 | .00019 | .00009 | .00024 | .00015 | .00020 | .00018 |
| %RSD | 25.683 | 3.1621 | 85.674 | 2.6537 | 1.9971 | .37039 | 1.7533 | .05117 | 3.0106 | 4.1095 | 3.2694 |
| #1 | .07706 | .04927 | .00717 | .00520 | .00475 | .05186 | .00497 | .46252 | .00502 | .00486 | .00559 |
| #2 | .09919 | .04680 | .00227 | .00498 | .00490 | .05151 | .00513 | .46205 | .00473 | .00465 | .00537 |
| #3 | .12916 | .04962 | .00142 | .00523 | .00492 | .05182 | .00498 | .46221 | .00491 | .00505 | .00524 |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .10558 | .00428 | .00345 | .52081 | .00564 | .00512 | .00486 | .61183 | .00522 | .00556 | .58825 |
| Stddev | .00141 | .00037 | .00378 | .03758 | .00013 | .00043 | .00007 | .04040 | .00424 | .00052 | .00858 |
| %RSD | 1.3400 | 8.6869 | 109.68 | 7.2149 | 2.2676 | 8.4994 | 1.4656 | 6.6039 | 81.233 | 9.3076 | 1.4580 |
| #1 | .10691 | .00387 | .00339 | .48777 | .00560 | .00521 | .00494 | .56527 | .00211 | .00542 | .59552 |
| #2 | .10574 | .00438 | .00727 | .56169 | .00554 | .00549 | .00481 | .63774 | .01006 | .00613 | .57879 |
| #3 | .10410 | .00460 | -.00030 | .51299 | .00579 | .00464 | .00484 | .63247 | .00350 | .00512 | .59042 |

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .00490 | .00466 | .05244 | .00587 | .00485 | .01368 |
| Stddev | .00005 | .00034 | .00067 | .00039 | .00025 | .00003 |
| %RSD | .93232 | 7.3862 | 1.2835 | 6.7256 | 5.2123 | .23354 |
| #1 | .00486 | .00433 | .05169 | .00625 | .00460 | .01372 |
| #2 | .00495 | .00463 | .05300 | .00546 | .00510 | .01366 |
| #3 | .00491 | .00502 | .05263 | .00589 | .00485 | .01367 |

Sample Name: MRLF2003 Acquired: 06/20/2024 14:03:03 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008020 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5617.3 | 42870. | 94163. |
| Stddev | 16.6 | 159. | 272. |
| %RSD | .29498 | .37108 | .28899 |
| #1 | 5630.8 | 42930. | 94475. |
| #2 | 5598.8 | 42990. | 94033. |
| #3 | 5622.3 | 42689. | 93980. |

Sample Name: MRLF2004 Acquired: 06/20/2024 14:08:00 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008021 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00474 | -.00055 | -.00098 | .00025 | .00500 | .00082 | .00521 | -.08864 | -.00005 | .00008 | .00015 |
| Stddev | .01594 | .00241 | .00177 | .00007 | .00006 | .00039 | .00012 | .00235 | .00010 | .00003 | .00024 |
| %RSD | 336.51 | 437.59 | 180.20 | 30.492 | 1.1588 | 47.571 | 2.3975 | 2.6551 | 196.78 | 36.330 | 162.32 |
| #1 | -.01559 | -.00177 | -.00031 | .00026 | .00503 | .00115 | .00517 | -.08960 | -.00009 | .00005 | .00030 |
| #2 | .01356 | .00222 | -.00299 | .00031 | .00503 | .00091 | .00511 | -.08595 | .00006 | .00011 | .00029 |
| #3 | -.01218 | -.00211 | .00035 | .00017 | .00493 | .00039 | .00535 | -.09035 | -.00012 | .00008 | -.00013 |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .00635 | .00014 | .00184 | -.00990 | .00094 | .00025 | -.00027 | .18451 | .00059 | .00005 | .04583 |
| Stddev | .00744 | .00053 | .00155 | .02699 | .00024 | .00019 | .00026 | .04277 | .00235 | .00022 | .01993 |
| %RSD | 117.03 | 380.40 | 84.437 | 272.55 | 25.126 | 77.759 | 93.532 | 23.178 | 396.04 | 418.53 | 43.482 |
| #1 | .01245 | -.00047 | .00075 | -.03108 | .00098 | .00003 | -.00004 | .16068 | .00110 | .00025 | .02289 |
| #2 | -.00193 | .00039 | .00362 | .02048 | .00068 | .00038 | -.00023 | .15895 | -.00197 | .00009 | .05887 |
| #3 | .00855 | .00050 | .00115 | -.01911 | .00115 | .00033 | -.00055 | .23388 | .00265 | -.00019 | .05572 |

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00009 | -.00043 | .00068 | .00045 | .00491 | .10437 |
| Stddev | .00018 | .00091 | .00116 | .00027 | .00027 | .00035 |
| %RSD | 204.35 | 213.54 | 171.17 | 60.916 | 5.5312 | .33540 |
| #1 | .00011 | -.00144 | -.00036 | .00036 | .00521 | .10449 |
| #2 | -.00015 | -.00017 | .00046 | .00075 | .00482 | .10398 |
| #3 | -.00023 | .00033 | .00194 | .00023 | .00470 | .10464 |

Sample Name: MRLF2004 Acquired: 06/20/2024 14:08:00 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008021 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5894.1 | 43794. | 98259. |
| Stddev | 18.7 | 324. | 185. |
| %RSD | .31647 | .73907 | .18865 |
| #1 | 5875.2 | 43453. | 98458. |
| #2 | 5912.5 | 43832. | 98226. |
| #3 | 5894.7 | 44097. | 98092. |

Sample Name: CCV1 Acquired: 06/20/2024 14:12:57 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008022 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 96.586 | 1.5164 | .97146 | 1.9127 | 1.4122 | 2.3633 | 1.9281 | 74.567 | 2.3775 | .91740 | 2.3211 |
| Stddev | 1.099 | .0084 | .00631 | .0070 | .0021 | .0013 | .0102 | .240 | .0010 | .00081 | .0030 |
| %RSD | 1.1376 | .55376 | .64959 | .36678 | .15078 | .05671 | .52723 | .32165 | .04375 | .08883 | .13074 |
| #1 | 96.597 | 1.5163 | .97016 | 1.9192 | 1.4124 | 2.3645 | 1.9326 | 74.377 | 2.3779 | .91677 | 2.3238 |
| #2 | 95.482 | 1.5249 | .97831 | 1.9136 | 1.4143 | 2.3618 | 1.9353 | 74.837 | 2.3784 | .91832 | 2.3178 |
| #3 | 97.679 | 1.5081 | .96589 | 1.9053 | 1.4100 | 2.3636 | 1.9165 | 74.488 | 2.3764 | .91710 | 2.3218 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 22.853 | 2.2616 | .52137 | 56.780 | 2.3043 | 2.4132 | 2.4388 | 62.523 | .98846 | .47623 | 61.615 |
| Stddev | .040 | .0008 | .00181 | .336 | .0038 | .0043 | .0028 | .270 | .01013 | .00078 | .161 |
| %RSD | .17303 | .03694 | .34765 | .59111 | .16596 | .17691 | .11339 | .43115 | 1.0248 | .16461 | .26109 |
| #1 | 22.893 | 2.2606 | .52283 | 56.654 | 2.3017 | 2.4086 | 2.4380 | 62.388 | .99255 | .47670 | 61.553 |
| #2 | 22.814 | 2.2617 | .51935 | 57.161 | 2.3087 | 2.4171 | 2.4419 | 62.833 | .99591 | .47533 | 61.797 |
| #3 | 22.852 | 2.2623 | .52194 | 56.526 | 2.3025 | 2.4138 | 2.4365 | 62.348 | .97693 | .47667 | 61.494 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

Sample Name: CCV1 Acquired: 06/20/2024 14:12:57 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008022 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46580 | 2.2723 | .48893 | .47731 | 1.3926 | 2.5018 |
| Stddev | .00098 | .0104 | .00130 | .00234 | .0017 | .0011 |
| %RSD | .20943 | .45663 | .26664 | .48998 | .12452 | .04367 |
| #1 | .46470 | 2.2796 | .48754 | .47813 | 1.3938 | 2.5022 |
| #2 | .46656 | 2.2769 | .48913 | .47912 | 1.3906 | 2.5026 |
| #3 | .46613 | 2.2604 | .49012 | .47467 | 1.3933 | 2.5006 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5150.9 | 43599. | 90036. |
| Stddev | 7.2 | 621. | 391. |
| %RSD | .14018 | 1.4238 | .43476 |
| #1 | 5144.3 | 43579. | 89715. |
| #2 | 5158.6 | 42988. | 89921. |
| #3 | 5149.8 | 44229. | 90472. |

Sample Name: CCB1 Acquired: 06/20/2024 14:17:43 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008023 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.01435 | -.00075 | -.00169 | -.00019 | -.00028 | .00515 | -.00010 | -.17550 | -.00030 | .00007 | -.00031 |
| Stddev | .02012 | .00238 | .00116 | .00009 | .00013 | .00037 | .00010 | .00320 | .00032 | .00007 | .00060 |
| %RSD | 140.16 | 316.12 | 68.757 | 49.858 | 45.321 | 7.2666 | 98.531 | 1.8248 | 106.56 | 95.474 | 196.75 |
| #1 | -.00056 | -.00129 | -.00100 | -.00008 | -.00037 | .00549 | -.00017 | -.17756 | -.00010 | .00000 | -.00100 |
| #2 | -.03744 | .00185 | -.00303 | -.00022 | -.00013 | .00522 | -.00014 | -.17181 | -.00014 | .00008 | .00009 |
| #3 | -.00507 | -.00282 | -.00104 | -.00026 | -.00033 | .00475 | .00001 | -.17713 | -.00068 | .00014 | -.00001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00273 | -.00058 | .00013 | .01803 | -.00018 | .00016 | -.00056 | .03780 | .00004 | .00014 | .00737 |
| Stddev | .00224 | .00070 | .00391 | .02718 | .00021 | .00029 | .00015 | .04816 | .00147 | .00016 | .02522 |
| %RSD | 82.089 | 121.56 | 2946.8 | 150.79 | 118.03 | 183.64 | 26.950 | 127.42 | 3444.5 | 114.63 | 342.42 |
| #1 | -.00442 | -.00089 | .00417 | .03951 | -.00030 | .00043 | -.00063 | .02690 | -.00012 | .00015 | .02606 |
| #2 | -.00358 | -.00108 | -.00364 | .02710 | .00007 | -.00014 | -.00039 | -.00398 | -.00133 | -.00002 | -.02132 |
| #3 | -.00019 | .00023 | -.00013 | -.01253 | -.00031 | .00019 | -.00066 | .09047 | .00158 | .00030 | .01736 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: CCB1 Acquired: 06/20/2024 14:17:43 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008023 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00027 | .00079 | -.00049 | .00075 | -.00030 | -.00309 |
| Stddev | .00008 | .00051 | .00102 | .00092 | .00024 | .00011 |
| %RSD | 28.200 | 64.673 | 209.24 | 122.69 | 79.152 | 3.6777 |
| #1 | -.00035 | .00020 | -.00161 | -.00030 | -.00009 | -.00322 |
| #2 | -.00027 | .00111 | .00039 | .00141 | -.00025 | -.00300 |
| #3 | -.00019 | .00105 | -.00025 | .00115 | -.00056 | -.00305 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5933.3 | 44700. | 99287. |
| Stddev | 13.1 | 323. | 797. |
| %RSD | .22155 | .72207 | .80256 |
| #1 | 5944.8 | 44638. | 99131. |
| #2 | 5918.9 | 44412. | 98579. |
| #3 | 5936.1 | 45049. | 100150. |

Sample Name: CCV3 Acquired: 06/20/2024 18:00:58 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008045 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 96.762 | 1.4986 | .96062 | 1.8977 | 1.4176 | 2.3457 | 1.9173 | 75.050 | 2.3319 | .91787 | 2.3040 |
| Stddev | .500 | .0034 | .00390 | .0047 | .0027 | .0033 | .0053 | .112 | .0022 | .00241 | .0014 |
| %RSD | .51633 | .22495 | .40587 | .24650 | .18968 | .14233 | .27562 | .14952 | .09302 | .26298 | .06179 |
| #1 | 96.809 | 1.4978 | .96365 | 1.8923 | 1.4161 | 2.3465 | 1.9127 | 75.172 | 2.3303 | .91716 | 2.3043 |
| #2 | 96.241 | 1.4957 | .95622 | 1.9011 | 1.4160 | 2.3486 | 1.9162 | 74.951 | 2.3344 | .91590 | 2.3053 |
| #3 | 97.237 | 1.5023 | .96198 | 1.8996 | 1.4207 | 2.3421 | 1.9230 | 75.025 | 2.3311 | .92057 | 2.3025 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 22.577 | 2.2644 | .50346 | 55.212 | 2.3185 | 2.4095 | 2.4311 | 60.381 | .98035 | .46990 | 61.101 |
| Stddev | .097 | .0028 | .00230 | .178 | .0042 | .0012 | .0027 | .112 | .00517 | .00210 | .057 |
| %RSD | .42877 | .12563 | .45686 | .32284 | .18035 | .04966 | .11069 | .18533 | .52711 | .44780 | .09268 |
| #1 | 22.514 | 2.2621 | .50137 | 55.239 | 2.3180 | 2.4084 | 2.4304 | 60.489 | .98158 | .46821 | 61.151 |
| #2 | 22.688 | 2.2636 | .50308 | 55.022 | 2.3146 | 2.4093 | 2.4289 | 60.266 | .97468 | .47226 | 61.039 |
| #3 | 22.528 | 2.2676 | .50592 | 55.375 | 2.3229 | 2.4108 | 2.4341 | 60.387 | .98480 | .46924 | 61.111 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

Sample Name: CCV3 Acquired: 06/20/2024 18:00:58 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008045 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46531 | 2.2646 | .49005 | .46931 | 1.3842 | 2.5056 |
| Stddev | .00053 | .0095 | .00114 | .00029 | .0038 | .0016 |
| %RSD | .11465 | .42170 | .23263 | .06259 | .27271 | .06477 |
| #1 | .46593 | 2.2582 | .48960 | .46932 | 1.3815 | 2.5050 |
| #2 | .46507 | 2.2600 | .49135 | .46959 | 1.3885 | 2.5043 |
| #3 | .46495 | 2.2756 | .48921 | .46901 | 1.3826 | 2.5074 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5129.2 | 43287. | 90363. |
| Stddev | 6.7 | 193. | 112. |
| %RSD | .13137 | .44486 | .12360 |
| #1 | 5121.5 | 43201. | 90369. |
| #2 | 5132.6 | 43152. | 90471. |
| #3 | 5133.6 | 43508. | 90248. |

Sample Name: CCB3 Acquired: 06/20/2024 18:05:46 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008046 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.01299 | -.00080 | .00021 | .00005 | -.00030 | .00405 | .00008 | -.16816 | -.00044 | .00006 | -.00010 |
| Stddev | .02117 | .00038 | .00206 | .00024 | .00007 | .00029 | .00007 | .00082 | .00010 | .00017 | .00010 |
| %RSD | 162.93 | 47.757 | 979.54 | 475.73 | 23.721 | 7.1716 | 80.760 | .48795 | 21.795 | 273.15 | 96.831 |
| #1 | .01114 | -.00118 | .00119 | .00029 | -.00024 | .00433 | .00001 | -.16897 | -.00037 | .00016 | -.00002 |
| #2 | -.02171 | -.00041 | .00160 | .00006 | -.00038 | .00375 | .00014 | -.16733 | -.00055 | .00016 | -.00021 |
| #3 | -.02841 | -.00082 | -.00216 | -.00019 | -.00029 | .00406 | .00011 | -.16820 | -.00040 | -.00013 | -.00007 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00410 | .00028 | -.00093 | .00804 | -.00015 | .00016 | -.00047 | .00858 | .00175 | -.00007 | .04977 |
| Stddev | .00559 | .00022 | .00198 | .01583 | .00020 | .00020 | .00031 | .07575 | .00248 | .00023 | .00692 |
| %RSD | 136.20 | 79.194 | 214.25 | 196.90 | 133.89 | 128.42 | 66.052 | 882.75 | 141.25 | 318.07 | 13.904 |
| #1 | -.00636 | .00025 | -.00140 | .01645 | .00008 | .00035 | -.00077 | -.04939 | .00388 | -.00012 | .05737 |
| #2 | -.00820 | .00052 | -.00263 | .01789 | -.00026 | .00019 | -.00047 | .09429 | -.00097 | .00018 | .04810 |
| #3 | .00226 | .00007 | .00125 | -.01022 | -.00027 | -.00006 | -.00016 | -.01915 | .00235 | -.00028 | .04383 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: CCB3 Acquired: 06/20/2024 18:05:46 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008046 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00036 | .00011 | .00009 | .00051 | -.00007 | -.00253 |
| Stddev | .00017 | .00077 | .00037 | .00064 | .00006 | .00012 |
| %RSD | 47.223 | 710.70 | 424.81 | 125.20 | 79.233 | 4.8324 |
| #1 | -.00053 | -.00068 | .00038 | -.00012 | -.00003 | -.00258 |
| #2 | -.00019 | .00015 | -.00033 | .00049 | -.00004 | -.00239 |
| #3 | -.00038 | .00086 | .00022 | .00117 | -.00014 | -.00262 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 6063.1 | 44722. | 101530. |
| Stddev | 3.5 | 246. | 288. |
| %RSD | .05745 | .55043 | .28378 |
| #1 | 6060.4 | 44438. | 101340. |
| #2 | 6067.1 | 44863. | 101400. |
| #3 | 6061.9 | 44865. | 101860. |

Sample Name: IPF010SB Acquired: 06/20/2024 18:26:16 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008050 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr |
|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .00008 | -.00195 | .00184 | -.00019 | -.00032 | .00025 | -.00008 | -.05046 | .00014 |
| Stddev | .02994 | .00065 | .00275 | .00040 | .00008 | .00022 | .00008 | .00138 | .00014 |
| %RSD | 35656. | 33.103 | 149.62 | 206.65 | 25.999 | 88.610 | 96.660 | 2.7306 | 96.507 |
| #1 | -.00284 | -.00200 | .00371 | -.00042 | -.00026 | .00048 | -.00001 | -.04967 | .00002 |
| #2 | -.02829 | -.00258 | .00312 | .00027 | -.00029 | .00003 | -.00016 | -.05206 | .00029 |
| #3 | .03138 | -.00129 | -.00132 | -.00043 | -.00042 | .00026 | -.00006 | -.04967 | .00012 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Co | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni |
|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00032 | -.00006 | .00788 | .00046 | F -.00523 | .01628 | .00056 | .00064 | -.00029 |
| Stddev | .00012 | .00011 | .00902 | .00040 | .00040 | .00284 | .00057 | .00041 | .00016 |
| %RSD | 37.999 | 186.50 | 114.48 | 87.170 | 7.6963 | 17.425 | 101.14 | 64.832 | 54.132 |
| #1 | -.00023 | -.00019 | -.00203 | .00009 | -.00552 | .01437 | .00090 | .00084 | -.00011 |
| #2 | -.00046 | .00001 | .01563 | .00040 | -.00539 | .01493 | -.00009 | .00016 | -.00040 |
| #3 | -.00027 | .00000 | .01005 | .00089 | -.00477 | .01954 | .00087 | .00090 | -.00035 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | .00500 | | | | |
| Low Limit | | | | | -.00500 | | | | |

Sample Name: IPF010SB Acquired: 06/20/2024 18:26:16 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008050 Type: Anaylst: JFeng/JChun
Comment:

| Elem | K | Se | Ag | Na | Sr | Tl | Sn | Ti | V |
|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .10848 | .00220 | -.00002 | .15490 | -.00006 | -.00119 | F .03567 | .00056 | -.00028 |
| Stddev | .01924 | .00069 | .00019 | .00895 | .00010 | .00084 | .00040 | .00090 | .00023 |
| %RSD | 17.737 | 31.412 | 790.07 | 5.7758 | 177.12 | 70.355 | 1.1172 | 160.99 | 81.836 |
| #1 | .08693 | .00274 | .00019 | .16503 | -.00001 | -.00170 | .03549 | .00159 | -.00035 |
| #2 | .11456 | .00243 | -.00009 | .15158 | .00001 | -.00166 | .03612 | .00007 | -.00002 |
| #3 | .12395 | .00142 | -.00016 | .14808 | -.00017 | -.00022 | .03538 | .00001 | -.00047 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| High Limit | | | | | | | .01000 | | |
| Low Limit | | | | | | | -.01000 | | |

| Elem | Zn |
|---|---|
| Units | mg/L |
| Avg | -.00202 |
| Stddev | .00006 |
| %RSD | 3.1603 |
| #1 | -.00208 |
| #2 | -.00201 |
| #3 | -.00195 |
| Check ? | Chk Pass |
| High Limit | |
| Low Limit | |

Sample Name: IPF010SB Acquired: 06/20/2024 18:26:16 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008050 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5614.9 | 44150. | 99557. |
| Stddev | 34.5 | 68. | 356. |
| %RSD | .61520 | .15430 | .35804 |
| | | | |
| #1 | 5578.3 | 44203. | 99369. |
| #2 | 5619.4 | 44073. | 99968. |
| #3 | 5646.9 | 44173. | 99334. |

Sample Name: IPF010SL Acquired: 06/20/2024 18:31:17 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008051 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | F 6.6628 | 2.3081 | .48480 | .47710 | .48316 | .43722 | .48955 | 50.396 | .47768 | .48041 |
| Stddev | .0269 | .0165 | .00119 | .00083 | .00079 | .00119 | .00231 | .080 | .00114 | .00031 |
| %RSD | .40306 | .71570 | .24558 | .17441 | .16400 | .27118 | .47255 | .15926 | .23912 | .06357 |
| #1 | 6.6496 | 2.3067 | .48516 | .47630 | .48398 | .43789 | .48962 | 50.410 | .47753 | .48016 |
| #2 | 6.6450 | 2.3252 | .48577 | .47704 | .48240 | .43792 | .49182 | 50.469 | .47888 | .48075 |
| #3 | 6.6937 | 2.2923 | .48347 | .47796 | .48310 | .43585 | .48720 | 50.310 | .47661 | .48032 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 5.0000 | | | | | | | | | |
| Range | 19.200% | | | | | | | | | |

| Elem | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46905 | 4.6453 | .46388 | F .01650 | 47.004 | .49465 | .51381 | .50903 | 50.418 | .48353 |
| Stddev | .00120 | .0165 | .00055 | .00381 | .063 | .00063 | .00016 | .00074 | .120 | .00307 |
| %RSD | .25679 | .35633 | .11947 | 23.091 | .13334 | .12824 | .03081 | .14486 | .23828 | .63547 |
| #1 | .47007 | 4.6614 | .46452 | .01814 | 47.030 | .49514 | .51399 | .50829 | 50.281 | .48000 |
| #2 | .46936 | 4.6462 | .46350 | .01922 | 46.932 | .49487 | .51368 | .50904 | 50.506 | .48502 |
| #3 | .46772 | 4.6284 | .46363 | .01215 | 47.049 | .49393 | .51377 | .50977 | 50.466 | .48558 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | .50000 | | | | | | |
| Range | | | | -14.800% | | | | | | |

Sample Name: IPF010SL Acquired: 06/20/2024 18:31:17 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008051 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Ag | Na | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46846 | 51.707 | .47025 | .46058 | .53861 | .47499 | .48462 | .51499 |
| Stddev | .00266 | .139 | .00022 | .00257 | .00067 | .00151 | .00158 | .00087 |
| %RSD | .56834 | .26921 | .04748 | .55693 | .12422 | .31895 | .32697 | .16858 |
| #1 | .47130 | 51.550 | .47034 | .46160 | .53888 | .47333 | .48618 | .51469 |
| #2 | .46808 | 51.755 | .47042 | .46249 | .53910 | .47630 | .48466 | .51432 |
| #3 | .46601 | 51.816 | .47000 | .45767 | .53785 | .47534 | .48301 | .51597 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5121.1 | 43194. | 91577. |
| Stddev | 21.1 | 335. | 298. |
| %RSD | .41278 | .77637 | .32584 |
| #1 | 5103.2 | 43209. | 91278. |
| #2 | 5144.4 | 42851. | 91578. |
| #3 | 5115.6 | 43521. | 91874. |

Sample Name: IPF010SC Acquired: 06/20/2024 18:36:05 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008052 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | F 6.6237 | 2.2391 | .46974 | .46869 | .47359 | .42785 | .47718 | 49.387 | .46846 | .47197 |
| Stddev | .0206 | .0131 | .00451 | .00057 | .00068 | .00031 | .00252 | .067 | .00073 | .00018 |
| %RSD | .31120 | .58583 | .96054 | .12191 | .14378 | .07296 | .52834 | .13512 | .15609 | .03794 |
| #1 | 6.6454 | 2.2507 | .47204 | .46896 | .47392 | .42821 | .47995 | 49.410 | .46930 | .47217 |
| #2 | 6.6212 | 2.2248 | .46455 | .46803 | .47281 | .42764 | .47502 | 49.312 | .46798 | .47192 |
| #3 | 6.6044 | 2.2418 | .47265 | .46908 | .47405 | .42770 | .47656 | 49.440 | .46809 | .47182 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | 5.0000 | | | | | | | | | |
| Range | 19.200% | | | | | | | | | |

| Elem | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46095 | 4.5772 | .45466 | F .01574 | 45.631 | .48094 | .50196 | .49985 | 49.057 | .47045 |
| Stddev | .00037 | .0059 | .00115 | .00152 | .113 | .00106 | .00035 | .00012 | .260 | .00377 |
| %RSD | .08116 | .12903 | .25206 | 9.6520 | .24824 | .22064 | .06909 | .02310 | .52956 | .80076 |
| #1 | .46074 | 4.5821 | .45567 | .01417 | 45.509 | .48217 | .50200 | .49997 | 48.773 | .47286 |
| #2 | .46138 | 4.5707 | .45490 | .01584 | 45.651 | .48025 | .50228 | .49984 | 49.115 | .47238 |
| #3 | .46072 | 4.5790 | .45342 | .01721 | 45.733 | .48041 | .50159 | .49974 | 49.283 | .46611 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | .50000 | | | | | | |
| Range | | | | -14.800% | | | | | | |

Sample Name: IPF010SC Acquired: 06/20/2024 18:36:05 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008052 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Ag | Na | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46008 | 50.385 | .45974 | .44985 | .53051 | .46523 | .47612 | .50568 |
| Stddev | .00085 | .074 | .00041 | .00142 | .00207 | .00172 | .00065 | .00072 |
| %RSD | .18442 | .14681 | .08975 | .31562 | .38976 | .36920 | .13671 | .14171 |
| #1 | .46040 | 50.301 | .45988 | .45135 | .52984 | .46355 | .47587 | .50519 |
| #2 | .46072 | 50.414 | .45928 | .44853 | .52886 | .46516 | .47563 | .50650 |
| #3 | .45912 | 50.441 | .46007 | .44966 | .53283 | .46699 | .47686 | .50535 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5144.2 | 43886. | 92692. |
| Stddev | 13.0 | 171. | 536. |
| %RSD | .25273 | .38895 | .57859 |
| #1 | 5141.0 | 44061. | 92073. |
| #2 | 5133.0 | 43720. | 93022. |
| #3 | 5158.4 | 43878. | 92980. |

Sample Name: CCV4 Acquired: 06/20/2024 18:40:55 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008053 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 95.549 | 1.5048 | .96136 | 1.8938 | 1.4173 | 2.3423 | 1.9267 | 75.253 | 2.3239 | .91637 |
| Stddev | .187 | .0045 | .00609 | .0010 | .0017 | .0053 | .0014 | .103 | .0032 | .00109 |
| %RSD | .19554 | .29934 | .63346 | .05464 | .11839 | .22776 | .07084 | .13657 | .13710 | .11887 |
| #1 | 95.542 | 1.5075 | .95451 | 1.8945 | 1.4187 | 2.3370 | 1.9281 | 75.144 | 2.3208 | .91621 |
| #2 | 95.739 | 1.5073 | .96618 | 1.8942 | 1.4178 | 2.3476 | 1.9264 | 75.347 | 2.3272 | .91753 |
| #3 | 95.366 | 1.4996 | .96337 | 1.8926 | 1.4155 | 2.3422 | 1.9254 | 75.270 | 2.3239 | .91536 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | |
| Range | | | | | | | | | | |

| Elem | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se |
|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 2.2967 | F 22.488 | 2.2622 | .49728 | 54.992 | 2.3260 | 2.4095 | 2.4290 | 60.148 | .97890 |
| Stddev | .0030 | .048 | .0017 | .00448 | .191 | .0021 | .0006 | .0009 | .190 | .00429 |
| %RSD | .12995 | .21289 | .07493 | .90178 | .34819 | .09185 | .02517 | .03676 | .31582 | .43813 |
| #1 | 2.2945 | 22.482 | 2.2617 | .50213 | 54.916 | 2.3237 | 2.4098 | 2.4288 | 59.933 | .98359 |
| #2 | 2.3001 | 22.538 | 2.2608 | .49641 | 55.210 | 2.3279 | 2.4088 | 2.4282 | 60.294 | .97518 |
| #3 | 2.2954 | 22.443 | 2.2641 | .49329 | 54.850 | 2.3264 | 2.4100 | 2.4299 | 60.216 | .97792 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 25.000 | | | | | | | | |
| Range | | -10.000% | | | | | | | | |

Sample Name: CCV4 Acquired: 06/20/2024 18:40:55 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008053 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Ag | Na | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46765 | 60.995 | .46480 | 2.2773 | .49194 | .46510 | 1.3806 | 2.5076 |
| Stddev | .00117 | .021 | .00100 | .0035 | .00023 | .00137 | .0029 | .0008 |
| %RSD | .24923 | .03485 | .21449 | .15498 | .04726 | .29386 | .21122 | .03054 |
| #1 | .46689 | 60.999 | .46366 | 2.2769 | .49176 | .46638 | 1.3784 | 2.5068 |
| #2 | .46899 | 60.972 | .46551 | 2.2810 | .49220 | .46366 | 1.3839 | 2.5077 |
| #3 | .46707 | 61.014 | .46523 | 2.2740 | .49186 | .46528 | 1.3794 | 2.5083 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5131.3 | 42700. | 90023. |
| Stddev | 10.5 | 181. | 178. |
| %RSD | .20549 | .42274 | .19789 |
| #1 | 5143.3 | 42824. | 90173. |
| #2 | 5123.4 | 42784. | 89826. |
| #3 | 5127.2 | 42493. | 90070. |

Sample Name: CCB4 Acquired: 06/20/2024 18:45:43 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008054 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.02453 | -.00001 | -.00018 | -.00018 | -.00026 | .00398 | -.00004 | -.16567 | -.00010 | .00009 | -.00010 |
| Stddev | .00460 | .00075 | .00152 | .00036 | .00018 | .00018 | .00005 | .00409 | .00017 | .00010 | .00038 |
| %RSD | 18.757 | 8868.0 | 830.05 | 192.98 | 69.026 | 4.5659 | 129.50 | 2.4677 | 168.92 | 111.25 | 371.70 |
| #1 | -.02726 | -.00070 | -.00119 | .00020 | -.00011 | .00377 | -.00010 | -.16249 | -.00007 | .00015 | -.00053 |
| #2 | -.02711 | .00079 | -.00092 | -.00024 | -.00045 | .00410 | -.00001 | -.16423 | .00005 | -.00003 | .00020 |
| #3 | -.01922 | -.00011 | .00157 | -.00051 | -.00021 | .00408 | -.00001 | -.17028 | -.00028 | .00015 | .00003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00402 | -.00011 | -.00015 | -.01373 | -.00029 | .00005 | -.00053 | .03860 | .00054 | -.00036 | .03563 |
| Stddev | .00147 | .00021 | .00228 | .01554 | .00023 | .00017 | .00024 | .01931 | .00370 | .00061 | .03187 |
| %RSD | 36.677 | 180.46 | 1554.9 | 113.17 | 79.537 | 319.30 | 44.753 | 50.039 | 687.80 | 171.92 | 89.444 |
| #1 | -.00551 | -.00032 | .00133 | -.02044 | -.00043 | -.00006 | -.00071 | .05946 | -.00030 | .00030 | -.00082 |
| #2 | -.00257 | -.00012 | -.00277 | -.02479 | -.00002 | -.00003 | -.00061 | .03498 | -.00267 | -.00091 | .04949 |
| #3 | -.00398 | .00010 | .00100 | .00404 | -.00043 | .00026 | -.00026 | .02135 | .00458 | -.00045 | .05821 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: CCB4 Acquired: 06/20/2024 18:45:43 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008054 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00045 | .00049 | .00003 | .00018 | -.00009 | -.00244 |
| Stddev | .00007 | .00076 | .00090 | .00141 | .00026 | .00007 |
| %RSD | 15.168 | 155.86 | 3189.2 | 781.22 | 281.06 | 2.6659 |
| #1 | -.00038 | .00105 | .00072 | -.00057 | .00015 | -.00245 |
| #2 | -.00045 | .00078 | -.00099 | -.00069 | -.00005 | -.00250 |
| #3 | -.00052 | -.00037 | .00035 | .00180 | -.00038 | -.00237 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5979.1 | 44303. | 100620. |
| Stddev | 2.3 | 785. | 85. |
| %RSD | .03894 | 1.7718 | .08465 |
| #1 | 5981.7 | 43415. | 100720. |
| #2 | 5978.5 | 44905. | 100600. |
| #3 | 5977.1 | 44588. | 100550. |

Sample Name: F034-02A Acquired: 06/20/2024 18:50:44 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008055 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 118.46 | 2.5308 | .63022 | 2.3047 | .52191 | .55030 | .50644 | 111.04 | 1.0666 | .66163 | .69846 |
| Stddev | .59 | .0032 | .00231 | .0071 | .00066 | .00075 | .00109 | .09 | .0022 | .00130 | .00074 |
| %RSD | .49865 | .12649 | .36636 | .30701 | .12591 | .13545 | .21581 | .07669 | .21067 | .19598 | .10605 |
| #1 | 118.35 | 2.5344 | .63254 | 2.3042 | .52243 | .54944 | .50736 | 110.98 | 1.0675 | .66304 | .69800 |
| #2 | 119.11 | 2.5283 | .62793 | 2.2979 | .52117 | .55068 | .50523 | 111.14 | 1.0683 | .66049 | .69931 |
| #3 | 117.94 | 2.5296 | .63018 | 2.3121 | .52211 | .55079 | .50673 | 111.01 | 1.0641 | .66135 | .69807 |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 224.52 | .55643 | .13029 | 87.463 | 1.8377 | .57367 | .83825 | 70.919 | .42639 | .46071 | 58.994 |
| Stddev | .73 | .00059 | .00198 | .196 | .0019 | .00089 | .00071 | .104 | .00566 | .00151 | .048 |
| %RSD | .32731 | .10565 | 1.5196 | .22402 | .10323 | .15552 | .08459 | .14613 | 1.3271 | .32817 | .08088 |
| #1 | 224.48 | .55575 | .13076 | 87.237 | 1.8381 | .57381 | .83787 | 70.807 | .42404 | .46112 | 58.984 |
| #2 | 225.27 | .55672 | .13199 | 87.576 | 1.8394 | .57271 | .83781 | 71.012 | .42227 | .46197 | 58.952 |
| #3 | 223.80 | .55682 | .12812 | 87.577 | 1.8356 | .57447 | .83907 | 70.937 | .43284 | .45903 | 59.046 |

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 1.1089 | .44554 | .58804 | 3.9464 | 1.2530 | 1.0392 |
| Stddev | .0023 | .00197 | .00135 | .0132 | .0018 | .0005 |
| %RSD | .20681 | .44280 | .22923 | .33347 | .14139 | .04466 |
| #1 | 1.1088 | .44706 | .58652 | 3.9399 | 1.2536 | 1.0395 |
| #2 | 1.1112 | .44331 | .58854 | 3.9378 | 1.2543 | 1.0394 |
| #3 | 1.1066 | .44625 | .58908 | 3.9616 | 1.2510 | 1.0386 |

Sample Name: F034-02A Acquired: 06/20/2024 18:50:44 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008055 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 4592.4 | 42345. | 89324. |
| Stddev | 8.9 | 190. | 275. |
| %RSD | .19390 | .44906 | .30807 |
| #1 | 4585.3 | 42274. | 89042. |
| #2 | 4589.6 | 42560. | 89337. |
| #3 | 4602.4 | 42200. | 89592. |

Sample Name: F034-02 Acquired: 06/20/2024 18:55:31 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008056 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr |
|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 109.40 | .00856 | .11811 | 1.8158 | .00626 | .09217 | -.00015 | 56.542 | .58163 |
| Stddev | 1.26 | .00035 | .00129 | .0039 | .00007 | .00176 | .00012 | .022 | .00067 |
| %RSD | 1.1515 | 4.1343 | 1.0944 | .21244 | 1.1573 | 1.9089 | 80.515 | .03923 | .11472 |
| #1 | 108.64 | .00815 | .11860 | 1.8197 | .00627 | .09143 | -.00009 | 56.557 | .58230 |
| #2 | 110.86 | .00873 | .11664 | 1.8157 | .00632 | .09418 | -.00007 | 56.516 | .58164 |
| #3 | 108.71 | .00879 | .11908 | 1.8120 | .00618 | .09090 | -.00028 | 56.553 | .58096 |

| Elem | Co | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni |
|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .11873 | .19602 | 222.03 | .04123 | .11622 | 37.958 | 1.3489 | .00575 | .26903 |
| Stddev | .00031 | .00117 | .09 | .00126 | .00334 | .082 | .0014 | .00051 | .00042 |
| %RSD | .25692 | .59777 | .04156 | 3.0454 | 2.8781 | .21695 | .10703 | 8.7907 | .15457 |
| #1 | .11866 | .19722 | 221.96 | .04032 | .11681 | 37.882 | 1.3499 | .00601 | .26950 |
| #2 | .11907 | .19488 | 221.99 | .04266 | .11262 | 38.046 | 1.3496 | .00607 | .26888 |
| #3 | .11847 | .19597 | 222.13 | .04070 | .11923 | 37.947 | 1.3473 | .00517 | .26871 |

| Elem | K | Se | Ag | Na | Sr | Tl | Sn | Ti | V |
|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 15.339 | F -.06565 | -.00252 | 1.9260 | .61427 | F -.01669 | .03143 | 3.4698 | .76343 |
| Stddev | .021 | .00276 | .00032 | .0164 | .00021 | .00144 | .00150 | .0076 | .00083 |
| %RSD | .13650 | 4.2040 | 12.684 | .85349 | .03363 | 8.6145 | 4.7603 | .22001 | .10889 |
| #1 | 15.362 | -.06283 | -.00230 | 1.9075 | .61435 | -.01766 | .03159 | 3.4782 | .76407 |
| #2 | 15.321 | -.06835 | -.00237 | 1.9389 | .61443 | -.01738 | .02986 | 3.4681 | .76249 |
| #3 | 15.335 | -.06577 | -.00289 | 1.9317 | .61403 | -.01504 | .03284 | 3.4632 | .76373 |

Sample Name: F034-02 Acquired: 06/20/2024 18:55:31 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008056 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Zn |
|---|---|
| Units | mg/L |
| Avg | .44555 |
| Stddev | .00135 |
| %RSD | .30324 |
| #1 | .44692 |
| #2 | .44552 |
| #3 | .44422 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 4865.7 | 43686. | 94166. |
| Stddev | 8.1 | 394. | 360. |
| %RSD | .16715 | .90256 | .38216 |
| #1 | 4870.4 | 43473. | 94118. |
| #2 | 4856.3 | 44141. | 93833. |
| #3 | 4870.4 | 43445. | 94548. |

Sample Name: F034-02J Acquired: 06/20/2024 19:00:23 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008057 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr |
|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 19.843 | .00210 | .02284 | .36729 | .00106 | .02453 | -.00010 | 11.478 | .12071 |
| Stddev | .114 | .00067 | .00023 | .00080 | .00007 | .00126 | .00010 | .018 | .00012 |
| %RSD | .57406 | 31.949 | .99939 | .21859 | 6.7243 | 5.1268 | 101.04 | .16007 | .09912 |
| #1 | 19.738 | .00148 | .02308 | .36784 | .00103 | .02409 | -.00001 | 11.480 | .12073 |
| #2 | 19.827 | .00281 | .02262 | .36637 | .00102 | .02355 | -.00008 | 11.459 | .12082 |
| #3 | 19.964 | .00201 | .02282 | .36767 | .00114 | .02595 | -.00020 | 11.496 | .12058 |

| Elem | Co | Cu | Fe | Pb | Li | Mg | Mn | Mo | Ni |
|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .02261 | .03987 | 46.331 | .00796 | .01943 | 7.9320 | .27763 | .00123 | .05070 |
| Stddev | .00042 | .00009 | .295 | .00032 | .00290 | .0202 | .00090 | .00049 | .00037 |
| %RSD | 1.8376 | .21750 | .63596 | 3.9949 | 14.933 | .25500 | .32371 | 39.997 | .72299 |
| #1 | .02300 | .03977 | 46.428 | .00819 | .01643 | 7.9298 | .27730 | .00180 | .05054 |
| #2 | .02218 | .03993 | 46.565 | .00760 | .02222 | 7.9532 | .27695 | .00096 | .05045 |
| #3 | .02266 | .03991 | 46.000 | .00810 | .01965 | 7.9129 | .27865 | .00094 | .05112 |

| Elem | K | Se | Ag | Na | Sr | Tl | Sn | Ti | V |
|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 3.1256 | F -.01320 | -.00047 | .40168 | .12517 | F -.00539 | .00532 | .70119 | .15547 |
| Stddev | .0489 | .00070 | .00026 | .00642 | .00015 | .00096 | .00050 | .00225 | .00056 |
| %RSD | 1.5659 | 5.3145 | 55.275 | 1.5993 | .12356 | 17.862 | 9.3186 | .32072 | .36066 |
| #1 | 3.1364 | -.01279 | -.00046 | .39862 | .12530 | -.00555 | .00585 | .70359 | .15596 |
| #2 | 3.1682 | -.01402 | -.00074 | .39737 | .12520 | -.00626 | .00525 | .69913 | .15559 |
| #3 | 3.0721 | -.01281 | -.00022 | .40907 | .12500 | -.00436 | .00486 | .70086 | .15486 |

Sample Name: F034-02J Acquired: 06/20/2024 19:00:23 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008057 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Zn |
|---|---|
| Units | mg/L |
| Avg | .08073 |
| Stddev | .00020 |
| %RSD | .25280 |
| #1 | .08056 |
| #2 | .08068 |
| #3 | .08096 |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5646.1 | 44725. | 98963. |
| Stddev | 11.9 | 412. | 308. |
| %RSD | .21120 | .92078 | .31150 |
| #1 | 5653.4 | 44526. | 98903. |
| #2 | 5632.4 | 44451. | 98690. |
| #3 | 5652.7 | 45199. | 99297. |

Sample Name: F034-02M Acquired: 06/20/2024 19:05:16 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008058 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 178.01 | 1.7130 | .60416 | 2.3845 | .47551 | .56296 | .45404 | 136.97 | 1.1140 | .61745 | .65774 |
| Stddev | 1.20 | .0025 | .00508 | .0001 | .00040 | .00872 | .00178 | 1.52 | .0004 | .00076 | .00033 |
| %RSD | .67542 | .14503 | .84166 | .00516 | .08507 | 1.5497 | .39171 | 1.1064 | .04007 | .12333 | .04977 |
| #1 | 177.22 | 1.7154 | .60971 | 2.3845 | .47509 | .57213 | .45585 | 137.83 | 1.1144 | .61753 | .65736 |
| #2 | 179.40 | 1.7105 | .60307 | 2.3847 | .47554 | .56199 | .45399 | 137.86 | 1.1135 | .61664 | .65792 |
| #3 | 177.43 | 1.7132 | .59971 | 2.3845 | .47589 | .55476 | .45229 | 135.22 | 1.1141 | .61816 | .65794 |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 252.37 | .51151 | .17733 | 86.182 | 2.0191 | .50572 | .84302 | 65.676 | .37501 | .45794 | 52.432 |
| Stddev | 1.50 | .00213 | .00194 | .337 | .0021 | .00081 | .00010 | .056 | .00231 | .00129 | .056 |
| %RSD | .59491 | .41550 | 1.0958 | .39115 | .10559 | .16050 | .01213 | .08581 | .61676 | .28110 | .10668 |
| #1 | 250.79 | .51193 | .17520 | 85.923 | 2.0176 | .50500 | .84307 | 65.639 | .37418 | .45856 | 52.371 |
| #2 | 252.54 | .51340 | .17900 | 86.061 | 2.0182 | .50557 | .84290 | 65.649 | .37762 | .45880 | 52.444 |
| #3 | 253.77 | .50921 | .17778 | 86.563 | 2.0215 | .50660 | .84308 | 65.741 | .37322 | .45646 | 52.481 |

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 1.1194 | .39744 | .54190 | 4.7985 | 1.3186 | 1.0049 |
| Stddev | .0003 | .00149 | .00183 | .0036 | .0020 | .0009 |
| %RSD | .02664 | .37403 | .33831 | .07391 | .15093 | .08786 |
| #1 | 1.1197 | .39915 | .54359 | 4.8024 | 1.3188 | 1.0039 |
| #2 | 1.1193 | .39648 | .54216 | 4.7955 | 1.3205 | 1.0055 |
| #3 | 1.1191 | .39668 | .53995 | 4.7975 | 1.3165 | 1.0053 |

Sample Name: F034-02M Acquired: 06/20/2024 19:05:16 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008058 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 4583.6 | 42639. | 90561. |
| Stddev | 2.6 | 257. | 244. |
| %RSD | .05724 | .60181 | .26968 |
| #1 | 4586.6 | 42611. | 90372. |
| #2 | 4581.8 | 42908. | 90476. |
| #3 | 4582.3 | 42397. | 90837. |

Sample Name: F034-02S Acquired: 06/20/2024 19:10:15 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008059 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 173.31 | 1.6850 | .56167 | 2.3206 | .47129 | .52426 | .45228 | 121.05 | 1.0875 | .60267 | .65196 |
| Stddev | 1.71 | .0026 | .00080 | .0047 | .00077 | .00097 | .00085 | .26 | .0016 | .00059 | .00061 |
| %RSD | .98500 | .15429 | .14171 | .20473 | .16337 | .18490 | .18898 | .21345 | .14732 | .09753 | .09350 |
| #1 | 173.85 | 1.6833 | .56250 | 2.3153 | .47041 | .52425 | .45226 | 121.08 | 1.0888 | .60229 | .65246 |
| #2 | 174.68 | 1.6880 | .56160 | 2.3244 | .47184 | .52329 | .45315 | 120.78 | 1.0880 | .60335 | .65215 |
| #3 | 171.40 | 1.6838 | .56091 | 2.3220 | .47162 | .52523 | .45144 | 121.30 | 1.0857 | .60238 | .65128 |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 236.09 | .50478 | .17264 | 84.708 | 1.8909 | .49466 | .79738 | 64.985 | .37714 | .45233 | 51.959 |
| Stddev | .50 | .00083 | .00080 | .335 | .0011 | .00103 | .00052 | .272 | .00421 | .00206 | .068 |
| %RSD | .20980 | .16485 | .46176 | .39572 | .05978 | .20873 | .06563 | .41882 | 1.1171 | .45627 | .13082 |
| #1 | 236.44 | .50402 | .17354 | 84.575 | 1.8908 | .49477 | .79739 | 65.095 | .38114 | .45458 | 51.921 |
| #2 | 236.30 | .50567 | .17232 | 84.460 | 1.8899 | .49564 | .79791 | 64.675 | .37274 | .45190 | 51.919 |
| #3 | 235.52 | .50465 | .17205 | 85.089 | 1.8921 | .49358 | .79686 | 65.185 | .37753 | .45052 | 52.038 |

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 1.1322 | .39258 | .53393 | 4.7024 | 1.2986 | .98184 |
| Stddev | .0002 | .00180 | .00343 | .0075 | .0038 | .00031 |
| %RSD | .02090 | .45845 | .64180 | .15837 | .29083 | .03112 |
| #1 | 1.1319 | .39051 | .53746 | 4.6959 | 1.3011 | .98174 |
| #2 | 1.1322 | .39373 | .53061 | 4.7006 | 1.3003 | .98160 |
| #3 | 1.1324 | .39351 | .53372 | 4.7105 | 1.2942 | .98218 |

Sample Name: F034-02S Acquired: 06/20/2024 19:10:15 Type: Unk
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008059 Type: Anaylst: JFeng/JChun
Comment:

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 4660.3 | 42892. | 91272. |
| Stddev | 10.7 | 479. | 269. |
| %RSD | .22949 | 1.1173 | .29518 |
| #1 | 4648.2 | 42982. | 91000. |
| #2 | 4664.5 | 43319. | 91278. |
| #3 | 4668.3 | 42373. | 91539. |

Sample Name: CCV5 Acquired: 06/20/2024 19:29:41 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008063 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 94.342 | 1.5084 | .97083 | 1.9159 | 1.4270 | 2.3601 | 1.9381 | 75.359 | 2.3769 | .91559 | 2.3148 |
| Stddev | .654 | .0091 | .00037 | .0031 | .0015 | .0051 | .0063 | .112 | .0052 | .00123 | .0046 |
| %RSD | .69280 | .60562 | .03805 | .16021 | .10693 | .21626 | .32249 | .14916 | .21813 | .13443 | .19803 |
| #1 | 93.590 | 1.5024 | .97105 | 1.9172 | 1.4271 | 2.3570 | 1.9325 | 75.248 | 2.3711 | .91688 | 2.3116 |
| #2 | 94.662 | 1.5189 | .97041 | 1.9181 | 1.4285 | 2.3660 | 1.9449 | 75.357 | 2.3809 | .91443 | 2.3201 |
| #3 | 94.774 | 1.5039 | .97104 | 1.9124 | 1.4255 | 2.3574 | 1.9370 | 75.472 | 2.3787 | .91547 | 2.3129 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | 22.968 | 2.2631 | .53104 | 57.468 | 2.3575 | 2.4082 | 2.4354 | 63.347 | .98419 | .47874 | 62.217 |
| Stddev | .100 | .0027 | .00463 | .150 | .0019 | .0010 | .0011 | .135 | .00261 | .00244 | .037 |
| %RSD | .43358 | .12073 | .87207 | .26164 | .08025 | .03996 | .04493 | .21253 | .26532 | .51048 | .06022 |
| #1 | 22.887 | 2.2646 | .52776 | 57.302 | 2.3590 | 2.4086 | 2.4361 | 63.192 | .98716 | .47646 | 62.217 |
| #2 | 23.079 | 2.2648 | .53634 | 57.596 | 2.3582 | 2.4089 | 2.4359 | 63.422 | .98226 | .48132 | 62.179 |
| #3 | 22.937 | 2.2599 | .52903 | 57.505 | 2.3554 | 2.4071 | 2.4341 | 63.428 | .98315 | .47846 | 62.254 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | | | |
| Range | | | | | | | | | | | |

Sample Name: CCV5 Acquired: 06/20/2024 19:29:41 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008063 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .46326 | 2.2788 | .48878 | .47997 | 1.3989 | 2.5123 |
| Stddev | .00024 | .0056 | .00247 | .00178 | .0041 | .0016 |
| %RSD | .05136 | .24580 | .50584 | .37143 | .29272 | .06421 |
| #1 | .46353 | 2.2727 | .48770 | .47798 | 1.3955 | 2.5139 |
| #2 | .46316 | 2.2838 | .49161 | .48142 | 1.4034 | 2.5125 |
| #3 | .46309 | 2.2797 | .48703 | .48051 | 1.3977 | 2.5107 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | |
| Range | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 5170.0 | 42192. | 90044. |
| Stddev | 9.4 | 274. | 326. |
| %RSD | .18094 | .65046 | .36183 |
| #1 | 5173.7 | 41901. | 90420. |
| #2 | 5176.9 | 42446. | 89847. |
| #3 | 5159.4 | 42228. | 89866. |

Sample Name: CCB5 Acquired: 06/20/2024 19:34:29 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008064 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Al | Sb | As | Ba | Be | B | Cd | Ca | Cr | Co | Cu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | .01614 | -.00082 | .00072 | .00003 | -.00017 | .00536 | -.00001 | -.16448 | -.00045 | -.00001 | -.00024 |
| Stddev | .02691 | .00200 | .00179 | .00049 | .00015 | .00023 | .00010 | .00225 | .00016 | .00029 | .00033 |
| %RSD | 166.77 | 243.56 | 249.14 | 1406.3 | 85.269 | 4.2674 | 1143.1 | 1.3696 | 35.538 | 3574.0 | 136.79 |
| #1 | -.00943 | -.00190 | .00087 | -.00016 | -.00020 | .00551 | .00007 | -.16344 | -.00028 | -.00009 | -.00028 |
| #2 | .04422 | .00149 | .00243 | .00059 | -.00001 | .00548 | .00003 | -.16294 | -.00045 | -.00025 | .00011 |
| #3 | .01362 | -.00205 | -.00114 | -.00033 | -.00031 | .00510 | -.00012 | -.16707 | -.00060 | .00032 | -.00056 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

| Elem | Fe | Pb | Li | Mg | Mn | Mo | Ni | K | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00608 | .00030 | -.00105 | -.00056 | -.00038 | .00023 | -.00040 | .02440 | .00181 | .00032 | .02494 |
| Stddev | .00362 | .00041 | .00253 | .02831 | .00013 | .00034 | .00014 | .04262 | .00255 | .00044 | .00243 |
| %RSD | 59.558 | 135.41 | 240.10 | 5048.4 | 35.696 | 152.46 | 34.555 | 174.70 | 140.81 | 139.09 | 9.7278 |
| #1 | -.00954 | .00008 | -.00106 | .02878 | -.00022 | .00034 | -.00056 | -.02335 | .00393 | -.00018 | .02220 |
| #2 | -.00231 | .00005 | -.00359 | -.02771 | -.00044 | .00050 | -.00032 | .03793 | -.00102 | .00048 | .02682 |
| #3 | -.00638 | .00077 | .00148 | -.00275 | -.00046 | -.00016 | -.00032 | .05860 | .00251 | .00065 | .02578 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | | | |
| Low Limit | | | | | | | | | | | |

Sample Name: CCB5 Acquired: 06/20/2024 19:34:29 Type: QC
Method: 24F6010(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8F008064 Type: Anaylst: JFeng/JChun
Comment:

| Elem | Sr | Tl | Sn | Ti | V | Zn |
|---|---|---|---|---|---|---|
| Units | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Avg | -.00026 | .00166 | .00018 | .00057 | .00006 | -.00217 |
| Stddev | .00019 | .00079 | .00080 | .00020 | .00037 | .00003 |
| %RSD | 72.471 | 47.497 | 439.36 | 34.492 | 576.55 | 1.4853 |
| #1 | -.00009 | .00193 | -.00031 | .00045 | .00047 | -.00220 |
| #2 | -.00046 | .00228 | -.00025 | .00079 | -.00027 | -.00215 |
| #3 | -.00023 | .00077 | .00111 | .00046 | -.00001 | -.00215 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | |
| Low Limit | | | | | | |

| Int. Std. | Sc2273_A | Sc3613_R | Sc3645_A |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | 6003.4 | 43340. | 99539. |
| Stddev | 4.6 | 278. | 527. |
| %RSD | .07656 | .64099 | .52912 |
| #1 | 5998.1 | 43449. | 99657. |
| #2 | 6006.0 | 43024. | 98963. |
| #3 | 6006.1 | 43547. | 99996. |

EMAX LABORATORIES, INC.

# DIGESTION LOG
*for*
## ICP METALS



**Note:** For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

**Comments:**

Digestion Vessel Lot # 293230 08

Filter Lot # N/A

Book #: EIP-163

Batch: IPF010W5

Matrix: SOIL SC 6/14/24

Digestor ID: F

| SOP # | Rev. # |
|---|---|
| ☐ EMAX-3010 | 8 |
| ☑ EMAX-3050 | 9 |
| ☐ EMAX-200.7 | 6 |
| ☐ EMAX- | |

| Start | Temp | End | Temp |
|---|---|---|---|
| | 94.4 °C | | 92.8 °C |

| Standards | ID | Amount Added (mL/g) |
|---|---|---|
| LCS-1 | SM1A-025-07-02 | 0.50 |
| LCS-2 | -03 | 0.50 |
| LCS-3 | -04 | 1.00 |
| MS | Same spike std and volume as LCS 1-3 | |
| Blank Soil (Bead) | SM5A-05-03-02 | 1g |
| **Reagent** | **Lot# / ID** | **Amount Added (mL)** |
| $HNO_3$ | SW1A-012-09-01 | 10.0 |
| HCl | -012-03-01 | 5.0 + 5.0 |
| $H_2O_2$ | -011-23-06 | 10.0 |
| $HNO_3$(1:1) | SM5B-06-30-02 | 10.0 |
| pH Strip (0-14) | N/A | N/A |

| | |
|---|---|
| Digestate Location | METALS |
| Extract Location | N/A |

☑ Reagent Water ID: SW1A-012-11-09

☑ Thermometer ID: 230167652 / F4

☑ Pipette ID: c42761741

☑ Pipette ID: p42781023

☐ Pipette ID:

☐ $HNO_3$ dispenser checked @ 5.0 mL with Class A volumetric flask

☐ HCl dispenser checked @ 5.0 mL with Class A volumetric flask

Prepared By: JC

Standard Added By: JC Witnessed By: HC

Extract Rcvd By: JC Checked By: JC

EMAX LABORATORIES

DIGESTION LOG FOR METALS

| PrepBatchID | LabSampleID | Aliquot | Unit | DateTime | Vd(ml) | ExpAmt | ExpVd(ml) | PrepFctr | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 24IPF010S01 | IPF010SB | 1 | g | 6/14/24 8:58 | 100 | 1 | 100 | 1 | |
| 24IPF010S02 | IPF010SL | 1 | g | 6/14/24 8:59 | 100 | 1 | 100 | 1 | |
| 24IPF010S03 | IPF010SC | 1 | g | 6/14/24 9:00 | 100 | 1 | 100 | 1 | |
| 24IPF010S04 | F034-02 | 1.03 | g | 6/14/24 9:01 | 100 | 1 | 100 | 0.971 | |
| 24IPF010S05 | F034-02M | 1.03 | g | 6/14/24 9:01 | 100 | 1 | 100 | 0.971 | |
| 24IPF010S06 | F034-02S | 1.03 | g | 6/14/24 9:02 | 100 | 1 | 100 | 0.971 | |

JC 6/14/24

Balance ID: 10203192. Calibration check was verified prior to use.

Vd=digestate volume

PrepFctr=)ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 6/14/24 9:36

☑ Digestion Ended @ 6/14/24 11:04

Prepared By: JChun

Checked By: JC

Comments:

Date 6/14/24

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| MIXED 12A | SM1A-025-09-08 | MIXED | 1.0 | MIXED |
| MIXED 12B | -0909 | MIXED | 1.0 | MIXED |
| Al | 10-04 | 10,000 | 10 | 100 |
| Ca | 10-09 | 10000 | 7.5 | 75 |
| Fe | 10-10 | 10,000 | 2.5 | 25 |
| Mo | 07-10 | 1000 | 2.5 | 25 |
| | | | TH 12/12/23 | |

| Standard ID | SM1B-29-11-01 |
|---|---|
| Name | ICV (6010) |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A012-0602 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-0506 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-0304 |
| Volume (mL) | 100 |
| Prep. Date | 12/12/23 |
| Exp. Date | 6/12/24 |
| Prepared By | TH |

Micropipette ID:

- ☐ 542740566 ☐
- ☐ C42761044 ☐
- ☑ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| MIXED 11A | SM1A-025-05-05 | MIXED | 10 | MIXED |
| MIXED 11B | -0506 | MIXED | 10 | MIXED |
| Al | 10-04 | 10,000 | 40 | 400 |
| Fe | 10-10 | 10,000 | 20 | 200 |
| Ca | 10-09 | 10,000 | 50 | 500 |
| Mg | 0602 | 10,000 | 20 | 200 |
| B | 07-07 | 1000 | 0.5 | 0.5 |
| | | | TH 12/12/23 | |

| Standard ID | SM1B-29-11-02 |
|---|---|
| Name | ICSAB (6010) |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A012-0602 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-0506 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 12/12/23 |
| Exp. Date | 2/29/24 |
| Prepared By | TH |

Micropipette ID:

- ☐ 542740566 ☑ D42761999
- ☐ C42761044 ☐
- ☑ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Be | SM1A-025-0401 | 1000 | 0.005 | 0.005 |
| Cd | -0402 | 1000 | 0.005 | 0.005 |
| V | 0705 | 1000 | 0.005 | 0.005 |
| Zn | 0804 | 1000 | 0.1 | 0.1 |
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| Standard ID | SM1B-29-12-01 |
|---|---|
| Name | MRL4e |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A012-0602 |
| Preservative #1 | HNO3 |
| ID | SW1A012-0506 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A012-0901 |
| Volume (mL) | 100 |
| Prep. Date | 12/12/23 |
| Exp. Date | 6/12/24 |
| Prepared By | 7H |

Micropipette ID:

| | |
|---|---|
| ☑ 542740566 | ☑ GFAA-07 |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
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| Standard ID | SM1B 29-12-02 |
|---|---|
| Name | |
| Final Volume (mL) | |
| Solvent | Reagent Water |
| Solvent ID | |
| Preservative #1 | |
| ID | |
| Volume (mL) | |
| Preservative #2 | |
| ID | |
| Volume (mL) | |
| Prep. Date | |
| Exp. Date | |
| Prepared By | |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☐ |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Al | SM1A025040408 | 10,000 | 10 | 100 |
| Ca | SM1A025010505 | 10,000 | 12.5 | 125 |
| Fe | SM1A025060505 | 10,000 | 5.0 | 50 |
| Mg | SM1A025060607 | 10,000 | 5.0 | 50 |
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| Standard ID | SM1B-29-16-01 |
|---|---|
| Name | ICSA (WW) |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A012-07-01 |
| Preservative #1 | HNO3 |
| ID | SW1A012-05-06 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A011-23-02 |
| Volume (mL) | 100 |
| Prep. Date | 1/18/24 |
| Exp. Date | 7/18/24 |
| Prepared By | TH |

Micropipette ID:

- ☐ 542740566 ☐
- ☐ C42761044 ☐
- ☑ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Co | SM1A025040101 | 1000 | 0.2 | 0.2 |
| Fe | SM1A025-06-05 | 10,000 | 0.25 | 2.5 |
| Ba | SM1A018-15-08 | 1000 | 1.0 | 1.0 |
| Cu | SM1A025060606 | 1000 | 1.0 | 1.0 |
| V | SM1A025-06-10 | 1000 | 1.0 | 1.0 |
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| Standard ID | SM1B-29-16-02 |
|---|---|
| Name | 5.22 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A012-07-02 |
| Preservative #1 | HNO3 |
| ID | SW1A012-05-06 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 2/13/24 |
| Exp. Date | 8/13/24 |
| Prepared By | TH |

Micropipette ID:

- ☐ 542740566 ☑ 0427661999
- ☐ C42761044 ☐
- ☐ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Co | SMIA025004-01 | 1000 | 2 | 2 |
| Fe | SMIA-025-0605 | 19000 | 20 | 200 |
| Ba | SMIA-018-1508 | 1000 | 10 | 10 |
| Cu | SMIA-025-0606 | 1000 | 10 | 10 |
| V | SMIA-025-0610 | 1000 | 10 | 10 |
| | | | TH | |
| | | | 2/13/24 | |

| Standard ID | SM1B-29-17-01 |
|---|---|
| Name | S23 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SWIA-012-07-02 |
| Preservative #1 | HNO3 |
| ID | SWIA-012-05-06 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SWIA-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 2/13/24 |
| Exp. Date | 8/13/24 |
| Prepared By | TH |

Micropipette ID:

- ☐ 542740566 ☐
- ☐ C42761044 ☐
- ☑ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| | | | | |

| Standard ID | SM1B-29 17-02 |
|---|---|
| Name | |
| Final Volume (mL) | |
| Solvent | Reagent Water |
| Solvent ID | |
| Preservative #1 | |
| ID | |
| Volume (mL) | |
| Preservative #2 | |
| ID | |
| Volume (mL) | |
| Prep. Date | |
| Exp. Date | |
| Prepared By | |

Micropipette ID:

- ☐ 542740566 ☐
- ☐ C42761044 ☐
- ☐ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Sb | SM1A025-10-07 | 10,000 | 0.1 | 1.0 |
| Mg | SM1A-025-06-07 | 10,000 | 1.0 | 10.0 |
| Tl | SM1A-025-06-09 | 1000 | 1.0 | 1.0 |
| | | | TH 2/20/24 | |

| Standard ID | SM1B-29-18-01 |
|---|---|
| Name | S28 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-08-01 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-05-06 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 2/20/24 |
| Exp. Date | 8/20/24 |
| Prepared By | TH |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☑ D42761999 |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Sb | SM1A-025-10-07 | 1000 | 1 | 10 |
| Mg | SM1A-025-06-07 | 10,000 | 10 | 100 |
| Tl | SM1A-025-06-09 | 1000 | 4 | 40 |
| | | TH | 2/20/24 | |

| Standard ID | SM1B 29-18-02 |
|---|---|
| Name | S29 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-08-01 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-05-06 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 2/20/24 |
| Exp. Date | 8/20/24 |
| Prepared By | TH |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☑ D42751151 |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Al | SMIA-025-04-08 | 10,000 | 10 | 100 |
| Ca | -10-01 | 10,000 | 7.5 | 75 |
| Fe | -06-05 | 10,000 | 2.5 | 25 |
| Mg | -06-07 | 10,000 | 6.0 | 60 |
| Na | -01-07 | 10,000 | 6.0 | 60 |
| K | -01-06 | 10,000 | 6.0 | 60 |
| Sb | 10-07 | 10,000 | 0.15 | 1.5 |
| Be | -03-10 | 1000 | 1.5 | 1.5 |
| V | -06-10 | 1000 | 1.5 | 1.5 |
| As | -10-03 | 1000 | 1.0 | 1.0 |
| Co | -04-01 | 1000 | 1.0 | 1.0 |
| Se | -10-08 | 1000 | 1.0 | 1.0 |
| Ba | SMIA-018-15-08 | 1000 TH 2/20/24 | 2.80 | 2.0 |
| Cd | 16-02 | 1000 | 2.0 | 2.0 |
| B | SMIA-018-16-01 | 1000 | 2.5 | 2.5 |
| Cu | SMIA-025-06-06 | 1000 | 2.5 | 2.5 |
| Cr | SMIA-018-10-06 TH 2/20/24 | 1000 | 2.5 | 2.5 |
| Pb | SMIA-018-16-03 | 1000 | 2.5 | 2.5 |
| Mn | 06-08 | 1000 | 2.5 | 2.5 |
| Mo | SMIA-018-15-09 | 1000 | 2.5 | 2.5 |

| Standard ID | SM1B-29-19-01 |
|---|---|
| Name | CCV |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SWIA012408-01 |
| Preservative #1 | HNO3 |
| ID | SWIA-012-050b |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SWIA-012-037D1 |
| Volume (mL) | 100 |
| Prep. Date | 2/20/24 |
| Exp. Date | 8/20/24 |
| Prepared By | TH |

Micropipette ID:

- ☑ 542740566 ☑ D42781151
- ☐ C42761044 ☑ D42761999
- ☐ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Ni | SMIA-025-04-09 | 1000 | 2.5 | 2.5 |
| Tl | -06-09 | 1000 | 2.5 | 2.5 |
| Zn | SMIA-018-16-04 | 1000 | 2.5 | 2.5 |
| Sn | SMIA-018-12-08 | 10,000 | 0.05 | 0.5 |
| Li | SMIA-025-04-02 | 1000 | 0.5 | 0.5 |
| Ag | -10-02 | 1000 | 0.5 | 0.5 |
| Sr | -04-10 | 1000 | 0.5 | 0.5 |
| Ti | -05-01 | 1000 | 0.5 | 0.5 |

TH 2/20/24

| Standard ID | SM1B-29-19-02 |
|---|---|
| Name | |
| Final Volume (mL) | |
| Solvent | Reagent Water |
| Solvent ID | |
| Preservative #1 | |
| ID | |
| Volume (mL) | |
| Preservative #2 | |
| ID | |
| Volume (mL) | |
| Prep. Date | |
| Exp. Date | |
| Prepared By | |

Micropipette ID:

- ☐ 542740566 ☐
- ☐ C42761044 ☐
- ☐ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Al | SM1A-025-04-08 | 10,000 | 0.02 | 0.2 |
| Sb | ↓ 10-07 | 10,000 | 0.01 | 0.1 |
| As | ↓ 10-03 | 1000 | 0.01 | 0.01 |
| Ba | SM1A-018-15-08 | 1000 | 0.01 | 0.01 |
| Be | SM1A-025-03-10 | 1000 | 0.01 | 0.01 |
| B | SM1A-018-16-01 | 1000 | 0.1 | 0.1 |
| Cd | ↓ 16-02 | 1000 | 0.01 | 0.01 |
| Ca | SM1A-025-10-01 | 10,000 | 0.1 | 1.0 |
| Cr | SM1A-018-25 10-06 TH 2/20/24 | 1000 | 0.01 | 0.01 |
| Co | SM1A-025-04-01 | 1000 | 0.01 | 0.01 |
| Cu | SM1A-018-25 06-06 TH 2/20/24 | 1000 | 0.01 | 0.01 |
| Fe | SM1A-025-06-05 | 10,000 | 0.02 | 0.2 |
| Pb | SM1A-018-16-03 | 1000 | 0.01 | 0.01 |
| Li | SM1A-025-04-02 | 1000 | 0.01 | 0.01 |
| Mg | ↓ 06-07 | 10,000 | 0.1 | 1.0 |
| Mn | SM1A-018-06-08 | 1000 | 0.01 | 0.01 |
| Mo | ↓ 15-09 | 1000 | 0.01 | 0.01 |
| Ni | SM1A-025-04-09 | 1000 | 0.01 | 0.01 |
| K | ↓ -01-06 | 10,000 | 0.1 | 1.0 |
| Se | ↓ 10-08 | 1000 | 0.01 | 0.01 |

| Standard ID | SM1B-29-20-01 |
|---|---|
| Name | MRL EMAX |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-080 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-0506 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-030 |
| Volume (mL) | 100 |
| Prep. Date | 2/20/24 |
| Exp. Date | 8/20/24 |
| Prepared By | TH |

Micropipette ID:

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|---|---|
| ☑ 542740566 | ☑ D42761999 |
| ☐ C42761044 | ☑ D42781151 |
| ☐ 942780530 | ☐ |

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Ag | SM1A-025-10-02 | 1000 | 0.01 | 0.01 |
| Sr | ↓ 04-10 | 1000 | 0.01 | 0.01 |
| Na | ↓ -01-07 | 10,000 | 0.1 | 1.0 |
| Tl | ↓ -06-09 | 1000 | 0.01 | 0.01 |
| Sn | SM1A-018-12-08 | 10,000 | 0.01 TH 2/20 | 0.01 0.01 |
| Ti | SM1A-025-05-01 | 1000 | 0.01 | 0.01 |
| V | ↓ 06-10 | 1000 | 0.01 | 0.01 |
| Zn | SM1A-018-16-04 | 1000 | 0.02 | 0.02 |

TH 2/20/24

| Standard ID | SM1B-29-20-02 |
|---|---|
| Name | |
| Final Volume (mL) | |
| Solvent | Reagent Water |
| Solvent ID | |
| Preservative #1 | |
| ID | |
| Volume (mL) | |
| Preservative #2 | |
| ID | |
| Volume (mL) | |
| Prep. Date | |
| Exp. Date | |
| Prepared By | |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☐ |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Al | SM1A025-0408 | 10,000 | 40 | 400 |
| Fe | -0605 | 10,000 | 20 | 200 |
| Ca | -1001 | 10,000 | 50 | 500 |
| Mg | 0607 | 10,000 | 20 | 200 |
| | | | | |
| | | | TH 2/23/24 | |

| Standard ID | SM1B-29-24-01 |
|---|---|
| Name | ICSA |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-0404 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-0901 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-0301 |
| Volume (mL) | 100 |
| Prep. Date | 2/23/24 |
| Exp. Date | 8/23/24 |
| Prepared By | TH |

Micropipette ID:

☐ 542740566 ☑ D42781151

☐ C42761044 ☐

☐ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| As | SM1A025-10-03 | 1000 | 0.5 | 0.5 |
| Li | -0402 | 1000 | 0.2 | 02 |
| Se | -1008 | 1000 | 0.5 | 0.5 |
| Ag | -10-02 | 1000 | 0.2 | 0.2 |
| Sr | -04-10 | 1000 | 0.2 | 0.2 |
| Sn | SM1A-018-1208 | 10,000 | 0.02 | 0.2 |
| Ti | SM1A025-05-01 | 1000 | 0.2 | 0.2 |
| Zn | SM1A018-16-04 | 1000 | 1.0 | 1.0 |
| | | | | |
| | | | TH 2/23/24 | |

| Standard ID | SM1B-29-24-02 |
|---|---|
| Name | S30 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-0404 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-0901 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-0301 |
| Volume (mL) | 100 |
| Prep. Date | 2/23/24 |
| Exp. Date | 8/23/24 |
| Prepared By | TH |

Micropipette ID:

☑ 542740566 ☑ D42761999

☐ C42761044 ☐

☐ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| As | SM1A-025-1203 | 1000 | 2.0 | 2.0 |
| Li | 0402 | 1000 | 1.0 | 1.0 |
| Se | 10-08 | 1000 | 2.0 | 2.0 |
| Ag | 10-02 | 1000 | 1.0 | 1.0 |
| Sr | 0410 | 1000 | 1.0 | 1.0 |
| Sn | SM1A018-1208 | 10,000 | 0.1 | 1.0 |
| Ti | SM1A025-0501 | 1000 | 1.0 | 1.0 |
| Zn | SM1A018-1604 | 1000 | 10 | 10 |
| | | | TH 2/23/24 | |

| Standard ID | SM1B-29-25-01 |
|---|---|
| Name | S31 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-0904 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-0901 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-0301 |
| Volume (mL) | 100 |
| Prep. Date | 2/23/24 |
| Exp. Date | 8/23/24 |
| Prepared By | TH |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☑ D42781151 |
| ☐ C42761044 | ☑ D42761999 |
| ☐ 942780530 | ☐ |

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| | | | | |

| Standard ID | SM1B-29-25-02 |
|---|---|
| Name | |
| Final Volume (mL) | |
| Solvent | Reagent Water |
| Solvent ID | |
| Preservative #1 | |
| ID | |
| Volume (mL) | |
| Preservative #2 | |
| ID | |
| Volume (mL) | |
| Prep. Date | |
| Exp. Date | |
| Prepared By | |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☐ |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| MIX IIA | SM1A-025-11-08 | MIXED | 10 | MIXED |
| MIX IIB | SM1A-025-11-09 | MIXED | 10 | MIXED |
| Al | SM1A-025-11-10 | 10,000 | 40 | 400 |
| Fe | SM1A-025-10-10 | 10,000 | 20 | 200 |
| Ca | SM1A-025-10-09 | 10,000 | 50 | 500 |
| Mg | SM1A-025-11-01 | 10,000 | 20 | 200 |
| B | SM1A-025-07-07 | 1,000 | 0.5 | 0.5 |
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| | | | | JC 3/4/24 |

| Standard ID | SM1B-29-37-01 |
|---|---|
| Name | ICSAB (6010) |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SWIA-012-09-04 |
| Preservative #1 | HNO3 |
| ID | SWIA-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SWIA-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 3/4/24 |
| Exp. Date | 9/4/24 |
| Prepared By | JC |

Micropipette ID:

- ☐ 542740566 ☑ D42781151
- ☐ C42761044 ☑ D42761999
- ☐ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| 3/4/24 MIX C IS | SM1A-025-10-08 | MIXED | 1.0 | MIXED |
| Sb | SM1A-025-08-07 | 1000 | 0.01 | 0.01 |
| Pb | SM1A-025-08-06 | 1,000 | 0.001 | 0.001 |
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| | | | | JC 3/4/24 |

| Standard ID | SM1B 29-37-02 |
|---|---|
| Name | MRL AECEE |
| Final Volume (mL) | 1,000 |
| Solvent | Reagent Water |
| Solvent ID | SWIA-012-09-04 |
| Preservative #1 | ~~HNO3~~ 3/4/24 HNO3 |
| ID | SWIA-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SWIA-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 3/4/24 |
| Exp. Date | 9/4/24 |
| Prepared By | JC |

Micropipette ID:

- ☐ 542740566 ☑ D42761999
- ☐ C42761044 ☑ QSNA-07
- ☐ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| MIX 12A | SM1A - 025 - 09-08 | MIXED | 2.5 | MIXED |
| MIX 12B | -09- 09 | MIXED | 2.5 | MIXED |
| Al | - 11 - 10 | 10,000 | 2.5 | 25 |
| Fe | - 10 - 10 | 10,000 | 0.625 | 6.25 |
| Ca | - 10 - 09 | 10,000 | 1.875 | 18.75 |
| Mn | - 08 - 09 | 1,000 | 1.875 | 1.875 |
| Tl | - 08 - 01 | 1,000 | 1.875 | 1.875 |
| Mo | - 07 - 10 | 1,000 | 0.678 | 0.625 |
| Co | - 09 - 03 | 1,000 | 1.75 | 1.75 |

JC 3/11/24

| Standard ID | SM1B-29-38-01 |
|---|---|
| Name | ICV WW |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-09-04 |
| Preservative #1 | $HNO_3$ |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 3/11/24 |
| Exp. Date | 9/11/24 |
| Prepared By | JC |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☑ D427811151 |
| ☐ C42761044 | ☑ D427619999 |
| ☐ 942780530 | ☐ |

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|

4/29/24
JF

| Standard ID | SM1B-29-38-02 |
|---|---|
| Name | SO |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-09-04 |
| Preservative #1 | $HNO_3$ |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-03-01 |
| Volume (mL) | 100 |
| Prep. Date | 4/29/24 |
| Exp. Date | 10/29/24 |
| Prepared By | JF |

Micropipette ID:

| | |
|---|---|
| ☐ 542740566 | ☐ |
| ☐ C42761044 | ☐ |
| ☐ 942780530 | ☐ |

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Be | SM1A-025-03-10 | 1,000 | 1.0 | 1.0 |
| Cd | SM1A-018-16-02 | 1,000 | 1.0 | 1.0 |
| Mn | SM1A-025-06-08 | 1,000 | 1.0 | 1.0 |
| Pb | SM1A-018-16-03 | 1,000 | 1.0 | 1.0 |

4/30/24 JF

| Standard ID | SM1B-29-39-01 |
|---|---|
| Name | S20 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-09-04 |
| Preservative #1 | $HNO_3$ |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl 4/30/24 |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 4/30/24 |
| Exp. Date | 10/30/24 |
| Prepared By | JF |

Micropipette ID:

- ☐ 542740566 ☑ D42761999
- ☒ C42761044 ☐ 4/30/24 JF
- ☐ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Be | SM1A-025-03-10 | 1000 | 1.0 | 1.0 |
| Cd | SM1A-018-16-02 | 1000 | 1.0 | 1.0 |
| Mn | SM1A-025-06-08 | 1000 | 1.0 | 1.0 |
| Pb | SM1A-018-16-03 | 1000 | 1.0 | 1.0 |

4/30/24 JF

| Standard ID | SM1B-29-39-02 |
|---|---|
| Name | S21 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-09-04 |
| Preservative #1 | $HNO_3$ |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | 4/30/24 JF ~~$HNO_3$~~ HCl 4/30/24 JF |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 4/30/24 |
| Exp. Date | 10/30/24 |
| Prepared By | JF |

Micropipette ID:

- ☐ 542740566 ☑ D42781151
- ☐ C42761044 ☐
- ☒ 942780530 ☐ 4/30/24 JF

Comments:

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Mixed 12A | SM1A-025-09-08 | Mixed | 10 | Mixed |
| Mixed 12B | -09-09 | Mixed | 10 | Mixed |
| Al | -10-04 | 10000 | 10 | 100 |
| Ca | -10-09 | 10000 | 7.5 | 75 |
| Fe | -10-10 | 10000 | 2.5 | 25 |
| * Mo | -07-10 | 1000 | 2.5 | 25 |
| | | | | 6/17/24 JF |

| Standard ID | SM1B-29-40-01 |
|---|---|
| Name | ICV (6010) |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-11-09 |
| Preservative #1 | $HNO_3$ |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 6/17/24 JF ~~6/12/24~~ 6/12/24 |
| Exp. Date | 6/17/24 JF ~~10/12/24~~ 11/25/24 |
| Prepared By | JF |

Micropipette ID:

- ☐ 542740566 ☑ D4276099
- ☐ C42761044 ☐
- ☐ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| | | | | |

| Standard ID | SM1B-29-40-02 |
|---|---|
| Name | |
| Final Volume (mL) | |
| Solvent | Reagent Water |
| Solvent ID | |
| Preservative #1 | |
| ID | |
| Volume (mL) | |
| Preservative #2 | |
| ID | |
| Volume (mL) | |
| Prep. Date | |
| Exp. Date | |
| Prepared By | |

Micropipette ID:

- ☐ 542740566 ☐
- ☐ C42761044 ☐
- ☐ 942780530 ☐

Comments:

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| B | SM1A-018-16-01 | 1000 | 1.0 | 1.0 |
| Mo | SM1A-018-15-09 | 1000 | 1.0 | 1.0 |
| Na | SM1A-025-01-07 | 10000 | 6.0 | 60 |

5/6/24 JF

| Standard ID | SM1B-29-43-01 |
|---|---|
| Name | S24 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-11-02 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 5/8/24 |
| Exp. Date | 11/8/24 |
| Prepared By | JF |

Micropipette ID:

- ☒ 542740566 ☑ D42761999
- ☐ C42761044 ☑ D42781151
- ☐ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| B | SM1A-018-16-01 | 1000 | 10 | 10 |
| Mo | SM1A-018-15-09 | 1000 | 10 | 10 |
| Na | SM1A-025-01-07 | 10000 | 30 | 300 |

5/6/24 JF

| Standard ID | SM1B-29-43-02 |
|---|---|
| Name | S25 |
| Final Volume (mL) | 1000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-11-02 |
| Preservative #1 | HNO3 |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 5/8/24 |
| Exp. Date | 11/8/24 |
| Prepared By | JF |

Micropipette ID:

- ☐ 542740566 ☑ D42761999
- ☐ C42761044 ☑ D42781151
- ☐ 942780530 ☐

Comments:

EMAX LABORATORIES, INC.

## STANDARDS LOG FOR ICP

Book No: SM1B-29

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Al | SM1A-025-04-08 | 10000 | 0.2 | 2.0 |
| Ca | SM1A-025-10-01 | 10000 | 5.0 | 50 |
| K | SM1A-018 ~~-09 = 06~~ 5/28/24 JF | 10000 | 5.0 | 50 |
| Cr | SM1A-025-10-06 | 1000 | 1.0 | 1.0 |
| Ni | SM1A-025-04-09 | 1000 | 1.0 | 1.0 |
| | | | | 5/28/24 JF |

| Standard ID | SM1B-29-44-01 |
|---|---|
| Name | S26 |
| Final Volume (mL) | 1,000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-11-09 |
| Preservative #1 | $HNO_3$ |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 5/28/24 |
| Exp. Date | 11/28/24 |
| Prepared By | JF |

Micropipette ID:

- ☐ 542740566 ☑ D4276199
- ☐ C42761044 ☑ D4278151
- ☐ 942780530 ☐

Comments:

| Parent Name | Parent Standard ID | Conc. (mg/L) | Aliquot (mL) | Final Conc. (mg/L) |
|---|---|---|---|---|
| Al | SM1A-025-04-08 | 10000 | 20 | 200 |
| Ca | SM1A-025-10-01 | 10000 | 50 | 500 |
| K | SM1A-025-01-06 | 10000 | 50 | 500 |
| Cr | SM1A-025-10-06 | 1000 | 10 | 10 |
| Ni | SM1A-025-04-09 | 1000 | 10 | 10 |
| | | | | 5/28/24 JF |

| Standard ID | SM1B-29-44-02 |
|---|---|
| Name | S27 |
| Final Volume (mL) | 1,000 |
| Solvent | Reagent Water |
| Solvent ID | SW1A-012-11-09 |
| Preservative #1 | $HNO_3$ |
| ID | SW1A-012-09-01 |
| Volume (mL) | 60 |
| Preservative #2 | HCl |
| ID | SW1A-012-09-03 |
| Volume (mL) | 100 |
| Prep. Date | 5/28/24 |
| Exp. Date | 11/28/24 |
| Prepared By | JF |

Micropipette ID:

- ☐ 542740566 ☑ D4276199
- ☐ C42761044 ☑ D4278151
- ☐ 942780530 ☐

Comments:

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Recv 4/6/22 NT

# CERTIFICATE OF ANALYSIS

SM1A-025-04-08
opened 6/13/22 NT

## AccuTrace™ Reference Standard

**Catalog No:** ICP-01N-10X-5
**Description:** Aluminum ICP Standard
**Element:** Aluminum (Al)
**SRM:** 3101a
**Lot:** 221095060
**Matrix:** 5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Sep 15, 2021
**Expiration:** Sep 15, 2026
**Density:** 1.075 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Tl | nd<0.02 |
| Al | * | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | 1.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | 0.08 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | 0.15 | Fe | 0.18 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | 0.19 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



*For use in routine laboratory analysis.*

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# CERTIFICATE OF ANALYSIS

Rec. 8/9/23 NT
SMIA-025-09-10

## AccuTrace™ Reference Standard

**Catalog No:** ICP-01N-10X-5
**Description:** Aluminum ICP Standard
**Element:** Aluminum (Al)
**SRM:** 3101a
**Lot:** 221095060
**Matrix:** 5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Sep 15, 2021
**Expiration:** Sep 15, 2026
**Density:** 1.075 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**




### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | * | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | 1.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | 0.08 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | 0.15 | Fe | 0.18 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | 0.19 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



*For use in routine laboratory analysis.*

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# CERTIFICATE OF ANALYSIS

Rec 12/7/23 NT
SM1A-025-10-07

## AccuTrace™ Reference Standard

**Catalog No:** ICP-MS-02N-1
**Description:** Antimony ICP-MS Standard
**Element:** Antimony (Sb)
**SRM:** 3102a
**Lot:** 223105012
**Matrix:** 2-5% HNO3, tr. Tartaric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Oct 3, 2023
**Expiration:** Oct 3, 2028
**Density:** 1.040 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

## Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Tl | 0.02 |
| Al | 0.31 | Co | nd<0.02 | Ge | nd<0.2 | Mg | 0.11 | Pd | nd<0.2 | Se | N/A | Tl | nd<0.2 |
| As | nd<0.2 | Cr | 0.03 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | 0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | 0.04 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | 0.38 | Fe | 0.08 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | * | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)
This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #19305, traceable to NIST.
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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Rec. 8/9/23 NT
SM1A-025-10-03

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-03N-1
**Description:** Arsenic ICP Standard
**Element:** Arsenic (As)
**SRM:** 3103a
**Lot:** 222065166
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jun 27, 2022
**Expiration:** Jun 27, 2027
**Density:** 1.012 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | nd<0.02 | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Tl** | nd<0.02 |
| **Al** | nd<0.02 | **Co** | nd<0.02 | **Ge** | nd<0.2 | **Mg** | nd<0.02 | **Pd** | nd<0.2 | **Se** | nd<0.2 | **Tl** | nd<0.2 |
| **As** | * | **Cr** | nd<0.02 | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | nd<0.2 | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | nd<0.2 | **Cu** | N/A | **Ho** | nd<0.02 | **Na** | nd<0.02 | **Rb** | N/A | **Sn** | N/A | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | N/A | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | nd<0.02 | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | nd<0.2 | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | N/A | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025
This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #19305, traceable to NIST.
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/289871-17
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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# CERTIFICATE OF ANALYSIS

Rec. 8/25/20 NT
SM1A-018-15-08

## AccuTrace™ Reference Standard

**Catalog No:** ICP-04N-1
**Description:** Barium ICP Standard
**Element:** Barium (Ba)
**SRM:** 3104a
**Lot:** 218055112-01
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** May 12, 2020
**Expiration:** May 12, 2025
**Density:** 1.014 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | N/A | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | * | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #928 (lead nitrate).

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 822-275872-11

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



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# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

SM1A-025-0310

Rec 1/11/22 TH

**Catalog No:** ICP-05N-1
**Description:** Beryllium ICP Standard
**Element:** Beryllium (Be)
**SRM:** 3105a
**Lot:** 221105162
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Oct 28, 2021
**Expiration:** Oct 28, 2026
**Density:** 1.019 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | N/A | Co | nd<0.02 | Ge | N/A | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | N/A |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | N/A | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | * | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed gravimetrically, using a balance calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

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SM1A-018-16-01
rec. 12/9/20 NT

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-07W-1
**Description:** Boron ICP Standard
**Element:** Boron (B)
**SRM:** 3107
**Lot:** 220025114
**Matrix:** Water, tr. NH4OH
**Hazards:** *Refer to SDS for complete safety information*

**Signal Word: None**

**Date Certified:** Feb 27, 2020
**Expiration:** Feb 27, 2025
**Density:** 1.004 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | N/A | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | * | Cu | nd<0.02 | Ho | nd<0.02 | Na | 0.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | N/A | Sr | N/A | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | N/A | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | N/A | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed by acid/base titration using NaOH which was standardized against NIST SRM #84J (potassium hydrogen pthalate).

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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SMA-018-16-02
Rec. 12/9/20 NT

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-08N-1
**Description:** Cadmium ICP Standard
**Element:** Cadmium (Cd)
**SRM:** 3108
**Lot:** 220065069
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jun 18, 2020
**Expiration:** Jun 18, 2025
**Density:** 1.013 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | N/A | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | N/A | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | N/A | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | N/A | Zn | nd<0.02 |
| Cd | * | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #928 (lead nitrate).

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

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Rec. 8/9/23 MT

# CERTIFICATE OF ANALYSIS

SM1A-025-10-01

## AccuTrace™ Reference Standard

**Catalog No:** ICP-09N-10X-5
**Description:** Calcium ICP Standard
**Element:** Calcium (Ca)
**SRM:** 3109a
**Lot:** 223045009
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 6, 2023
**Expiration:** Apr 6, 2028
**Density:** 1.043 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Tl | nd<0.02 |
| Al | N/A | Co | nd<0.02 | Ge | N/A | Mg | 1.84 | Pd | nd<0.2 | Se | N/A | Ti | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | 0.08 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | 0.04 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | * | Fe | nd<0.02 | La | N/A | Os | N/A | S | N/A | Te | nd<0.2 | Zn | 0.04 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)
This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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# CERTIFICATE OF ANALYSIS

SM1A-025-01-05
Rec. 9/27/21 NT
exp 8/30/26

## AccuTrace™ Reference Standard

**Catalog No:** ICP-09N-10X-5
**Description:** Calcium ICP Standard
**Element:** Calcium (Ca)
**SRM:** 3109a
**Lot:** 221085109
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 30, 2021
**Expiration:** Aug 30, 2026
**Density:** 1.043 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ilac-MRA

### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | N/A | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | N/A | Co | nd<0.02 | Ge | N/A | Mg | 0.04 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | 0.12 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | N/A | Nb | nd<0.2 | Re | nd<0.2 | Sr | 0.10 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | * | Fe | nd<0.02 | La | N/A | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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Rec. 12/7/23 NT
SM1A-025-10-06

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-13H-1
**Description:** Chromium ICP Standard
**Element:** Chromium (Cr)
**SRM:** 3112a
**Lot:** 222115119
**Matrix:** 5% Hydrochloric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Nov 17, 2022
**Expiration:** Nov 17, 2027
**Density:** 1.015 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | N/A | Ce | nd<0.2 | Gd | N/A | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Tl | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | N/A |
| As | nd<0.2 | Cr | * | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | N/A | Pt | nd<0.2 | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | N/A | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | 0.06 | La | nd<0.02 | Os | N/A | S | N/A | Te | N/A | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | N/A | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #NJ86563, traceable to NIST

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



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# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

SM1A-025-04-01
Rec 1/11/22 TH

**Catalog No:** ICP-14N-1
**Description:** Cobalt ICP Standard
**Element:** Cobalt (Co)
**SRM:** 3113
**Lot:** 221045116
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 27, 2021
**Expiration:** Apr 27, 2026
**Density:** 1.014 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | * | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | N/A |
| As | nd<0.2 | Cr | N/A | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | N/A | Cs | N/A | Hg | N/A | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | N/A | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | N/A | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | N/A | La | nd<0.02 | Os | N/A | S | 1.9 | Te | N/A | Zn | nd<0.02 |
| Cd | N/A | Ga | N/A | Li | nd<0.02 | P | N/A | Sb | N/A | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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SM1A-025-06-06
Rec. 1/17/23 NT

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-15N-1
**Description:** Copper ICP Standard
**Element:** Copper (Cu)
**SRM:** 3114
**Lot:** 221075081
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jul 28, 2021
**Expiration:** Jul 28, 2026
**Density:** 1.011 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | N/A | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Tl** | nd<0.02 |
| **Al** | nd<0.02 | **Co** | nd<0.02 | **Ge** | N/A | **Mg** | nd<0.02 | **Pd** | nd<0.2 | **Se** | nd<0.2 | **Ti** | nd<0.2 |
| **As** | nd<0.2 | **Cr** | nd<0.02 | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | N/A | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | nd<0.2 | **Cu** | * | **Ho** | nd<0.02 | **Na** | nd<0.02 | **Rb** | N/A | **Sn** | nd<0.02 | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | nd<0.2 | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | N/A | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | nd<0.02 | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | N/A | **Zn** | N/A |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



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Rec 12/8/22 NT
SM1A-025-06-05
Exp. 4/5/27

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-27N-10X-5
**Description:** Iron ICP Standard
**Element:** Iron (Fe)
**SRM:** 3126a
**Lot:** 222035160
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 5, 2022
**Expiration:** Apr 5, 2027
**Density:** 1.061 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

ISO 17034

### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | N/A | Ge | N/A | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | N/A | Mo | nd<0.02 | Pt | N/A | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | N/A | Ho | nd<0.02 | Na | 0.13 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | N/A | Yb | nd<0.02 |
| Ca | 0.14 | Fe | * | La | nd<0.02 | Os | N/A | S | N/A | Te | N/A | Zn | N/A |
| Cd | nd<0.02 | Ga | N/A | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | N/A |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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SM1A-018-16-03
Rec. 12/9/20 HT

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-29N-1
**Description:** Lead ICP Standard
**Element:** Lead (Pb)
**SRM:** 3128
**Lot:** 220055040
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** May 12, 2020
**Expiration:** May 12, 2025
**Density:** 1.013 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | * | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | N/A | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All glassware used in preparation is Class A.
All weights are traceable through NIST, Test No. 684/289871-17
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

SM1A-025-0402
Rec 1/11/22 TH

**Catalog No:** ICP-30N-1
**Description:** Lithium ICP Standard
**Element:** Lithium (Li)
**SRM:** 3129a
**Lot:** 221115031
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*

**Date Certified:** Nov 5, 2021
**Expiration:** Nov 5, 2026
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**



**Signal Word: Danger**

ANAB ACCREDITED AR-1463

ISO Guide 34

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | N/A | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | N/A | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | * | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



*For use in routine laboratory analysis.*

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# CERTIFICATE OF ANALYSIS

SMA-025-06-07
Rec. 1/17/23 NT

## AccuTrace™ Reference Standard

**Catalog No:** ICP-32N-10X-5
**Description:** Magnesium ICP Standard
**Element:** Magnesium (Mg)
**SRM:** 3131a
**Lot:** 222015045
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jan 14, 2022
**Expiration:** Jan 14, 2027
**Density:** 1.055 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | nd<0.02 | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Tl** | nd<0.02 |
| **Al** | nd<0.02 | **Co** | nd<0.02 | **Ge** | nd<0.2 | **Mg** | * | **Pd** | nd<0.2 | **Se** | nd<0.2 | **Tl** | nd<0.2 |
| **As** | nd<0.2 | **Cr** | nd<0.02 | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | nd<0.2 | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | nd<0.2 | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | nd<0.2 | **Cu** | nd<0.02 | **Ho** | nd<0.02 | **Na** | 0.03 | **Rb** | N/A | **Sn** | nd<0.02 | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | nd<0.2 | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | 0.2 | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | nd<0.2 | **Zr** | 0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



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SMA-025-06-08
Rec 1/17/23 NT

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-33N-1
**Description:** Manganese ICP Standard
**Element:** Manganese (Mn)
**SRM:** 3132
**Lot:** 222035090
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Mar 21, 2022
**Expiration:** Mar 21, 2027
**Density:** 1.011 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | nd<0.02 | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Ti** | nd<0.02 |
| **Al** | N/A | **Co** | nd<0.02 | **Ge** | N/A | **Mg** | 0.04 | **Pd** | nd<0.2 | **Se** | N/A | **Tl** | nd<0.2 |
| **As** | N/A | **Cr** | N/A | **Hf** | nd<0.02 | **Mn** | * | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | N/A | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | N/A | **Cu** | nd<0.02 | **Ho** | nd<0.02 | **Na** | nd<0.02 | **Rb** | N/A | **Sn** | nd<0.02 | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | N/A | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | N/A | **Y** | nd<0.02 |
| **Bi** | N/A | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | N/A | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | 0.02 | **Fe** | N/A | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | nd<0.2 | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025
This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/289871-17
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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# CERTIFICATE OF ANALYSIS

rec. 8/25/20 HT
SHIA-018-15-09

## AccuTrace™ Reference Standard

**Catalog No:** ICP-35W-1
**Description:** Molybdenum ICP Standard
**Element:** Molybdenum (Mo)
**SRM:** 3134
**Lot:** 218065027-02
**Matrix:** Water, dilute NH4OH
**Hazards:** *Refer to SDS for complete safety information*

None Required

**Signal Word:** Warning

**Date Certified:** Jun 22, 2020
**Expiration:** Jun 22, 2025
**Density:** 1.000 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | N/A | Ce | nd<0.2 | Gd | N/A | Lu | nd<0.02 | Pb | N/A | Sc | N/A | Tl | nd<0.02 |
| Al | N/A | Co | N/A | Ge | N/A | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | nd<0.2 |
| As | N/A | Cr | N/A | Hf | N/A | Mn | nd<0.02 | Pr | N/A | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | * | Pt | nd<0.2 | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | N/A | Ho | nd<0.02 | Na | N/A | Rb | N/A | Sn | nd<0.02 | V | N/A |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | N/A | Nd | nd<0.02 | Rh | N/A | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | N/A | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | N/A | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | N/A | Zr | N/A |

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #19305 , traceable to NIST.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 822-275872-11

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Megan O'Leary
Megan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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Recv 4/6/22 NT

# CERTIFICATE OF ANALYSIS

SM1A-025-04-09

## AccuTrace™ Reference Standard

**Catalog No:** ICP-37N-1
**Description:** Nickel ICP Standard
**Element:** Nickel (Ni)
**SRM:** 3136
**Lot:** 220075062
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jul 14, 2020
**Expiration:** Jul 14, 2025
**Density:** 1.014 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**




### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Tl | nd<0.02 |
| Al | N/A | Co | N/A | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | N/A | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | N/A | Mo | nd<0.02 | Pt | N/A | Sm | nd<0.2 | U | nd<0.2 |
| B | N/A | Cu | nd<0.02 | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | N/A | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | * | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | N/A | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | N/A | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025
This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/289871-17
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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# CERTIFICATE OF ANALYSIS

JHIA-025-01-06
rec. 9/27/21 NT
Exp 9/17/26

## AccuTrace™ Reference Standard

**Catalog No:** ICP-43N-10X-5
**Description:** Potassium ICP Std.
**Element:** Potassium (K)
**SRM:** 3141a
**Lot:** 221095092
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Sep 17, 2021
**Expiration:** Sep 17, 2026
**Density:** 1.031g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1469 ilac-MRA

### Certified Concentration: 10000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | N/A | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | 0.47 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | * | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | 0.12 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | 0.05 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025
This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All glassware used in preparation is Class A.
All weights are traceable through NIST, Test No. 684/289871-17
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

SMIA-250701

Rec 3/6/23 TH

**Catalog No:** ICP-50N-5
**Description:** Scandium ICP Standard
**Element:** Scandium (Sc)
**SRM:** 3148a
**Lot:** 222085106
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Sep 1, 2022
**Expiration:** Sep 1, 2027
**Density:** 1.013 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | N/A | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | * | **Ti** | N/A |
| **Al** | nd<0.02 | **Co** | nd<0.02 | **Ge** | N/A | **Mg** | nd<0.02 | **Pd** | nd<0.2 | **Se** | N/A | **Tl** | nd<0.2 |
| **As** | nd<0.2 | **Cr** | nd<0.02 | **Hf** | **0.04** | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | N/A | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | N/A |
| **B** | N/A | **Cu** | N/A | **Ho** | nd<0.02 | **Na** | N/A | **Rb** | N/A | **Sn** | nd<0.02 | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | N/A | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | N/A | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | nd<0.2 | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | N/A | **Yb** | nd<0.02 |
| **Ca** | **0.05** | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | N/A | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | N/A | **Zr** | **0.08** |

This Certified Reference Material was verified in accordance with ISO/IEC 17025
This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/289871-17
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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# CERTIFICATE OF ANALYSIS

Rec 12/7/23 NT
SM1A-025-10-08

## AccuTrace™ Reference Standard

**Catalog No:** ICP-51N-1
**Description:** Selenium ICP Standard
**Element:** Selenium (Se)
**SRM:** 3149
**Lot:** 223045074
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Apr 26, 2023
**Expiration:** Apr 26, 2028
**Density:** 1.011 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | nd<0.02 | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Ti** | nd<0.02 |
| **Al** | nd<0.02 | **Co** | nd<0.02 | **Ge** | nd<0.2 | **Mg** | nd<0.02 | **Pd** | nd<0.2 | **Se** | * | **Tl** | nd<0.2 |
| **As** | nd<0.2 | **Cr** | nd<0.02 | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | nd<0.2 | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | nd<0.2 | **Cu** | nd<0.02 | **Ho** | nd<0.02 | **Na** | 0.02 | **Rb** | N/A | **Sn** | nd<0.02 | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | nd<0.2 | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | nd<0.02 | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | nd<0.2 | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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Rec. 8/9/23 NT
SMIA-025-10-02

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-53N-1
**Description:** Silver ICP Standard
**Element:** Silver (Ag)
**SRM:** 3151
**Lot:** 221085036
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Aug 13, 2021
**Expiration:** Aug 13, 2026
**Density:** 1.011 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | * | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | N/A | **Sc** | nd<0.02 | **Ti** | nd<0.02 |
| **Al** | N/A | **Co** | nd<0.02 | **Ge** | nd<0.2 | **Mg** | nd<0.02 | **Pd** | nd<0.2 | **Se** | nd<0.2 | **Tl** | nd<0.2 |
| **As** | nd<0.2 | **Cr** | nd<0.02 | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | nd<0.2 | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | nd<0.2 | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | nd<0.2 | **Cu** | nd<0.02 | **Ho** | nd<0.02 | **Na** | 0.02 | **Rb** | N/A | **Sn** | N/A | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | N/A | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | N/A |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | N/A | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | nd<0.02 | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | nd<0.02 | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | nd<0.2 | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using a Volhard titration calibrated against 99.999% silver shot.

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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# CERTIFICATE OF ANALYSIS

SMIA-025-01-07
Rec. 9/27/21 HT
Exp 9/27/26

## AccuTrace™ Reference Standard

**Catalog No:** ICP-54N-10X-5
**Description:** Sodium ICP Standard
**Element:** Sodium (Na)
**SRM:** 3152a
**Lot:** 221085140
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Sep 1, 2021
**Expiration:** Sep 1, 2026
**Density:** 1.036 g/mL
**Sample Size:** 500 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

ilac-MRA

### Certified Concentration: 10000 µg/mL

Trace Elements in µg/mL

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | * | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | 0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | 0.04 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | 0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I-18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



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Recv 4/6/22 NT

# CERTIFICATE OF ANALYSIS

SMA-025-04-10

## AccuTrace™ Reference Standard

**Catalog No:** ICP-55N-1
**Description:** Strontium ICP Standard
**Element:** Strontium (Sr)
**SRM:** 3153a
**Lot:** 219065099-02
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Feb 8, 2022
**Expiration:** Feb 8, 2027
**Density:** 1.013 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1483

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | N/A | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | N/A | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | nd<0.02 | V | nd<0.02 |
| Ba | 0.12 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | * | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

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# CERTIFICATE OF ANALYSIS

SM1A-025-06-09
rec. 2/1/23 NT

## AccuTrace™ Reference Standard

**Catalog No:** ICP-60N-1
**Description:** Thallium ICP Standard
**Element:** Thallium (Tl)
**SRM:** 3158
**Lot:** 222065021
**Matrix:** 2% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jun 6, 2022
**Expiration:** Jun 6, 2027
**Density:** 1.012 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ag** | nd<0.02 | **Ce** | nd<0.2 | **Gd** | nd<0.02 | **Lu** | nd<0.02 | **Pb** | nd<0.2 | **Sc** | nd<0.02 | **Ti** | nd<0.02 |
| **Al** | nd<0.02 | **Co** | nd<0.02 | **Ge** | nd<0.2 | **Mg** | nd<0.02 | **Pd** | nd<0.2 | **Se** | nd<0.2 | **Tl** | * |
| **As** | nd<0.2 | **Cr** | nd<0.02 | **Hf** | nd<0.02 | **Mn** | nd<0.02 | **Pr** | nd<0.2 | **Si** | N/A | **Tm** | nd<0.02 |
| **Au** | nd<0.02 | **Cs** | N/A | **Hg** | nd<0.2 | **Mo** | nd<0.02 | **Pt** | nd<0.2 | **Sm** | nd<0.2 | **U** | nd<0.2 |
| **B** | nd<0.2 | **Cu** | nd<0.02 | **Ho** | nd<0.02 | **Na** | nd<0.02 | **Rb** | N/A | **Sn** | N/A | **V** | nd<0.02 |
| **Ba** | nd<0.02 | **Dy** | nd<0.02 | **In** | nd<0.2 | **Nb** | nd<0.2 | **Re** | nd<0.2 | **Sr** | nd<0.02 | **W** | nd<0.2 |
| **Be** | nd<0.02 | **Er** | nd<0.02 | **Ir** | nd<0.2 | **Nd** | nd<0.02 | **Rh** | nd<0.2 | **Ta** | nd<0.2 | **Y** | nd<0.02 |
| **Bi** | nd<0.2 | **Eu** | nd<0.02 | **K** | nd<0.2 | **Ni** | N/A | **Ru** | nd<0.02 | **Tb** | nd<0.02 | **Yb** | nd<0.02 |
| **Ca** | N/A | **Fe** | nd<0.02 | **La** | nd<0.02 | **Os** | N/A | **S** | N/A | **Te** | nd<0.2 | **Zn** | nd<0.02 |
| **Cd** | nd<0.02 | **Ga** | nd<0.02 | **Li** | nd<0.02 | **P** | N/A | **Sb** | nd<0.2 | **Th** | nd<0.02 | **Zr** | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager



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# CERTIFICATE OF ANALYSIS

SM1A-018-12-08
Rcvd. 01/03/20 LW

## AccuTrace™ Reference Standard

**Catalog No:** ICP-63H-10X-1
**Description:** Tin ICP Standard
**Element:** Tin (Sn)
**SRM:** 3161a
**Lot:** 217115110-01
**Matrix:** 20% Hydrochloric acid
**Hazards:** *Refer to SDS for complete safety information*



Signal Word: Danger

**Date Certified:** Dec 10, 2019
**Expiration:** Dec 10, 2024
**Density:** 1.045 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

## Certified Concentration: 9999 µg/mL

Trace Elements in µg/mL

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | nd<0.2 | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | * | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | 0.03 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #19305, traceable to NIST.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A and calibrated regularly.

All weights are traceable through NIST, Test No. 822-275872-11

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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# CERTIFICATE OF ANALYSIS

Rec. 5/17/22 NT
SM1A-025-05-01

## AccuTrace™ Reference Standard

**Catalog No:** ICP-64W-1
**Description:** Titanium ICP Standard
**Element:** Titanium (Ti)
**SRM:** 3162a
**Lot:** 220115136
**Matrix:** Water, tr. HF
**Hazards:** *Refer to SDS for complete safety information*

**Signal Word: Warning**

**Date Certified:** Nov 20, 2020
**Expiration:** Nov 20, 2025
**Density:** 1.004 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

ILAC-MRA

## Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | N/A | Ce | nd<0.2 | Gd | N/A | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Ti | * |
| Al | N/A | Co | nd<0.02 | Ge | N/A | Mg | nd<0.02 | Pd | N/A | Se | nd<0.2 | Tl | nd<0.2 |
| As | nd<0.2 | Cr | N/A | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | N/A |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | N/A | V | N/A |
| Ba | nd<0.02 | Dy | nd<0.02 | In | N/A | Nb | nd<0.2 | Re | nd<0.2 | Sr | 0.02 | W | nd<0.2 |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | N/A | Os | N/A | S | N/A | Te | N/A | Zn | nd<0.02 |
| Cd | nd<0.02 | Ga | N/A | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025
This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.
The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.
In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.
All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.
All weights are traceable through NIST, Test No. 684/289871-17
All glassware used in preparation is Class A.
All bottles are acid leached and triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan C. O'Leary

Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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# CERTIFICATE OF ANALYSIS

SM1A-025-06-10

## AccuTrace™ Reference Standard Rec. 2/1/23 NT

**Catalog No:** ICP-67N-1
**Description:** Vanadium ICP Standard
**Element:** Vanadium (V)
**SRM:** 3165
**Lot:** 221065136
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jun 29, 2021
**Expiration:** Jun 29, 2026
**Density:** 1.014 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | nd<0.2 | Sc | nd<0.02 | Ti | N/A |
| Al | N/A | Co | nd<0.02 | Ge | N/A | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | nd<0.2 |
| As | N/A | Cr | N/A | Hf | nd<0.02 | Mn | N/A | Pr | N/A | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | N/A | Mo | nd<0.02 | Pt | N/A | Sm | nd<0.2 | U | N/A |
| B | nd<0.2 | Cu | nd<0.02 | Ho | nd<0.02 | Na | N/A | Rb | N/A | Sn | N/A | V | * |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | N/A | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | N/A | Rh | nd<0.2 | Ta | nd<0.2 | Y | nd<0.02 |
| Bi | nd<0.2 | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | N/A | Yb | nd<0.02 |
| Ca | N/A | Fe | N/A | La | nd<0.02 | Os | N/A | S | N/A | Te | nd<0.2 | Zn | nd<0.02 |
| Cd | N/A | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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SHIA-018-16-04
rec. 12/9/20 NT

# CERTIFICATE OF ANALYSIS

## AccuTrace™ Reference Standard

**Catalog No:** ICP-70N-1
**Description:** Zinc ICP Standard
**Element:** Zinc (Zn)
**SRM:** 3168a
**Lot:** 220065027
**Matrix:** 2-5% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word: Danger**

**Date Certified:** Jun 9, 2020
**Expiration:** Jun 9, 2025
**Density:** 1.014 g/mL
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AI-1339 ilac-MRA

### Certified Concentration: 1000 µg/mL

**Trace Elements in µg/mL**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | nd<0.02 | Ce | nd<0.2 | Gd | nd<0.02 | Lu | nd<0.02 | Pb | N/A | Sc | nd<0.02 | Ti | nd<0.02 |
| Al | nd<0.02 | Co | nd<0.02 | Ge | nd<0.2 | Mg | nd<0.02 | Pd | nd<0.2 | Se | N/A | Tl | nd<0.2 |
| As | nd<0.2 | Cr | nd<0.02 | Hf | nd<0.02 | Mn | nd<0.02 | Pr | nd<0.2 | Si | N/A | Tm | nd<0.02 |
| Au | nd<0.02 | Cs | N/A | Hg | nd<0.2 | Mo | nd<0.02 | Pt | nd<0.2 | Sm | nd<0.2 | U | nd<0.2 |
| B | nd<0.2 | Cu | N/A | Ho | nd<0.02 | Na | nd<0.02 | Rb | N/A | Sn | N/A | V | nd<0.02 |
| Ba | nd<0.02 | Dy | nd<0.02 | In | nd<0.2 | Nb | nd<0.2 | Re | nd<0.2 | Sr | nd<0.02 | W | N/A |
| Be | nd<0.02 | Er | nd<0.02 | Ir | nd<0.2 | Nd | nd<0.02 | Rh | nd<0.2 | Ta | N/A | Y | nd<0.02 |
| Bi | N/A | Eu | nd<0.02 | K | nd<0.2 | Ni | nd<0.02 | Ru | nd<0.02 | Tb | nd<0.02 | Yb | nd<0.02 |
| Ca | nd<0.02 | Fe | nd<0.02 | La | nd<0.02 | Os | N/A | S | N/A | Te | N/A | Zn | * |
| Cd | nd<0.02 | Ga | nd<0.02 | Li | nd<0.02 | P | N/A | Sb | nd<0.2 | Th | nd<0.02 | Zr | nd<0.02 |

This solution was assayed titrimetrically, using EDTA which was standardized against NIST SRM #915a (calcium carbonate).

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

*For use in routine laboratory analysis.*



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QR-ORG/INO-001
Rev. 7/20

SM1A-025-10-04
Rec 8/29/23 NT
Exp 2/22/25

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100011

**Aluminum (Al)** – 1000 µg/mL

Lot #: 1136191-68

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Al | 1002 ± 2 µg/mL (w/v) |
| | 991.0 ± 2.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure aluminum nitrate [$Al(NO_3)_3$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3101a, lot #140903**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | MAJOR | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | 2 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | 41 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | 2 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | 5 | Y | <0.5 |
| Ca | 44 | Fe | 20 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | 39 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

August 22, 2023
**Certification Date**

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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SM1A-025-11-10

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Rec 2/28/24 TH

Product #: S4400-10M11

**Aluminum (Al)** – 10,000 µg/mL

Lot #: 1440218

Matrix: 5% $HNO_3$

*Expiration Date: 9 July 2026

| Element | Certified Concentration & Uncertainty |
|---|---|
| Al | 10,025 ± 37 µg/mL (w/v) |
| | 9400 ± 34 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure aluminum nitrate [$Al(NO_3)_3$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3101a, lot #140903**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | <10 | Ge | <5 | Lu | <2 | P | <1000 | Sb | 15 | Te | <10 |
| Al | MAJOR | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | 28 | Hg | <5 | Mn | <10 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | 12 |
| Ba | 11 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | <5 | W | <5 |
| Bi | <5 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | 361 | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | 296 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

25 July 2023

**Chuck Goudreau, Certifying Officer**

**Certification Date**

**Date Opened**

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SMIA-025-08-07
Rec. 5/31/23 HT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100023

**Antimony (Sb)** – 1000 µg/mL

Lot #: 1225595-14

Matrix: 5% $HNO_3$/0.1% HF

| Element | Certified Concentration & Uncertainty |
|---|---|
| Sb | 1001 ± 2 µg/mL (w/v) |
| | 980.0 ± 2.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure antimony (Sb) The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3102a, lot #140911**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | MAJOR | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | 0.9 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | 2 | Rb | 3 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | 7 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.


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# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100031

**Arsenic (As)** – 1000 µg/mL

Lot #: 1218353-64

NT 5/31/23

25 SMIA 08-08-10

Rec. 5/31/23

Exp. 11/25/24

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| As | 1002 ± 3 µg/mL (w/v) |
| | 987.0 ± 3.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure arsenic (As). The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3103a, lot #100818**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | 3 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | MAJOR | Cr | <0.5 | Hg | <0.5 | Mn | 4 | Pd | 2 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | 2 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | 0.4 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | 19 | Ru | 24 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023

**Certification Date**

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SMLA-025-09-07
Rec 5/3/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100041

**Barium (Ba)** – 1000 µg/mL

Lot #: 1361521-1

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Ba | 998.0 ± 4.0 µg/mL (w/v) |
| | 988.0 ± 4.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure barium nitrate [$Ba(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3104a, lot #140909**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | 0.92 | V | <1 |
| Ba | MAJOR | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | 10.89 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | 8.892 | Y | 0.83 |
| Ca | <25 | Fe | <10 | La | 2.118 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SM1A-025-09-01
Rec. 5/31/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100051

**Beryllium (Be)** – 1000 µg/mL

Lot #: 1273018-32

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Be | 995.0 ± 5.0 µg/mL (w/v) |
| | 984.0 ± 5.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to, **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.995% pure beryllium acetate [$Be_4O(C_2H_3O_2)_6$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3105a, lot #090514**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | 2 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | 4 | Te | 12 |
| Al | <2 | Cs | <0.5 | Hf | 2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | 0.7 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100074

**Boron (B)** – 1000 µg/mL

Lot #: 1284162-23

Matrix: $H_2O$

| Element | Certified Concentration & Uncertainty |
|---|---|
| B | 995.0 ± 3.0 µg/mL (w/v) |
| | 997.0 ± 3.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9995% pure boric acid ($H_3BO_3$) dissolved and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration prvider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3107, lot #190605**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | 2 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | MAJOR | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | 0.7 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | 18 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | 16 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | 8 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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Rec. 12/8/23 TH
SMA-025-10-09

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M91

**Calcium (Ca)** – 10,000 µg/mL

Lot #: 1420618

Matrix: 4% $HNO_3$

*Expiration Date: 25 February 2026

| Element | Certified Concentration & Uncertainty |
|---|---|
| Ca | 10,050 ± 35 µg/mL (w/v) |
| | 9696 ± 34 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure calcium carbonate ($CaCO_3$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3109a, lot #130213**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | <10 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | 51 | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | <5 | Hg | <5 | Mn | <10 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | <10 |
| Ba | <10 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | <5 | W | <5 |
| Bi | 2.01 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | 76 | Y | <5 |
| Ca | MAJOR | Fe | <100 | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | <5 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

13 March 2023
**Certification Date**

**Date Opened**

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SHI A-025-07-06
Rec. 5/31/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000121

**Chromium (Cr)** – 1000 µg/mL

Lot #: 1222801-30

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Cr | 1004 ± 3 µg/mL (w/v) |
| | 997.0 ± 3.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.996% pure chromium (Cr). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3112a, lot #170630**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | 5 |
| Al | <2 | Cs | <0.5 | Hf | 2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | MAJOR | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | 84 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | 1 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | 0.8 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023

**Certification Date**

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Exp 6/9/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100081

**Cadmium (Cd)** – 1000 µg/mL

Lot #: 1363528-3

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Cd | 999.0 ± 4.0 µg/mL (w/v) |
| | 994.0 ± 4.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure cadmium (Cd) dissolved in high purity nitric acid ($HNO_3$) and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3108, lot #130116**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | 1.053 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | MAJOR | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | 4 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SMA-025-09-03
Rec 5/31/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000131

**Cobalt (Co)** – 1000 µg/mL

Lot #: 1222807-57

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Co | 991.0 ± 3.0 µg/mL (w/v) |
| | 985.0 ± 3.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001, ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.998% pure cobalt (Co) dissolved in high purity nitric acid ($HNO_3$) and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3113, lot #190630**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | MAJOR | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | 28 | Sc | <5 | Ti | <2 |
| As | 75 | Cr | 5 | Hg | <0.5 | Mn | 5 | Pd | <0.5 | Se | 4 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | 2 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | 5 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | 7 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | 1 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SMA-025-09-05
Rec 5/31/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S 4400-1000141

**Copper (Cu)** – 1000 µg/mL

Lot #: 1259550-18

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Cu | 1008 ± 3 µg/mL (w/v) |
| | 998.0 ± 3.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure copper (Cu). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3114, lot #121207**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | <10 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | <20 | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | <5 | Hg | <5 | Mn | <10 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | MAJOR | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | <10 |
| Ba | <10 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | <5 | W | <5 |
| Bi | <2 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | <100 | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | <5 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M261 (1)

**Iron (Fe)** – 10,000 µg/mL

Lot #: 1240670-6

SMA-025-06-01
Rec 9/13/22 NT
Exp 3/6/24

Matrix: 4% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Fe | 9981 ± 39 µg/mL (w/v) |
| | 9562 ± 38 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure iron nitrate nonahydrate [$Fe(NO_3)_3$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3126a, lot #140812**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | 19 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | <20 | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | 17 | Hg | <5 | Mn | 14 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | <10 |
| Ba | <10 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | <5 | W | <5 |
| Bi | <2 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | MAJOR | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | <5 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

September 6, 2022
**Certification Date**

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Rec. 12/8/23 TH
SM1A-025-10-10

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM — Product #: S4400-10M261

**Iron (Fe)** – 10,000 µg/mL — Lot #: 1420611

Matrix: 4% $HNO_3$ — *Expiration Date: 29 March 2026

| Element | Certified Concentration & Uncertainty |
|---|---|
| Fe | 10,030 ± 39 µg/mL (w/v) |
| | 9631 ± 37 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure iron nitrate nonahydrate [$Fe(NO_3)_3$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3126a, lot #140812**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | 18 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | <20 | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | 9 | Hg | <5 | Mn | <10 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | <10 |
| Ba | <10 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | <5 | W | <5 |
| Bi | <2 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | MAJOR | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | 11 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer** — 12 April 2023 **Certification Date** — **Date Opened**

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SM1A-025-08-06
Rec. 5/31/23
Exp 11/25/2324
NT 5/31/23

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000281

**Lead (Pb)** – 1000 µg/mL

Lot #: 1292047-29

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Pb | 998.0 ± 4.0 µg/mL (w/v) |
| | 993.0 ± 4.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure lead (Pb). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3128, lot #101026**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | MAJOR | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | 3 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | 4 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | 36 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | 6 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SM1A – 025 – 11-06
rcv. 01/16/24 HC

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM — Product #: S4400-1000291

**Lithium (Li)** – 1000 µg/mL — Lot #: 1421712

Matrix: 3% $HNO_3$ — *Expiration Date: 19 February 2026

| Element | Certified Concentration & Uncertainty |
|---|---|
| Li | 1010 ± 3 µg/mL (w/v) |
| | 1002 ± 3 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure lithium carbonate ($Li_2CO_3$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3129a, lot #100714**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | 1 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | MAJOR | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer** — 28 February 2023 **Certification Date** — **Date Opened**

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Rec. 12/8/23 TH
SM1A-025-11-01

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

**Magnesium (Mg)** – 10,000 µg/mL

Matrix: 4% $HNO_3$

Product #: S4400-10M311

Lot #: 1412370

*Expiration Date: 30 September 2026

| Element | Certified Concentration & Uncertainty |
|---|---|
| Mg | 10,087 ± 23 µg/mL (w/v) |
| | 9599 ± 22 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure magnesium nitrate [$Mg(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3131a, lot #140110**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | <10 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | <20 | Cs | <5 | Hf | <2 | Mg | MAJOR | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | <5 | Hg | <5 | Mn | 18 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | <10 |
| Ba | 12 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | 14 | W | <5 |
| Bi | <2 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | <100 | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | <5 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

16 October 2023
**Certification Date**

**Date Opened**

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SMA-025-08-08
Rec. 5/31/23 DT
Exp. 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000321

**Manganese (Mn)** – 1000 µg/mL

Lot #: 1137585-82

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Mn | 1010 ± 5 µg/mL (w/v) |
| | 1005 ± 5 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.98% pure manganese (Mn). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3132, lot #050429**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | 13 | Cs | <0.5 | Hf | <0.2 | Mg | 30 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | 12 | Hg | <0.5 | Mn | MAJOR | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | 0.6 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SMA-025-07-10
Rec. 5/31/23 NT
Exp. 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000343

**Molybdenum (Mo)** – 1000 µg/mL

Lot #: 1339101-6

Matrix: 2% $HNO_3$/0.1% HF

| Element | Certified Concentration & Uncertainty |
|---|---|
| Mo | 1005 ± 4 µg/mL (w/v) |
| | 986.0 ± 4.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure molybdenum (Mo). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3134, lot #130418**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | 1 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | 0.7 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | 102 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | 2 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | MAJOR | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | 6 | Rb | <0.5 | Sn | 1 | W | 74 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | 8 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | 33 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | 3 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SMA-025-08-09
Rec. 5/31/23 NT
Exp. 11/25/24

# REPORT OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000361

**Nickel (Ni)** – 1000 µg/mL

Lot #: 1338414-10

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Ni | 998.0 ± 4.0 µg/mL (w/v) |
| | 989.0 ± 4.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.996% pure nickel (Ni). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3136 lot #120619.** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | 5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | 45 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | MAJOR | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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Rec. 12/8/23 TH
SM4-025-11-02

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

**Potassium (K)** – 10,000 µg/mL

Matrix: 1% $HNO_3$

Product #: S4400-10M411

Lot #: 1402510

*Expiration Date: 2 January 2026

| Element | Certified Concentration & Uncertainty |
|---|---|
| K | 9974 ± 48 µg/mL (w/v) |
| | 9747 ± 47 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure potassium nitrate ($KNO_3$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3141a, lot #140813**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | <10 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | <20 | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | <5 | Hg | <5 | Mn | <10 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | <250 | Pt | <5 | Sm | <2 | V | <10 |
| Ba | 16 | Er | <2 | Ir | <2 | Nb | <5 | Rb | 53 | Sn | <5 | W | <5 |
| Bi | <2 | Eu | <2 | K | MAJOR | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | <100 | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | <5 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution until the date shown above or ***12 Months** from the date opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

9 January 2023
**Certification Date**

**Date Opened**

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SMIA-025-07-09
Rec. 5/31/23 HT

# CERTIFICATE OF ANALYSIS Exp 11/25/24

Single-Element Aqueous CRM

Product #: S4400-1000491

**Selenium (Se)** – 1000 µg/mL

Lot #: 1242587-28

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Se | 993.0 ± 5.0 µg/mL (w/v) |
| | 985.0 ± 5.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure selenium (Se). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3149, lot #100901**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | MAJOR | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | 0.92 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SM4-025-09-04
Rec. 5/31/23 HT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000511

**Silver (Ag)** – 1000 µg/mL

Lot #: 1211976-63

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Ag | 1006 ± 2 µg/mL (w/v) |
| | 999.0 ± 2.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure silver (Ag) dissolved in high purity nitric acid ($HNO_3$) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3151, lot #160729**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | MAJOR | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | 0.6 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | 0.6 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SWA-025-08-03
Rec. 5/31/23 HT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M521

**Sodium (Na)** – 10,000 µg/mL

Lot #: 1339275-8

Matrix: 3% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Na | 10,050 ± 22 µg/mL (w/v) |
| | 9758 ± 21 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure sodium carbonate ($Na_2CO_3$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3152a, lot #200413**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <5 | Co | <10 | Ge | <5 | Lu | <2 | P | <1000 | Sb | <5 | Te | <10 |
| Al | <20 | Cs | <5 | Hf | <2 | Mg | <50 | Pb | <10 | Sc | <50 | Ti | <20 |
| As | <20 | Cr | <5 | Hg | <5 | Mn | <10 | Pd | <5 | Se | <20 | Tl | <5 |
| Au | <5 | Cu | <10 | Ho | <2 | Mo | <5 | Pr | <2 | Si | <1000 | Tm | <2 |
| B | <50 | Dy | <2 | In | nd | Na | MAJOR | Pt | <5 | Sm | <2 | V | <10 |
| Ba | <10 | Er | <2 | Ir | <2 | Nb | <5 | Rb | <5 | Sn | <5 | W | <5 |
| Bi | <2 | Eu | <2 | K | <250 | Nd | <2 | Re | <2 | Sr | <10 | Y | <5 |
| Ca | <250 | Fe | <100 | La | <5 | Ni | <20 | Rh | <5 | Ta | <5 | Yb | <2 |
| Cd | <5 | Ga | <5 | Li | <20 | Os | <5 | Ru | <5 | Tb | <5 | Zn | <20 |
| Ce | <2 | Gd | <2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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Rec. 5/31/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000531

**Strontium (Sr)** – 1000 µg/mL

Lot #: 1303809-5

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Sr | 996.0 ± 5.0 µg/mL (w/v) |
| | 993.0 ± 5.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9965% pure strontium nitrate [$Sr(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3153a, lot #990906**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | 0.7 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | 81 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | MAJOR | Y | 2 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | 2 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | 0.6 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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Rec. 5/31/23 HT
Exp. 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000581

**Thallium (Tl)** – 1000 µg/mL

Lot #: 1239312-24

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Tl | 994.0 ± 6.0 µg/mL (w/v) |
| | 935.0 ± 5.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure thallium (Tl) dissolved in high purity nitric acid ($HNO_3$) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3158, lot #151215**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | 2 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | 24 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | 9 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | 51 | Mn | <1 | Pd | 19 | Se | 5 | Tl | MAJOR |
| Au | <0.5 | Cu | 8 | Ho | <0.2 | Mo | 15 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | 1 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | 0.6 |
| Bi | 0.4 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | 0.4 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | 4 | Ni | <2 | Rh | 5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | 3 | Ru | 9 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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# CERTIFICATE OF ANALYSIS

## Single-Element Aqueous CRM

Product #: S4400-1000613

## Tin (Sn) – 1000 µg/mL

Lot #: 1222809-18

Matrix: 2% $HNO_3$/0.5% HF

| Element | Certified Concentration & Uncertainty |
|---|---|
| Sn | 1000 ± 3 µg/mL (w/v) |
| | 982.0 ± 3.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure tin (Sn). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3161a, lot #140917**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | 35 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | 4 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | 2 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | 2 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | 1 | Sn | MAJOR | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | 190 | Rh | <0.5 | Ta | 1 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000623

**Titanium (Ti)** – 1000 µg/mL

Lot #: 1195496-37

Matrix: 2% $HNO_3$/0.5% HF

| Element | Certified Concentration & Uncertainty |
|---|---|
| Ti | 999.0 ± 2.0 µg/mL (w/v) |
| | 978.0 ± 2.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99+% pure titanium (Ti). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3162a, lot #130925**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | 0.697 | Co | 1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | 10 | Cs | <0.5 | Hf | 23 | Mg | 1171 | Pb | <1 | Sc | <5 | Ti | MAJOR |
| As | 30 | Cr | 2 | Hg | <0.5 | Mn | <1 | Pd | 1 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | 11 | Ho | <0.2 | Mo | 55.97 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | 83 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | 2 | Nb | 0.7 | Rb | 0.7 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | 196.8 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | 24 | La | <0.5 | Ni | 8 | Rh | <0.5 | Ta | 1 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | 5 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SM1A-025-08-05
Rec 5/31/23
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000641

**Uranium (U)** – 1000 µg/mL

Lot #: 1249254-17

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| U | 995.0 ± 5.0 µg/mL (w/v) |
| | 990.0 ± 5.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure uranyl nitrate hexahydrate $\{UO_2(NO_3)_2{\cdot}6H_2O\}$. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3164, lot #080521**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | 4 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | 3 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | <2 |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SMA-025-07-05
Rec. 5/31/25 PT
Exp. 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000651

**Vanadium (V)** – 1000 µg/mL

Lot #: 1361538-2

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| V | 996.0 ± 5.0 µg/mL (w/v) |
| | 982.0 ± 4.0 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.995% pure vanadium pentoxide ($V_2O_5$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3165, lot #160906**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | 0.7 | Te | <1 |
| Al | 13 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | 18 |
| As | <2 | Cr | 185 | Hg | <0.5 | Mn | 10 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | 1 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | MAJOR |
| Ba | 1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | 1 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | 168.6 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | 0.9 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | 13 |
| Ce | 0.3 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SM1A-025-08-04
Rec. 5/31/23 NT
Exp 11/25/24

# CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000681

**Zinc (Zn)** – 1000 µg/mL

Lot #: 1216101-67

Matrix: 2% $HNO_3$

| Element | Certified Concentration & Uncertainty |
|---|---|
| Zn | 1010 ± 6 µg/mL (w/v) |
| | 1002 ± 6 µg/g (w/w) |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a, lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Indicative Values:** ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

**Trace Concentrations (µg/L)**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag | <0.5 | Co | <1 | Ge | <0.5 | Lu | <0.2 | P | <100 | Sb | <0.5 | Te | <1 |
| Al | <2 | Cs | <0.5 | Hf | <0.2 | Mg | <5 | Pb | <1 | Sc | <5 | Ti | <2 |
| As | <2 | Cr | <0.5 | Hg | <0.5 | Mn | <1 | Pd | <0.5 | Se | <2 | Tl | <0.5 |
| Au | <0.5 | Cu | <1 | Ho | <0.2 | Mo | <0.5 | Pr | <0.2 | Si | <100 | Tm | <0.2 |
| B | <5 | Dy | <0.2 | In | nd | Na | <25 | Pt | <0.5 | Sm | <0.2 | V | <1 |
| Ba | <1 | Er | <0.2 | Ir | <0.2 | Nb | <0.5 | Rb | <0.5 | Sn | <0.5 | W | <0.5 |
| Bi | <0.2 | Eu | <0.2 | K | <25 | Nd | <0.2 | Re | <0.2 | Sr | <1 | Y | <0.5 |
| Ca | <25 | Fe | <10 | La | <0.5 | Ni | <2 | Rh | <0.5 | Ta | <0.5 | Yb | <0.2 |
| Cd | <0.5 | Ga | <0.5 | Li | <2 | Os | <0.5 | Ru | <0.5 | Tb | <0.5 | Zn | MAJOR |
| Ce | <0.2 | Gd | <0.2 | | | | | | | | | | |

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

May 25, 2023
**Certification Date**

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SM1A-025-10-05
Rec 9/5/23 NT
Exp. 2/28/25

# Certificate of Analysis

## Custom Standard

**Catalog Number:** 4400-110117RH09-100 (MRL AFCEE)
**Lot Number:** 2324017
**Manufacture Date:** August 28, 2023

**Expiration:** February 28, 2025
**Matrix:** 5% HNO3 / Tr HF

| Analyte | Certified Concentration (µg/mL) | Analyte | Certified Concentration (µg/mL) |
|---|---|---|---|
| Ag | 10.0 ± 0.1 | Mg | 200 ± 2 |
| Al | 200 ± 2 | Mn | 5.00 ± 0.05 |
| As | 10.0 ± 0.1 | Mo | 10.0 ± 0.1 |
| B | 100 ± 1 | Na | 500 ± 5 |
| Ba | 5.00 ± 0.05 | Ni | 10.0 ± 0.1 |
| Be | 4.00 ± 0.04 | Pb | 3.00 ± 0.03 |
| Ca | 500 ± 5 | Sb | 50.0 ± 0.5 |
| Cd | 5.00 ± 0.05 | Se | 10.0 ± 0.1 |
| Co | 10.0 ± 0.1 | Sr | 10.0 ± 0.1 |
| Cr | 10.0 ± 0.1 | Ti | 10.0 ± 0.1 |
| Cu | 10.0 ± 0.1 | Tl | 10.0 ± 0.1 |
| Fe | 100 ± 1 | V | 10.0 ± 0.1 |
| K | 1000 ± 10 | Zn | 10.0 ± 0.1 |
| Li | 100 ± 1 | | |

### Packaging, Storage, Instructions For Use

**Store at room temperature (15-30°C)**

This certified reference material (CRM) is packaged in HDPE as a whole volume ready to use sample. No secondary preparative steps are necessary. Allow to equilibrate to room temperature before use. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by Perry Johnson), ISO/IEC 17025 (accredited by ANAB), and ISO 17034 (accredited by ANAB) quality system.

### Traceability Information

**Analyte Source Materials:** The highest purity analyte source materials are used in the manufacture of this CRM. The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties.

**Method:** This CRM was verified by ICP.

**Balance:** The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in 'NIST Weights and Measures Measurement Assurance Program' with a certificate of measurement traceability to NIST primary standards. The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

**Thermometer:** The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

**Glassware:** All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. The calibrations of volumetric vessels are verified using the ASTM method E542.

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SM1A-025-06-04
Rec. 9/15/22 TH
Exp. 3/31/24

# Certificate of Analysis

## Mix 12 A

**Catalog Number:** 4400-110117RH12 (Soln A)
**Lot Number:** 220824
**Manufacture Date:** 09/02/22

Rec 9/15/22 TH

**Expiration:** 03/31/2024
**Matrix:** 2% HNO3
**Hazards:** Irritant, Corrosive

| Analyte | Certified Concentration (ppm) |
|---|---|
| Arsenic (As) | 100 ± 0.575 |
| Barium (Ba) | 200 ± 1.15 |
| Beryllium (Be) | 150 ± 0.863 |
| Boron (B) | 250 ± 1.44 |
| Cadmium (Cd) | 200 ± 1.15 |
| Chromium (Cr) | 250 ± 1.44 |
| Cobalt (Co) | 100 ± 0.575 |
| Copper (Cu) | 250 ± 1.44 |
| Lead (Pb) | 250 ± 1.44 |
| Lithium (Li) | 50.0 ± 0.288 |
| Magnesium (Mg) | 6000 ± 34.5 |
| Manganese (Mn) | 250 ± 1.44 |
| Nickel (Ni) | 250 ± 1.44 |
| Potassium (K) | 6000 ± 34.5 |
| Selenium (Se) | 100 ± 0.575 |
| Silver (Ag) | 50.0 ± 0.288 |
| Sodium (Na) | 6000 ± 34.5 |
| Strontium (Sr) | 50.0 ± 0.288 |
| Thallium (Tl) | 250 ± 1.44 |
| Vanadium (V) | 150 ± 0.863 |
| Zinc (Zn) | 250 ± 1.44 |

**Catalog Number:** 4400-110117RH12 (Soln B)
**Lot Number:** 220723
**Manufacture Date:** 08/04/22

Mix 12 B

**Expiration:** 02/29/2024
**Matrix:** 5% HNO3/tr. HF
**Hazards:** Irritant, Corrosive

SM1A-025-05-08
Rec. 8/15/22 NT
Exp. 2/29/24

| Analyte | Certified Concentration (ppm) |
|---|---|
| Antimony (Sb) | 150 ± 0.863 |
| Tin (Sn) | 50.0 ± 0.288 |
| Titanium (Ti) | 50.0 ± 0.288 |

CPI INTERNATIONAL

Mixed 12A
SM1A-025-09-08
Rec. 7/11/23 NT
Exp. 1/31/25

# Certificate of Analysis

## Custom Standard

**Catalog Number:** 4400-110117RH12-A-100
**Lot Number:** 2318102
**Manufacture Date:** July 3, 2023

**Expiration:** January 31, 2025
**Matrix:** 2% HNO3

| Analyte | Certified Concentration (µg/mL) | Analyte | Certified Concentration (µg/mL) |
|---|---|---|---|
| Ag | 50.0 ± 0.5 | Mg | 6000 ± 40 |
| As | 100 ± 1 | Mn | 250 ± 4 |
| B | 250 ± 3 | Na | 6000 ± 40 |
| Ba | 200 ± 2 | Ni | 250 ± 3 |
| Be | 150 ± 2 | Pb | 250 ± 3 |
| Cd | 200 ± 2 | Se | 100 ± 1 |
| Co | 100 ± 1 | Sr | 50.0 ± 0.5 |
| Cr | 250 ± 3 | Tl | 250 ± 3 |
| Cu | 250 ± 3 | V | 150 ± 2 |
| K | 6000 ± 60 | Zn | 250 ± 3 |
| Li | 50.0 ± 0.5 | | |

### Packaging, Storage, Instructions For Use

**Store at room temperature (15-30°C)**

This certified reference material (CRM) is packaged in HDPE as a whole volume ready to use sample. No secondary preparative steps are necessary. Allow to equilibrate to room temperature before use. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by Perry Johnson), ISO/IEC 17025 (accredited by ANAB), and ISO 17034 (accredited by ANAB) quality system.

### Traceability Information

**Analyte Source Materials:** The highest purity analyte source materials are used in the manufacture of this CRM. The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties.

**Method:** This CRM was verified by ICP.

**Balance:** The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in 'NIST Weights and Measures Measurement Assurance Program' with a certificate of measurement traceability to NIST primary standards. The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

**Thermometer:** The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

**Glassware:** All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. The calibrations of volumetric vessels are verified using the ASTM method E542.

CPI INTERNATIONAL

Mixed 12 B
SMA-025-09-09
Rec. 7/11/23 NT
Exp. 1/31/25

# Certificate of Analysis

## Custom Standard

**Catalog Number:** 4400-110117RH12-B-100
**Lot Number:** 2318123
**Manufacture Date:** June 30, 2023

**Expiration:** January 31, 2025
**Matrix:** 5% HNO3 / 0.5% HF

| Analyte | Certified Concentration (µg/mL) |
|---|---|
| Sb | 150 ± 2 |
| Sn | 50.0 ± 0.5 |
| Ti | 50.0 ± 0.5 |

### Packaging, Storage, Instructions For Use

**Store at room temperature (15-30°C)**

This certified reference material (CRM) is packaged in HDPE as a whole volume ready to use sample. No secondary preparative steps are necessary. Allow to equilibrate to room temperature before use. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by Perry Johnson), ISO/IEC 17025 (accredited by ANAB), and ISO 17034 (accredited by ANAB) quality system.

### Traceability Information

**Analyte Source Materials:** The highest purity analyte source materials are used in the manufacture of this CRM. The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties.

**Method:** This CRM was verified by ICP.

**Balance:** The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in 'NIST Weights and Measures Measurement Assurance Program' with a certificate of measurement traceability to NIST primary standards. The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

**Thermometer:** The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

**Glassware:** All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. The calibrations of volumetric vessels are verified using the ASTM method E542.

CPI INTERNATIONAL

# Certificate of Analysis

## Mix 11 Solutions A & B

**Catalog Number:** 4400-110117RH11 (Soln A)
**Lot Number:** 220718
**Manufacture Date:** 08/02/22

**Expiration:** 02/29/2024
**Matrix:** 2% HNO3
**Hazards:** Irritant, Corrosive

SM1A-025-05-05
Rec. 8/15/22 NT
Exp. 2/29/24

| Analyte | Certified Concentration (ppm) |
|---|---|
| Arsenic (As) | 100 ± 0.575 |
| Barium (Ba) | 50.0 ± 0.288 |
| Beryllium (Be) | 50.0 ± 0.288 |
| Boron (B) | 50.0 ± 0.288 |
| Cadmium (Cd) | 100 ± 0.575 |
| Chromium (Cr) | 50.0 ± 0.288 |
| Cobalt (Co) | 50.0 ± 0.288 |
| Copper (Cu) | 50.0 ± 0.288 |
| Lead (Pb) | 100 ± 0.575 |
| Lithium (Li) | 100 ± 0.575 |
| Manganese (Mn) | 50.0 ± 0.288 |
| Nickel (Ni) | 100 ± 0.575 |
| Potassium (K) | 7500 ± 43.1 |
| Selenium (Se) | 100 ± 0.575 |
| Silver (Ag) | 100 ± 0.575 |
| Sodium (Na) | 7500 ± 43.1 |
| Strontium (Sr) | 50.0 ± 0.288 |
| Thallium (Tl) | 100 ± 0.575 |
| Vanadium (V) | 50.0 ± 0.288 |
| Zinc (Zn) | 100 ± 0.575 |

**Catalog Number:** 4400-110117RH11 (Soln B)
**Lot Number:** 220719
**Manufacture Date:** 08/01/22

**Expiration:** 02/29/2024
**Matrix:** 5% HNO3/1% HF
**Hazards:** Irritant, Corrosive

SM1A-025-05-06
Rec. 8/15/22 HT
Exp. 2/29/24

| Analyte | Certified Concentration (ppm) |
|---|---|
| Antimony (Sb) | 100 ± 0.575 |
| Molybdenum (Mo) | 100 ± 0.575 |
| Tin (Sn) | 100 ± 0.575 |
| Titanium (Ti) | 100 ± 0.575 |

CPI INTERNATIONAL

# Certificate of Analysis

SM1A-025-11-08
Rec: 2/13/24 JC
Exp: 7/31/25

## Custom Standard (Mix IIA)

**Catalog Number:** 4400-110117RH11-A-100
**Lot Number:** 2401901
**Manufacture Date:** January 19, 2024
**Expiration:** July 31, 2025
**Matrix:** 2% HNO3

| Analyte | Certified Concentration (µg/mL) | Analyte | Certified Concentration (µg/mL) |
|---|---|---|---|
| Ag | 100 ± 1 | Li | 100 ± 1 |
| As | 100 ± 1 | Mn | 50.0 ± 0.8 |
| B | 50.0 ± 0.5 | Na | 7500 ± 50 |
| Ba | 50.0 ± 0.5 | Ni | 100 ± 1 |
| Be | 50.0 ± 0.5 | Pb | 100 ± 1 |
| Cd | 100 ± 1 | Se | 100 ± 1 |
| Co | 50.0 ± 0.5 | Sr | 50.0 ± 0.5 |
| Cr | 50.0 ± 0.5 | Tl | 100 ± 1 |
| Cu | 50.0 ± 0.5 | V | 50.0 ± 0.5 |
| K | 7500 ± 80 | Zn | 100 ± 1 |

### Packaging, Storage, Instructions For Use

**Store at room temperature (15-30°C)**

This certified reference material (CRM) is packaged in HDPE as a whole volume ready to use sample. No secondary preparative steps are necessary. Allow to equilibrate to room temperature before use. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by Perry Johnson), ISO/IEC 17025 (accredited by ANAB), and ISO 17034 (accredited by ANAB) quality system.

### Traceability Information

**Analyte Source Materials:** The highest purity analyte source materials are used in the manufacture of this CRM. The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties.

**Method:** This CRM was verified by ICP.

**Balance:** The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in 'NIST Weights and Measures Measurement Assurance Program' with a certificate of measurement traceability to NIST primary standards. The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

**Thermometer:** The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

**Glassware:** All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. The calibrations of volumetric vessels are verified using the ASTM method E542.

CPI INTERNATIONAL

# Certificate of Analysis

SM1A-025-11-09
Rec: 2/13/24 JC
Exp: 7/31/25

## Custom Standard (Mix 11B)

**Catalog Number:** 4400-110117RH11-B-100
**Lot Number:** 2402029
**Manufacture Date:** January 22, 2024
**Expiration:** July 31, 2025
**Matrix:** 5% HNO3 / 1% HF

| Analyte | Certified Concentration (µg/mL) |
|---|---|
| Mo | 100 ± 1 |
| Sb | 100 ± 1 |
| Sn | 100 ± 1 |
| Ti | 100 ± 1 |

### Packaging, Storage, Instructions For Use

**Store at room temperature (15-30°C)**

This certified reference material (CRM) is packaged in HDPE as a whole volume ready to use sample. No secondary preparative steps are necessary. Allow to equilibrate to room temperature before use. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by Perry Johnson), ISO/IEC 17025 (accredited by ANAB), and ISO 17034 (accredited by ANAB) quality system.

### Traceability Information

**Analyte Source Materials:** The highest purity analyte source materials are used in the manufacture of this CRM. The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties.

**Method:** This CRM was verified by ICP.

**Balance:** The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in 'NIST Weights and Measures Measurement Assurance Program' with a certificate of measurement traceability to NIST primary standards. The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

**Thermometer:** The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

**Glassware:** All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. The calibrations of volumetric vessels are verified using the ASTM method E542.

# CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: 4400-131927

SMIA-MS-07-02

**Custom EMAX Mix 4**

exp 10/4/2024

Lot #: 1358563

Matrix: 3% $HNO_3$

LCS 1

| Element | Certified Concentration & Uncertainty | Element | Certified Concentration & Uncertainty | Element | Certified Concentration & Uncertainty |
|---|---|---|---|---|---|
| Ag | 100.0 ± 0.5 µg/mL | Co | 100.0 ± 0.5 µg/mL | Pb | 100.0 ± 0.5 µg/mL |
| Al | 1000 ± 5 µg/mL | Cr | 100.0 ± 0.5 µg/mL | Se | 100.0 ± 0.5 µg/mL |
| As | 100.0 ± 0.5 µg/mL | Cu | 99.99 ± 0.50 µg/mL | Tl | 100.0 ± 0.5 µg/mL |
| Ba | 100.0 ± 0.5 µg/mL | Fe | 1000 ± 5 µg/mL | V | 100.0 ± 0.5 µg/mL |
| Be | 100.0 ± 0.5 µg/mL | Mn | 100.0 ± 0.5 µg/mL | Zn | 100.0 ± 0.5 µg/mL |
| Cd | 100.0 ± 0.5 µg/mL | Ni | 100.0 ± 0.5 µg/mL | | |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited **ISO 17034, ISO/IEC 17025 and** to **ISO 9001**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

April 4, 2023
**Certification Date**

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

# CERTIFICATE OF ANALYSIS LCS2

Multi-Element Aqueous CRM

Product #: 4400-110110RH01

**Custom Standard Mix 5 Solution A** SMIA-025-0703

Lot #: 1358562

Matrix: 5% $HNO_3$/0.6% HF

| Element | Certified Concentration & Uncertainty | Element | Certified Concentration & Uncertainty | Element | Certified Concentration & Uncertainty |
|---|---|---|---|---|---|
| B | 99.96 ± 0.50 µg/mL | Sb | 500.0 ± 2.5 µg/mL | Sr | 99.98 ± 0.50 µg/mL |
| Mo | 100.0 ± 0.5 µg/mL | Sn | 99.99 ± 0.50 µg/mL | Ti | 100.0 ± 0.5 µg/mL |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited **ISO 17034, ISO/IEC 17025 and** to **ISO 9001**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

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Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

April 4, 2023
**Certification Date**

Exp 10/4/24

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The Netherlands

# CERTIFICATE OF ANALYSIS LCS3

Multi-Element Aqueous CRM

Product #: 4400-110110RH02

**Custom Standard Mix 5 Solution B** SM14-025-0704

Lot #: 1283861-5

Matrix: 5% $HNO_3$

| Element | Certified Concentration & Uncertainty | Element | Certified Concentration & Uncertainty |
|---|---|---|---|
| Ca | 5000 ± 25 µg/mL | Mg | 5000 ± 25 µg/mL |
| K | 5000 ± 25 µg/mL | Na | 5000 ± 25 µg/mL |

**Intended Use:** This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited **ISO 17034, ISO/IEC 17025 and** to **ISO 9001**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

**Instructions for Use:** We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

**Period of Validity:** CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

**Chuck Goudreau, Certifying Officer**

April 4, 2023
**Certification Date**

Exp 10/4/2024

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MT 6/9/23

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# MERCURY
# (WATER)

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F034

METHOD SW7470A
MERCURY BY COLD VAPOR

One(1) water sample was received on 06/07/24 to be analyzed for Mercury by Cold Vapor in accordance with Method SW7470A and project specific requirements.

Holding Time
The sample was digested and analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Mercury was not detected in HGF009WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. HGF009WL/HGF009WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Mercury was within MS QC limits in F034-01M/F034-01S. Refer to Matrix QC summary form for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
MERCURY BY COLD VAPOR

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F034
Instrument ID : 47

WATER

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| MBLK1W | HGF009WB | 1 | NA | 06/20/2413:46 | 06/20/2410:11 | M47F007012 | M47F007 | 24HGF009W | Method Blank |
| LCS1W | HGF009WL | 1 | NA | 06/20/2413:48 | 06/20/2410:11 | M47F007013 | M47F007 | 24HGF009W | Lab Control Sample (LCS) |
| LCD1W | HGF009WC | 1 | NA | 06/20/2413:50 | 06/20/2410:11 | M47F007014 | M47F007 | 24HGF009W | LCS Duplicate |
| IDW-WATER_JUN24MS | F034-01M | 1 | NA | 06/20/2414:16 | 06/20/2410:11 | M47F007028 | M47F007 | 24HGF009W | Matrix Spike Sample (MS) |
| IDW-WATER_JUN24MSD | F034-01S | 1 | NA | 06/20/2414:18 | 06/20/2410:11 | M47F007029 | M47F007 | 24HGF009W | MS Duplicate (MSD) |
| IDW-WATER_JUN24 | F034-01 | 1 | NA | 06/20/2414:21 | 06/20/2410:11 | M47F007031 | M47F007 | 24HGF009W | Field Sample |

FN - Filename
% Moist - Percent Moisture

METHOD SW7470A
MERCURY BY COLD VAPOR

Client : PARSONS
Project : TITAN 1-A
Batch No. : 24F034

Matrix : WATER
InstrumentID : 47

| CLIENT SAMPLE ID | EMAX SAMPLE ID | RESULTS (ug/L) | DILT'N FACTOR | MOIST (%) | LOQ (ug/L) | DL (ug/L) | LOD (ug/L) | ANALYSIS DATETIME | PREPARATION DATETIME | DATA FILE ID | CAL REF | PREP BATCH | COLLECTION DATETIME | RECEIVED DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBLK1W | HGF009WB | ND | 1 | NA | 0.500 | 0.100 | 0.200 | 06/20/2413:46 | 06/20/2410:11 | M47F007012 | M47F007 | 24HGF009W | NA | NA |
| LCS1W | HGF009WL | 2.52 | 1 | NA | 0.500 | 0.100 | 0.200 | 06/20/2413:48 | 06/20/2410:11 | M47F007013 | M47F007 | 24HGF009W | NA | NA |
| LCD1W | HGF009WC | 2.47 | 1 | NA | 0.500 | 0.100 | 0.200 | 06/20/2413:50 | 06/20/2410:11 | M47F007014 | M47F007 | 24HGF009W | NA | NA |
| IDW-WATER_JUN24MS | F034-01M | 2.54 | 1 | NA | 0.500 | 0.100 | 0.200 | 06/20/2414:16 | 06/20/2410:11 | M47F007028 | M47F007 | 24HGF009W | 06/06/2411:40 | 06/07/24 |
| IDW-WATER_JUN24MSD | F034-01S | 2.57 | 1 | NA | 0.500 | 0.100 | 0.200 | 06/20/2414:18 | 06/20/2410:11 | M47F007029 | M47F007 | 24HGF009W | 06/06/2411:40 | 06/07/24 |
| IDW-WATER_JUN24 | F034-01 | ND | 1 | NA | 0.500 | 0.100 | 0.200 | 06/20/2414:21 | 06/20/2410:11 | M47F007031 | M47F007 | 24HGF009W | 06/06/2411:40 | 06/07/24 |

Note: Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : METHOD SW7470A

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : MBLK1W | LCS1W | LCD1W |
| LAB SAMPLE ID | : HGFC09WB | HGF009WL | HGF009WC |
| LAB FILE ID | : M47F007012 | M47F007013 | M47F007014 |
| DATE PREPARED | : 06/20/2410:11 | 06/20/2410:11 | 06/20/2410:11 |
| DATE ANALYZED | : 06/20/2413:46 | 06/20/2413:48 | 06/20/2413:50 |
| PREP BATCH | : 24HGF009W | 24HGF009W | 24HGF009W |
| CALIBRATION REF: | M47F007 | M47F007 | M47F007 |

ACCESSION:

| PARAMETERS | MBResult (ug/L) | SpikeAmt (ug/L) | LCSResult (ug/L) | LCSRec (%) | SpikeAmt (ug/L) | LCDResult (ug/L) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 2.50 | 2.52 | 101 | 2.50 | 2.47 | 99 | 2 | 82-119 | 20 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : METHOD SW7470A

| | | | |
|---|---|---|---|
| MATRIX | : WATER | | % MOISTURE:NA |
| DILUTION FACTOR: | 1 | 1 | 1 |
| SAMPLE ID | : IDW-WATER_JUN24 | IDW-WATER_JUN24MS | IDW-WATER_JUN24MSD |
| LAB SAMPLE ID | : F034-01 | F034-01M | F034-01S |
| LAB FILE ID | : M47F007031 | M47F007028 | M47F007029 |
| DATE PREPARED | : 06/20/2410:11 | 06/20/2410:11 | 06/20/2410:11 |
| DATE ANALYZED | : 06/20/2414:21 | 06/20/2414:16 | 06/20/2414:18 |
| PREP BATCH | : 24HGF009W | 24HGF009W | 24HGF009W |
| CALIBRATION REF: | M47F007 | M47F007 | M47F007 |

ACCESSION:

| PARAMETERS | PSResult (ug/L) | SpikeAmt (ug/L) | MSResult (ug/L) | MSRec (%) | SpikeAmt (ug/L) | MSDResult (ug/L) | MSDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | . ND | 2.50 | 2.54 | 102 | 2.50 | 2.57 | 103 | 1 | 82-119 | 20 |

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX LABORATORIES, INC.

# ANALYSIS RUN LOG
*for*
MERCURY



Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 6/20/24 Start Time: 13:25

End Date: 6/20/24 End Time: 14:38

Comments:

QC OK

Book #: A47-140

Instrument No.: 47

Analytical Sequence/Batch: M47F007

Method File: HG1

Micropipette ID: ☐ 339342032

Micropipette ID: ☑ HG-03

Micropipette ID: ☑ C42780212

Micropipette ID: ☑ HG-06

Micropipette ID: ☐

| SOP # | Rev. # |
|---|---|
| ☑ EMAX-7470 | 9 |
| ☐ EMAX-7471 | 10 |
| ☐ EMAX-245.1 | 5 |
| ☐ EMAX | |

| STANDARDS ID | |
|---|---|
| S1 | BLANK |
| S2 | SM3B-24-38-02 |
| S3 | ↓ |
| S4 | ↓ |
| S5 | ↓ |
| S6 | ↓ |
| CCV | ↓ |
| ICV | SM3B-24-38-03 |
| LCS | ↓ |
| Analytical Spike | SM3B-24-38-04 |
| | TV 3 mg/L |

Analyzed By: AMR

Date: 6/20/24

Disposed By: AMR

Date: 6/21/24

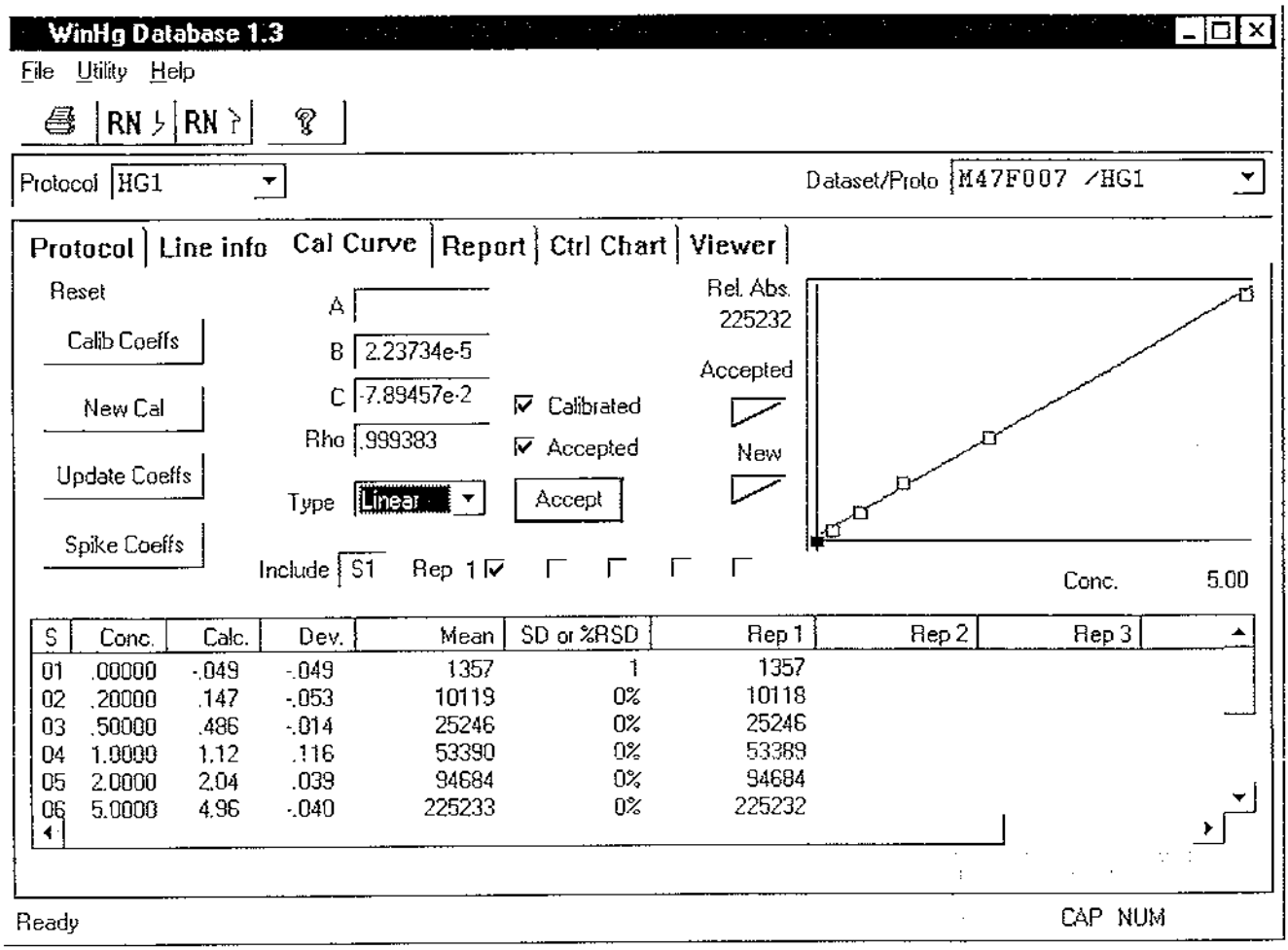
"M47F007"

| EMAXlfid | EMAXlsid | conc | Raw_resp | rsd/rf | adatetime | DF |
|---|---|---|---|---|---|---|
| M47F007001 | STD01REP1 | 0 | 1357 | | 06/20/2413:25 | 1 |
| M47F007002 | STD02REP1 | .2 | 10118 | | 06/20/2413:27 | 1 |
| M47F007003 | STD03REP1 | .5 | 25246 | | 06/20/2413:29 | 1 |
| M47F007004 | STD04REP1 | 1 | 53389 | | 06/20/2413:31 | 1 |
| M47F007005 | STD05REP1 | 2 | 94684 | | 06/20/2413:33 | 1 |
| M47F007006 | STD06REP1 | 5 | 225232 | | 06/20/2413:36 | 1 |
| M47F007007 | ICV | 1.99 | 92428 | 0 | 06/20/2413:38 | 1 |
| M47F007008 | ICB | -.016 | 2807 | 0 | 06/20/2413:39 | 1 |
| M47F007009 | MRLF2001 | .498 | 25805 | 0 | 06/20/2413:41 | 1 |
| M47F007010 | CCV1 | 1.98 | 91873 | 0 | 06/20/2413:43 | 1 |
| M47F007011 | CCB1 | -.035 | 1979 | 0 | 06/20/2413:45 | 1 |
| M47F007012 | HGF009WB | .066 | 6459 | 0 | 06/20/2413:46 | 1 |
| M47F007013 | HGF009WL | 2.52 | 116318 | 0 | 06/20/2413:48 | 1 |
| M47F007014 | HGF009WC | 2.47 | 113765 | 0 | 06/20/2413:50 | 1 |
| M47F007015 | TXF006WB | .052 | 5847 | 0 | 06/20/2413:52 | 1 |
| M47F007016 | F473-01 | -.04 | 1719 | 0 | 06/20/2413:54 | 1 |
| M47F007017 | F474-01 | -.064 | 662 | 0 | 06/20/2413:56 | 1 |
| M47F007018 | F475-01 | -.057 | 983 | 0 | 06/20/2413:57 | 1 |
| M47F007019 | F477-01 | .001 | 3577 | 0 | 06/20/2413:59 | 1 |
| M47F007020 | TXF004WB | -.046 | 1463 | 0 | 06/20/2414:01 | 1 |
| M47F007021 | F058-01M | 2.65 | 122019 | 0 | 06/20/2414:03 | 1 |
| M47F007022 | CCV2 | 1.84 | 85817 | 0 | 06/20/2414:04 | 1 |
| M47F007023 | CCB2 | .038 | 5247 | 0 | 06/20/2414:06 | 1 |
| M47F007024 | F058-01S | 2.57 | 118202 | 0 | 06/20/2414:08 | 1 |
| M47F007025 | F058-01A | 2.91 | 133451 | 0 | 06/20/2414:10 | 1 |
| M47F007026 | F058-01 | -.025 | 2410 | 0 | 06/20/2414:12 | 1 |
| M47F007027 | F058-01J | .014 | 4162 | 0 | 06/20/2414:14 | 5 |
| M47F007028 | F034-01M | 2.54 | 117079 | 0 | 06/20/2414:16 | 1 |
| M47F007029 | F034-01S | 2.57 | 118383 | 0 | 06/20/2414:18 | 1 |
| M47F007030 | F034-01A | 2.99 | 137054 | 0 | 06/20/2414:20 | 1 |
| M47F007031 | F034-01 | -.198 | -5308 | 0 | 06/20/2414:21 | 1 |
| M47F007032 | F034-01J | .017 | 4284 | 0 | 06/20/2414:23 | 5 |
| M47F007033 | F057-01 | -.063 | 701 | 0 | 06/20/2414:25 | 1 |
| M47F007034 | CCV3 | 1.87 | 87046 | 0 | 06/20/2414:27 | 1 |
| M47F007035 | CCB3 | -.033 | 2050 | 0 | 06/20/2414:29 | 1 |
| M47F007036 | F057-02 | -.088 | -392 | 0 | 06/20/2414:30 | 1 |
| M47F007037 | F057-03 | -.029 | 2237 | 0 | 06/20/2414:32 | 1 |
| M47F007038 | F072-01 | .023 | 4546 | 0 | 06/20/2414:34 | 1 |
| M47F007039 | CCV4 | 1.93 | 89866 | 0 | 06/20/2414:36 | 1 |
| M47F007040 | CCB4 | -.013 | 2955 | 0 | 06/20/2414:38 | 1 |

M47F007

| cup | sample ID | extended ID | weight | volume | ? A D F P S U SC UI US C1..7 |
|---|---|---|---|---|---|
| 1 | ICV | | 1.0000 | 1.0000 | |
| 2 | ICB | | 1.0000 | 1.0000 | |
| 3 | MRLF2001 | 0.5 | 1.0000 | 1.0000 | |
| 4 | CCV1 | | 1.0000 | 1.0000 | |
| 5 | CCB1 | | 1.0000 | 1.0000 | |
| 6 | HGF009WB | | 1.0000 | 1.0000 | |
| 7 | HGF009WL | | 1.0000 | 1.0000 | |
| 8 | HGF009WC | | 1.0000 | 1.0000 | |
| 9 | TXF006WB | TCLP | 1.0000 | 1.0000 | |
| 10 | F473-01 | TCLP | 1.0000 | 1.0000 | |
| 11 | F474-01 | TCLP | 1.0000 | 1.0000 | |
| 12 | F475-01 | TCLP | 1.0000 | 1.0000 | |
| 13 | F477-01 | TCLP | 1.0000 | 1.0000 | |
| 14 | TXF004WB | TCLP | 1.0000 | 1.0000 | |
| 15 | F058-01M | TCLP | 1.0000 | 1.0000 | |
| 16 | CCV2 | | 1.0000 | 1.0000 | |
| 17 | CCB2 | | 1.0000 | 1.0000 | |
| 18 | F058-01S | TCLP | 1.0000 | 1.0000 | |
| 19 | F058-01A | TCLP | 1.0000 | 1.0000 | |
| 20 | F058-01 | TCLP | 1.0000 | 1.0000 | |
| 21 | F058-01J | 5X TCLP | 1.0000 | 1.0000 | |
| 22 | F034-01M | | 1.0000 | 1.0000 | |
| 23 | F034-01S | | 1.0000 | 1.0000 | |
| 24 | F034-01A | | 1.0000 | 1.0000 | |
| 25 | F034-01 | | 1.0000 | 1.0000 | |
| 26 | F034-01J | 5X | 1.0000 | 1.0000 | |
| 27 | F057-01 | DISSOLVED | 1.0000 | 1.0000 | |
| 28 | CCV3 | | 1.0000 | 1.0000 | |
| 29 | CCB3 | | 1.0000 | 1.0000 | |
| 30 | F057-02 | DISSOLVED | 1.0000 | 1.0000 | |
| 31 | F057-03 | DISSOLVED | 1.0000 | 1.0000 | |
| 32 | F072-01 | | 1.0000 | 1.0000 | |
| 33 | CCV4 | | 1.0000 | 1.0000 | |
| 34 | CCB4 | | 1.0000 | 1.0000 | |
| 35 | | | 1.0000 | 1.0000 | |
| 36 | | | 1.0000 | 1.0000 | |
| 37 | | | 1.0000 | 1.0000 | |
| 38 | | | 1.0000 | 1.0000 | |
| 39 | | | 1.0000 | 1.0000 | |
| 40 | | | 1.0000 | 1.0000 | |
| 41 | | | 1.0000 | 1.0000 | |
| 42 | | | 1.0000 | 1.0000 | |
| 43 | | | 1.0000 | 1.0000 | |
| 44 | | | 1.0000 | 1.0000 | |

AMR 6/20/24


WinHg Database 1.3
File Utility Help
RN
RN
Protocol HG1
Dataset/Proto M47F007 /HG1
Protocol
Line info
Cal Curve
Report
Ctrl Chart
Viewer
Reset
Calib Coeffs
New Cal
Update Coeffs
Spike Coeffs
A
B 2.23734e-5
C -7.89457e-2
Rho .999383
Type Linear
Calibrated
Accepted
Accept
Include S1 Rep 1
Rel. Abs.
225232
Accepted
New
Conc. 5.00
S Conc. Calc. Dev. Mean SD or %RSD Rep 1 Rep 2 Rep 3
01 .00000 -.049 -.049 1357 1 1357
02 .20000 .147 -.053 10119 0% 10118
03 .50000 .486 -.014 25246 0% 25246
04 1.0000 1.12 .116 53390 0% 53389
05 2.0000 2.04 .039 94684 0% 94684
06 5.0000 4.96 -.040 225233 0% 225232
Ready
CAP NUM

| Line | Conc. | Units | SD/RSD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|---|
| *** Standard: 1 Rep: 1 | | | | Seq: 1 | 13:25:45 20 Jun 24 | HG | | |
| Hg | .000 | ppb | 1357 | | | | | |
| *** Standard: 2 Rep: 1 | | | | Seq: 2 | 13:27:30 20 Jun 24 | HG | | |
| Hg | .200 | ppb | 10118 | | | | | |
| *** Standard: 3 Rep: 1 | | | | Seq: 3 | 13:29:28 20 Jun 24 | HG | | |
| Hg | .500 | ppb | 25246 | | | | | |
| *** Standard: 4 Rep: 1 | | | | Seq: 4 | 13:31:18 20 Jun 24 | HG | | |
| Hg | 1.00 | ppb | 53389 | | | | | |
| *** Standard: 5 Rep: 1 | | | | Seq: 5 | 13:33:17 20 Jun 24 | HG | | |
| Hg | 2.00 | ppb | 94684 | | | | | |
| *** Standard: 6 Rep: 1 | | | | Seq: 6 | 13:36:32 20 Jun 24 | HG | | |
| Hg | 5.00 | ppb | 225232 | | | | | |
| *** Sample ID: ICV | | | | Seq: 7 | 13:38:17 20 Jun 24 | HG | | |
| Hg | 1.99 | ppb | 92428 | | | | | |
| *** Sample ID: ICB | | | | Seq: 8 | 13:39:58 20 Jun 24 | HG | | |
| Hg | -.016 | ppb | 2807 | | | | | |
| *** Sample ID: MRLF2001 | | | | Seq: 9 | 13:41:38 20 Jun 24 | HG | | |
| | | | 0.5 | | | | | |
| Hg | .498 | ppb | 25805 | | | | | |
| *** Sample ID: CCV1 | | | | Seq: 10 | 13:43:21 20 Jun 24 | HG | | |
| Hg | 1.98 | ppb | 91873 | | | | | |
| *** Sample ID: CCB1 | | | | Seq: 11 | 13:45:05 20 Jun 24 | HG | | |
| Hg | -.035 | ppb | 1979 | | | | | |
| *** Sample ID: HGF009WB | | | | Seq: 12 | 13:46:57 20 Jun 24 | HG | | |
| Hg | .066 | ppb | 6459 | | | | | |
| *** Sample ID: HGF009WL | | | | Seq: 13 | 13:48:47 20 Jun 24 | HG | | |
| Hg | 2.52 | ppb | 116318 | | | | | |
| *** Sample ID: HGF009WC | | | | Seq: 14 | 13:50:36 20 Jun 24 | HG | | |
| Hg | 2.47 | ppb | 113765 | | | | | |
| *** Sample ID: TXF006WB | | | | Seq: 15 | 13:52:21 20 Jun 24 | HG | | |
| | | | TCLP | | | | | |
| Hg | .052 | ppb | 5847 | | | | | |

| Line | Conc. | Units | SD/RSD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|---|
| *** Sample ID: F473-01 | | | | Seq: 16 | 13:54:17 20 Jun 24 | HG | | |
| | | | TCLP | | | | | |
| Hg | -.040 | ppb | 1719 | | | | | |
| *** Sample ID: F474-01 | | | | Seq: 17 | 13:56:08 20 Jun 24 | HG | | |
| | | | TCLP | | | | | |
| Hg | -.064 | ppb | 662 | | | | | |
| *** Sample ID: F475-01 | | | | Seq: 18 | 13:57:57 20 Jun 24 | HG | | |
| | | | TCLP | | | | | |
| Hg | -.057 | ppb | 983 | | | | | |
| *** Sample ID: F477-01 | | | | Seq: 19 | 13:59:40 20 Jun 24 | HG | | |
| | | | TCLP | | | | | |
| Hg | .001 | ppb | 3577 | | | | | |
| *** Sample ID: TXF004WB | | | | Seq: 20 | 14:01:20 20 Jun 24 | HG | | |
| | | | TCLP | | | | | |
| Hg | -.046 | ppb | 1463 | | | | | |
| *** Sample ID: F058-01M | | | | Seq: 21 | 14:03:13 20 Jun 24 | HG | | |
| | | | TCLP | | | | | |
| Hg | 2.65 | ppb | 122019 | | | | | |
| *** Sample ID: CCV2 | | | | Seq: 22 | 14:04:55 20 Jun 24 | HG | | |
| Hg | 1.84 | ppb | 85817 | | | | | |
| *** Sample ID: CCB2 | | | | Seq: 23 | 14:06:44 20 Jun 24 | HG | | |
| Hg | .038 | ppb | 5247 | | | | | |
| *** Sample ID: F058-01S | | | | Seq: 24 | 14:08:28 20 Jun 24 | HG | | |
| | | | TCLP | | | | | |
| Hg | 2.57 | ppb | 118202 | | | | | |
| *** Sample ID: F058-01A | | | | Seq: 25 | 14:10:31 20 Jun 24 | HG | | |
| | | | TCLP | | | | | |
| Hg | 2.91 | ppb | 133451 | | | | | |
| *** Sample ID: F058-01 | | | | Seq: 26 | 14:12:35 20 Jun 24 | HG | | |
| | | | TCLP | | | | | |
| Hg | -.025 | ppb | 2410 | | | | | |
| *** Sample ID: F058-01J | | | | Seq: 27 | 14:14:20 20 Jun 24 | HG | | |
| | | | 5X TCLP | | | | | |
| Hg | .014 | ppb | 4162 | | | | | |
| *** Sample ID: F034-01M | | | | Seq: 28 | 14:16:15 20 Jun 24 | HG | | |
| Hg | 2.54 | ppb | 117079 | | | | | |
| *** Sample ID: F034-01S | | | | Seq: 29 | 14:18:14 20 Jun 24 | HG | | |
| Hg | 2.57 | ppb | 118383 | | | | | |
| *** Sample ID: F034-01A | | | | Seq: 30 | 14:20:05 20 Jun 24 | HG | | |
| Hg | 2.99 | ppb | 137054 | | | | | |

| Line | Conc. | Units | SD/RSD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|---|
| *** Sample ID: F034-01 | | | | Seq: 31 | 14:21:58 20 Jun 24 | HG | | |
| Hg | -.198 | ppb | -5308 | | | | | |
| *** Sample ID: F034-01J | | | | Seq: 32 | 14:23:43 20 Jun 24 | HG | | |
| | | | 5X | | | | | |
| Hg | .017 | ppb | 4284 | | | | | |
| *** Sample ID: F057-01 | | | | Seq: 33 | 14:25:52 20 Jun 24 | HG | | |
| | | | DISSOLVED | | | | | |
| Hg | -.063 | ppb | 701 | | | | | |
| *** Sample ID: CCV3 | | | | Seq: 34 | 14:27:34 20 Jun 24 | HG | | |
| Hg | 1.87 | ppb | 87046 | | | | | |
| *** Sample ID: CCB3 | | | | Seq: 35 | 14:29:14 20 Jun 24 | HG | | |
| Hg | -.033 | ppb | 2050 | | | | | |
| *** Sample ID: F057-02 | | | | Seq: 36 | 14:30:56 20 Jun 24 | HG | | |
| | | | DISSOLVED | | | | | |
| Hg | -.088 | ppb | -392 | | | | | |
| *** Sample ID: F057-03 | | | | Seq: 37 | 14:32:55 20 Jun 24 | HG | | |
| | | | DISSOLVED | | | | | |
| Hg | -.029 | ppb | 2237 | | | | | |
| *** Sample ID: F072-01 | | | | Seq: 38 | 14:34:56 20 Jun 24 | HG | | |
| Hg | .023 | ppb | 4546 | | | | | |
| *** Sample ID: CCV4 | | | | Seq: 39 | 14:36:41 20 Jun 24 | HG | | |
| Hg | 1.93 | ppb | 89866 | | | | | |
| *** Sample ID: CCB4 | | | | Seq: 40 | 14:38:44 20 Jun 24 | HG | | |
| Hg | -.013 | ppb | 2955 | | | | | |

**Note:** For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

**Comments:** AMR 6/24/24

Digestion Vessel Lot #: ~~32-2~~ VC-24-022

Aqua Regia Prep. Vessel Lot#: N/A

Sample pH<2

Book #: E47-135

Batch No.: HGF0094

Matrix: water

| SOP # | Rev. # |
|---|---|
| ☑ EMAX-7470 | 9 |
| ☐ EMAX-7471 | 10 |
| ☐ EMAX-245.1 | 5 |
| ☐ EMAX- | |

| Standards | ID | Conc. (µg/L) | Amount Added (ml) |
|---|---|---|---|
| ICAL | SMB-24-38-02 | 50 | 0.3, 0.5, 1.25 |
| CCV | ↓ | \| | 2 |
| ICV | SMB-24-38-03 | \| | 2 |
| LCS/MS | ↓ | ↓ | 2.5 |
| **Reagent** | **ID / Lot #** | | |
| $HNO_3$ | SWA-02-09-01 | | |
| HCl | N/A | | |
| $H_2SO_4$ | SWA-02-05-05 | | |
| $KMnO_4$ | SMSB-06-30-03 | | |
| $K_2S_2O_8$ | SMSB-06-29-03 | | |
| $NH_2OH \cdot HCl \cdot NaCl$ | SMSB-06-29-04 | | |
| $SnCl_2$ | SMSB-06-30-04 | | |
| Silica Sand | N/A | | |
| Reagent Water | RW-24-002 | | |
| pH strip 0-14 | HC210380 | | |
| Digestor ID/ Temp (°C) | A/96.0 | | |
| Thermometer ID/LOC: | 230389388 / AIR | | |
| Thermometer ID/LOC: | N/A | | |
| Pipette ID: | HG06, HG-03, C42780212 | | |
| ☑ $H_2SO_4$ dispenser checked @ 2.5 ml with Class A graduated cylinder | | | |
| ☐ HCl dispenser checked @ ml with Class A graduated cylinder | | | |
| ☐ $HNO_3$ dispenser checked @ ml with Class A graduated cylinder | | | |

Prepared By: AMR

Standard Added By: AMR Witnessed By: JC

EMAX

LABORATORIES

# DIGESTION LOG FOR MERCURY

| PrepBatchID | LabSampleID | Aliquot | Unit | DateTime | Vd(ml) | ExpAmt | ExpVd(ml) | PrepFctr | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 24HGF009W01 | HGF009WB | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W02 | HGF009WL | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W03 | HGF009WC | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W04 | TXF006WB | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W05 | F473-01 | 1 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 50 | TCLP |
| 24HGF009W06 | F474-01 | 1 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 50 | TCLP |
| 24HGF009W07 | F475-01 | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W08 | F477-01 | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W09 | TXF004WB | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W10 | F058-01 | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W11 | F058-01M | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W12 | F058-01S | 5 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 10 | TCLP |
| 24HGF009W13 | F034-01 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W14 | F034-01M | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W15 | F034-01S | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W16 | F057-01 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | DISSOLVED |
| 24HGF009W17 | F057-02 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | DISSOLVED |
| 24HGF009W18 | F057-03 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | DISSOLVED |
| 24HGF009W19 | F072-01 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | QC |
| 24HGF009W20 | S-0/ICB/CCB | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W21 | S-0.2 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W22 | S-0.5/MRL | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W23 | S-1 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W24 | S-2/CCV | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W25 | S-5 | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W26 | ICV | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |
| 24HGF009W27 | PS WATER | 50 | ml | 6/20/24 7:50 | 80 | 50 | 80 | 1 | |

AMR
6/20/24

Vd=digestate volume PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 6/20/24 10:11

☑ Digestion Ended @ 6/20/24 12:11

Prepared By: ARiver

Checked By: AMR

Comments: F473-01, F474-01 opaque white color

Date 6/20/24

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR MERCURY

Method: Mercury — Book #: SM3B -24

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B -24-38-01 PS Soil | Aliquot | 1 mL | Prepared on | 6/18/24 | Micropipette ID: | |
| Name | Hg ERA | Solvent ID | Rwt-24002 | Expires on | 6/19/24 | ☐ 742781062 | |
| Source | SM3B-24-37-01 | Final Volume | 100 mL | Prepared by | AMR | ☒ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-38-02 | Aliquot | 0.5 mL | Prepared on | 6/20/24 | Micropipette ID: | |
| Name | Hg ERA | Solvent ID | Rwt-24-002 | Expires on | 6/21/24 | ☐ 742781062 | |
| Source | SM3B-24-37-01 | Final Volume | 100 mL | Prepared by | AMR | ☒ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 50 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-38-03 | Aliquot | 0.5 mL | Prepared on | 6/20/24 | Micropipette ID: | |
| Name | Hg Acc | Solvent ID | Rwt-24-002 | Expires on | 6/21/24 | ☐ 742781062 | |
| Source | SM3B-24-3702 | Final Volume | 100 mL | Prepared by | AMR | ☒ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 50 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-38-04 PS water | Aliquot | 0.5 mL | Prepared on | 6/20/24 | Micropipette ID: | |
| Name | Hg ERA | Solvent ID | Rwt-24-002 | Expires on | 6/21/24 | ☐ 742781062 | |
| Source | SM3B-24-3701 | Final Volume | 50 mL | Prepared by | AMR | ☒ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-38-05 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-06 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-07 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-08 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-09 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-10 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |

LABORATORIES, INC

# STANDARDS LOG FOR MERCURY

Method: Mercury — Book #: SM3B-24

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B-24-37-01 INTERMEDIATE | Aliquot | 1 mL | Prepared on | 6/10/24 | Micropipette ID: |
| Name | Hg ERA | Solvent ID | RWI-24-002 | Expires on | 7/10/24 | ☐ 742781062 |
| Source | SM3A-10-01-01 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 |
| Concentration | 1,000 mg/L | Final Concentration | 10,000 µg/L | Reviewed by | AMR | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B-24-37-02 INTERMEDIATE | Aliquot | 1 mL | Prepared on | 6/10/24 | Micropipette ID: |
| Name | Hg ACCU | Solvent ID | RWI-24-002 | Expires on | 7/10/24 | ☐ 742781062 |
| Source | SM3A-10-01-02 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 |
| Concentration | 1,000 mg/L | Final Concentration | 10,000 µg/L | Reviewed by | AMR | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B-24-37-03 | Aliquot | 1 mL | Prepared on | 6/10/24 | Micropipette ID: |
| Name | Hg ERA | Solvent ID | RWI-24-002 | Expires on | 6/11/24 | ☐ 742781062 |
| Source | SM3B-24-37-01 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B-24-37-04 | Aliquot | 1 mL | Prepared on | 6/10/24 | Micropipette ID: |
| Name | Hg ACCU | Solvent ID | RWI-24-002 | Expires on | 6/11/24 | ☐ 742781062 |
| Source | SM3B-24-37-02 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B-24-37-05 PS501 | Aliquot | 1 mL | Prepared on | 6/10/24 | Micropipette ID: |
| Name | Hg ERA | Solvent ID | RWI-24-002 | Expires on | 6/11/24 | ☐ 742781062 |
| Source | SM3B-24-37-01 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B-24-37-06 | Aliquot | 0.5 mL | Prepared on | 6/12/24 | Micropipette ID: |
| Name | Hg ERA | Solvent ID | RWI-24-002 | Expires on | 6/13/24 | ☐ 742781062 |
| Source | SM3B-24-37-01 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 |
| Concentration | 10 mg/L | Final Concentration | 50 µg/L | Reviewed by | AMR | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B-24-37-07 | Aliquot | 0.5 mL | Prepared on | 6/12/24 | Micropipette ID: |
| Name | Hg ACCU | Solvent ID | RWI-24-002 | Expires on | 6/13/24 | ☐ 742781062 |
| Source | SM3B-24-37-02 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 |
| Concentration | 10 mg/L | Final Concentration | 50 µg/L | Reviewed by | AMR | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B-24-37-08 PS water | Aliquot | 0.5 mL | Prepared on | 6/12/24 | Micropipette ID: |
| Name | Hg ERA | Solvent ID | RWI-24-002 | Expires on | 6/13/24 | ☐ 742781062 |
| Source | SM3B-24-37-01 | Final Volume | 50 mL | Prepared by | AMR | ☑ HG-03 |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B-24-37-09 | Aliquot | 1 mL | Prepared on | 6/18/24 | Micropipette ID: |
| Name | Hg ERA | Solvent ID | RWI-24-002 | Expires on | 6/19/24 | ☐ 742781062 |
| Source | SM3B-24-37-01 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B-24-37-10 | Aliquot | 1 mL | Prepared on | 6/18/24 | Micropipette ID: |
| Name | Hg ACCU | Solvent ID | RWI-24-002 | Expires on | 6/19/24 | ☐ 742781062 |
| Source | SM3B-24-37-02 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | |

ERA
A Waters Company

Certified Reference Material

# ▪ Certificate of Analysi

SM3A-10-01-0
Recv 6/8/22 H
Exp. 7/8/24

| | |
|---|---|
| **Product:** | 1000 mg/L Mercury |
| **Catalog Number:** | 027 |
| **Lot No.** | 120721m |
| **Starting Material:** | Mercury Metal (Hg) |
| **Matrix:** | 18 megohm deionized water and 1% (v/v) $HNO_3$ |
| **Density:** | 1.0083 ± 0.0002 g/mL 20.4 °C and 747 mm Hg |
| **Verification Method:** | CVAA |
| **Certificate Issue Date:** | July 30, 2021 |
| **Expiration Date:** | July 8, 2024 |
| **Revision Number:** | Original |

CERTIFICATION

| Parameter | Certified Value[1] | Uncertainty[2] | NIST Traceability | |
|---|---|---|---|---|
| | mg/L | % | SRM Number[3] | Recovery |
| Mercury | 1000 | 2.57 | 3133 | 101 |


16341 Table Mountain Pkwy - Golden, CO 80403 - 800.372.0122 - 303.431.8454 - fax 303.421.0159 - www.eraqc.co

125 Market Street
New Haven, CT 06513
USA

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www.AccuStandard.com

# CERTIFICATE OF ANALYSIS

SM3A-10-01-02
Rec 11/27/23

## AccuTrace™ Reference Standard

Catalog No: AA34N-R-1
Description: Mercury AA Standard
Element: Mercury (Hg)
SRM: 3133
Lot: 223035030
Matrix: 10% Nitric acid
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Mar 10, 2023
Expiration: Mar 10, 2028
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED AR-1463 ISO/IEC 17025 ISO 17034 ILAC-MRA

| Component | | SRM # | Prepared Concentration (µg/mL) |
|---|---|---|---|
| Hg | Mercury | 3133 | 1000 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT 1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

This product contains mercury and MUST be disposed of in accordance with all federal, state and local regulations.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

All glassware used in preparation is Class A.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meghan O'Leary, Inorganic QC Manager



*For use in routine laboratory analysis*

# MERCURY
# (SOIL)

CASE NARRATIVE

Client : PARSONS

Project: TITAN 1-A

SDG : 24F034

METHOD SW7471B
MERCURY BY COLD VAPOR

One(1) soil sample was received on 06/07/24 to be analyzed for Mercury by Cold Vapor in accordance with Method SW7471B and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Mercury was not detected in HGF007SB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. HGF007SL/HGF007SC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Mercury was within MS QC limits in F034-02M/F034-02S. Refer to Matrix QC summary form for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
MERCURY BY COLD VAPOR

Client : PARSONS
Project : TITAN 1-A

SDG NO. : 24F034
Instrument ID : 47

SOIL

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis DateTime | Extraction DateTime | Sample Data FN | Calibration Data FN | Prep. Batch | Notes |
|---|---|---|---|---|---|---|---|---|---|
| MBLK1S | HGF007SB | 1 | NA | 06/18/2413:19 | 06/18/2411:16 | M47F006012 | M47F006 | 24HGF007S | Method Blank |
| LCS1S | HGF007SL | 1 | NA | 06/18/2413:21 | 06/18/2411:16 | M47F006013 | M47F006 | 24HGF007S | Lab Control Sample (LCS) |
| LCD1S | HGF007SC | 1 | NA | 06/18/2413:22 | 06/18/2411:16 | M47F006014 | M47F006 | 24HGF007S | LCS Duplicate |
| IDW-SOIL_JUN24MS | F034-02M | 1 | 10.5 | 06/18/2413:31 | 06/18/2411:16 | M47F006019 | M47F006 | 24HGF007S | Matrix Spike Sample (MS) |
| IDW-SOIL_JUN24MSD | F034-02S | 1 | 10.5 | 06/18/2413:33 | 06/18/2411:16 | M47F006020 | M47F006 | 24HGF007S | MS Duplicate (MSD) |
| IDW-SOIL_JUN24 | F034-02 | 1 | 10.5 | 06/18/2413:42 | 06/18/2411:16 | M47F006024 | M47F006 | 24HGF007S | Field Sample |

FN - Filename
% Moist - Percent Moisture

METHOD SW7471B
MERCURY BY COLD VAPOR

Client : PARSONS
Project : TITAN 1-A
Batch No. : 24F034

Matrix : SOIL
InstrumentID : 47

| CLIENT SAMPLE ID | EMAX SAMPLE ID | RESULTS (mg/Kg) | DILUTN FACTOR | MOIST (%) | LOQ (mg/Kg) | DL (mg/Kg) | LOD (mg/Kg) | ANALYSIS DATETIME | PREPARATION DATETIME | DATA FILE ID | CAL REF | PREP BATCH | COLLECTION DATETIME | RECEIVED DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBLK1S | HGF007SB | ND | 1 | NA | 0.100 | 0.0330 | 0.0670 | 06/18/2413:19 | 06/18/2411:16 | M47F006012 | M47F006 | 24EGF007S | NA | NA |
| LCS1S | HGF007SL | 0.430 | 1 | NA | 0.100 | 0.0330 | 0.0670 | 06/18/2413:21 | 06/18/2411:16 | M47F006013 | M47F006 | 24EGF007S | NA | NA |
| LCD1S | HGF007SC | 0.438 | 1 | NA | 0.100 | 0.0330 | 0.0670 | 06/18/2413:22 | 06/18/2411:16 | M47F006014 | M47F006 | 24EGF007S | NA | NA |
| IDW-SOIL_JUN24MS | F034-02M | 0.478 | 1 | 10.5 | 0.109 | 0.0361 | 0.0733 | 06/18/2413:31 | 06/18/2411:16 | M47F006019 | M47F006 | 24EGF007S | 06/06/2411:20 | 06/07/24 |
| IDW-SOIL_JUN24MSD | F034-02S | 0.500 | 1 | 10.5 | 0.110 | 0.0363 | 0.0737 | 06/18/2413:33 | 06/18/2411:16 | M47F006020 | M47F006 | 24EGF007S | 06/06/2411:20 | 06/07/24 |
| IDW-SOIL_JUN24 | F034-02 | ND | 1 | 10.5 | 0.110 | 0.0363 | 0.0737 | 06/18/2413:42 | 06/18/2411:16 | M47F006024 | M47F006 | 24EGF007S | 06/06/2411:20 | 06/07/24 |

Note: Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : METHOD SW7471B

| | | | |
|---|---|---|---|
| MATRIX | : SOIL | | % MOISTURE:NA |
| DILUTION FACTOR | : 1 | 1 | 1 |
| SAMPLE ID | : MBLK1S | LCS1S | LCD1S |
| LAB SAMPLE ID | : HGF007SB | HGF007SL | HGF007SC |
| LAB FILE ID | : M47F006012 | M47F006013 | M47F006014 |
| DATE PREPARED | : 06/18/2411:16 | 06/18/2411:16 | 06/18/2411:16 |
| DATE ANALYZED | : 06/18/2413:19 | 06/18/2413:21 | 06/18/2413:22 |
| PREP BATCH | : 24HGF007S | 24HGF007S | 24HGF007S |
| CALIBRATION REF | : M47F006 | M47F006 | M47F006 |

ACCESSION:

| PARAMETERS | MBResult (mg/Kg) | SpikeAmt (mg/Kg) | LCSResult (mg/Kg) | LCSRec (%) | SpikeAmt (mg/Kg) | LCDResult (mg/Kg) | LCDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.417 | 0.430 | 103 | 0.417 | 0.438 | 105 | 2 | 80-124 | 20 |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : PARSONS
PROJECT : TITAN 1-A
BATCH NO. : 24F034
METHOD : METHOD SW7471B

MATRIX : SOIL % MOISTURE:10.5
DILUTION FACTOR: 1 1 1
SAMPLE ID : IDW-SOIL_JUN24 IDW-SOIL_JUN24MS IDW-SOIL_JUN24MSD
LAB SAMPLE ID : F034-02 F034-02M F034-02S
LAB FILE ID : M47F006024 M47F006019 M47F006020
DATE PREPARED : 06/18/2411:16 06/18/2411:16 06/18/2411:16
DATE ANALYZED : 06/18/2413:42 06/18/2413:31 06/18/2413:33
PREP BATCH : 24HGF007S 24HGF007S 24HGF007S
CALIBRATION REF: M47F006 M47F006 M47F006

ACCESSION:

| PARAMETERS | PSResult (mg/Kg) | SpikeAmt (mg/Kg) | MSResult (mg/Kg) | MSRec (%) | SpikeAmt (mg/Kg) | MSDResult (mg/Kg) | MSDRec (%) | RPD (%) | QCLimit (%) | MaxRPD (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.456 | 0.478 | 105 | 0.458 | 0.500 | 109 | 4 | 80-124 | 20 |

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX LABORATORIES, INC.

# ANALYSIS RUN LOG
*for*
MERCURY

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 6/18/24 Start Time: 12:59

End Date: 6/18/24 End Time: 14:10

Comments:

QC ok

Book #: A47-140

Instrument No.: 47

Analytical Sequence/Batch: M471006

Method File: Hg-1

Micropipette ID: ☐ 339342032

Micropipette ID: ☑ HG-03

Micropipette ID: ☑ C42780212

Micropipette ID: ☐ HG-06

Micropipette ID: ☐

| SOP # | Rev. # |
|---|---|
| ☐ EMAX-7470 | 9 |
| ☑ EMAX-7471 | 10 |
| ☐ EMAX-245.1 | 5 |
| ☐ EMAX- | |

| STANDARDS ID | |
|---|---|
| S1 | BLANK |
| S2 | SM3B-24-37-09 |
| S3 | |
| S4 | |
| S5 | |
| S6 | |
| CCV | |
| ICV | SM3B-24-37-10 |
| ICS | |
| Analytical Spike | SM3B-24-37-01 TV 3 ug/L |

Analyzed By: AMR

Date: 6/18/24

Disposed By: AMR

Date: 6/18/24

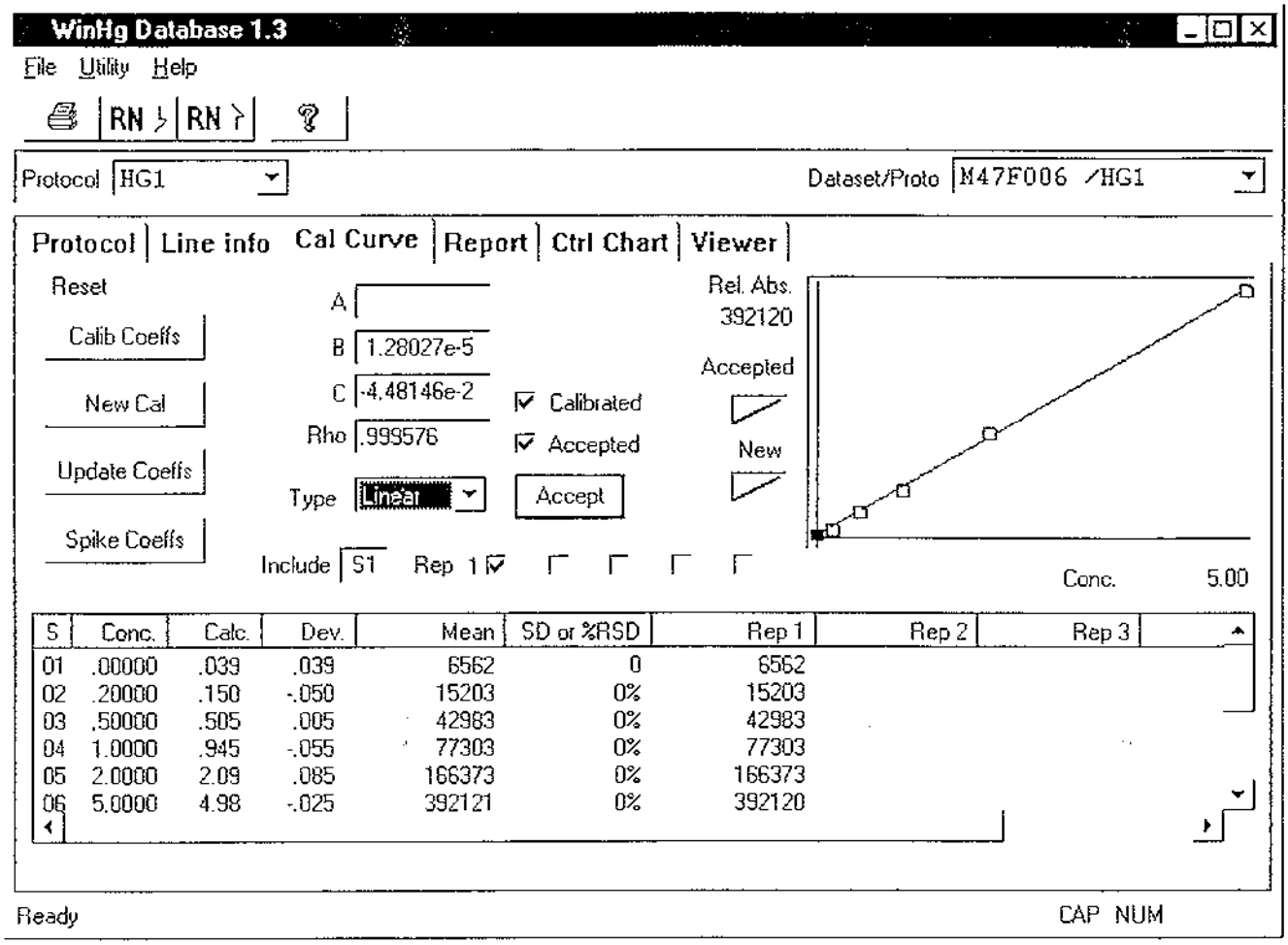
"M47F006"

| EMAXlfid | EMAXlsid | conc | Raw_resp | rsd/rf | adatetime | DF |
|---|---|---|---|---|---|---|
| M47F006001 | STD01REP1 | 0 | 6562 | | 06/18/2412:59 | 1 |
| M47F006002 | STD02REP1 | .2 | 15203 | | 06/18/2413:00 | 1 |
| M47F006003 | STD03REP1 | .5 | 42983 | | 06/18/2413:02 | 1 |
| M47F006004 | STD04REP1 | 1 | 77303 | | 06/18/2413:04 | 1 |
| M47F006005 | STD05REP1 | 2 | 166373 | | 06/18/2413:05 | 1 |
| M47F006006 | STD06REP1 | 5 | 392120 | | 06/18/2413:07 | 1 |
| M47F006007 | ICV | 2.02 | 161438 | 0 | 06/18/2413:09 | 1 |
| M47F006008 | ICB | .009 | 4211 | 0 | 06/18/2413:11 | 1 |
| M47F006009 | MRLF1801 | .513 | 43540 | 0 | 06/18/2413:12 | 1 |
| M47F006010 | CCV1 | 2.01 | 160438 | 0 | 06/18/2413:15 | 1 |
| M47F006011 | CCB1 | .003 | 3725 | 0 | 06/18/2413:17 | 1 |
| M47F006012 | HGF007SB | -.076 | -2399 | 0 | 06/18/2413:19 | 1 |
| M47F006013 | HGF007SL | 2.58 | 205037 | 0 | 06/18/2413:21 | 1 |
| M47F006014 | HGF007SC | 2.63 | 208717 | 0 | 06/18/2413:22 | 1 |
| M47F006015 | F427-01 | -.008 | 2844 | 0 | 06/18/2413:24 | 1 |
| M47F006016 | F476-01 | .017 | 4846 | 0 | 06/18/2413:26 | 1 |
| M47F006017 | E558-04 | .15 | 15194 | 0 | 06/18/2413:28 | 1 |
| M47F006018 | E558-09 | .078 | 9630 | 0 | 06/18/2413:29 | 1 |
| M47F006019 | F034-02M | 2.62 | 208019 | 0 | 06/18/2413:31 | 1 |
| M47F006020 | F034-02S | 2.73 | 216594 | 0 | 06/18/2413:33 | 1 |
| M47F006021 | F034-02A | 2.92 | 231664 | 0 | 06/18/2413:35 | 1 |
| M47F006022 | CCV2 | 1.94 | 155417 | 0 | 06/18/2413:37 | 1 |
| M47F006023 | CCB2 | -.091 | -3607 | 0 | 06/18/2413:39 | 1 |
| M47F006024 | F034 02 | .097 | 11085 | 0 | 06/18/2413:42 | 1 |
| M47F006025 | F034-02J | -.009 | 2805 | 0 | 06/18/2413:44 | 5 |
| M47F006026 | HGF008SB | -.04 | 413 | 0 | 06/18/2413:46 | 1 |
| M47F006027 | HGF008SL | 2.5 | 198443 | 0 | 06/18/2413:47 | 1 |
| M47F006028 | HGF008SC | 2.52 | 199945 | 0 | 06/18/2413:49 | 1 |
| M47F006029 | E558-01 | .025 | 5477 | 0 | 06/18/2413:51 | 1 |
| M47F006030 | E558-02 | .067 | 8720 | 0 | 06/18/2413:53 | 1 |
| M47F006031 | E558-03 | -.007 | 2986 | 0 | 06/18/2413:55 | 1 |
| M47F006032 | E558-05 | -.089 | -3432 | 0 | 06/18/2413:56 | 1 |
| M47F006033 | E558-06 | -.049 | -323 | 0 | 06/18/2413:58 | 1 |
| M47F006034 | CCV3 | 2 | 159448 | 0 | 06/18/2414:00 | 1 |
| M47F006035 | CCB3 | -.013 | 2478 | 0 | 06/18/2414:02 | 1 |
| M47F006036 | E558-07 | .236 | 21924 | 0 | 06/18/2414:04 | 1 |
| M47F006037 | E558-08 | .142 | 14615 | 0 | 06/18/2414:05 | 1 |
| M47F006038 | E558-10 | -.004 | 3192 | 0 | 06/18/2414:07 | 1 |
| M47F006039 | CCV4 | 1.92 | 153674 | 0 | 06/18/2414:09 | 1 |
| M47F006040 | CCB4 | -.047 | -205 | 0 | 06/18/2414:10 | 1 |

M47F006

| cup | sample ID | extended ID | weight | volume | ? A D F P S U SC UI US C1..7 |
|---|---|---|---|---|---|
| 1 | ICV | | 1.0000 | 1.0000 | |
| 2 | ICB | | 1.0000 | 1.0000 | |
| 3 | MRLF1801 | 0.5 | 1.0000 | 1.0000 | |
| 4 | CCV1 | | 1.0000 | 1.0000 | |
| 5 | CCB1 | | 1.0000 | 1.0000 | |
| 6 | HGF007SB | | 1.0000 | 1.0000 | |
| 7 | HGF007SL | | 1.0000 | 1.0000 | |
| 8 | HGF007SC | | 1.0000 | 1.0000 | |
| 9 | F427-01 | | 1.0000 | 1.0000 | |
| 10 | F476-01 | | 1.0000 | 1.0000 | |
| 11 | E558-04 | | 1.0000 | 1.0000 | |
| 12 | E558-09 | | 1.0000 | 1.0000 | |
| 13 | F034-02M | | 1.0000 | 1.0000 | |
| 14 | F034-02S | | 1.0000 | 1.0000 | |
| 15 | F034-02A | | 1.0000 | 1.0000 | |
| 16 | CCV2 | | 1.0000 | 1.0000 | |
| 17 | CCB2 | | 1.0000 | 1.0000 | |
| 18 | F034-02 | | 1.0000 | 1.0000 | |
| 19 | F034-02J | 5X | 1.0000 | 1.0000 | |
| 20 | HGF008SB | | 1.0000 | 1.0000 | |
| 21 | HGF008SL | | 1.0000 | 1.0000 | |
| 22 | HGF008SC | | 1.0000 | 1.0000 | |
| 23 | E558-01 | | 1.0000 | 1.0000 | |
| 24 | E558-02 | | 1.0000 | 1.0000 | |
| 25 | E558-03 | | 1.0000 | 1.0000 | |
| 26 | E558-05 | | 1.0000 | 1.0000 | |
| 27 | E558-06 | | 1.0000 | 1.0000 | |
| 28 | CCV3 | | 1.0000 | 1.0000 | |
| 29 | CCB3 | | 1.0000 | 1.0000 | |
| 30 | E558-07 | | 1.0000 | 1.0000 | |
| 31 | E558-08 | | 1.0000 | 1.0000 | |
| 32 | E558-10 | | 1.0000 | 1.0000 | |
| 33 | CCV4 | | 1.0000 | 1.0000 | |
| 34 | CCB4 | | 1.0000 | 1.0000 | |
| 35 | | | 1.0000 | 1.0000 | |
| 36 | | | 1.0000 | 1.0000 | |
| 37 | | | 1.0000 | 1.0000 | |
| 38 | | | 1.0000 | 1.0000 | |
| 39 | | | 1.0000 | 1.0000 | |
| 40 | | | 1.0000 | 1.0000 | |
| 41 | | | 1.0000 | 1.0000 | |
| 42 | | | 1.0000 | 1.0000 | |
| 43 | | | 1.0000 | 1.0000 | |
| 44 | | | 1.0000 | 1.0000 | |

AMR 6/18/24


WinHg Database 1.3
File Utility Help
RN
RN
Protocol HG1
Dataset/Proto M47F006 /HG1
Protocol
Line info
Cal Curve
Report
Ctrl Chart
Viewer
Reset
Calib Coeffs
New Cal
Update Coeffs
Spike Coeffs
A
B 1.28027e-5
C -4.48146e-2
Rho .999576
Calibrated
Accepted
Type Linear
Accept
Include S1 Rep 1
Rel. Abs.
392120
Accepted
New
Conc. 5.00
S Conc. Calc. Dev. Mean SD or %RSD Rep 1 Rep 2 Rep 3
01 .00000 .039 .039 6562 0 6562
02 .20000 .150 -.050 15203 0% 15203
03 .50000 .505 .005 42983 0% 42983
04 1.0000 .945 -.055 77303 0% 77303
05 2.0000 2.09 .085 166373 0% 166373
06 5.0000 4.98 -.025 392121 0% 392120
Ready
CAP NUM

| Line | Conc. | Units | SD/RSD | 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|---|---|---|---|
| *** Standard: 1 Rep: 1 | | | | Seq: 1 | | 12:59:03 18 Jun 24 | | | HG |
| Hg | .000 | ppb | 6562 | | | | | | |
| *** Standard: 2 Rep: 1 | | | | Seq: 2 | | 13:00:54 18 Jun 24 | | | HG |
| Hg | .200 | ppb | 15203 | | | | | | |
| *** Standard: 3 Rep: 1 | | | | Seq: 3 | | 13:02:37 18 Jun 24 | | | HG |
| Hg | .500 | ppb | 42983 | | | | | | |
| *** Standard: 4 Rep: 1 | | | | Seq: 4 | | 13:04:18 18 Jun 24 | | | HG |
| Hg | 1.00 | ppb | 77303 | | | | | | |
| *** Standard: 5 Rep: 1 | | | | Seq: 5 | | 13:05:58 18 Jun 24 | | | HG |
| Hg | 2.00 | ppb | 166373 | | | | | | |
| *** Standard: 6 Rep: 1 | | | | Seq: 6 | | 13:07:38 18 Jun 24 | | | HG |
| Hg | 5.00 | ppb | 392120 | | | | | | |
| *** Sample ID: ICV | | | | Seq: 7 | | 13:09:28 18 Jun 24 | | | HG |
| Hg | 2.02 | ppb | 161438 | | | | | | |
| *** Sample ID: ICB | | | | Seq: 8 | | 13:11:07 18 Jun 24 | | | HG |
| Hg | .009 | ppb | 4211 | | | | | | |
| *** Sample ID: MRLF1S01 | | | 0.5 | Seq: 9 | | 13:12:55 18 Jun 24 | | | HG |
| Hg | .513 | ppb | 43540 | | | | | | |
| *** Sample ID: CCV1 | | | | Seq: 10 | | 13:15:36 18 Jun 24 | | | HG |
| Hg | 2.01 | ppb | 160438 | | | | | | |
| *** Sample ID: CCB1 | | | | Seq: 11 | | 13:17:17 18 Jun 24 | | | HG |
| Hg | .003 | ppb | 3725 | | | | | | |
| *** Sample ID: HGF007SB | | | | Seq: 12 | | 13:19:29 18 Jun 24 | | | HG |
| Hg | -.076 | ppb | -2399 | | | | | | |
| *** Sample ID: HGF007SL | | | | Seq: 13 | | 13:21:14 18 Jun 24 | | | HG |
| Hg | 2.58 | ppb | 205037 | | | | | | |
| *** Sample ID: HGF007SC | | | | Seq: 14 | | 13:22:55 18 Jun 24 | | | HG |
| Hg | 2.63 | ppb | 208717 | | | | | | |
| *** Sample ID: F427-01 | | | | Seq: 15 | | 13:24:39 18 Jun 24 | | | HG |
| Hg | -.008 | ppb | 2844 | | | | | | |

| Line | Conc. | Units | SD/RSD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|---|
| *** Sample ID: F476-01 | | | | Seq: 16 | 13:26:34 18 Jun 24 | HG | | |
| Hg | .017 | ppb | 4846 | | | | | |
| *** Sample ID: E558-04 | | | | Seq: 17 | 13:28:15 18 Jun 24 | HG | | |
| Hg | .150 | ppb | 15194 | | | | | |
| *** Sample ID: E558-09 | | | | Seq: 18 | 13:29:52 18 Jun 24 | HG | | |
| Hg | .078 | ppb | 9630 | | | | | |
| *** Sample ID: F034-02M | | | | Seq: 19 | 13:31:36 18 Jun 24 | HG | | |
| Hg | 2.62 | ppb | 208019 | | | | | |
| *** Sample ID: F034-02S | | | | Seq: 20 | 13:33:29 18 Jun 24 | HG | | |
| Hg | 2.73 | ppb | 216594 | | | | | |
| *** Sample ID: F034-02A | | | | Seq: 21 | 13:35:28 18 Jun 24 | HG | | |
| Hg | 2.92 | ppb | 231664 | | | | | |
| *** Sample ID: CCV2 | | | | Seq: 22 | 13:37:12 18 Jun 24 | HG | | |
| Hg | 1.94 | ppb | 155417 | | | | | |
| *** Sample ID: CCB2 | | | | Seq: 23 | 13:39:26 18 Jun 24 | HG | | |
| Hg | -.091 | ppb | -3607 | | | | | |
| *** Sample ID: F034-02 | | | | Seq: 24 | 13:42:35 18 Jun 24 | HG | | |
| Hg | .097 | ppb | 11085 | | | | | |
| *** Sample ID: F034-02J | | | 5X | Seq: 25 | 13:44:17 18 Jun 24 | HG | | |
| Hg | -.009 | ppb | 2805 | | | | | |
| *** Sample ID: HGF008SB | | | | Seq: 26 | 13:46:17 18 Jun 24 | HG | | |
| Hg | -.040 | ppb | 413 | | | | | |
| *** Sample ID: HGF008SL | | | | Seq: 27 | 13:47:58 18 Jun 24 | HG | | |
| Hg | 2.50 | ppb | 198443 | | | | | |
| *** Sample ID: HGF008SC | | | | Seq: 28 | 13:49:38 18 Jun 24 | HG | | |
| Hg | 2.52 | ppb | 199945 | | | | | |
| *** Sample ID: E558-01 | | | | Seq: 29 | 13:51:22 18 Jun 24 | HG | | |
| Hg | .025 | ppb | 5477 | | | | | |
| *** Sample ID: E558-02 | | | | Seq: 30 | 13:53:01 18 Jun 24 | HG | | |
| Hg | .067 | ppb | 8720 | | | | | |

| Line | Conc. | Units | SD/RSD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|---|
| *** Sample ID: E558-03 | | | | Seq: 31 | 13:55:04 18 Jun 24 | HG | | |
| Hg | -.007 | ppb | 2986 | | | | | |
| *** Sample ID: E558-05 | | | | Seq: 32 | 13:56:45 18 Jun 24 | HG | | |
| Hg | -.089 | ppb | -3432 | | | | | |
| *** Sample ID: E558-06 | | | | Seq: 33 | 13:58:27 18 Jun 24 | HG | | |
| Hg | -.049 | ppb | -323 | | | | | |
| *** Sample ID: CCV3 | | | | Seq: 34 | 14:00:22 18 Jun 24 | HG | | |
| Hg | 2.00 | ppb | 159448 | | | | | |
| *** Sample ID: CCB3 | | | | Seq: 35 | 14:02:01 18 Jun 24 | HG | | |
| Hg | -.013 | ppb | 2478 | | | | | |
| *** Sample ID: E558-07 | | | | Seq: 36 | 14:04:01 18 Jun 24 | HG | | |
| Hg | .236 | ppb | 21924 | | | | | |
| *** Sample ID: E558-08 | | | | Seq: 37 | 14:05:42 18 Jun 24 | HG | | |
| Hg | .142 | ppb | 14615 | | | | | |
| *** Sample ID: E558-10 | | | | Seq: 38 | 14:07:23 18 Jun 24 | HG | | |
| Hg | -.004 | ppb | 3192 | | | | | |
| *** Sample ID: CCV4 | | | | Seq: 39 | 14:09:05 18 Jun 24 | HG | | |
| Hg | 1.92 | ppb | 153674 | | | | | |
| *** Sample ID: CCB4 | | | | Seq: 40 | 14:10:47 18 Jun 24 | HG | | |
| Hg | -.047 | ppb | -205 | | | | | |

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot #: 29323008

Aqua Regia Prep. Vessel Lot#: 32922001

Book #: E47-135

Batch No.: HGF0075

Matrix: Soil

| SOP # | Rev. # |
|---|---|
| ☐ EMAX-7470 | 9 |
| ☑ EMAX-7471 | 10 |
| ☐ EMAX-245.1 | 5 |
| ☐ EMAX- | |

| Standards | ID | Conc. (µg/L) | Amount Added (ml) |
|---|---|---|---|
| ICAL | SMSB-24-37-09 | 100 | 0.2, 0.5, 1, 2.5 |
| CCV | ↓ | ↓ | 2 |
| ICV | SMSB-24-37-10 | | 2 |
| LCS/MS | ↓ | ↓ | 2.5 |
| **Reagent** | **ID / Lot #** | | |
| $HNO_3$ - Aqua Regia | SWA-012-05-06 | | |
| HCl | SWA-012-09-03 | | |
| $H_2SO_4$ | N/A | | |
| $KMnO_4$ | SMSB-06-30-03 | | |
| $K_2S_2O_8$ | N/A | | |
| $NH_2OH \cdot HCl \cdot NaCl$ | SMSB-06-29-04 | | |
| $SnCl_2$ | SMSB-06-30-04 | | |
| Silica Sand | SMSA-05-02-03 | | |
| Reagent Water | RW-24-002 | | |
| pH strip 0-14 | N/A | | |

Digestor ID/ Temp (°C) A / 96.1

Thermometer ID/LOC: 230389388 / A 11

Thermometer ID/LOC: N/A

Pipette ID: HG-06, HG-03, C4278021Z

☐ $H_2SO_4$ dispenser checked @ 2.5 ml with Class A graduated cylinder

☐ HCl dispenser checked @ ___ ml with Class A graduated cylinder

☐ $HNO_3$ dispenser checked @ ___ ml with Class A graduated cylinder

Prepared By: AMR

Standard Added By: AMR Witnessed By: JC

EMAX LABORATORIES

DIGESTION LOG FOR MERCURY

| PrepBatchID | LabSampleID | Aliquot | Unit | DateTime | Vd(ml) | ExpAmt | ExpVd(ml) | PrepFctr | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 24HGF007S01 | HGF007SB | 0.6 | g | 6/18/24 9:11 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S02 | HGF007SL | 0.6 | g | 6/18/24 9:11 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S03 | HGF007SC | 0.6 | g | 6/18/24 9:11 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S04 | F427-01 | 0.601 | g | 6/18/24 9:15 | 100 | 0.6 | 100 | 0.998 | |
| 24HGF007S05 | F476-01 | 0.605 | g | 6/18/24 9:16 | 100 | 0.6 | 100 | 0.992 | |
| 24HGF007S06 | E558-04 | 0.618 | g | 6/18/24 9:19 | 100 | 0.6 | 100 | 0.971 | |
| 24HGF007S07 | E558-09 | 0.607 | g | 6/18/24 9:20 | 100 | 0.6 | 100 | 0.988 | |
| 24HGF007S08 | F034-02 | 0.609 | g | 6/18/24 9:21 | 100 | 0.6 | 100 | 0.985 | |
| 24HGF007S09 | F034-02M | 0.613 | g | 6/18/24 9:22 | 100 | 0.6 | 100 | 0.979 | |
| 24HGF007S10 | F034-02S | 0.61 | g | 6/18/24 9:23 | 100 | 0.6 | 100 | 0.984 | |
| 24HGF007S11 | S-0/ICB/CCB | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S12 | S-0.2 | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S13 | S-0.5/MRL | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S14 | S-1 | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S15 | S-2/CCV | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S16 | S-5 | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S17 | ICV | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |
| 24HGF007S18 | PS SOIL | 0.6 | g | 6/18/24 9:24 | 100 | 0.6 | 100 | 1 | |

AMR 6/18/24

Balance ID: 671302. Calibration check was verified prior to use.

Vd=digestate volume

PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 6/18/24 11:16

☑ Digestion Ended @ 6/18/24 11:46

Prepared By: ARiver

Checked By: AMR

Comments:

Date 6/18/24

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR MERCURY

Method: Mercury — Book #: SM3B -24

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B -24-37-01 INTERMEDIATE | Aliquot | 1 mL | Prepared on | 6/10/24 | Micropipette ID: | |
| Name | HG ERA | Solvent ID | Rwl-24-002 | Expires on | 7/10/24 | ☐ 742781062 | |
| Source | SM3A-10-01-01 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 | |
| Concentration | 1,000 mg/L | Final Concentration | 10,000 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-37-02 INTERMEDIATE | Aliquot | 1 ml | Prepared on | 6/10/24 | Micropipette ID: | |
| Name | HG ACCU | Solvent ID | Rwl-24-002 | Expires on | 7/10/24 | ☐ 742781062 | |
| Source | SM3A-10-01-02 | Final Volume | 100 mL | Prepared by | AMR | ☐ HG-03 | |
| Concentration | 1,000 mg/L | Final Concentration | 10,000 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-37-03 | Aliquot | 1 mL | Prepared on | 6/10/24 | Micropipette ID: | |
| Name | Hg ERA | Solvent ID | Rwl-24-002 | Expires on | 6/11/24 | ☐ 742781062 | |
| Source | SM3B-24-37-01 | Final Volume | 100 ml | Prepared by | AMR | ☑ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-37-04 | Aliquot | 1 mL | Prepared on | 6/10/24 | Micropipette ID: | |
| Name | Hg ACCU | Solvent ID | Rwl-24-002 | Expires on | 6/11/24 | ☐ 742781062 | |
| Source | SM3B-24-37-02 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-37-05 PS soil | Aliquot | 1 mL | Prepared on | 6/10/24 | Micropipette ID: | |
| Name | Hg ERA | Solvent ID | Rwl-24-002 | Expires on | 6/11/24 | ☐ 742781062 | |
| Source | SM3B-24-37-01 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-37-06 | Aliquot | 0.5 mL | Prepared on | 6/12/24 | Micropipette ID: | |
| Name | Hg ERA | Solvent ID | Rwl-24-002 | Expires on | 6/13/24 | ☐ 742781062 | |
| Source | SM3B-24-37-01 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 50 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-37-07 | Aliquot | 0.5 mL | Prepared on | 6/12/24 | Micropipette ID | |
| Name | Hg ACCU | Solvent ID | Rwl-24-002 | Expires on | 6/13/24 | ☐ 742781062 | |
| Source | SM3B-24-37-02 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 50 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-37-08 PS water | Aliquot | 0.5 mL | Prepared on | 6/12/24 | Micropipette ID: | |
| Name | Hg ERA | Solvent ID | Rwl-24-002 | Expires on | 6/13/24 | ☐ 742781062 | |
| Source | SM3B-24-37-01 | Final Volume | 50 mL | Prepared by | AMR | ☑ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-37-09 | Aliquot | 1 mL | Prepared on | 6/18/24 | Micropipette ID | |
| Name | Hg ERA | Solvent ID | Rwl-24-002 | Expires on | 6/19/24 | ☐ 742781062 | |
| Source | SM3B-24-37-01 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-37-10 | Aliquot | 1 mL | Prepared on | 6/18/24 | Micropipette ID: | |
| Name | Hg ACCU | Solvent ID | Rwl-24-002 | Expires on | 6/19/24 | ☐ 742781062 | |
| Source | SM3B-24-37-02 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | | |

EMAX LABORATORIES, INC.

# STANDARDS LOG FOR MERCURY

Method: Mercury — Book #: SM3B -24

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard ID | SM3B -24-38-01 PS Soil | Aliquot | 1 mL | Prepared on | 6/18/24 | Micropipette ID: | |
| Name | Hg ERA | Solvent ID | Rwf-24002 | Expires on | 6/19/24 | ☐ 742781062 | |
| Source | SM3B-24-37-01 | Final Volume | 100 mL | Prepared by | AMR | ☑ HG-03 | |
| Concentration | 10 mg/L | Final Concentration | 100 µg/L | Reviewed by | AMR | | |
| Standard ID | SM3B -24-38-02 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-03 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-04 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-05 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-06 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-07 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-08 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-09 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |
| Standard ID | SM3B -24-38-10 | Aliquot | mL | Prepared on | | Micropipette ID: | |
| Name | | Solvent ID | | Expires on | | ☐ 742781062 | |
| Source | | Final Volume | mL | Prepared by | | ☐ HG-03 | |
| Concentration | mg/L | Final Concentration | µg/L | Reviewed by | | | |

ERA

A Waters Company

Certified Reference Material

# • Certificate of Analysis

SM3A-10-01-01
Recv 6/8/21 JF
Exp. 7/8/24

| | |
|---|---|
| **Product:** | 1000 mg/L Mercury |
| **Catalog Number:** | 027 |
| **Lot No.** | 120721m |
| **Starting Material:** | Mercury Metal (Hg) |
| **Matrix:** | 18 megohm deionized water and 1% (v/v) $HNO_3$ |
| **Density:** | 1.0083 ± 0.0002 g/mL 20.4 °C and 747 mm Hg |
| **Verification Method:** | CVAA |
| **Certificate Issue Date:** | July 30, 2021 |
| **Expiration Date:** | July 8, 2024 |
| **Revision Number:** | Original |

## CERTIFICATION

| Parameter | Certified Value[1] | Uncertainty[2] | NIST Traceability | |
|---|---|---|---|---|
| | mg/L | % | SRM Number[3] | Recovery % |
| Mercury | 1000 | 2.57 | 3133 | 101 |



16341 Table Mountain Pkwy • Golden, CO 80403 • 800.372.0122 • 303.431.8454 • fax 303.421.0159 • www.eraqc.com

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

# CERTIFICATE OF ANALYSIS

SM3A-10-01-02
Rec 11/27/23

## AccuTrace™ Reference Standard

**Catalog No:** AA34N-R-1
**Description:** Mercury AA Standard
**Element:** Mercury (Hg)
**SRM:** 3133
**Lot:** 223035030
**Matrix:** 10% Nitric acid
**Hazards:** *Refer to SDS for complete safety information*



**Signal Word:** Danger

**Date Certified:** Mar 10, 2023
**Expiration:** Mar 10, 2028
**Sample Size:** 100 mL
**Components:** 1
**Storage Condition:** Ambient (>5 °C)

**Certified Reference Material**

ANAB ACCREDITED PROVIDER AR-1463

ilac-MRA

| Component | | SRM # | Prepared Concentration (µg/mL) |
|---|---|---|---|
| Hg | Mercury | 3133 | 1000 |

This Certified Reference Material was verified in accordance with ISO/IEC 17025 (AT-1339) and ISO 17034 (AR-1463)

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

**This product contains mercury and MUST be disposed of in accordance with all federal, state and local regulations.**

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All weights are traceable through NIST, Test No. 684/291344-18 & 684/292805-19

All glassware used in preparation is Class A

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped

Certified By: Meagan O'Leary
Meagan O'Leary, Inorganic QC Manager



*For use in routine laboratory analysis.*

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015




# Electronic Comprehensive Validation Package (eCVP)

*Vera Belitsky* Vera Belitsky 06-18-2024

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eurofins | Air Toxics

# WORK ORDER #: 2406133

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Mark Rigby<br>PARSONS GOVERNMENT SERVICES INC.<br>10235 So. South Jordan Gateway<br>Suite 300<br>South Jordan, UT 84095 | **BILL TO:** | Mr. Mark Rigby<br>PARSONS GOVERNMENT SERVICES INC.<br>10235 So. South Jordan Gateway<br>Suite 300 |
| **PHONE:** | 801-572-5999 | **P.O. #** | PO-0015539 |
| **FAX:** | 801-572-9069 | **PROJECT #** | Titan 1-A Semi -Annual GW and SV samplin |
| **DATE RECEIVED:** | 06/03/2024 | **CONTACT:** | Brian Whittaker |
| **DATE COMPLETED:** | 06/17/2024 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | T1AMF-SV018_May24 | TO-15 | 6.3 "Hg | 9.9 psi |
| 02A(cancelled) | T1AMF-SV021_May24 | TO-15 | 29.8 "Hg | 9.9 psi |
| 03A | T1AMF-SV001_May24 | TO-15 | 6.3 "Hg | 9.9 psi |
| 04A | T1AMF-SV033_May24 | TO-15 | 8.6 "Hg | 10 psi |
| 04AA | T1AMF-SV033_May24 Lab Duplicate | TO-15 | 8.6 "Hg | 10 psi |
| 05A | T1AMF-SV023_May24 | TO-15 | 7.1 "Hg | 9.9 psi |
| 05AA | T1AMF-SV023_May24 Lab Duplicate | TO-15 | 7.1 "Hg | 9.9 psi |
| 06A | T1AMF-SV023_May24_FD | TO-15 | 6.7 "Hg | 8.1 psi |
| 07A | T1AMF-SV024_May24 | TO-15 | 5.1 "Hg | 9.7 psi |
| 08A | T1AMF-SV026_May24 | TO-15 | 7.6 "Hg | 10 psi |
| 09A | T1AMF-SV026_May24_FD | TO-15 | 9.8 "Hg | 10 psi |
| 10A | T1AMF-SV022_May24 | TO-15 | 11.2 "Hg | 10 psi |
| 11A | T1AMF-SV020_May24 | TO-15 | 15.5 "Hg | 9.9 psi |
| 12A | T1AMF-SV017B_May24 | TO-15 | 11.4 "Hg | 10 psi |
| 13A | T1AMF-SV007_May24 | TO-15 | 7.3 "Hg | 9.8 psi |
| 14A | T1AMF-SV006_May24 | TO-15 | 8.2 "Hg | 9.9 psi |
| 15A | T1AMF-SV016_May24 | TO-15 | 8.6 "Hg | 9.8 psi |
| 16A | T1AMF-SV008_May24 | TO-15 | 8.8 "Hg | 10 psi |
| 17A | T1AMF-SV005B_May24 | TO-15 | 9.6 "Hg | 10.3 psi |
| 18A | T1AMF-SV004_May24 | TO-15 | 9 "Hg | 9.7 psi |
| 19A | T1AMF-SV025_May24 | TO-15 | 8.4 "Hg | 9.8 psi |
| 20A | T1AMF-SV019_May24 | TO-15 | 7.6 "Hg | 10 psi |
| 21A | T1AMF-SV002_May24 | TO-15 | 8.2 "Hg | 9.7 psi |

Continued on next page

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# WORK ORDER #: 2406133

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Mark Rigby<br>PARSONS GOVERNMENT SERVICES INC.<br>10235 So. South Jordan Gateway<br>Suite 300<br>South Jordan, UT 84095 | **BILL TO:** | Mr. Mark Rigby<br>PARSONS GOVERNMENT SERVICES INC.<br>10235 So. South Jordan Gateway<br>Suite 300 |
| **PHONE:** | 801-572-5999 | **P.O. #** | PO-0015539 |
| **FAX:** | 801-572-9069 | **PROJECT #** | Titan 1-A Semi -Annual GW and SV samplin |
| **DATE RECEIVED:** | 06/03/2024 | **CONTACT:** | Brian Whittaker |
| **DATE COMPLETED:** | 06/17/2024 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 22A | T1AMF-SV015B_May24 | TO-15 | 6.7 "Hg | 9.6 psi |
| 23A | Lab Blank | TO-15 | NA | NA |
| 23B | Lab Blank | TO-15 | NA | NA |
| 24A | CCV | TO-15 | NA | NA |
| 24B | CCV | TO-15 | NA | NA |
| 24C | CCV | TO-15 | NA | NA |
| 24D | CCV | TO-15 | NA | NA |
| 25A | LCS | TO-15 | NA | NA |
| 25AA | LCSD | TO-15 | NA | NA |
| 25B | LCS | TO-15 | NA | NA |
| 25BB | LCSD | TO-15 | NA | NA |

CERTIFIED BY: Heidi Hayes DATE: 06/17/24

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000

**LABORATORY NARRATIVE**
**DoD QSM - TO-15**
**PARSONS GOVERNMENT SERVICES INC.**
**Workorder# 2406133**

Twenty-two 1 Liter Summa Canister samples were received on June 03, 2024. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Please note the following narratives are project specific therefore may or may not be applicable to the associated sample set:

1) A Limit of Detection (LOD) and Method Detection Limit (MDL) study are not maintained for Total Xylenes and non-standard compounds.

2) Total Xylenes concentration is calculated by summing the individual concentrations of m,p-Xylene and o-Xylene.

3) Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

**Receiving Notes**

The Chain of Custody (COC) information for sample T1AMF-SV019_May24 did not match the information on the canister with regard to canister barcode. The sample labeled 1L4781 on the COC is labeled as 1L4761 on the canister. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Samples T1AMF-SV021_May24 and T1AMF-SV020_May24 were received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits.

Sample T1AMF-SV021_May24 was cancelled on 6/13/24 per client's request.

**Analytical Notes**

A DoD QSM waiver has been established and approved between Eurofins Air Toxics and the client. A copy of the waiver is available upon request.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

Samples were analyzed in two analytical batches on MSD-3 on 6/13/24 and 6/14/24. The initial continuing calibration verification (CCV) for the batches are reported as lab fractions 24A and 24B and the ending CCV are reported as lab fractions 24C and 24D.

Dilution was performed on samples T1AMF-SV001_May24, T1AMF-SV024_May24 and T1AMF-SV022_May24 due to the presence of high level target species.

Samples were received by courier, therefore shipping documents are not applicable.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

| Table 1 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Client Sample ID | Lab Sample ID | Date Collected | Date Received | Date Extracted | Sample Holding Time (Days) | Date Analyzed | Sample Extract Holding Time (Days) | Sample Condition |
| T1AMF-SV018_May24 | 2406133-01A | 05/28/2024 | 06/03/2024 | NA | 17 | 06/14/2024 | NA | GOOD |
| T1AMF-SV001_May24 | 2406133-03A | 05/28/2024 | 06/03/2024 | NA | 17 | 06/14/2024 | NA | GOOD |
| T1AMF-SV033_May24 | 2406133-04A | 05/28/2024 | 06/03/2024 | NA | 17 | 06/14/2024 | NA | GOOD |
| T1AMF-SV033_May24 Lab Duplicate | 2406133-04AA | 05/28/2024 | 06/03/2024 | NA | None | 06/14/2024 | NA | GOOD |
| T1AMF-SV023_May24 | 2406133-05A | 05/29/2024 | 06/03/2024 | NA | 16 | 06/14/2024 | NA | GOOD |
| T1AMF-SV023_May24 Lab Duplicate | 2406133-05AA | 05/29/2024 | 06/03/2024 | NA | None | 06/14/2024 | NA | GOOD |
| T1AMF-SV023_May24_FD | 2406133-06A | 05/29/2024 | 06/03/2024 | NA | 16 | 06/14/2024 | NA | GOOD |
| T1AMF-SV024_May24 | 2406133-07A | 05/29/2024 | 06/03/2024 | NA | 16 | 06/14/2024 | NA | GOOD |
| T1AMF-SV026_May24 | 2406133-08A | 05/29/2024 | 06/03/2024 | NA | 16 | 06/14/2024 | NA | GOOD |
| T1AMF-SV026_May24_FD | 2406133-09A | 05/29/2024 | 06/03/2024 | NA | 16 | 06/14/2024 | NA | GOOD |
| T1AMF-SV022_May24 | 2406133-10A | 05/29/2024 | 06/03/2024 | NA | 16 | 06/14/2024 | NA | GOOD |
| T1AMF-SV020_May24 | 2406133-11A | 05/29/2024 | 06/03/2024 | NA | 16 | 06/14/2024 | NA | GOOD |
| T1AMF-SV017B_May24 | 2406133-12A | 05/29/2024 | 06/03/2024 | NA | 16 | 06/14/2024 | NA | GOOD |
| T1AMF-SV007_May24 | 2406133-13A | 05/30/2024 | 06/03/2024 | NA | 15 | 06/14/2024 | NA | GOOD |
| T1AMF-SV006_May24 | 2406133-14A | 05/30/2024 | 06/03/2024 | NA | 16 | 06/15/2024 | NA | GOOD |
| T1AMF-SV016_May24 | 2406133-15A | 05/30/2024 | 06/03/2024 | NA | 16 | 06/15/2024 | NA | GOOD |
| T1AMF-SV008_May24 | 2406133-16A | 05/30/2024 | 06/03/2024 | NA | 16 | 06/15/2024 | NA | GOOD |
| T1AMF-SV005B_May24 | 2406133-17A | 05/30/2024 | 06/03/2024 | NA | 16 | 06/15/2024 | NA | GOOD |
| T1AMF-SV004_May24 | 2406133-18A | 05/30/2024 | 06/03/2024 | NA | 16 | 06/15/2024 | NA | GOOD |
| T1AMF-SV025_May24 | 2406133-19A | 05/31/2024 | 06/03/2024 | NA | 15 | 06/15/2024 | NA | GOOD |
| T1AMF-SV019_May24 | 2406133-20A | 05/31/2024 | 06/03/2024 | NA | 15 | 06/15/2024 | NA | GOOD |
| T1AMF-SV002_May24 | 2406133-21A | 05/31/2024 | 06/03/2024 | NA | 15 | 06/15/2024 | NA | GOOD |
| T1AMF-SV015B_May24 | 2406133-22A | 05/31/2024 | 06/03/2024 | NA | 15 | 06/15/2024 | NA | GOOD |
| Lab Blank | 2406133-23A | NA | NA | NA | NA | 06/13/2024 | NA | GOOD |
| Lab Blank | 2406133-23B | NA | NA | NA | NA | 06/14/2024 | NA | GOOD |
| CCV | 2406133-24A | NA | NA | NA | NA | 06/13/2024 | NA | GOOD |
| CCV | 2406133-24B | NA | NA | NA | NA | 06/14/2024 | NA | GOOD |
| CCV | 2406133-24C | NA | NA | NA | NA | 06/14/2024 | NA | GOOD |
| CCV | 2406133-24D | NA | NA | NA | NA | 06/15/2024 | NA | GOOD |
| LCS | 2406133-25A | NA | NA | NA | NA | 06/13/2024 | NA | GOOD |
| LCSD | 2406133-25AA | NA | NA | NA | NA | 06/13/2024 | NA | GOOD |
| LCS | 2406133-25B | NA | NA | NA | NA | 06/14/2024 | NA | GOOD |
| LCSD | 2406133-25BB | NA | NA | NA | NA | 06/14/2024 | NA | GOOD |

# Sample Results and Raw Data

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| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV018_May24 | | |
| **Lab ID:** | 2406133-01A | **Date/Time Analyzed:** | 6/14/24 02:18 AM |
| **Date/Time Collected:** | 5/28/24 10:57 AM | **Dilution Factor:** | 2.12 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061325 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.2 | 3.8 | 4.2 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.1 | 5.7 | 6.4 | Not Detected U |
| Benzene | 71-43-2 | 0.80 | 3.0 | 3.4 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.91 | 3.8 | 4.2 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.1 | 4.1 | 4.6 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.66 | 4.1 | 9.2 | Not Detected U |
| o-Xylene | 95-47-6 | 1.1 | 4.1 | 4.6 | Not Detected U |
| Toluene | 108-88-3 | 1.0 | 3.6 | 8.0 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 1.9 | 3.8 | 4.2 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.7 | 5.1 | 5.7 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.3 | 2.4 | 2.7 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 88 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/13JUN24.b/3061325.d
Lab Smp Id: 2406133-01A
Inj Date : 14-JUN-2024 02:18
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N7505
Misc Info : 6.3 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/13JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:00 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 8
Dil Factor: 2.12000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | | CAS #: 74-97-5 | |
| 5.432 | 5.432 (1.000) | 130 | 105686 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 82414 | | | | 47.79- 107.79 | 77.98 |
| 5.432 | 5.432 (1.000) | 49 | 156269 | | | | 131.33- 191.33 | 147.86 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | | CAS #: 17060-07-0 | |
| 6.019 | 6.019 (1.108) | 65 | 121911 | 22.1465 | 22.146 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 64031 | | | | 23.17- 83.17 | 52.52 |
| * 108 1,4-Difluorobenzene | | | | | | | CAS #: 540-36-3 | |
| 6.420 | 6.420 (1.000) | 114 | 383023 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 55573 | | | | 0.00- 45.65 | 14.51 |
| $ 134 Toluene-d8 | | | | | | | CAS #: 2037-26-5 | |
| 7.760 | 7.760 (1.209) | 98 | 361660 | 24.2888 | 24.289 | | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 37790 | | | | 0.00- 41.42 | 10.45 |
| 7.760 | 7.760 (1.209) | 100 | 240884 | | | | 37.54- 97.54 | 66.61 |
| * 153 Chlorobenzene-d5 | | | | | | | CAS #: 3114-55-4 | |
| 9.149 | 9.149 (1.000) | 117 | 392737 | 25.0000 | | | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 153 Chlorobenzene-d5 (continued) | | | | | | | |
| 9.149 | 9.149 (1.000) | 82 | 196272 | | | 22.92- 82.92 | 49.98 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 298834 | 25.6037 | 25.604 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 327118 | | | 88.49- 148.49 | 109.46 |
| 10.288 | 10.288 (1.124) | 176 | 288336 | | | 66.73- 126.73 | 96.49 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061325.d
Lab Smp Id: 2406133-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 6.3 Hg->9.9 psi

Calibration Date: 13-JUN-2024
Calibration Time: 11:42
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 94691 | 56815 | 132567 | 105686 | 11.61 |
| 108 1,4-Difluorobenze | 348240 | 208944 | 487536 | 383023 | 9.99 |
| 153 Chlorobenzene-d5 | 341662 | 204997 | 478327 | 392737 | 14.95 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:03

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 13JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-01A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 6.3 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.146 | 88.59 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.289 | 97.16 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.604 | 102.41 | 77-125 |

Data File: /chem/msd3.i/13JUN24.b/3061325.d



Date : 14-JUN-2024 02:18

Client ID:

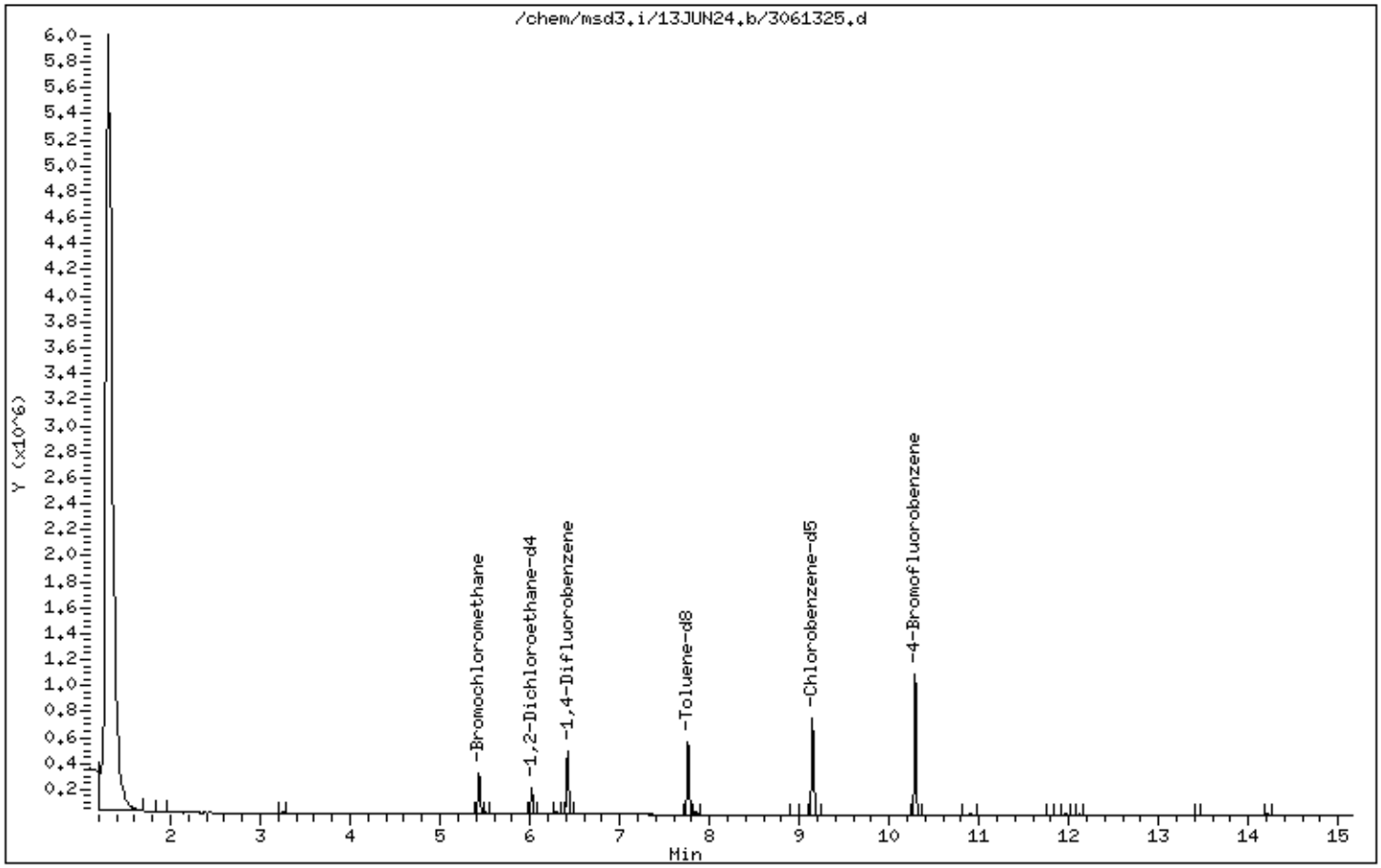
Instrument: msd3.i

Sample Info: 200mL N7505

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



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| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV001_May24 | | |
| **Lab ID:** | 2406133-03A | **Date/Time Analyzed:** | 6/14/24 03:24 AM |
| **Date/Time Collected:** | 5/28/24 01:29 PM | **Dilution Factor:** | 9.41 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061327 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 9.7 | 17 | 19 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 9.5 | 25 | 28 | Not Detected U |
| Benzene | 71-43-2 | 3.6 | 14 | 15 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 4.0 | 17 | 19 | 4.7 J |
| Ethyl Benzene | 100-41-4 | 4.9 | 18 | 20 | Not Detected U |
| m,p-Xylene | 108-38-3 | 2.9 | 18 | 41 | Not Detected U |
| o-Xylene | 95-47-6 | 4.9 | 18 | 20 | Not Detected U |
| Toluene | 108-88-3 | 4.4 | 16 | 35 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 8.6 | 17 | 19 | Not Detected U |
| Trichloroethene | 79-01-6 | 7.6 | 23 | 25 | 6000 |
| Vinyl Chloride | 75-01-4 | 10 | 11 | 12 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 89 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 96 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/13JUN24.b/3061327.d
Lab Smp Id: 2406133-03A
Inj Date : 14-JUN-2024 03:24
Operator : ACE Inst ID: msd3.i
Smp Info : 45mL N8282
Misc Info : 6.3 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/13JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:00 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 10
Dil Factor: 9.41000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 85 cis-1,2-Dichloroethene | | | | | | CAS #: 156-59-2 | | |
| 5.188 | 5.181 (0.955) | 98 | 222 | 0.12640 | | 1.189 | 80.00- 120.00 | 100.00(a) |
| 5.188 | 5.181 (0.955) | 96 | 527 | | | | 125.53- 185.53 | 236.85 |
| 5.181 | 5.181 (0.954) | 61 | 811 | | | | 219.86- 279.86 | 364.20 |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 98440 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 75754 | | | | 47.79- 107.79 | 76.95 |
| 5.432 | 5.432 (1.000) | 49 | 145971 | | | | 131.33- 191.33 | 148.28 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 114245 | 22.2815 | | 22.282 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 58736 | | | | 23.17- 83.17 | 51.41 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 355668 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 51823 | | | | 0.00- 45.65 | 14.57 |
| 111 Trichloroethene | | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 408129 | 118.206 | | 1112.3 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 111 Trichloroethene (continued) | | | | | | | |
| 6.628 | 6.628 (1.032) | 130 | 458014 | | | 80.23- 140.23 | 112.22 |
| 6.628 | 6.628 (1.032) | 97 | 262082 | | | 34.78- 94.78 | 64.22 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 333903 | 24.1494 | 24.149 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 34897 | | | 0.00- 41.42 | 10.45 |
| 7.760 | 7.760 (1.209) | 100 | 223154 | | | 37.54- 97.54 | 66.83 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 367238 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 183520 | | | 22.92- 82.92 | 49.97 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 277754 | 25.4500 | 25.450 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 302617 | | | 88.49- 148.49 | 108.95 |
| 10.288 | 10.288 (1.124) | 176 | 271157 | | | 66.73- 126.73 | 97.62 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061327.d
Lab Smp Id: 2406133-03A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 6.3 Hg->9.9 psi

Calibration Date: 13-JUN-2024
Calibration Time: 11:42
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 94691 | 56815 | 132567 | 98440 | 3.96 |
| 108 1,4-Difluorobenze | 348240 | 208944 | 487536 | 355668 | 2.13 |
| 153 Chlorobenzene-d5 | 341662 | 204997 | 478327 | 367238 | 7.49 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:04

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 13JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-03A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 6.3 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.282 | 89.13 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.149 | 96.60 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.450 | 101.80 | 77-125 |

Data File: /chem/msd3.i/13JUN24.b/3061327.d



Date : 14-JUN-2024 03:24

Client ID:

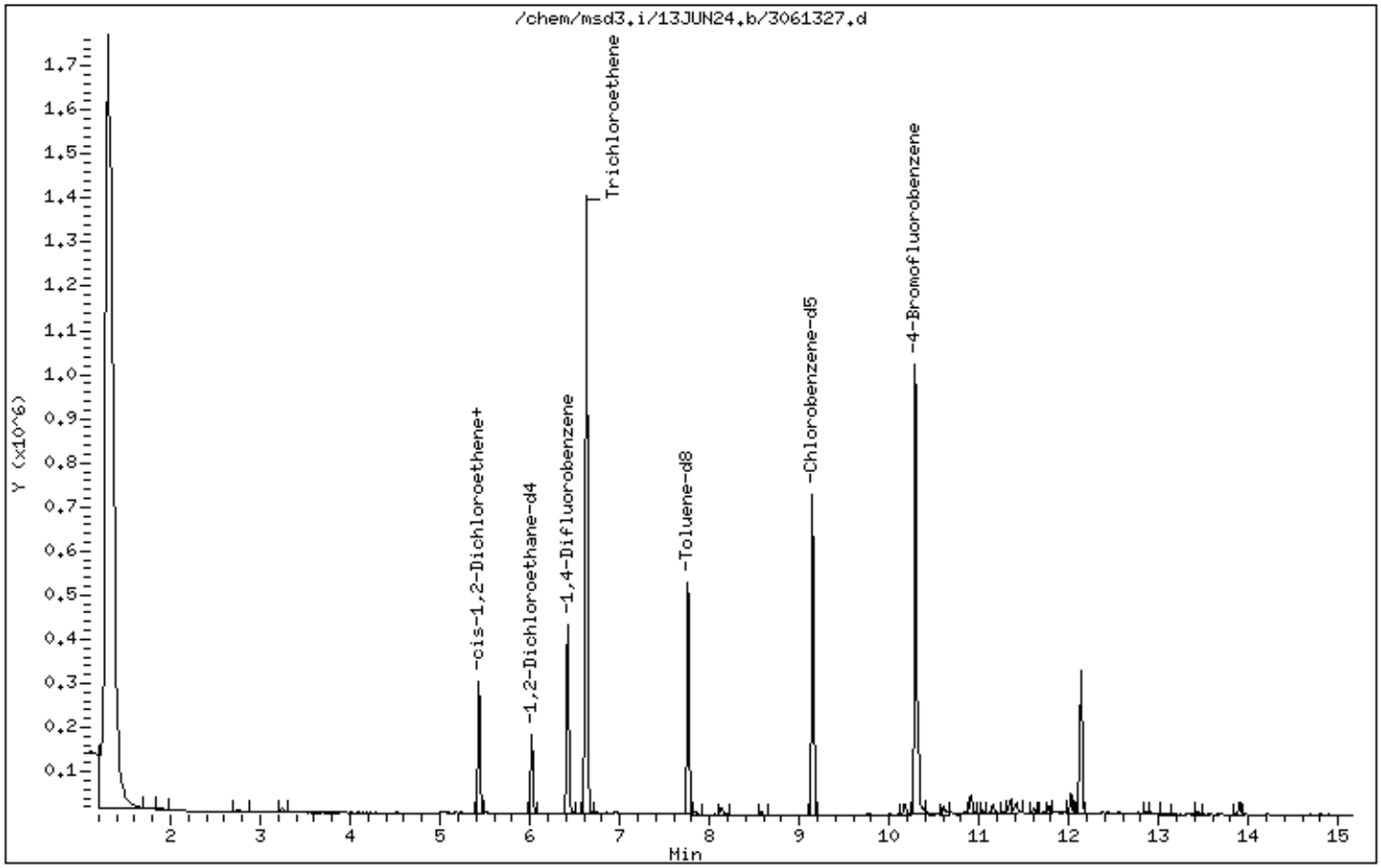
Instrument: msd3.i

Sample Info: 45mL N8282

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/13JUN24.b/3061327.d

Date : 14-JUN-2024 03:24

Client ID:

Instrument: msd3.i

Sample Info: 45mL N8282

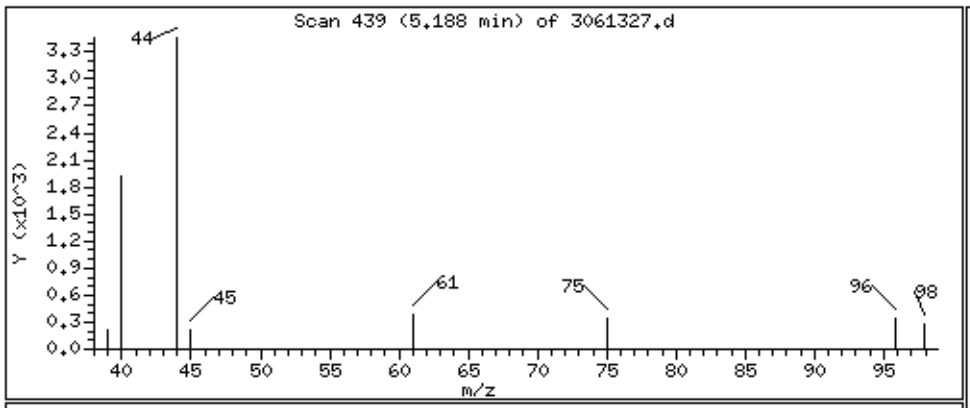
Operator: ACE

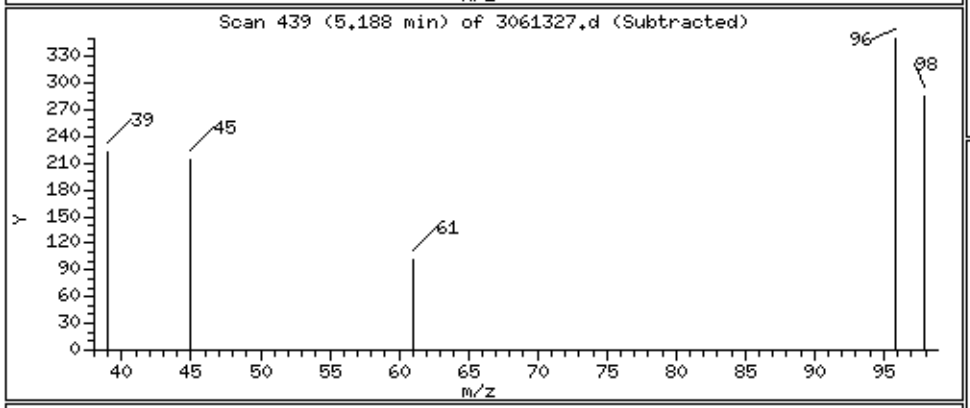
Column phase: RTX-624

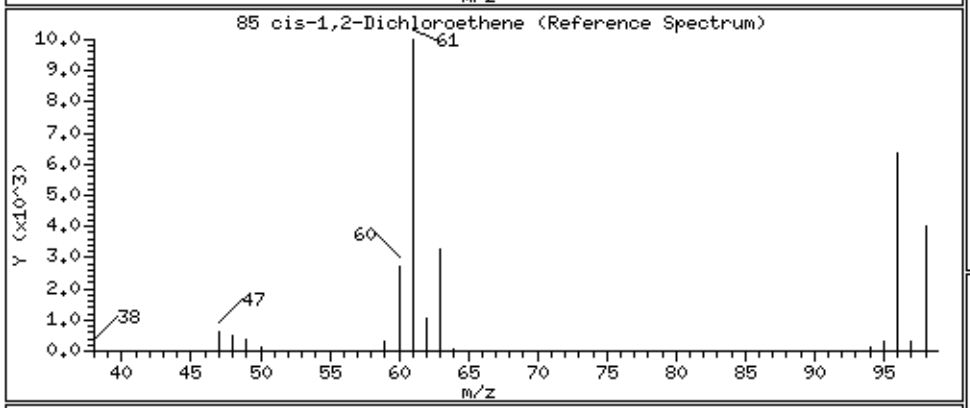
Column diameter: 0.25

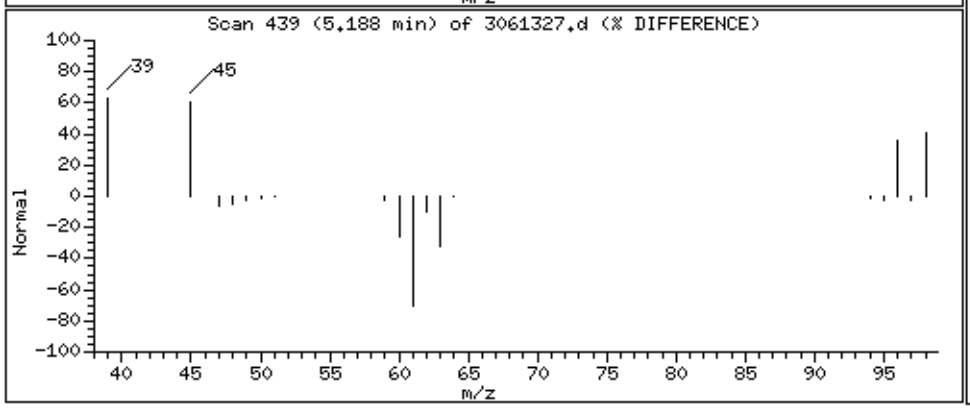
85 cis-1,2-Dichloroethene

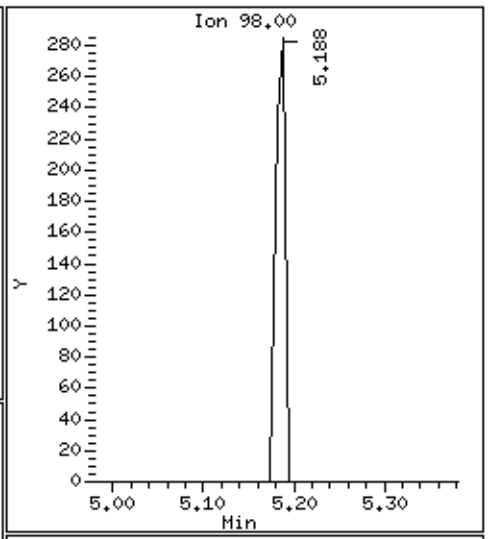
Concentration: 1.189 PPBV

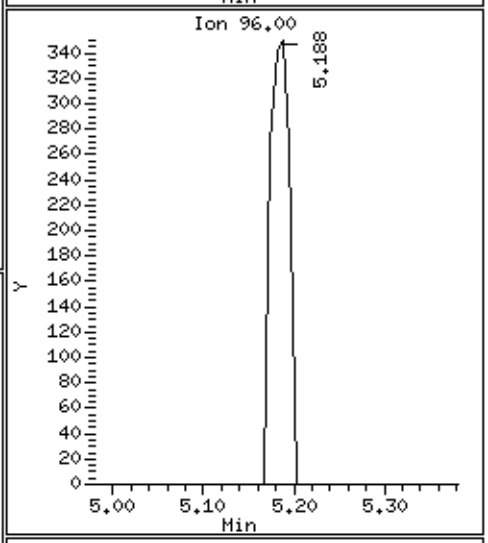


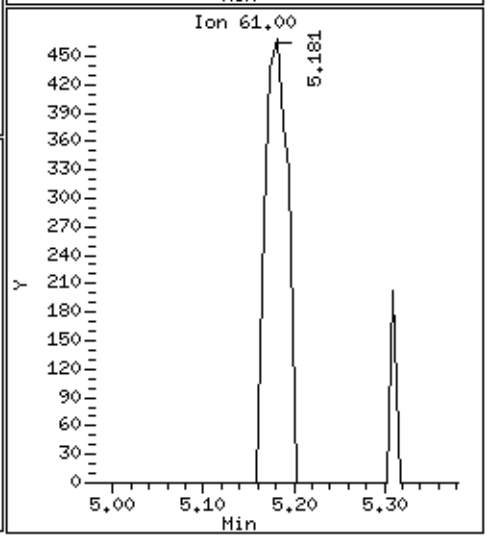



Data File: /chem/msd3.i/13JUN24.b/3061327.d

Date : 14-JUN-2024 03:24

Client ID:

Instrument: msd3.i

Sample Info: 45mL N8282

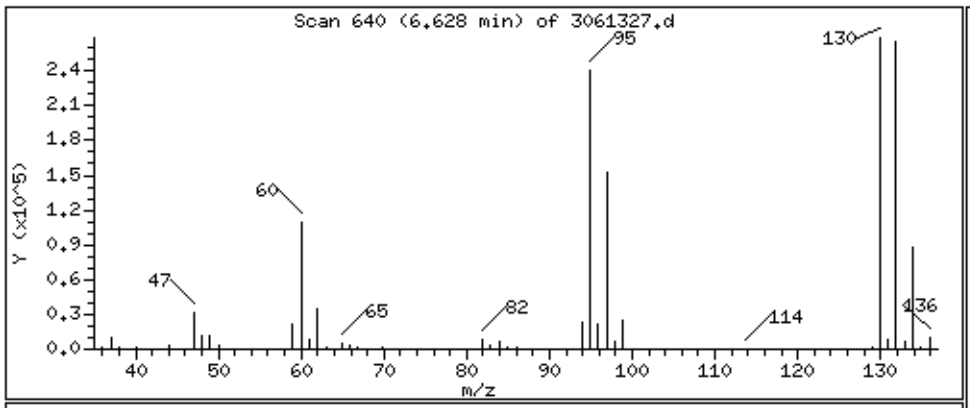
Operator: ACE

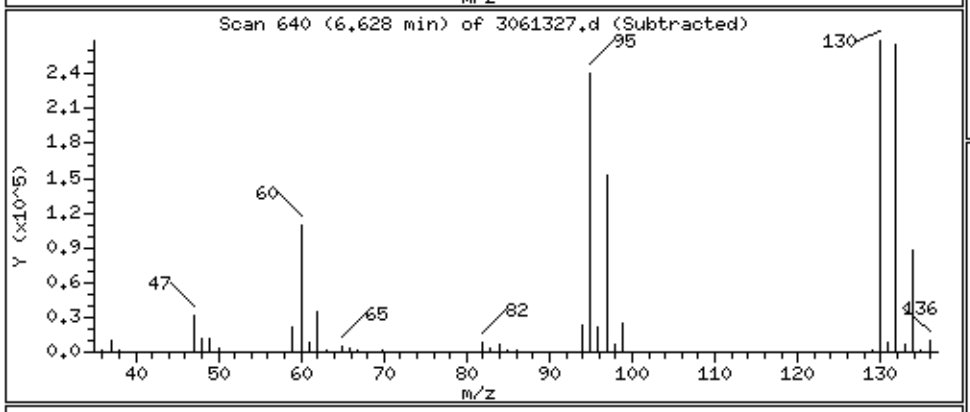
Column phase: RTX-624

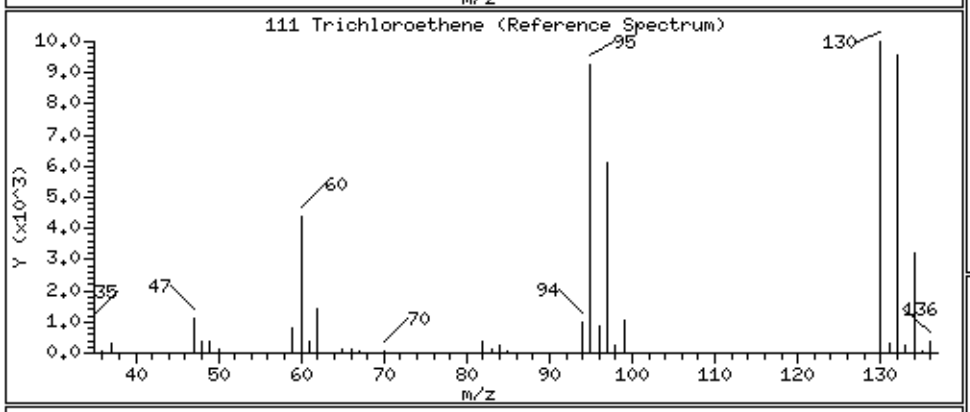
Column diameter: 0.25

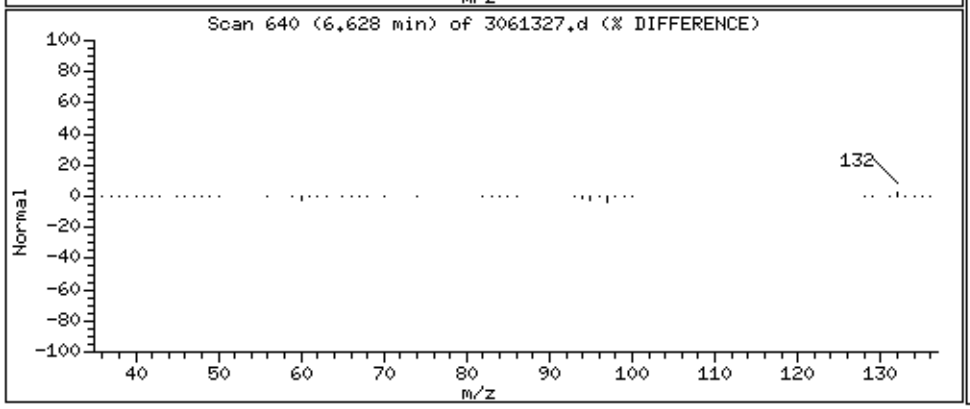
111 Trichloroethene

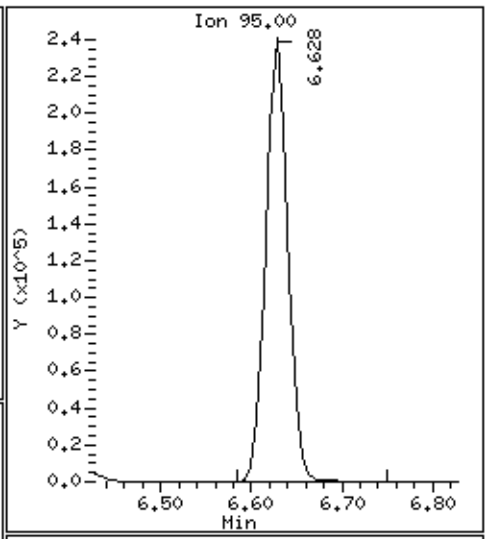
Concentration: 1112.3 PPBV

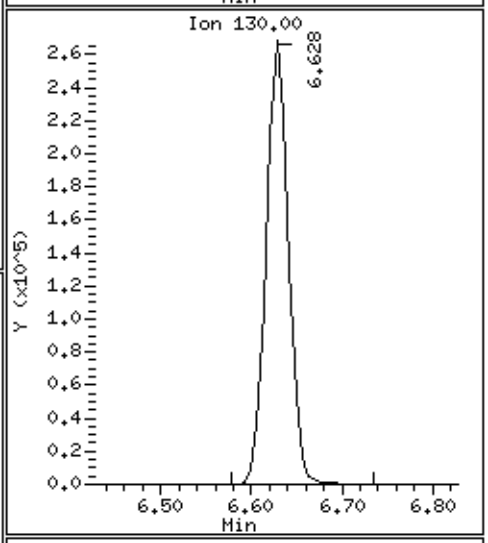


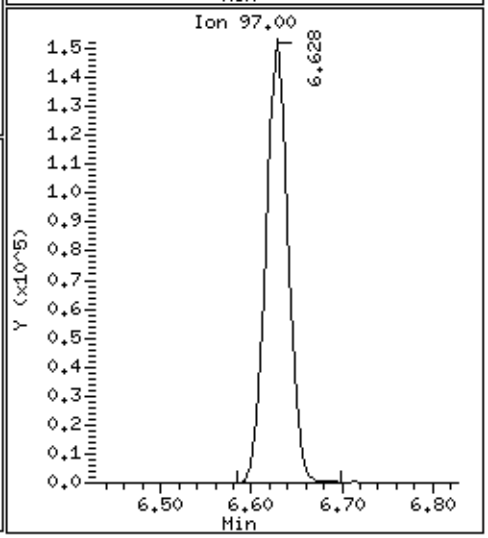



eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV033_May24 | | |
| **Lab ID:** | 2406133-04A | **Date/Time Analyzed:** | 6/14/24 04:24 PM |
| **Date/Time Collected:** | 5/28/24 02:52 PM | **Dilution Factor:** | 2.36 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061409 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.4 | 4.2 | 4.7 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.4 | 6.4 | 7.1 | Not Detected U |
| Benzene | 71-43-2 | 0.89 | 3.4 | 3.8 | 13 |
| cis-1,2-Dichloroethene | 156-59-2 | 1.0 | 4.2 | 4.7 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.6 | 5.1 | 11 |
| m,p-Xylene | 108-38-3 | 0.73 | 4.6 | 10 | 36 |
| o-Xylene | 95-47-6 | 1.2 | 4.6 | 5.1 | 12 |
| Toluene | 108-88-3 | 1.1 | 4.0 | 8.9 | 89 |
| trans-1,2-Dichloroethene | 156-60-5 | 2.1 | 4.2 | 4.7 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.9 | 5.7 | 6.3 | 68 |
| Vinyl Chloride | 75-01-4 | 2.5 | 2.7 | 3.0 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 100 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061409.d
Lab Smp Id: 2406133-04A
Inj Date : 14-JUN-2024 16:24
Operator : RT Inst ID: msd3.i
Smp Info : 200mL N8353
Misc Info : 8.6 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 2
Dil Factor: 2.36000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | | CAS #: 74-97-5 | |
| 5.432 | 5.432 (1.000) | 130 | 102169 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 78418 | | | | 47.79- 107.79 | 76.75 |
| 5.432 | 5.432 (1.000) | 49 | 149910 | | | | 131.33- 191.33 | 146.73 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | | CAS #: 17060-07-0 | |
| 6.019 | 6.019 (1.108) | 65 | 119319 | 22.4218 | 22.422 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 62784 | | | | 23.17- 83.17 | 52.62 |
| 102 Benzene | | | | | | | CAS #: 71-43-2 | |
| 5.990 | 5.990 (0.933) | 78 | 12602 | 1.68754 | 3.982 | | 80.00- 120.00 | 100.00 |
| 5.998 | 5.990 (0.934) | 77 | 3237 | | | | 0.00- 53.69 | 25.69 |
| * 108 1,4-Difluorobenzene | | | | | | | CAS #: 540-36-3 | |
| 6.420 | 6.420 (1.000) | 114 | 370903 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 54757 | | | | 0.00- 45.65 | 14.76 |
| 111 Trichloroethene | | | | | | | CAS #: 79-01-6 | |
| 6.628 | 6.628 (1.032) | 95 | 19275 | 5.35328 | 12.634 | | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 21405 | | | | 80.23- 140.23 | 111.05 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 111 Trichloroethene (continued) | | | | | | | |
| 6.628 | 6.628 (1.032) | 97 | 12445 | | | 34.78- 94.78 | 64.57 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 350370 | 24.2995 | 24.299 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 38247 | | | 0.00- 41.42 | 10.92 |
| 7.760 | 7.760 (1.209) | 100 | 234125 | | | 37.54- 97.54 | 66.82 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 103797 | 10.0407 | 23.696 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 61572 | | | 27.89- 87.89 | 59.32 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 381883 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 190264 | | | 22.92- 82.92 | 49.82 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.250 | 9.242 (1.011) | 106 | 4855 | 1.09089 | 2.574 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 14963 | | | 281.09- 341.09 | 308.20 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 19540 | 3.52252 | 8.313 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.364 (1.023) | 91 | 37557 | | | 170.33- 230.33 | 192.20 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 6207 | 1.17999 | 2.785 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.744 (1.066) | 91 | 13414 | | | 181.23- 241.23 | 216.10 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 283991 | 25.0236 | 25.024 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 316087 | | | 88.49- 148.49 | 111.30 |
| 10.288 | 10.288 (1.124) | 176 | 280939 | | | 66.73- 126.73 | 98.93 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061409.d
Lab Smp Id: 2406133-04A
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.6 Hg->10 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 102169 | 5.01 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 370903 | 4.13 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 381883 | 8.23 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:40

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-04A
Level: LOW Operator: RT
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.6 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.422 | 89.69 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.299 | 97.20 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.024 | 100.09 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061409.d

Page 1

Date : 14-JUN-2024 16:24

Client ID:

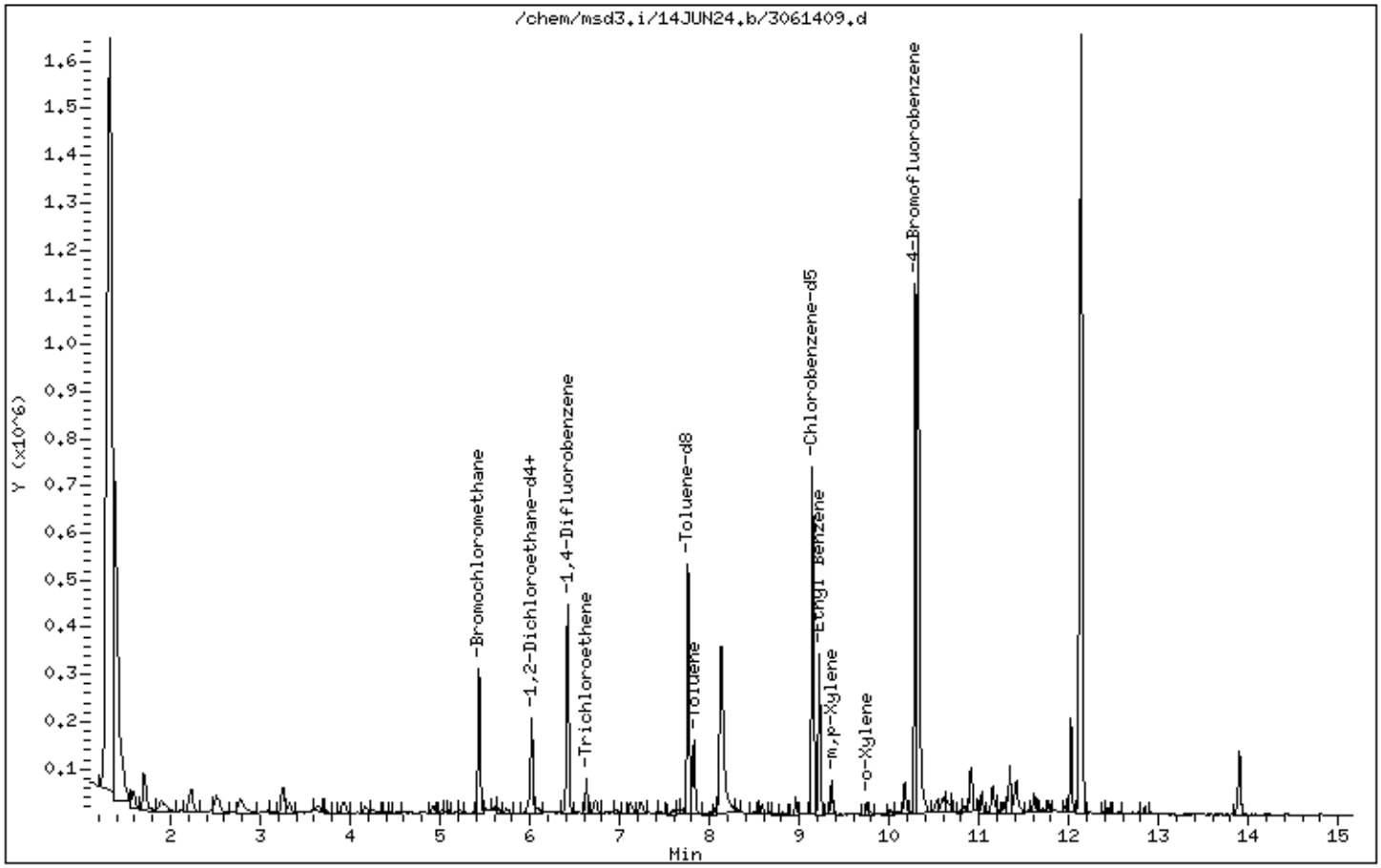
Instrument: msd3.i

Sample Info: 200mL N8353

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061409.d

Date : 14-JUN-2024 16:24

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8353

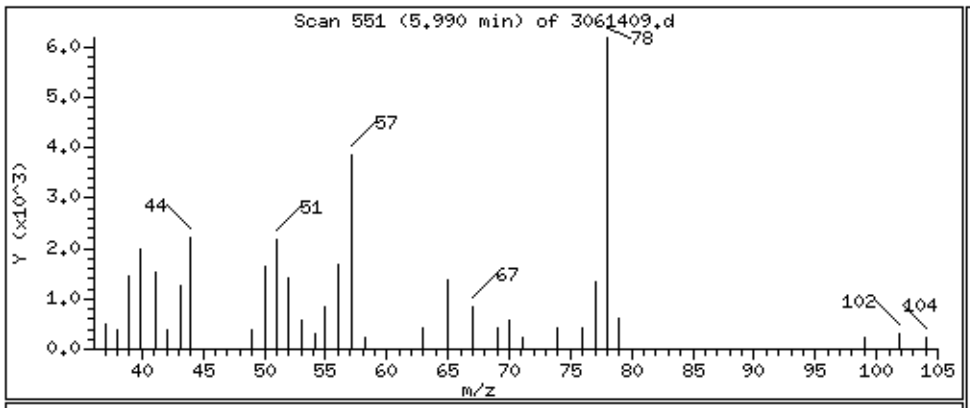
Operator: RT

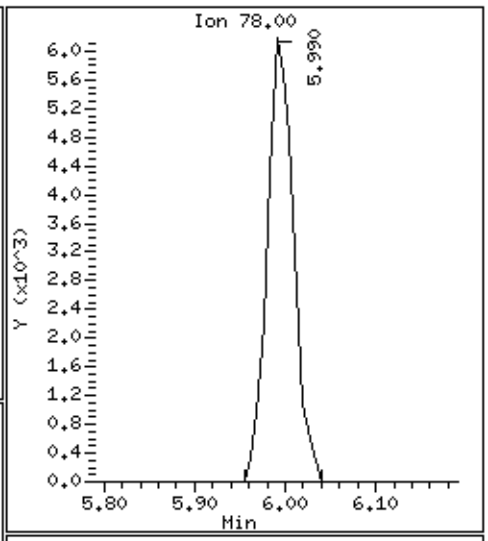
Column phase: RTX-624

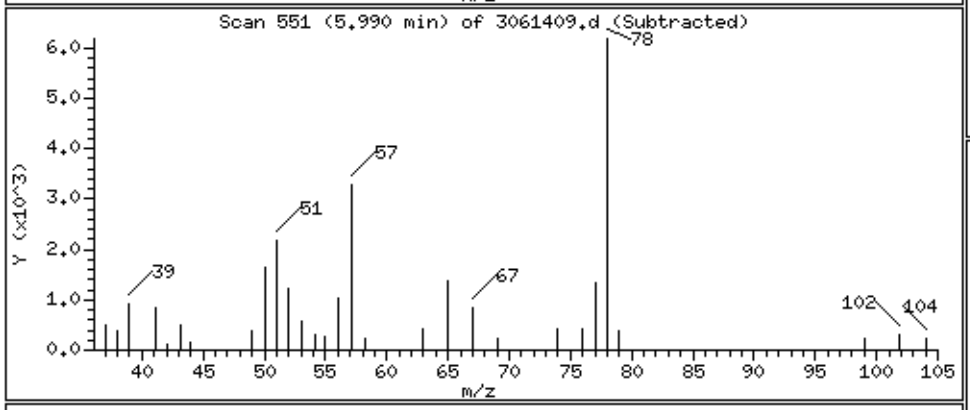
Column diameter: 0.25

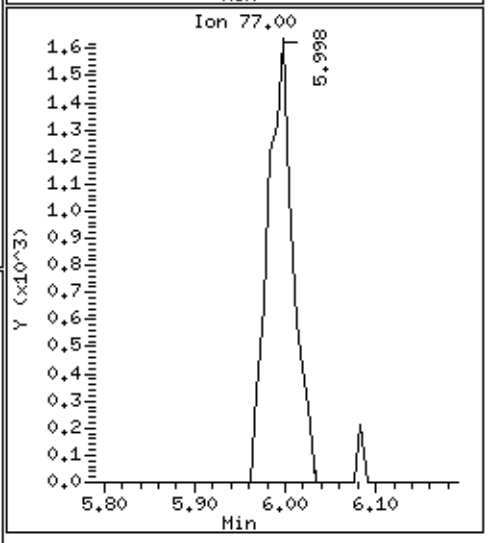
102 Benzene

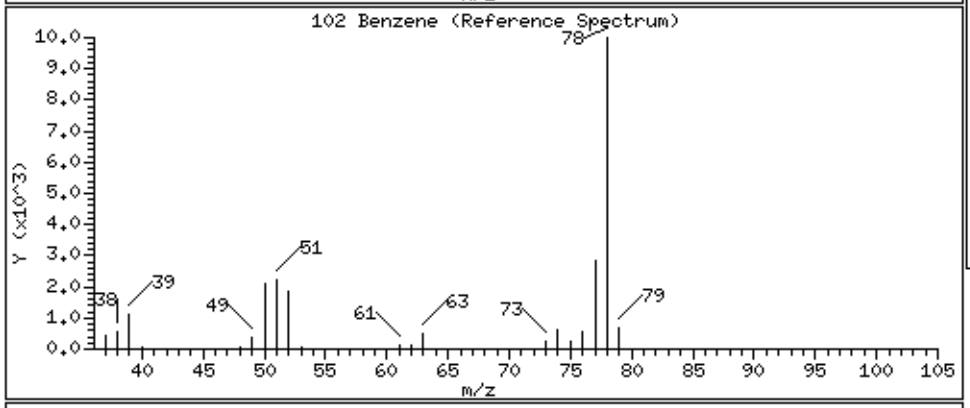
Concentration: 3.982 PPBV

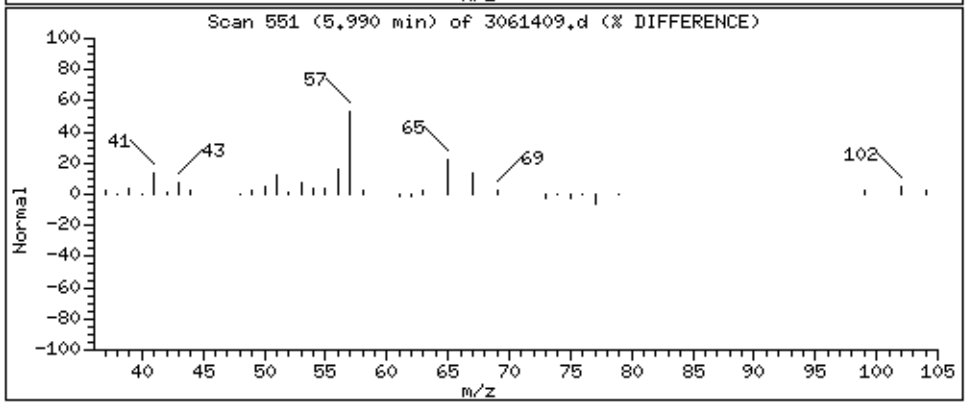


Data File: /chem/msd3.i/14JUN24.b/3061409.d

Date : 14-JUN-2024 16:24

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8353

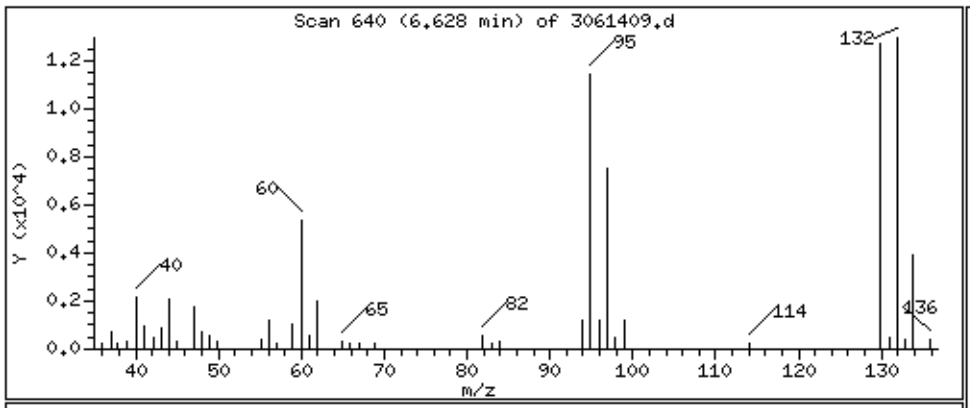
Operator: RT

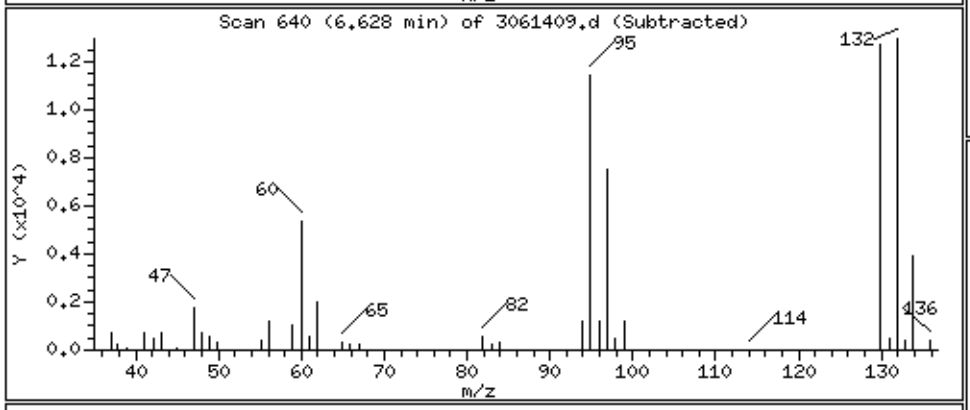
Column phase: RTX-624

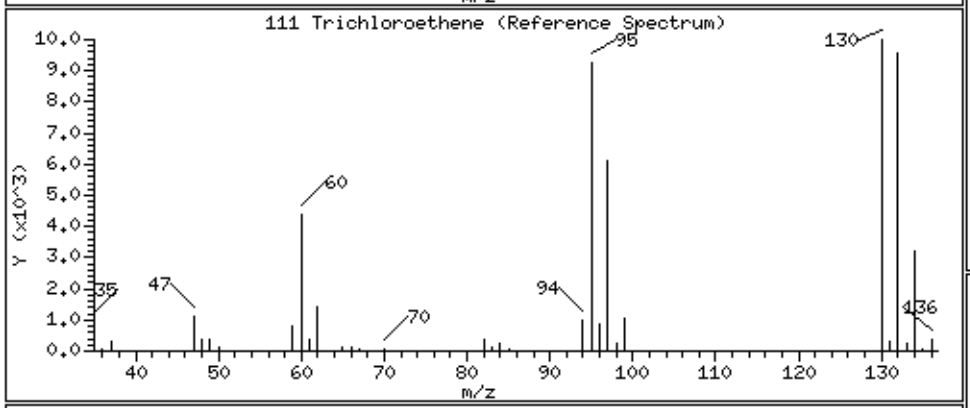
Column diameter: 0.25

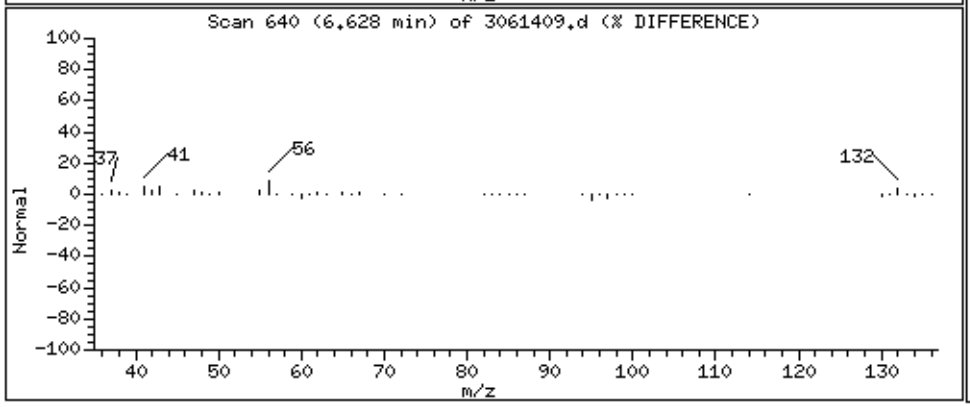
111 Trichloroethene

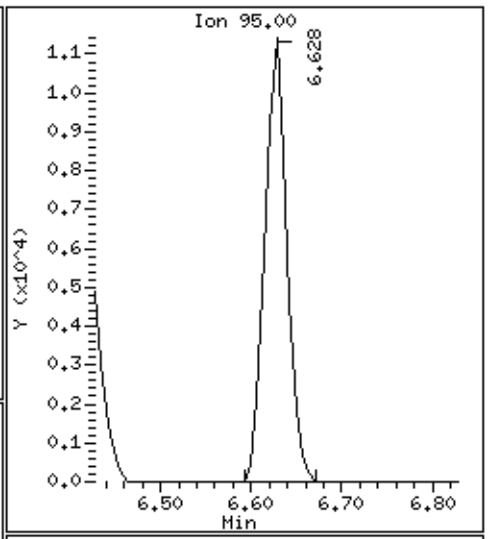
Concentration: 12.634 PPBV

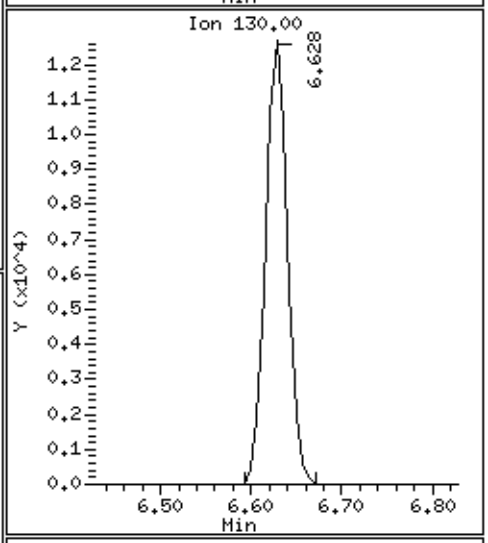


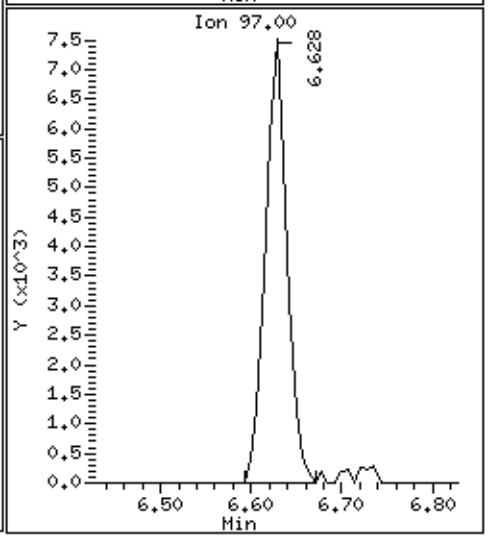



Data File: /chem/msd3.i/14JUN24.b/3061409.d

Date : 14-JUN-2024 16:24

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8353

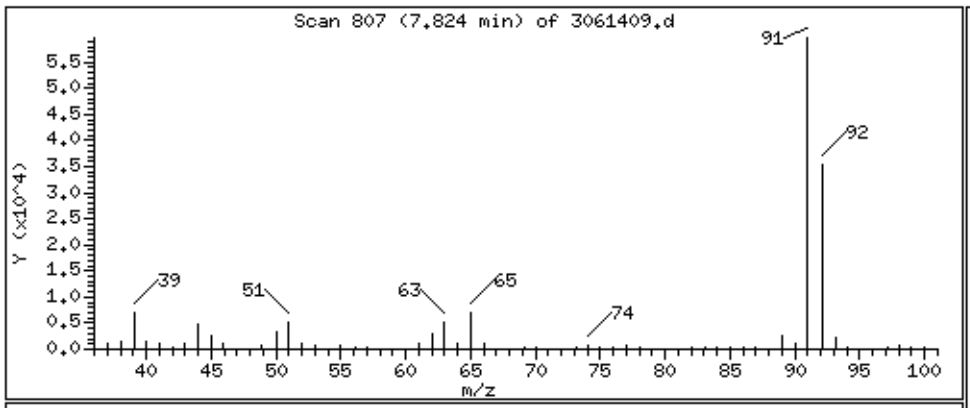
Operator: RT

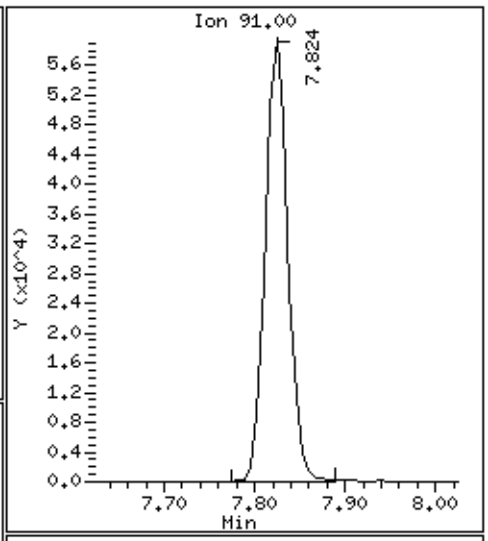
Column phase: RTX-624

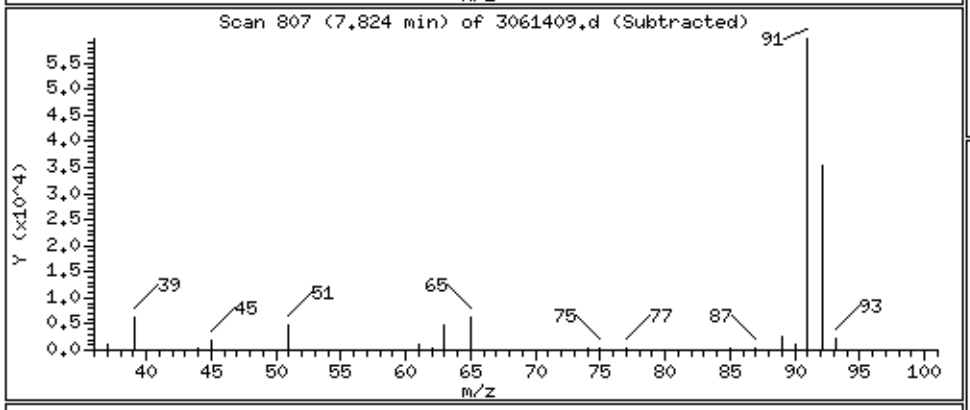
Column diameter: 0.25

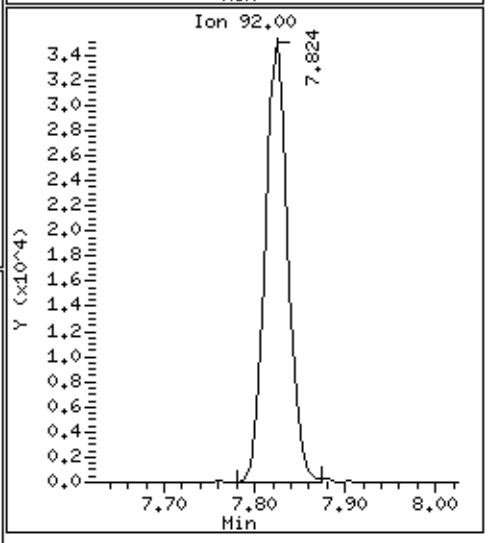
137 Toluene

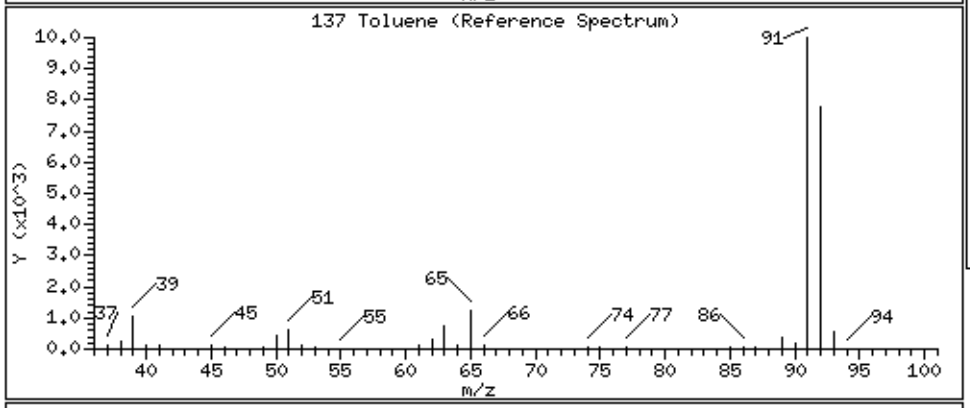
Concentration: 23.696 PPBV

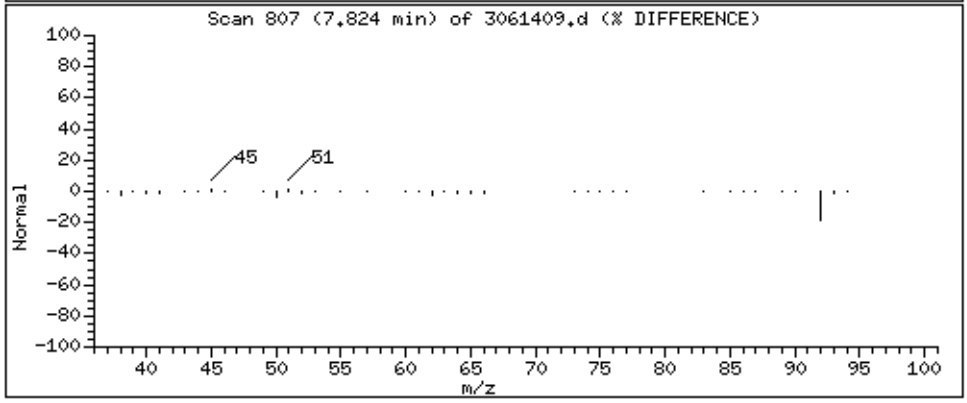


Data File: /chem/msd3.i/14JUN24.b/3061409.d

Date : 14-JUN-2024 16:24

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8353

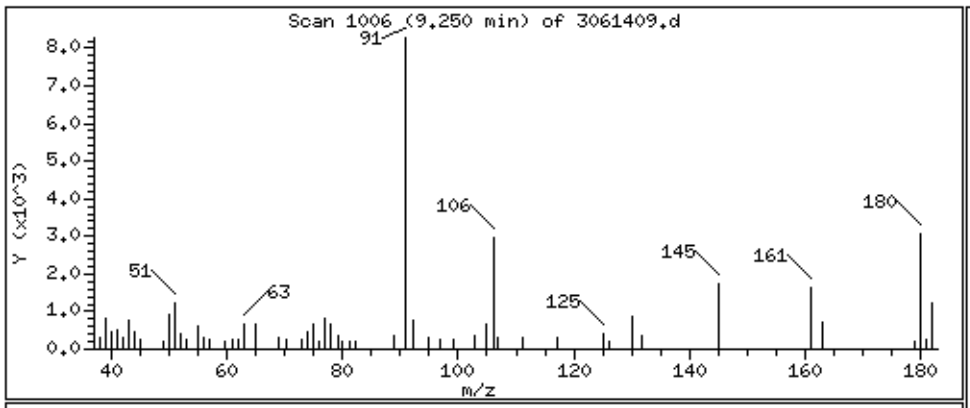
Operator: RT

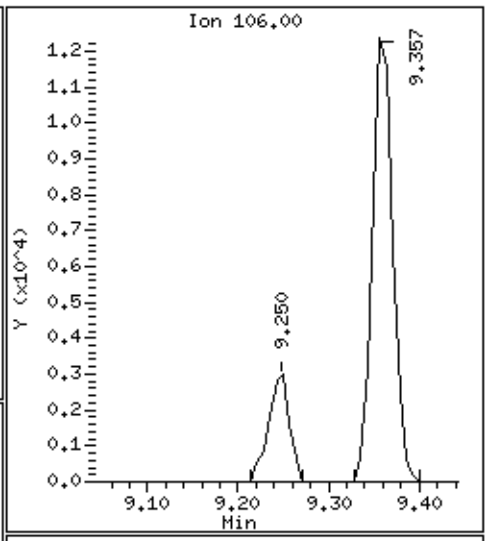
Column phase: RTX-624

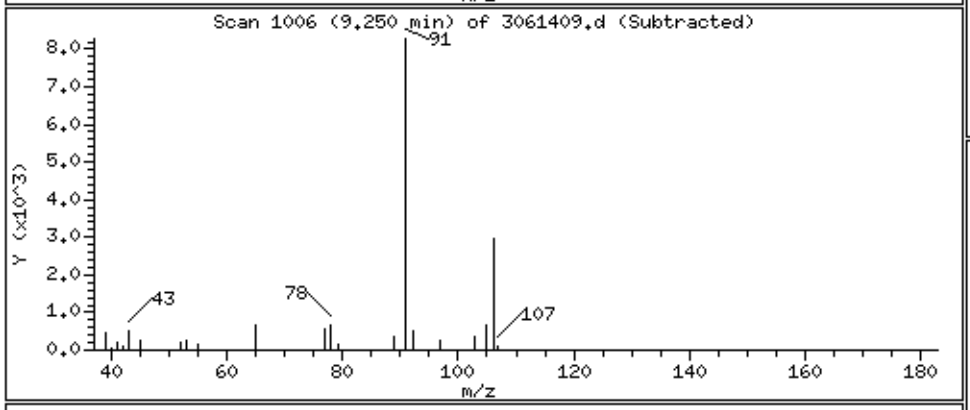
Column diameter: 0.25

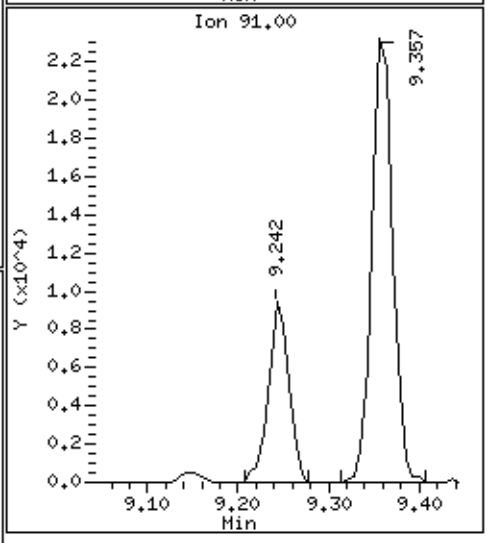
155 Ethyl Benzene

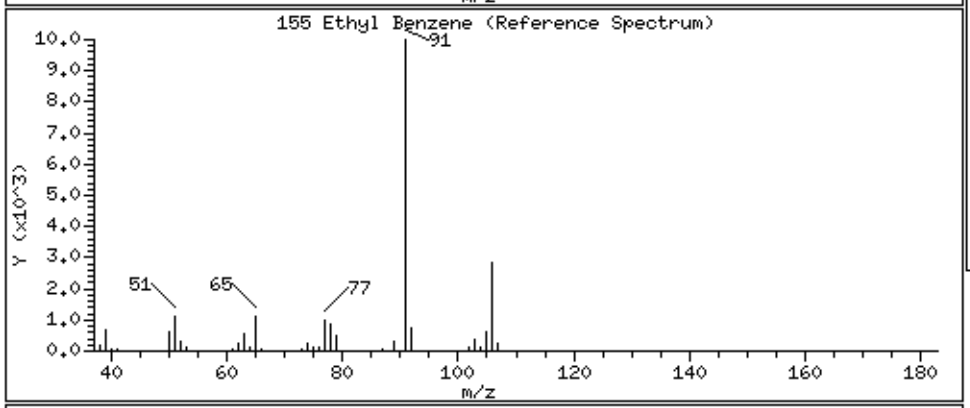
Concentration: 2.574 PPBV

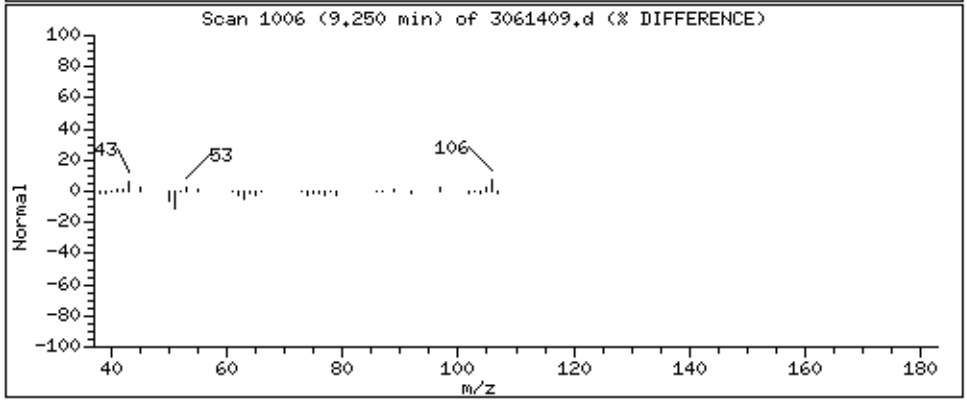


Data File: /chem/msd3.i/14JUN24.b/3061409.d

Date : 14-JUN-2024 16:24

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8353

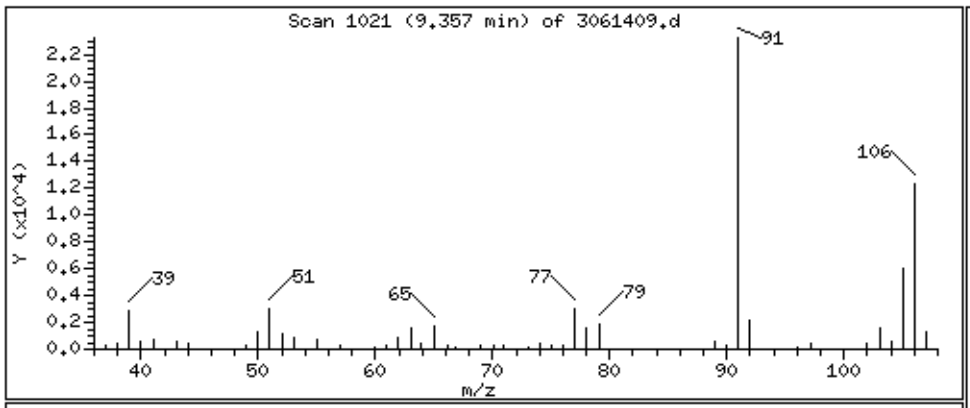
Operator: RT

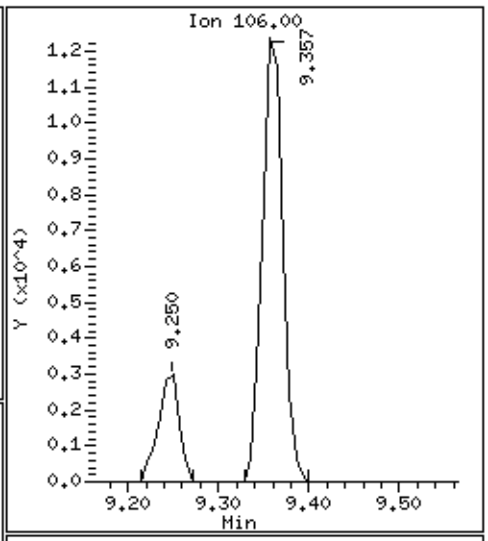
Column phase: RTX-624

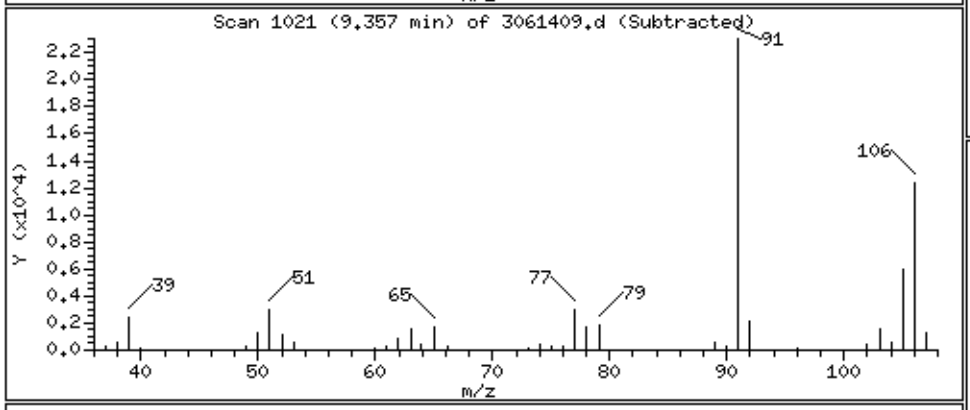
Column diameter: 0.25

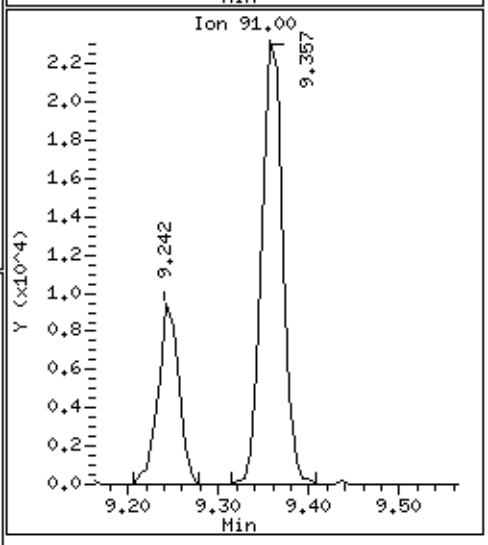
158 m,p-Xylene

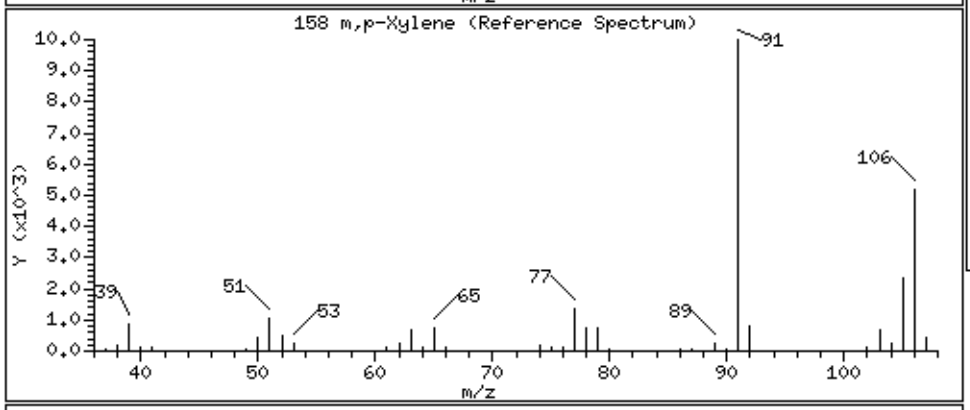
Concentration: 8.313 PPBV

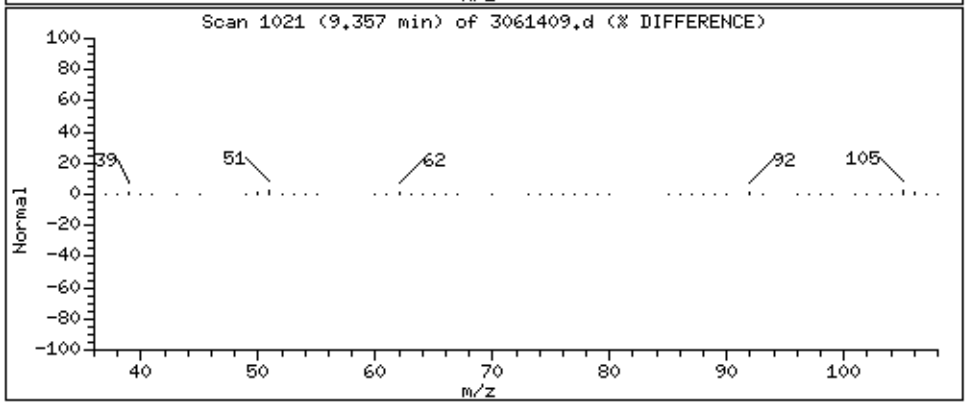


Data File: /chem/msd3.i/14JUN24.b/3061409.d

Date : 14-JUN-2024 16:24

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8353

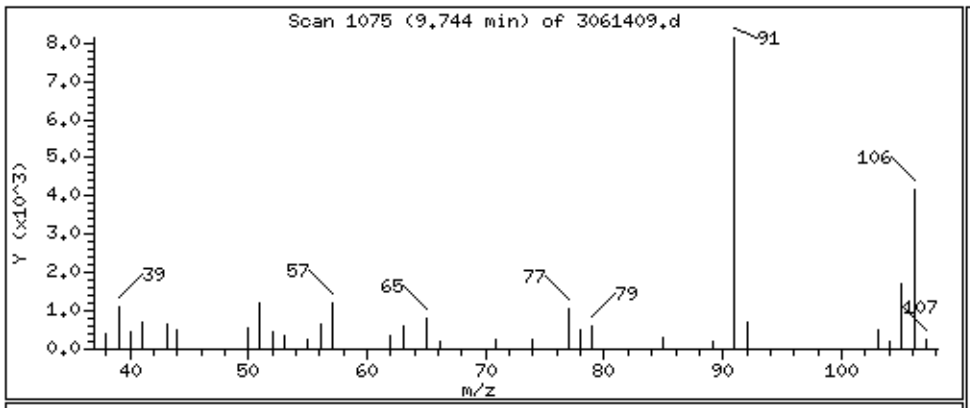
Operator: RT

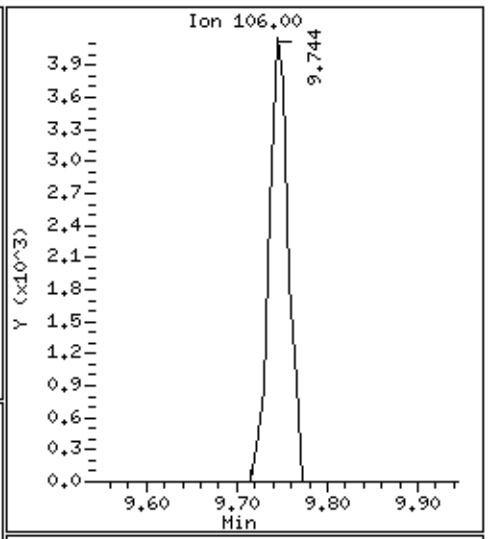
Column phase: RTX-624

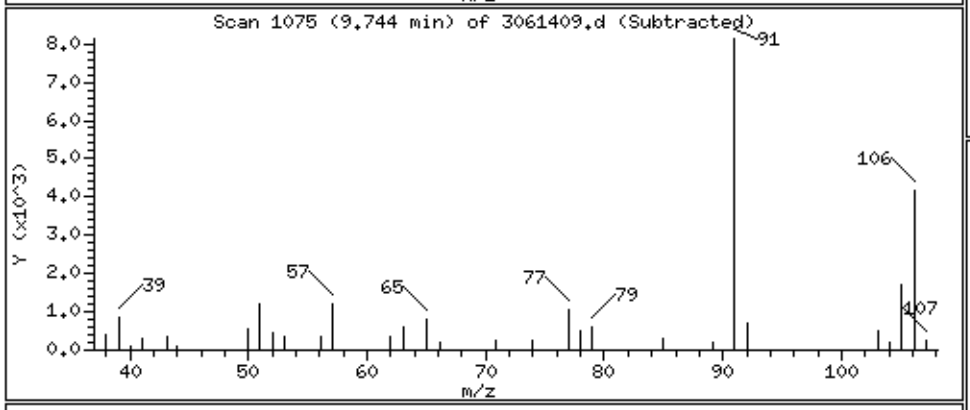
Column diameter: 0.25

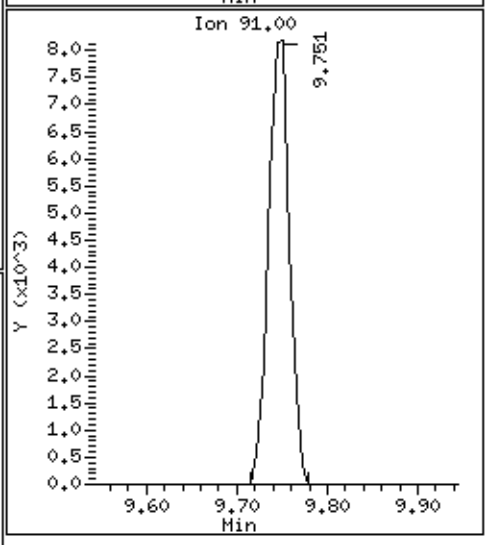
164 o-Xylene

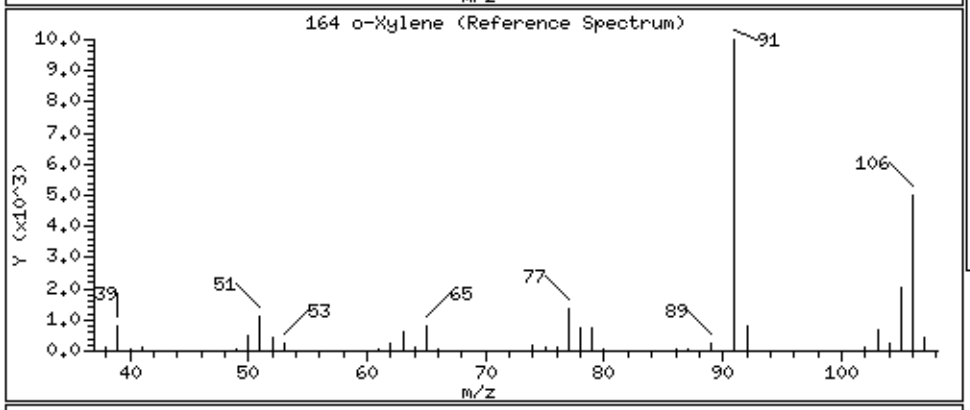
Concentration: 2.785 PPBV

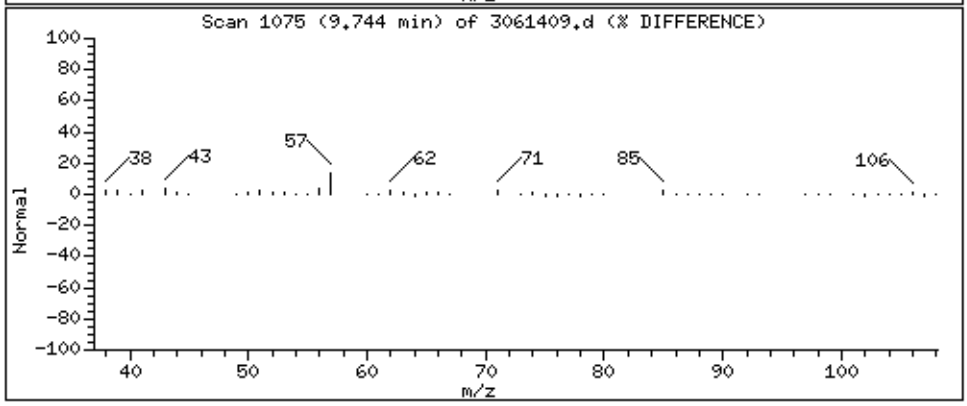


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV033_May24 Lab Duplicate | | |
| **Lab ID:** | 2406133-04AA | **Date/Time Analyzed:** | 6/14/24 04:59 PM |
| **Date/Time Collected:** | 5/28/24 02:52 PM | **Dilution Factor:** | 2.36 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061410 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.4 | 4.2 | 4.7 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.4 | 6.4 | 7.1 | Not Detected U |
| Benzene | 71-43-2 | 0.89 | 3.4 | 3.8 | 13 |
| cis-1,2-Dichloroethene | 156-59-2 | 1.0 | 4.2 | 4.7 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.6 | 5.1 | 11 |
| m,p-Xylene | 108-38-3 | 0.73 | 4.6 | 10 | 36 |
| o-Xylene | 95-47-6 | 1.2 | 4.6 | 5.1 | 13 |
| Toluene | 108-88-3 | 1.1 | 4.0 | 8.9 | 90 |
| trans-1,2-Dichloroethene | 156-60-5 | 2.1 | 4.2 | 4.7 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.9 | 5.7 | 6.3 | 68 |
| Vinyl Chloride | 75-01-4 | 2.5 | 2.7 | 3.0 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 101 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061410.d
Lab Smp Id: 2406133-04AA
Inj Date : 14-JUN-2024 16:59
Operator : RT Inst ID: msd3.i
Smp Info : 200mL N8353
Misc Info : 8.6 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 2
Dil Factor: 2.36000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.432 (1.000) | 130 | 97430 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.432 (1.000) | 128 | 76983 | | | | 47.79- 107.79 | 79.01 |
| 5.432 | 5.432 (1.000) | 49 | 145001 | | | | 131.33- 191.33 | 148.83 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.019 (1.108) | 65 | 114651 | 22.5925 | | 22.592 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.107) | 67 | 60974 | | | | 23.17- 83.17 | 53.18 |
| 102 Benzene | | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 12598 | 1.71372 | | 4.044 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 3134 | | | | 0.00- 53.69 | 24.88 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 365121 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 53820 | | | | 0.00- 45.65 | 14.74 |
| 111 Trichloroethene | | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 18942 | 5.34410 | | 12.612 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 21817 | | | | 80.23- 140.23 | 115.18 |

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | | ===== |
| 111 Trichloroethene (continued) | | | | | | | | |
| 6.628 | 6.628 (1.032) | 97 | 12263 | | | 34.78- | 94.78 | 64.74 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | | |
| 7.767 | 7.760 (1.210) | 98 | 345900 | 24.3694 | 24.369 | 80.00- | 120.00 | 100.00 |
| 7.767 | 7.760 (1.210) | 70 | 37252 | | | 0.00- | 41.42 | 10.77 |
| 7.767 | 7.760 (1.210) | 100 | 233255 | | | 37.54- | 97.54 | 67.43 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | | |
| 7.824 | 7.824 (1.219) | 91 | 103302 | 10.1510 | 23.956 | 80.00- | 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 59792 | | | 27.89- | 87.89 | 57.88 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | | |
| 9.149 | 9.149 (1.000) | 117 | 371816 | 25.0000 | | 80.00- | 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 187165 | | | 22.92- | 82.92 | 50.34 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | | |
| 9.249 | 9.242 (1.011) | 106 | 4686 | 1.08142 | 2.552 | 80.00- | 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 14385 | | | 281.09- | 341.09 | 306.97 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | | |
| 9.357 | 9.364 (1.023) | 106 | 19159 | 3.54735 | 8.372 | 80.00- | 120.00 | 100.00 |
| 9.357 | 9.364 (1.023) | 91 | 37703 | | | 170.33- | 230.33 | 196.78 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | | |
| 9.744 | 9.744 (1.065) | 106 | 6298 | 1.22970 | 2.902 | 80.00- | 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 13261 | | | 181.23- | 241.23 | 210.55 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | | |
| 10.288 | 10.288 (1.124) | 174 | 278346 | 25.1902 | 25.190 | 80.00- | 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 305594 | | | 88.49- | 148.49 | 109.79 |
| 10.288 | 10.288 (1.124) | 176 | 275920 | | | 66.73- | 126.73 | 99.13 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061410.d
Lab Smp Id: 2406133-04AA
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.6 Hg->10 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 97430 | 0.14 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 365121 | 2.51 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 371816 | 5.38 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:44

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-04AA
Level: LOW Operator: RT
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.6 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.592 | 90.37 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.369 | 97.48 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.190 | 100.76 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061410.d



Date : 14-JUN-2024 16:59

Client ID:

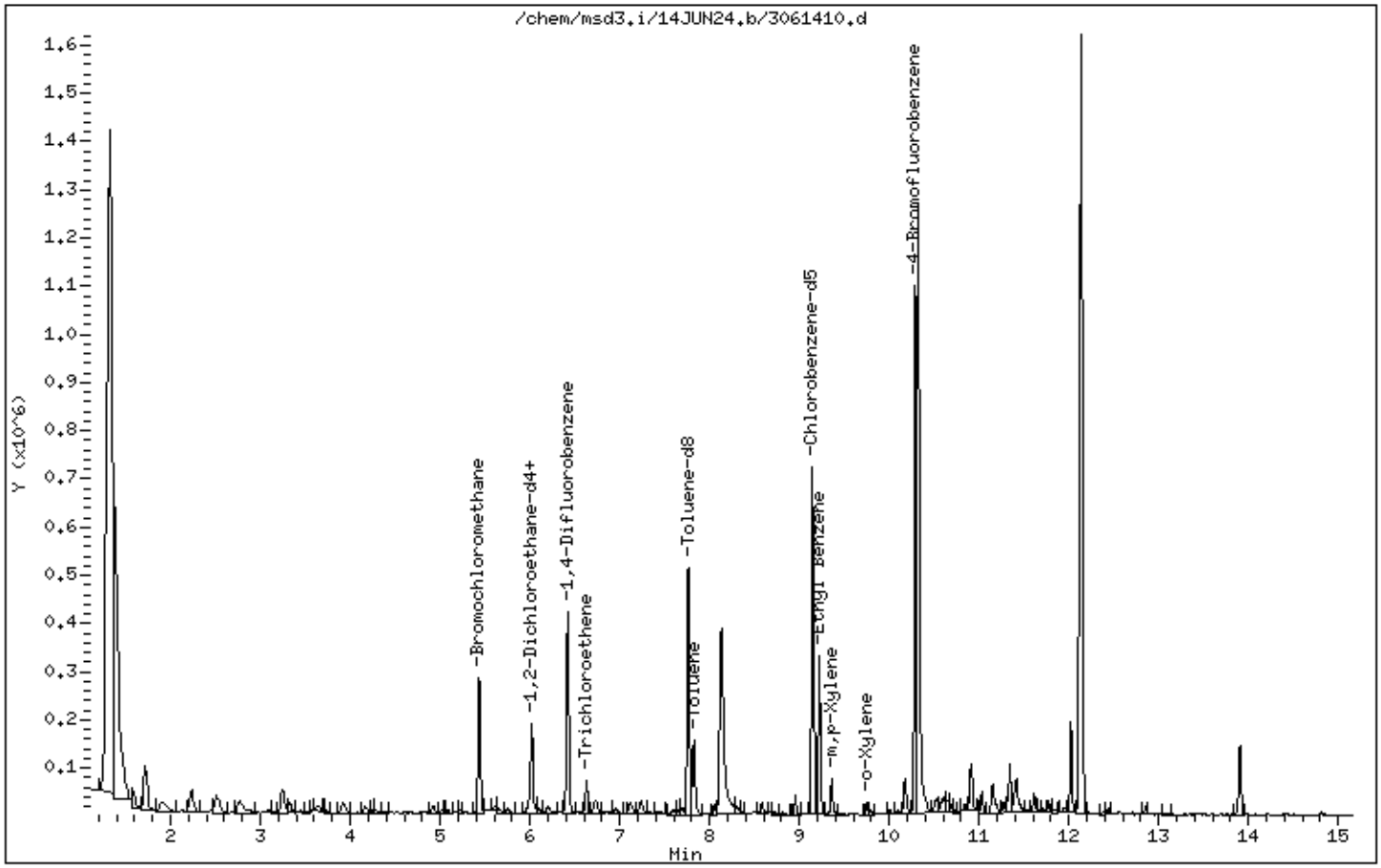
Instrument: msd3.i

Sample Info: 200mL N8353

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061410.d

Date : 14-JUN-2024 16:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8353

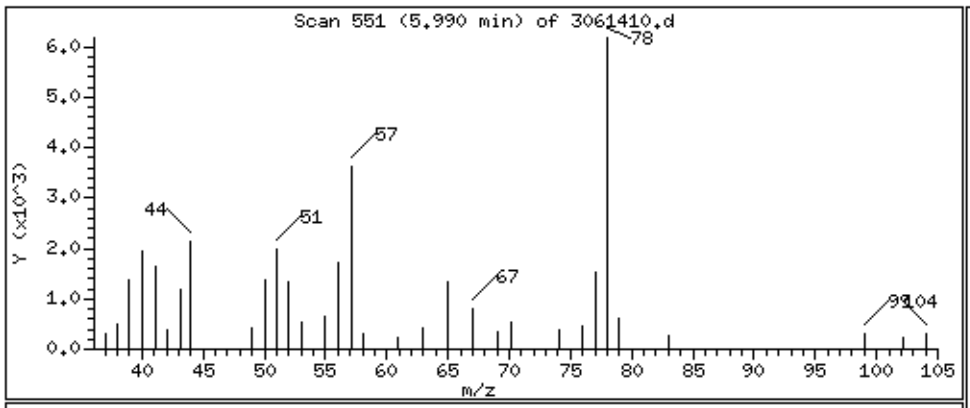
Operator: RT

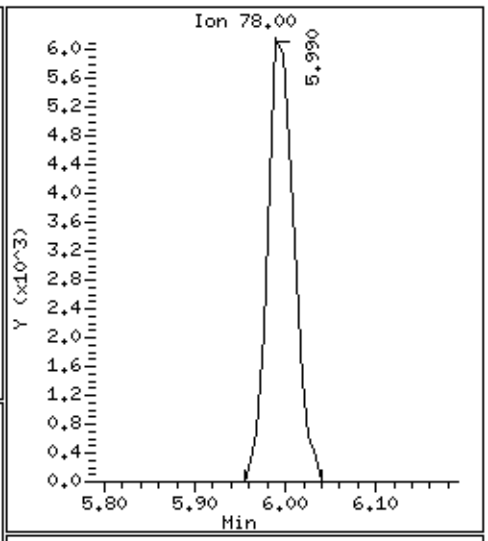
Column phase: RTX-624

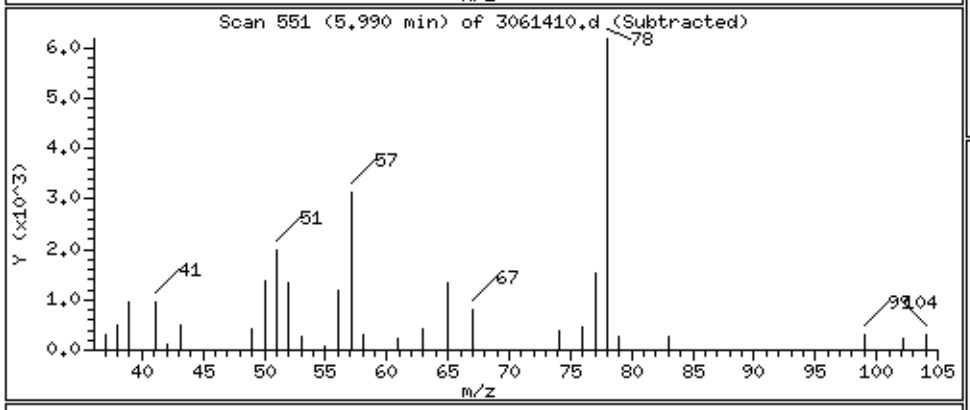
Column diameter: 0.25

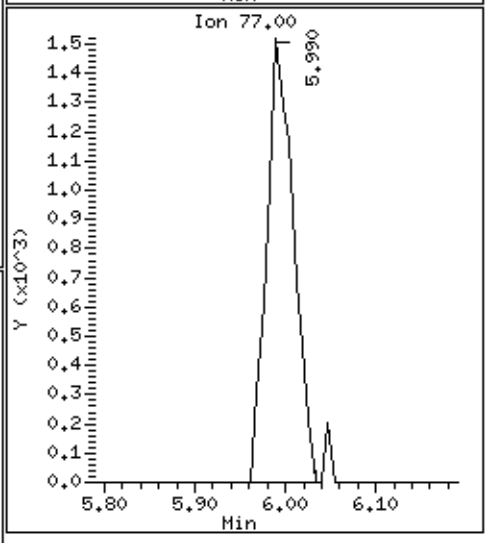
102 Benzene

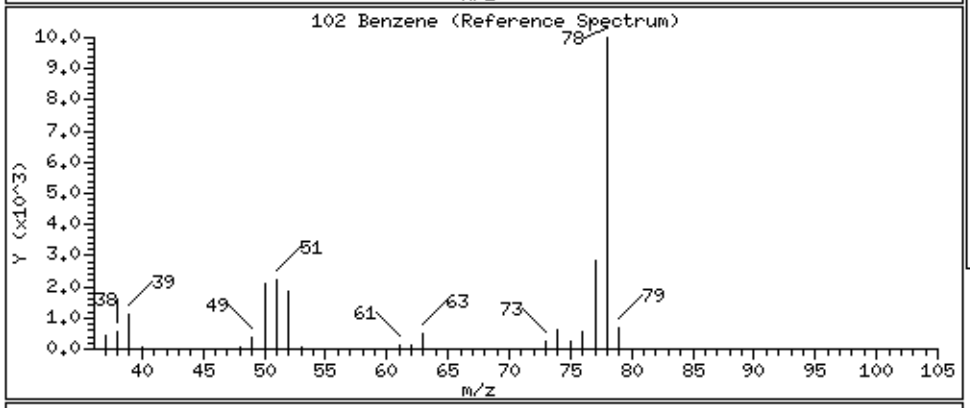
Concentration: 4.044 PPBV

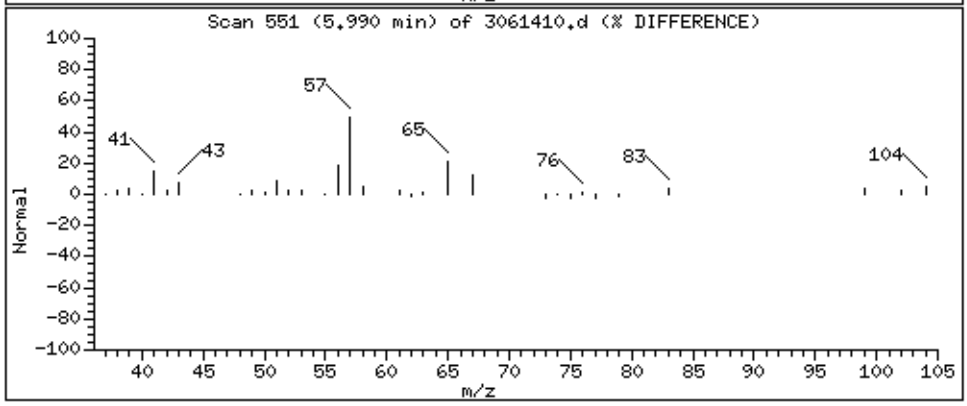


Data File: /chem/msd3.i/14JUN24.b/3061410.d

Date : 14-JUN-2024 16:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8353

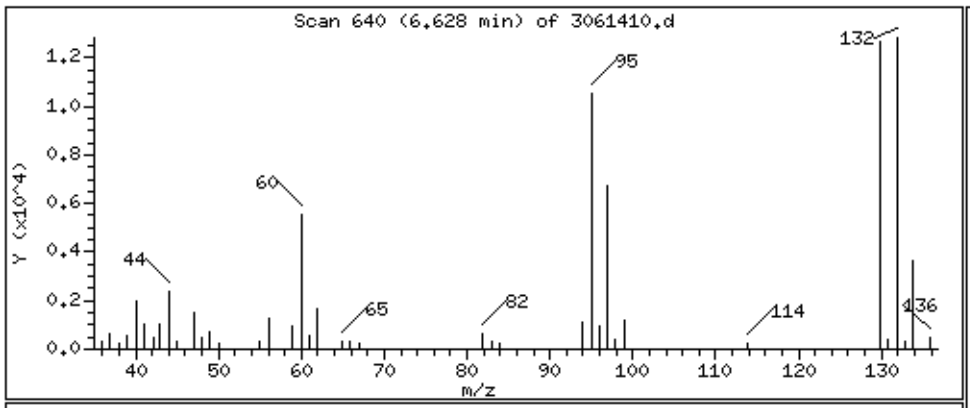
Operator: RT

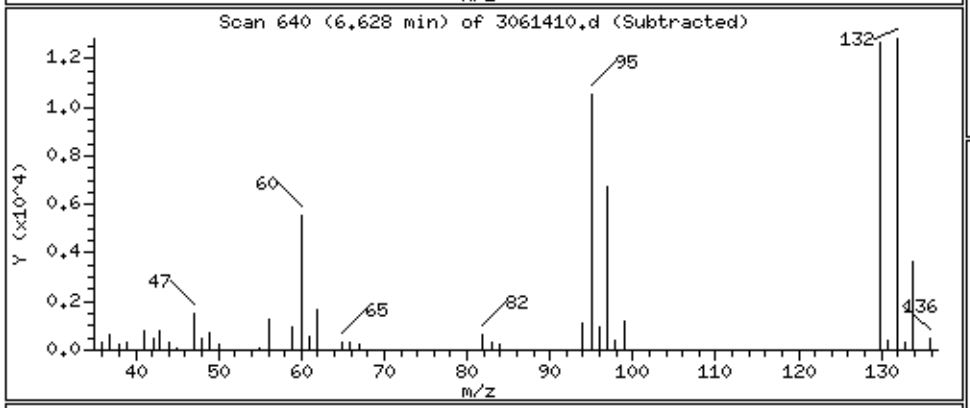
Column phase: RTX-624

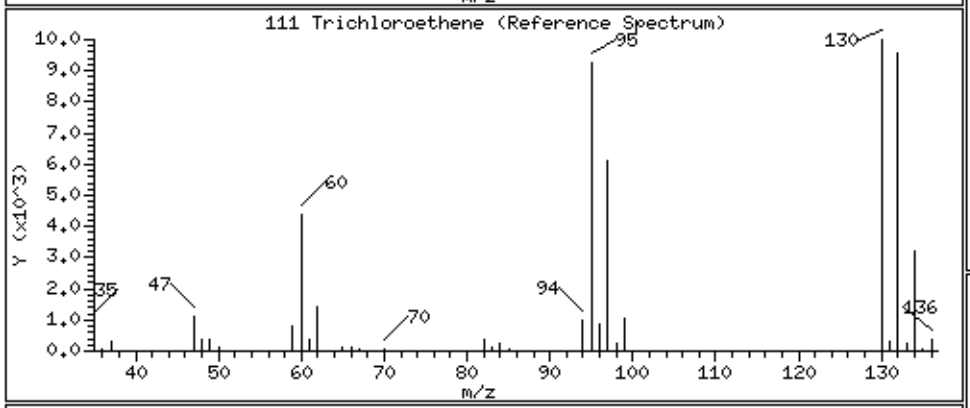
Column diameter: 0.25

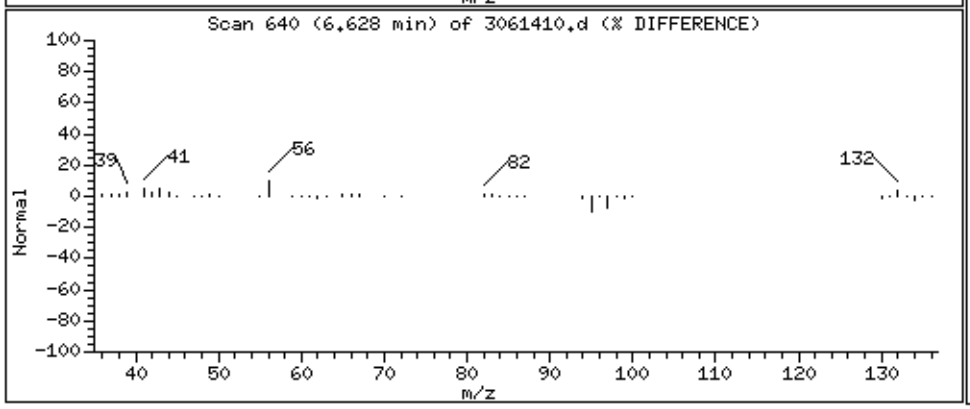
111 Trichloroethene

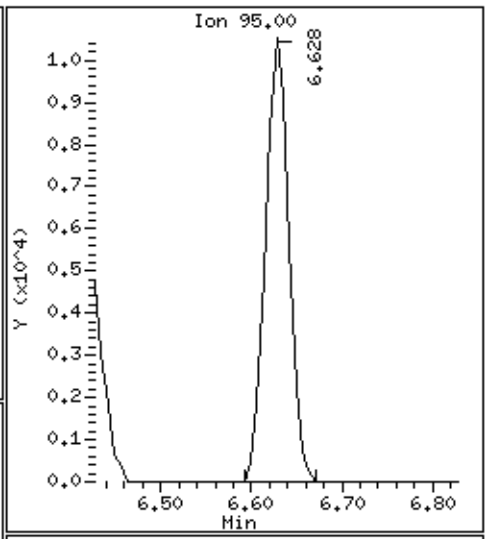
Concentration: 12.612 PPBV

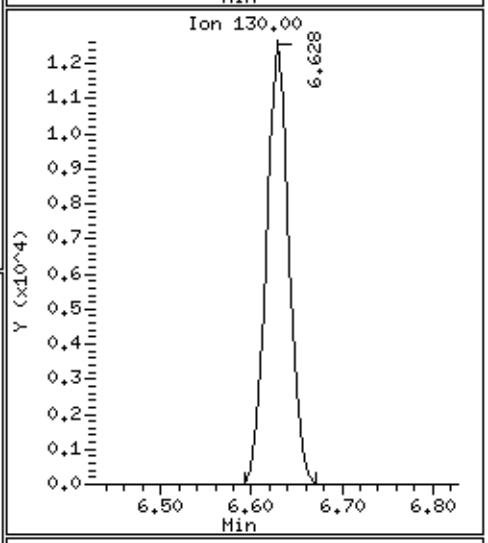


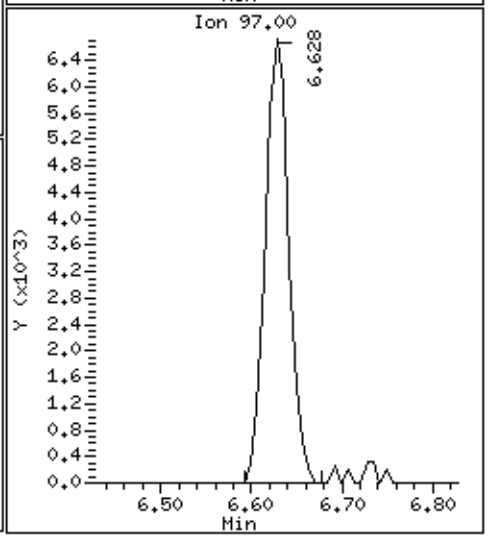



Data File: /chem/msd3.i/14JUN24.b/3061410.d

Date : 14-JUN-2024 16:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8353

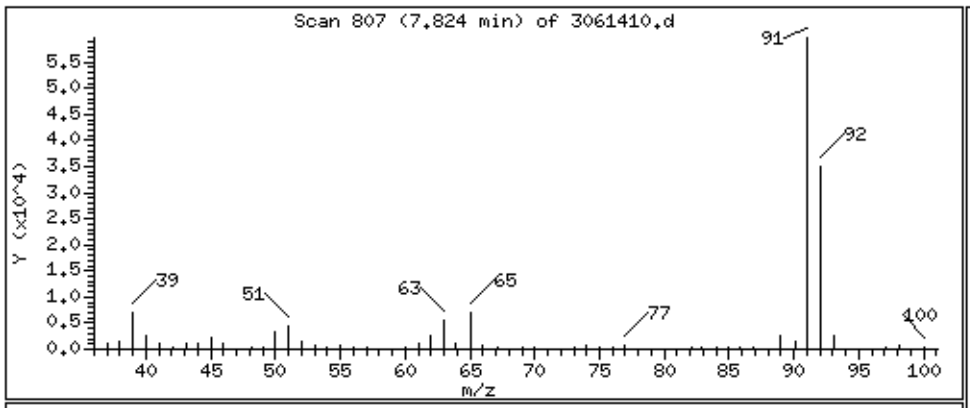
Operator: RT

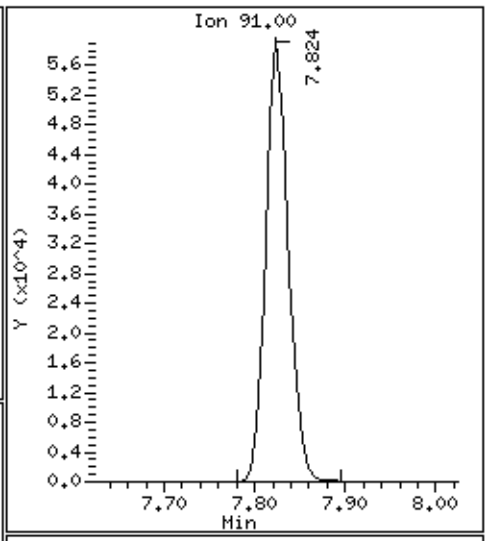
Column phase: RTX-624

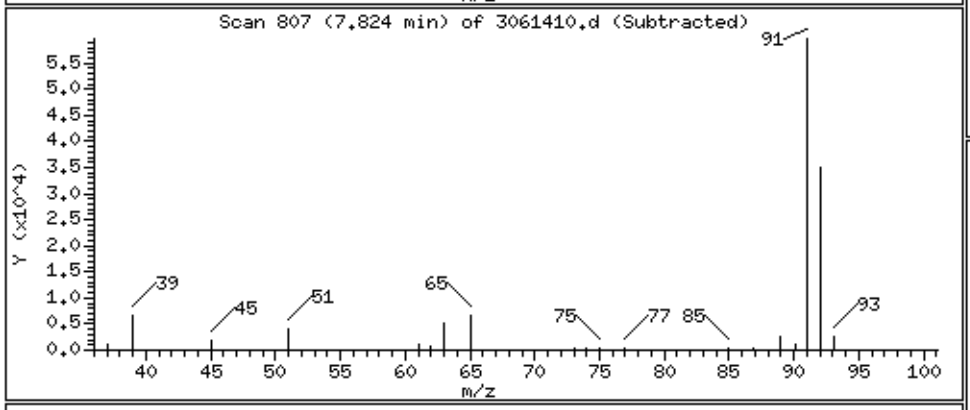
Column diameter: 0.25

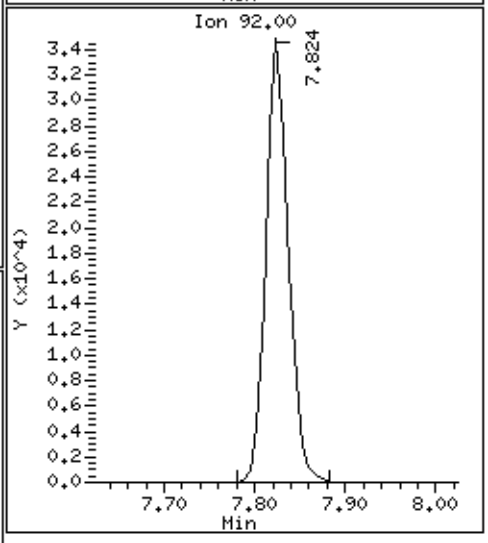
137 Toluene

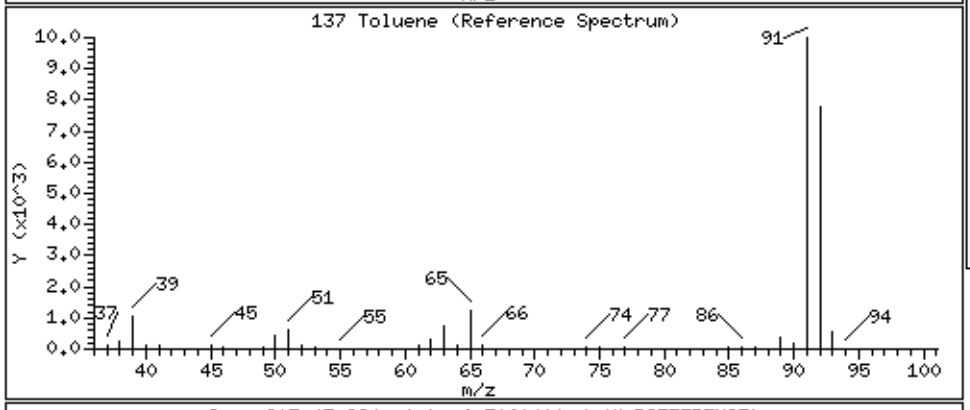
Concentration: 23.956 PPBV

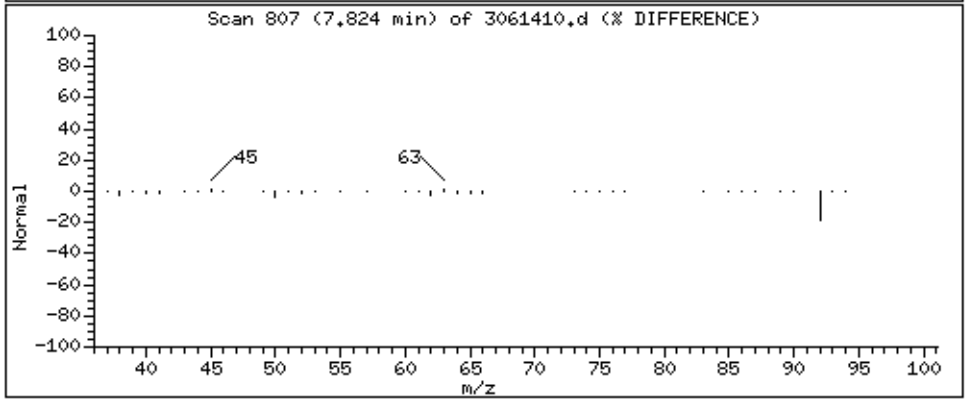


Data File: /chem/msd3.i/14JUN24.b/3061410.d

Page 5

Date : 14-JUN-2024 16:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8353

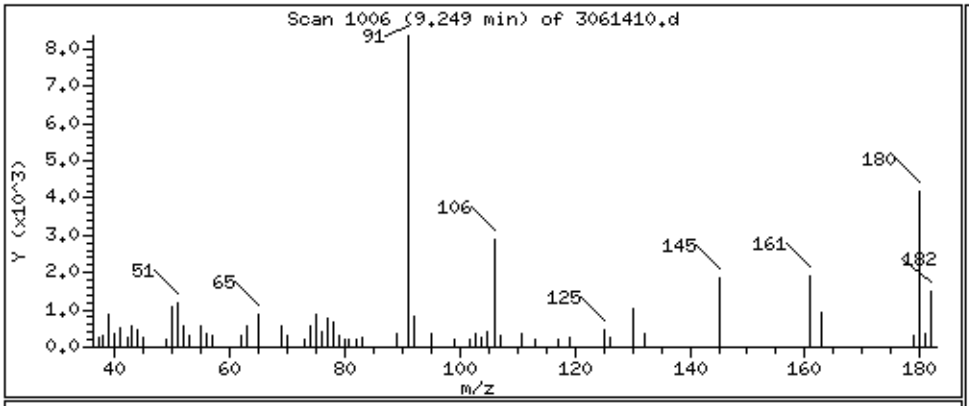
Operator: RT

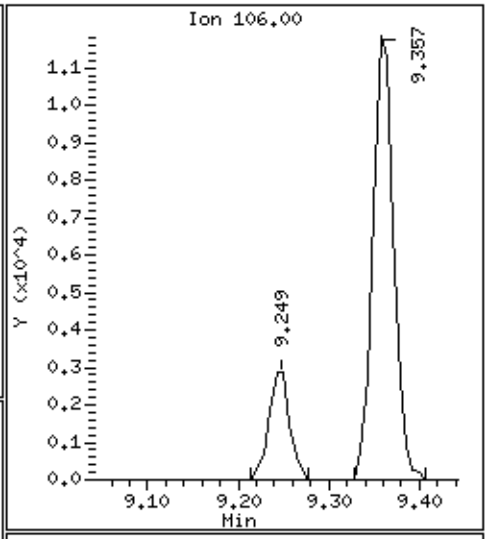
Column phase: RTX-624

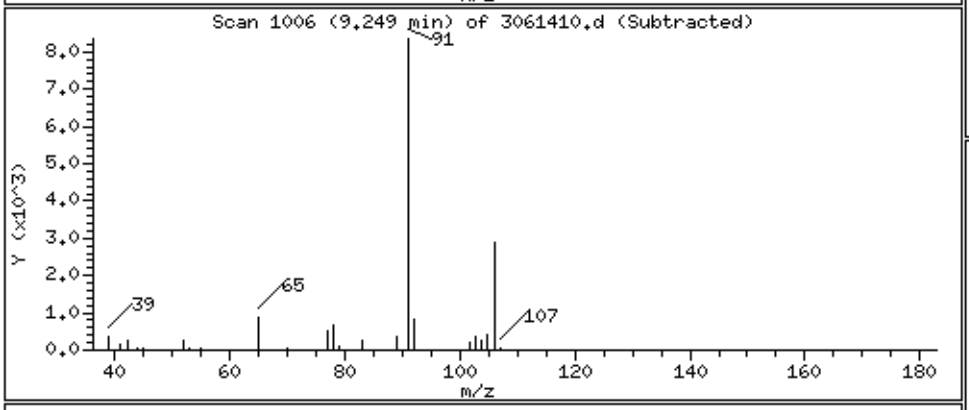
Column diameter: 0.25

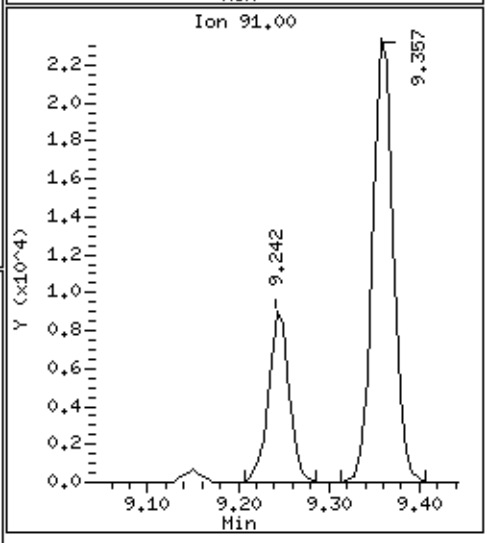
155 Ethyl Benzene

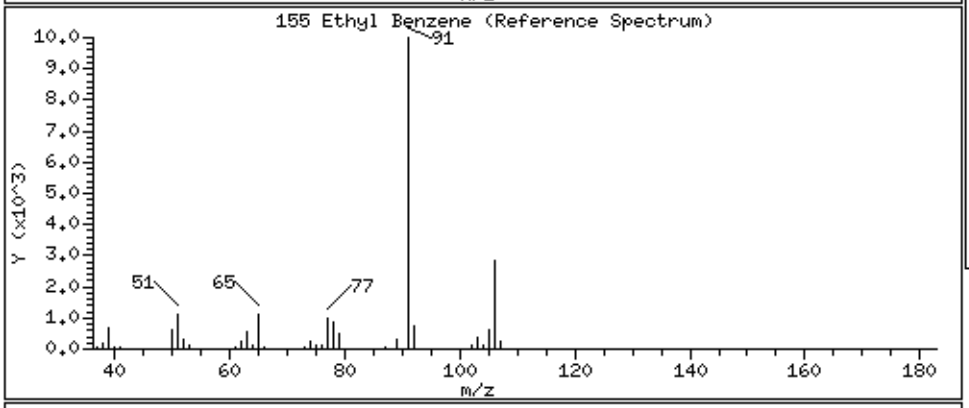
Concentration: 2.552 PPBV

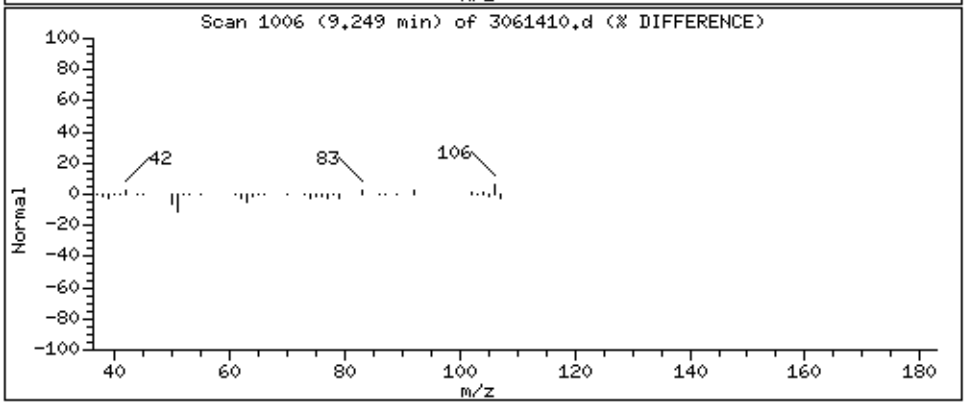


Data File: /chem/msd3.i/14JUN24.b/3061410.d

Date : 14-JUN-2024 16:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8353

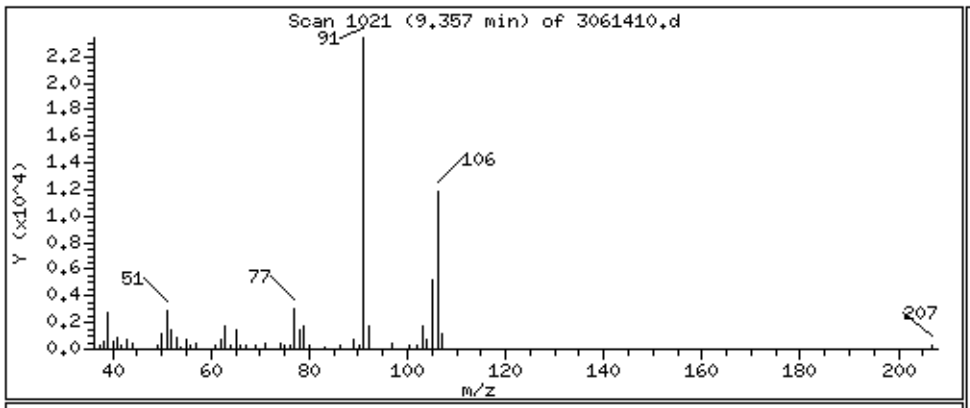
Operator: RT

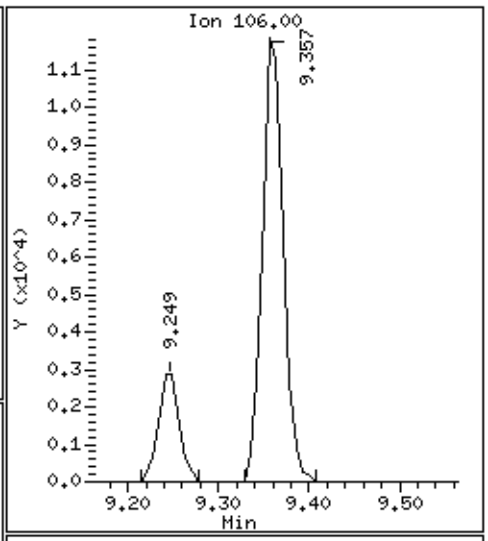
Column phase: RTX-624

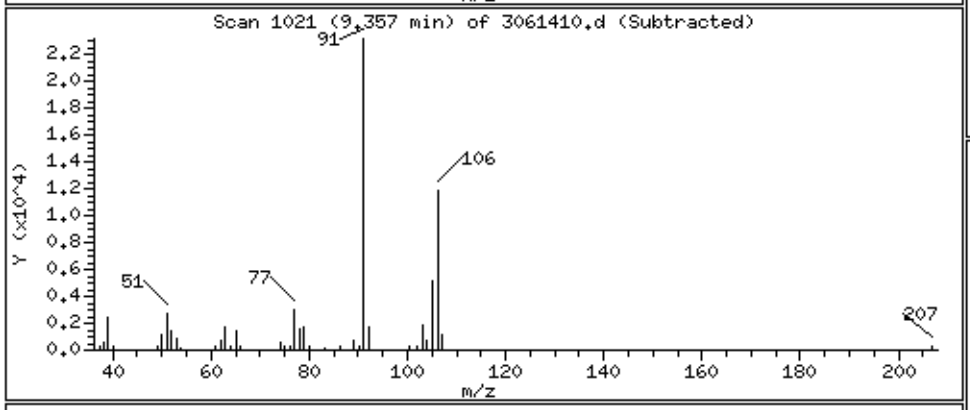
Column diameter: 0.25

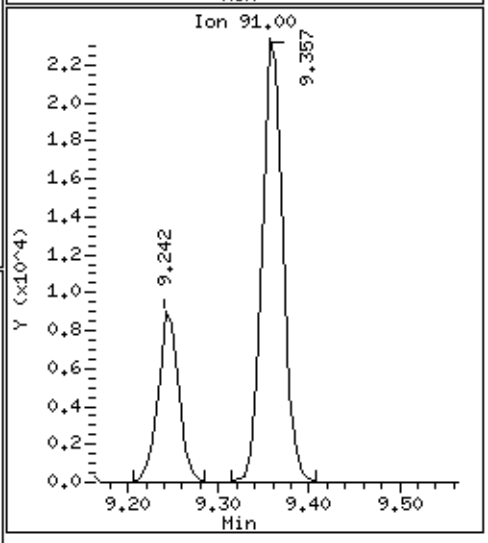
158 m,p-Xylene

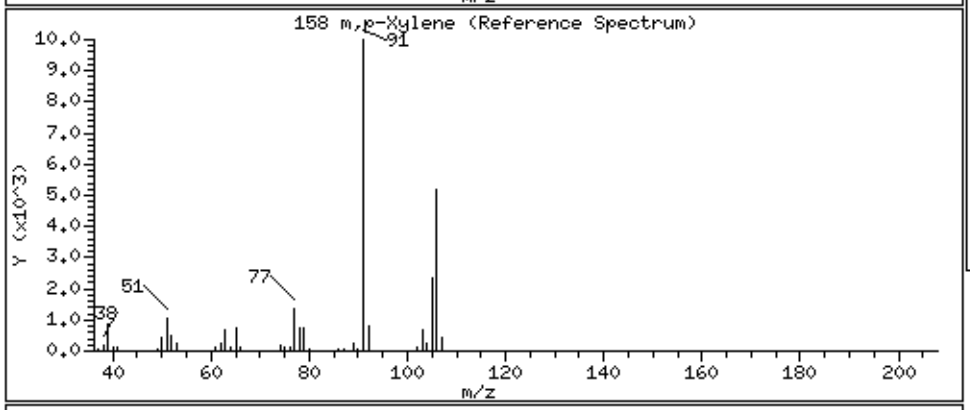
Concentration: 8.372 PPBV

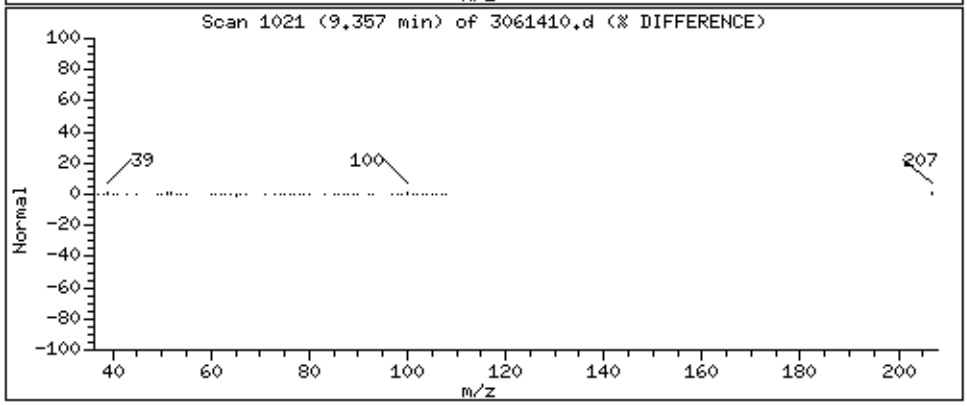


Data File: /chem/msd3.i/14JUN24.b/3061410.d

Date : 14-JUN-2024 16:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8353

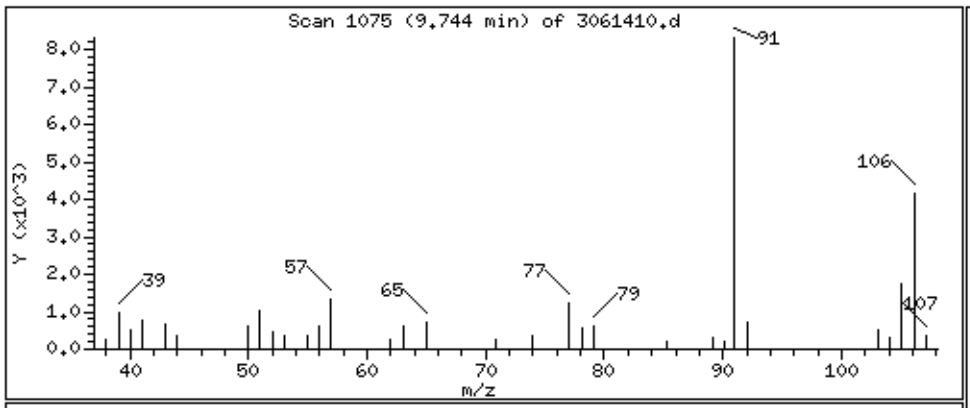
Operator: RT

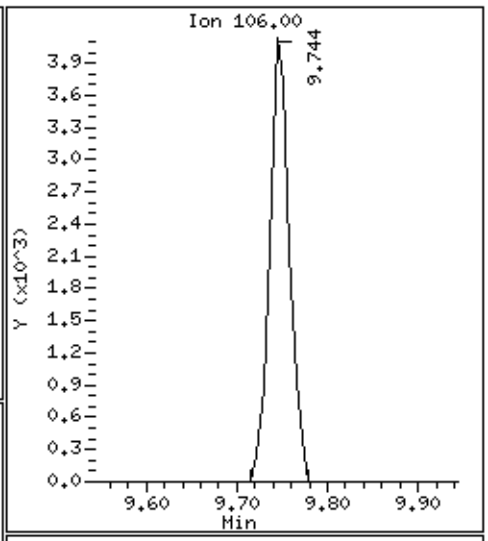
Column phase: RTX-624

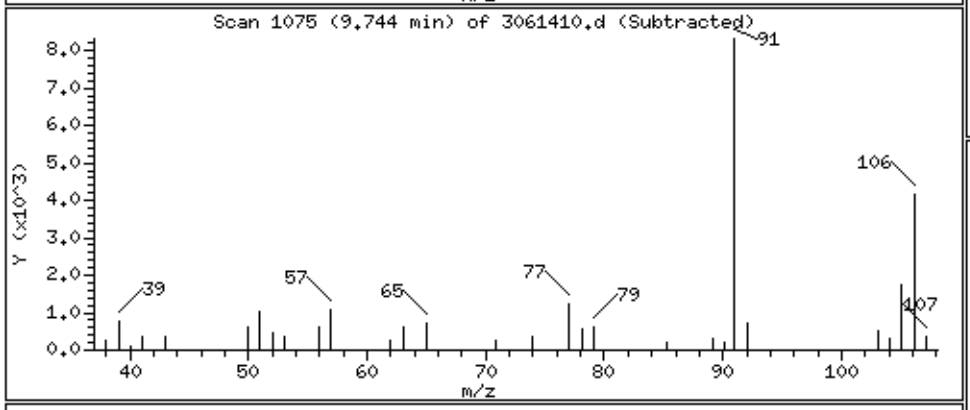
Column diameter: 0.25

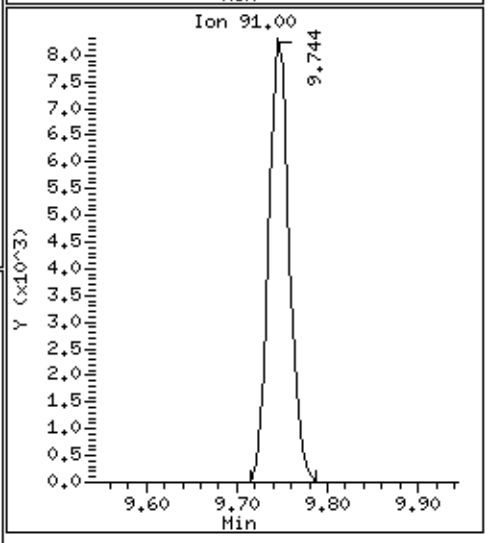
164 o-Xylene

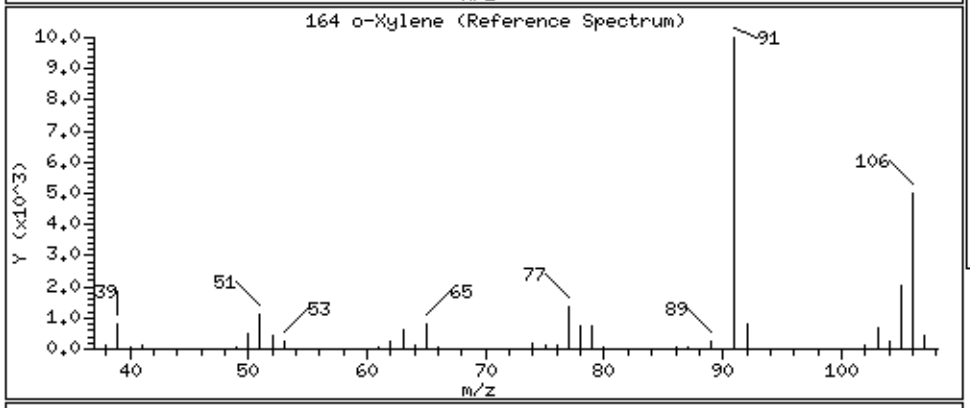
Concentration: 2.902 PPBV

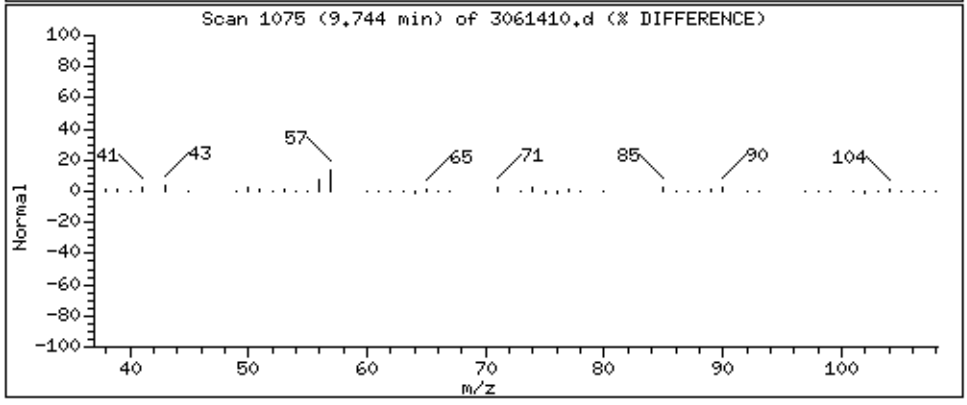


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV023_May24 | | |
| **Lab ID:** | 2406133-05A | **Date/Time Analyzed:** | 6/14/24 04:35 AM |
| **Date/Time Collected:** | 5/29/24 09:02 AM | **Dilution Factor:** | 2.19 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061329 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.2 | 3.9 | 4.3 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.2 | 5.9 | 6.6 | Not Detected U |
| Benzene | 71-43-2 | 0.83 | 3.1 | 3.5 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.94 | 3.9 | 4.3 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.1 | 4.3 | 4.8 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.68 | 4.3 | 9.5 | 3.1 J |
| o-Xylene | 95-47-6 | 1.1 | 4.3 | 4.8 | 1.3 J |
| Toluene | 108-88-3 | 1.0 | 3.7 | 8.2 | 3.0 J |
| trans-1,2-Dichloroethene | 156-60-5 | 2.0 | 3.9 | 4.3 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.8 | 5.3 | 5.9 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.3 | 2.5 | 2.8 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/13JUN24.b/3061329.d
Lab Smp Id: 2406133-05A
Inj Date : 14-JUN-2024 04:35
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N3414
Misc Info : 7.1 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/13JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:00 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 12
Dil Factor: 2.19000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.432 (1.000) | 130 | 98935 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 77609 | | | | 47.79- 107.79 | 78.44 |
| 5.432 | 5.432 (1.000) | 49 | 146371 | | | | 131.33- 191.33 | 147.95 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.019 (1.108) | 65 | 115514 | 22.4163 | | 22.416 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.108) | 67 | 60623 | | | | 23.17- 83.17 | 52.48 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 363677 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 52599 | | | | 0.00- 45.65 | 14.46 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 343759 | 24.3147 | | 24.315 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 36743 | | | | 0.00- 41.42 | 10.69 |
| 7.760 | 7.760 (1.209) | 100 | 228606 | | | | 37.54- 97.54 | 66.50 |
| 137 Toluene | | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 3679 | 0.36295 | | 0.7949 | 80.00- 120.00 | 100.00(a) |

| | | | | | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | | | | |
| 137 Toluene (continued) | | | | | | | | |
| 7.824 | 7.824 (1.219) | 92 | 2301 | | | | 27.89- 87.89 | 62.55 |
| * 153 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 376739 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 189147 | | | | 22.92- 82.92 | 50.21 |
| 158 m,p-Xylene | | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 1812 | 0.33111 | | 0.7251 | 80.00- 120.00 | 100.00(a) |
| 9.357 | 9.364 (1.023) | 91 | 3636 | | | | 170.33- 230.33 | 200.61 |
| 164 o-Xylene | | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 694 | 0.13373 | | 0.2929 | 80.00- 120.00 | 100.00(a) |
| 9.744 | 9.744 (1.065) | 91 | 1480 | | | | 181.23- 241.23 | 213.27 |
| $ 170 4-Bromofluorobenzene | | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 284678 | 25.4266 | | 25.427 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 313414 | | | | 88.49- 148.49 | 110.09 |
| 10.288 | 10.288 (1.124) | 176 | 279228 | | | | 66.73- 126.73 | 98.09 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061329.d
Lab Smp Id: 2406133-05A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 7.1 Hg->9.9 psi

Calibration Date: 13-JUN-2024
Calibration Time: 11:42
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 94691 | 56815 | 132567 | 98935 | 4.48 |
| 108 1,4-Difluorobenze | 348240 | 208944 | 487536 | 363677 | 4.43 |
| 153 Chlorobenzene-d5 | 341662 | 204997 | 478327 | 376739 | 10.27 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:05

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 13JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-05A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 7.1 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.416 | 89.67 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.315 | 97.26 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.427 | 101.71 | 77-125 |

Data File: /chem/msd3.i/13JUN24.b/3061329.d



Date : 14-JUN-2024 04:35

Client ID:

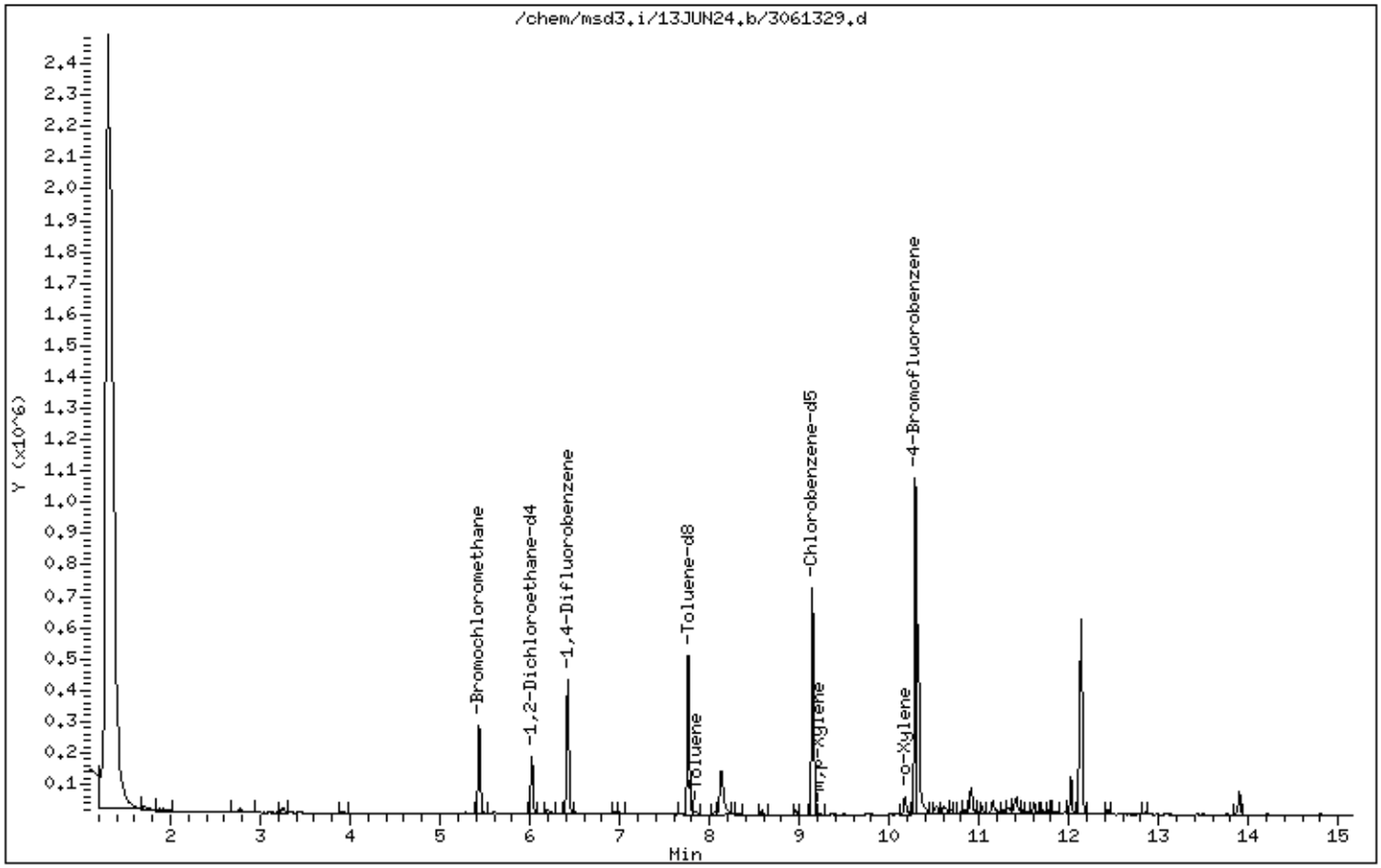
Instrument: msd3.i

Sample Info: 200mL N3414

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/13JUN24.b/3061329.d

Date : 14-JUN-2024 04:35

Client ID:

Instrument: msd3.i

Sample Info: 200mL N3414

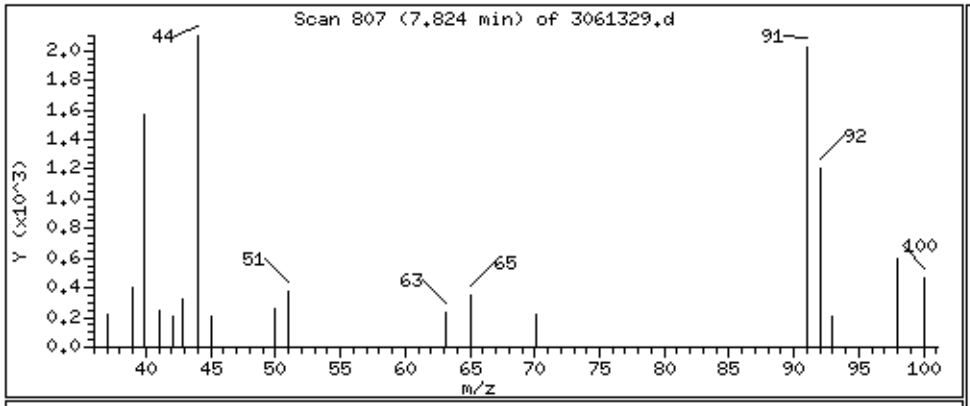
Operator: ACE

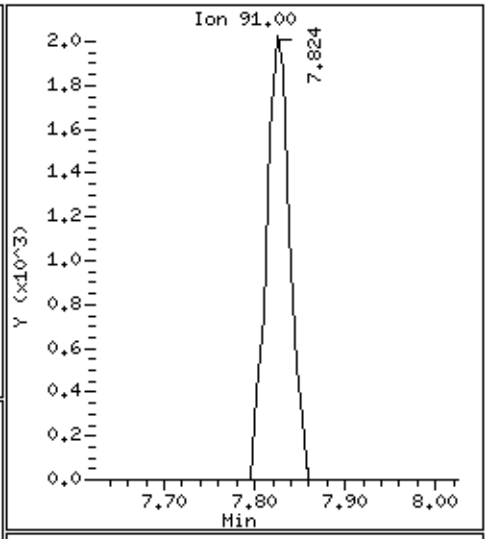
Column phase: RTX-624

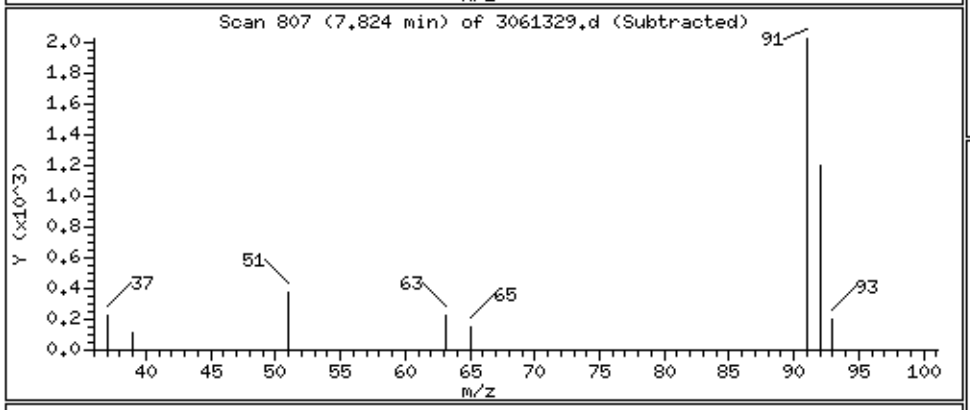
Column diameter: 0.25

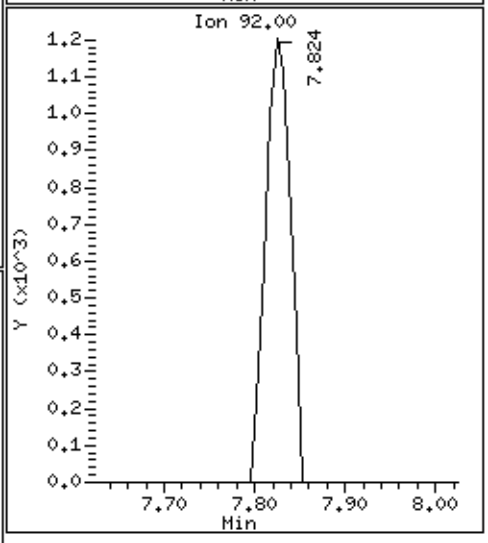
137 Toluene

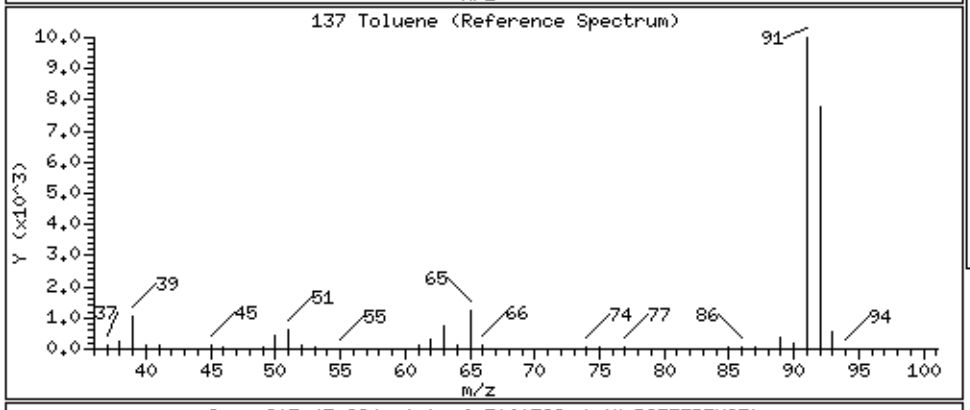
Concentration: 0.7949 PPBV

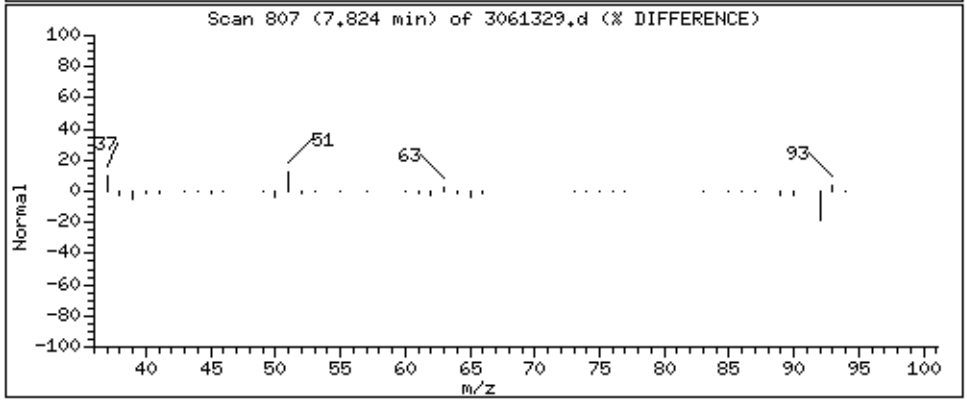


Data File: /chem/msd3.i/13JUN24.b/3061329.d

Date : 14-JUN-2024 04:35

Client ID:

Instrument: msd3.i

Sample Info: 200mL N3414

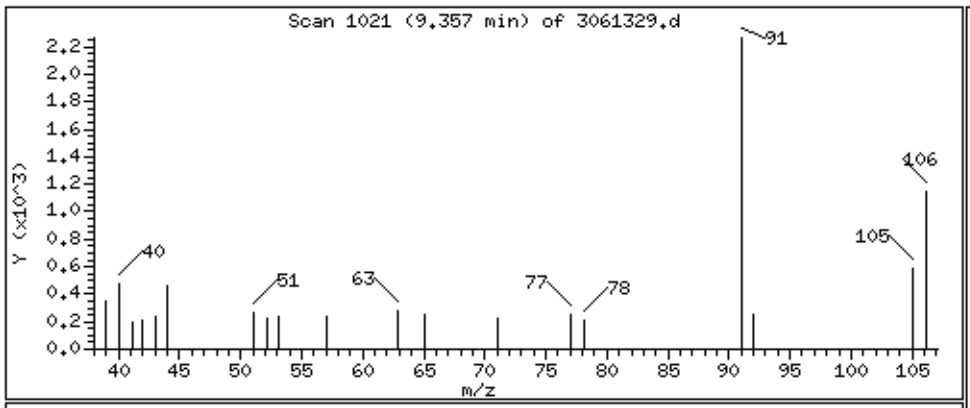
Operator: ACE

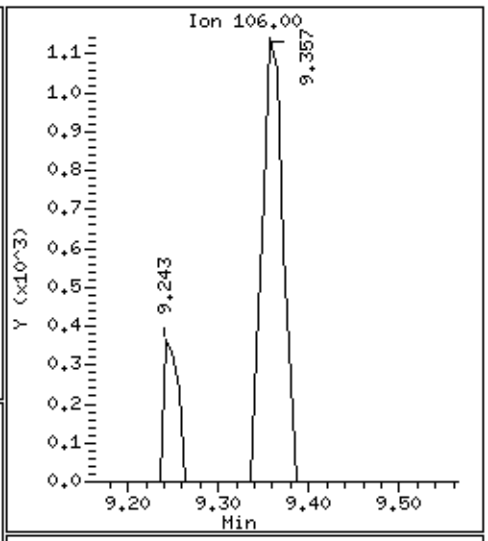
Column phase: RTX-624

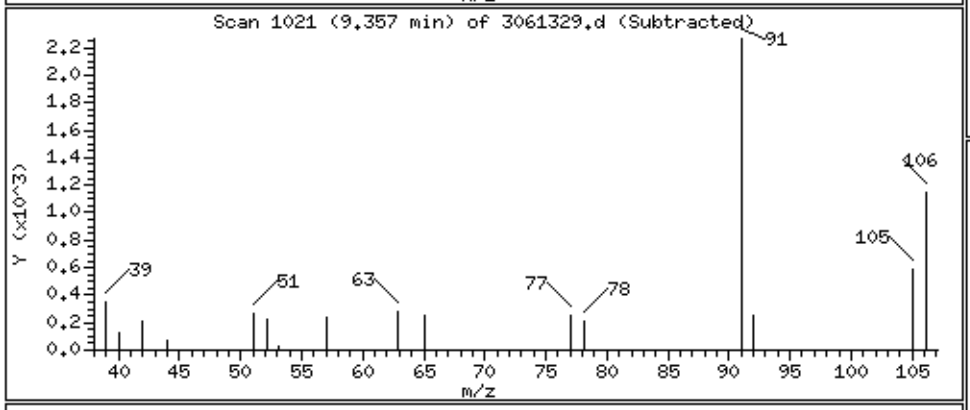
Column diameter: 0.25

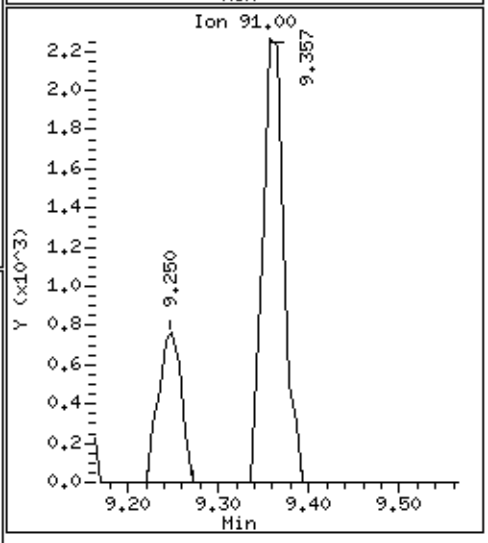
158 m,p-Xylene

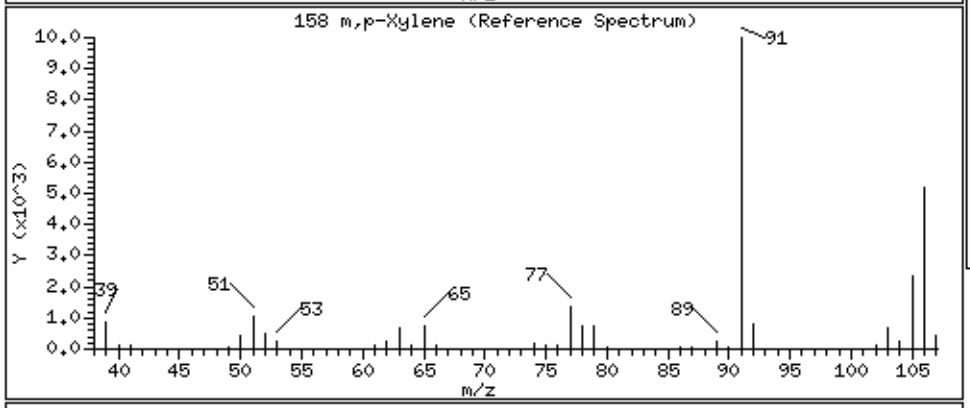
Concentration: 0.7251 PPBV

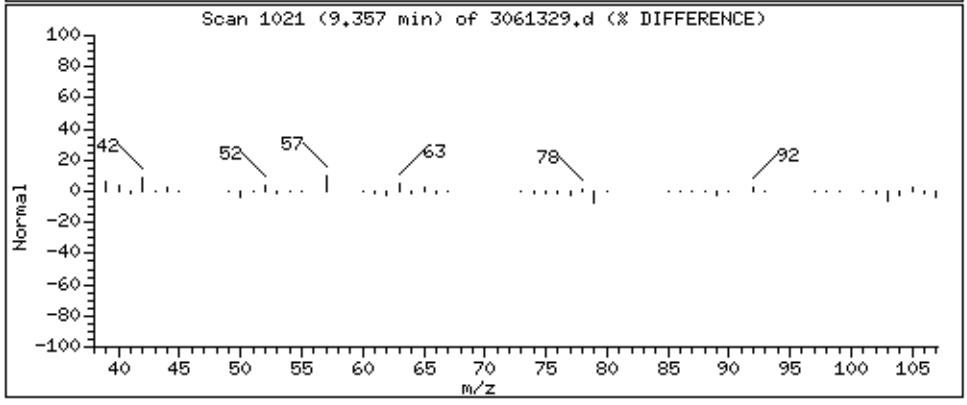


Data File: /chem/msd3.i/13JUN24.b/3061329.d

Date : 14-JUN-2024 04:35

Client ID:

Instrument: msd3.i

Sample Info: 200mL N3414

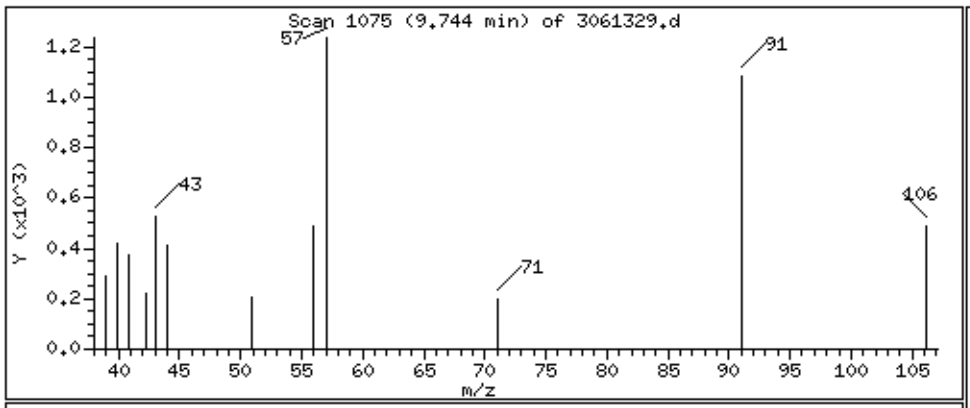
Operator: ACE

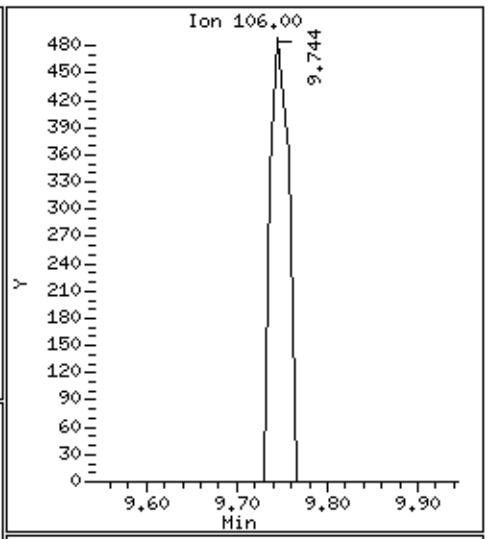
Column phase: RTX-624

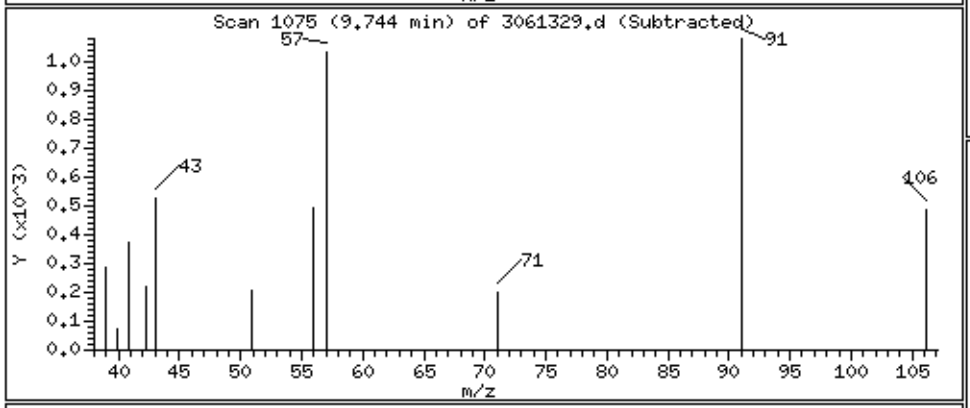
Column diameter: 0.25

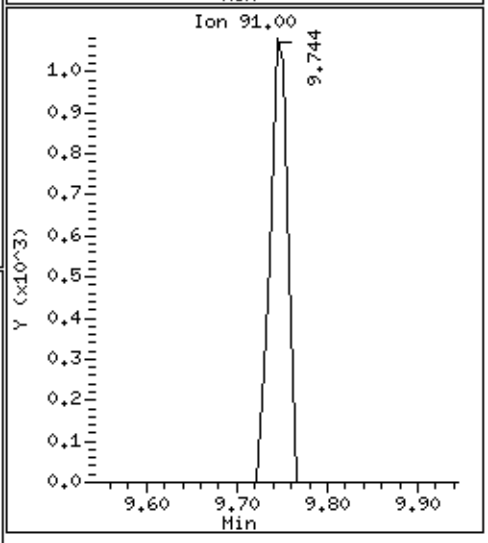
164 o-Xylene

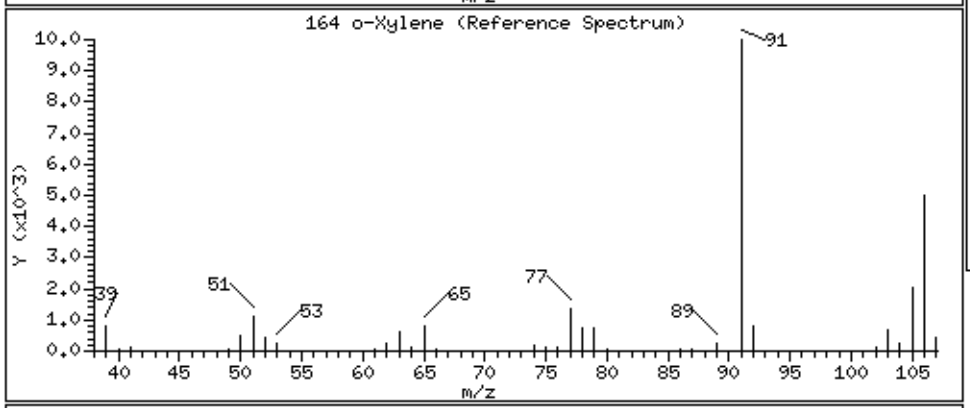
Concentration: 0.2929 PPBV

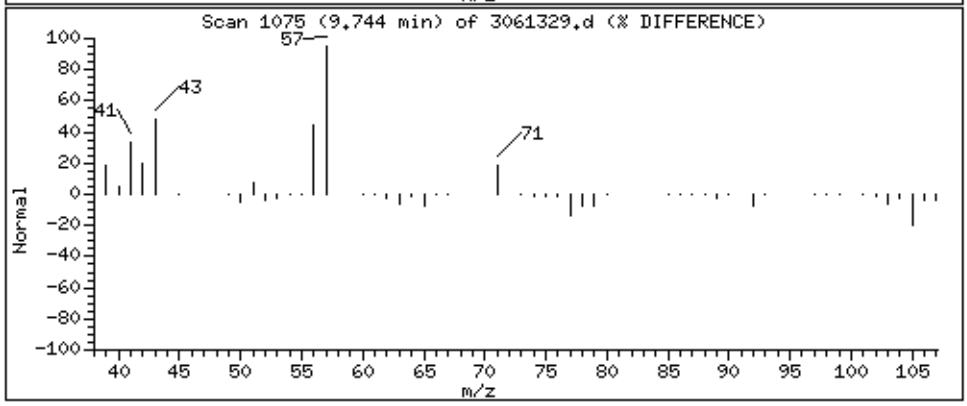


eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV023_May24 Lab Duplicate | | |
| **Lab ID:** | 2406133-05AA | **Date/Time Analyzed:** | 6/14/24 05:10 AM |
| **Date/Time Collected:** | 5/29/24 09:02 AM | **Dilution Factor:** | 2.19 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061330 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.2 | 3.9 | 4.3 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.2 | 5.9 | 6.6 | Not Detected U |
| Benzene | 71-43-2 | 0.83 | 3.1 | 3.5 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.94 | 3.9 | 4.3 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.1 | 4.3 | 4.8 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.68 | 4.3 | 9.5 | 3.2 J |
| o-Xylene | 95-47-6 | 1.1 | 4.3 | 4.8 | 1.2 J |
| Toluene | 108-88-3 | 1.0 | 3.7 | 8.2 | 2.9 J |
| trans-1,2-Dichloroethene | 156-60-5 | 2.0 | 3.9 | 4.3 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.8 | 5.3 | 5.9 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.3 | 2.5 | 2.8 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/13JUN24.b/3061330.d
Lab Smp Id: 2406133-05AA
Inj Date : 14-JUN-2024 05:10
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N3414
Misc Info : 7.1 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/13JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:00 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 12
Dil Factor: 2.19000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.432 (1.000) | 130 | 98975 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.432 (1.000) | 128 | 77209 | | | | 47.79- 107.79 | 78.01 |
| 5.439 | 5.432 (1.000) | 49 | 147612 | | | | 131.33- 191.33 | 149.14 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.019 (1.108) | 65 | 116964 | 22.6885 | 22.688 | | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.108) | 67 | 60654 | | | | 23.17- 83.17 | 51.86 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 365944 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 54033 | | | | 0.00- 45.65 | 14.77 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 346884 | 24.3837 | 24.384 | | 80.00- 120.00 | 100.00 |
| 7.767 | 7.760 (1.210) | 70 | 36566 | | | | 0.00- 41.42 | 10.54 |
| 7.767 | 7.760 (1.210) | 100 | 234274 | | | | 37.54- 97.54 | 67.54 |
| 137 Toluene | | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 3621 | 0.35502 | 0.7775 | | 80.00- 120.00 | 100.00(a) |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 137 Toluene (continued) | | | | | | | |
| 7.824 | 7.824 (1.219) | 92 | 2346 | | | 27.89- 87.89 | 64.79 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 378697 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 191778 | | | 22.92- 82.92 | 50.64 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 1843 | 0.33504 | 0.7337 | 80.00- 120.00 | 100.00(a) |
| 9.357 | 9.364 (1.023) | 91 | 3294 | | | 170.33- 230.33 | 178.73 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.744 (1.066) | 106 | 648 | 0.12422 | 0.2720 | 80.00- 120.00 | 100.00(a) |
| 9.751 | 9.744 (1.066) | 91 | 1640 | | | 181.23- 241.23 | 253.09 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 288050 | 25.5948 | 25.595 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 317420 | | | 88.49- 148.49 | 110.20 |
| 10.288 | 10.288 (1.124) | 176 | 280226 | | | 66.73- 126.73 | 97.28 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061330.d
Lab Smp Id: 2406133-05AA
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 7.1 Hg->9.9 psi

Calibration Date: 13-JUN-2024
Calibration Time: 11:42
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 94691 | 56815 | 132567 | 98975 | 4.52 |
| 108 1,4-Difluorobenze | 348240 | 208944 | 487536 | 365944 | 5.08 |
| 153 Chlorobenzene-d5 | 341662 | 204997 | 478327 | 378697 | 10.84 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 09:50

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 13JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-05AA
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 7.1 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.688 | 90.75 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.384 | 97.53 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.595 | 102.38 | 77-125 |

Data File: /chem/msd3.i/13JUN24.b/3061330.d



Date : 14-JUN-2024 05:10

Client ID:

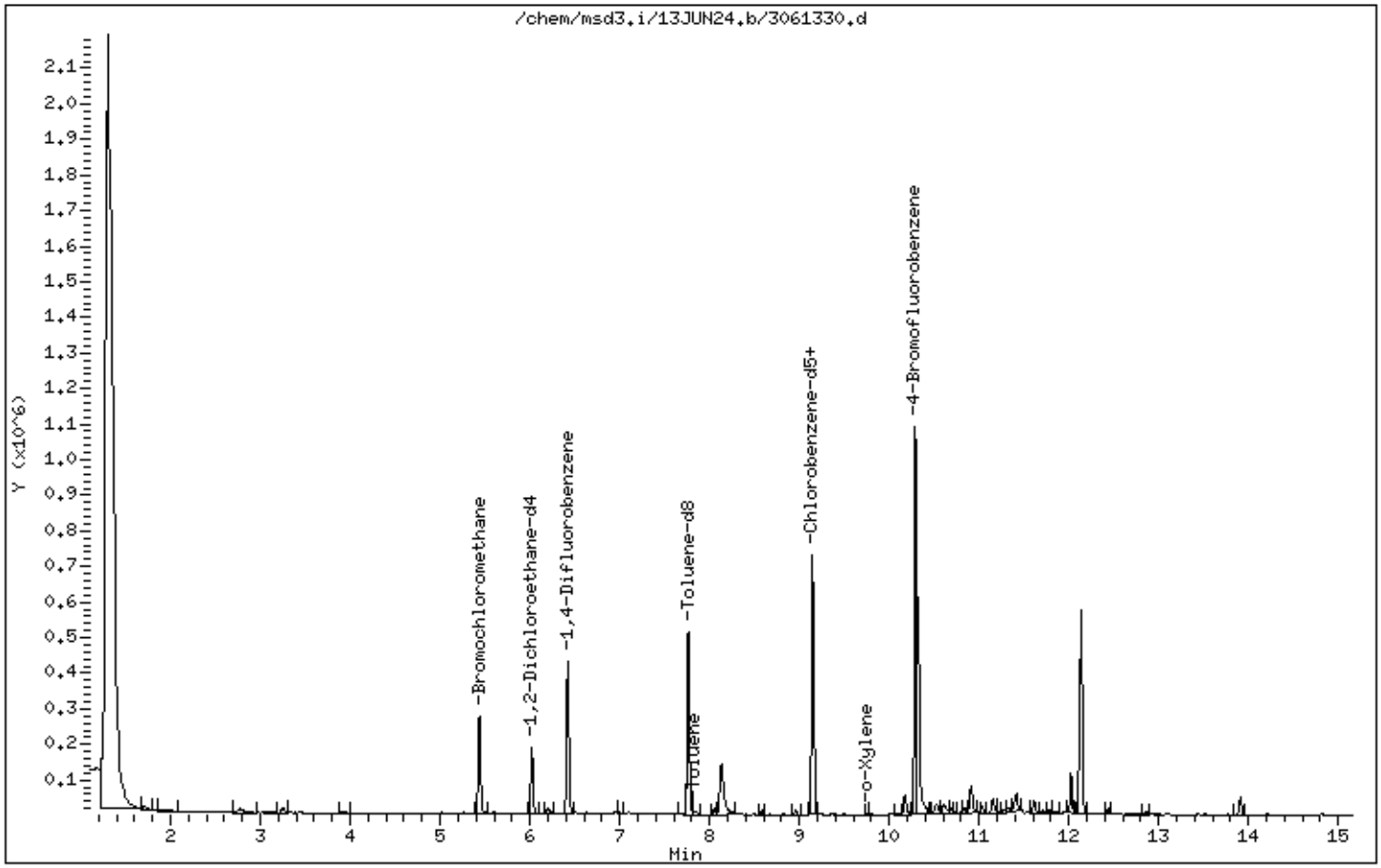
Instrument: msd3.i

Sample Info: 200mL N3414

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/13JUN24.b/3061330.d

Date : 14-JUN-2024 05:10

Client ID:

Instrument: msd3.i

Sample Info: 200mL N3414

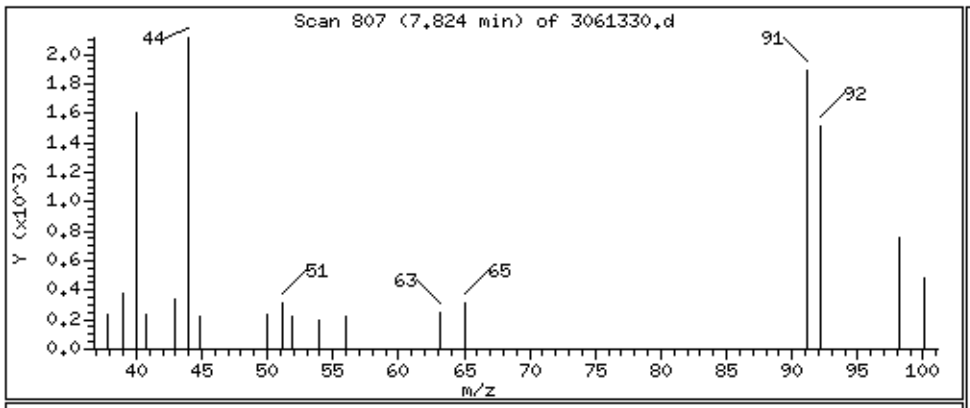
Operator: ACE

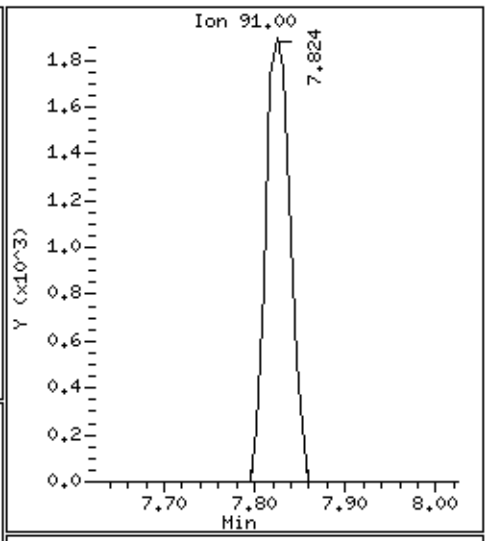
Column phase: RTX-624

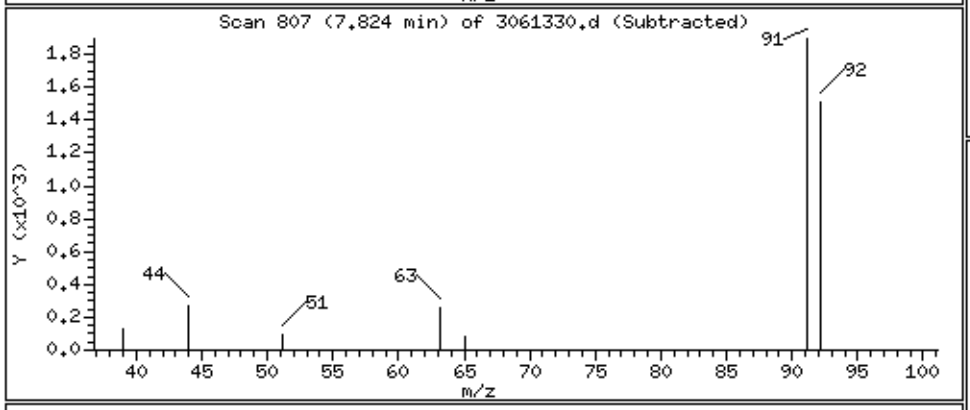
Column diameter: 0.25

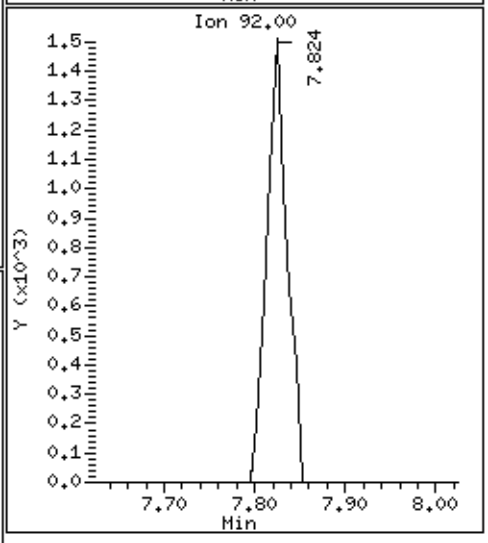
137 Toluene

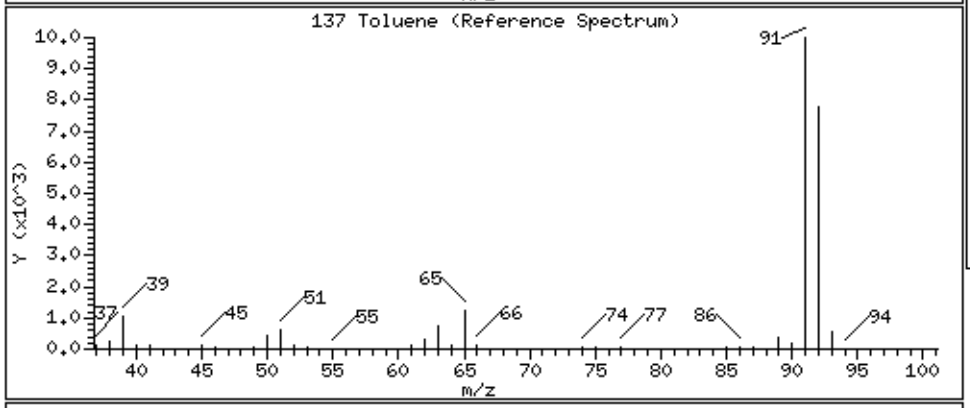
Concentration: 0.7775 PPBV

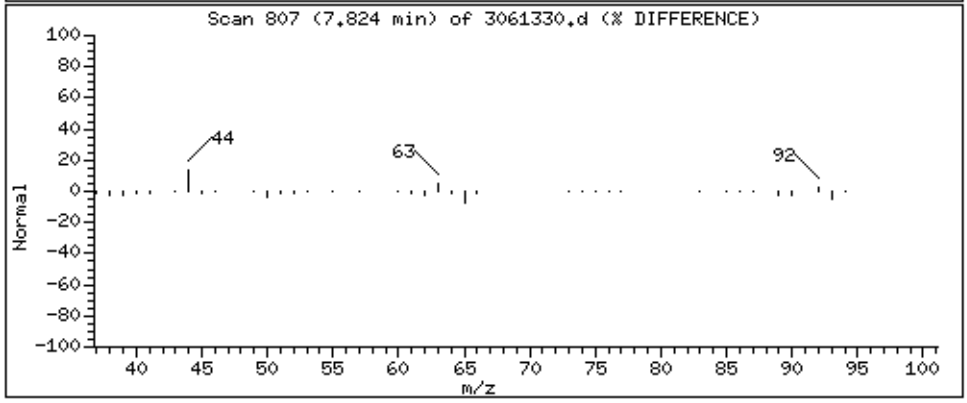


Data File: /chem/msd3.i/13JUN24.b/3061330.d

Date : 14-JUN-2024 05:10

Client ID:

Instrument: msd3.i

Sample Info: 200mL N3414

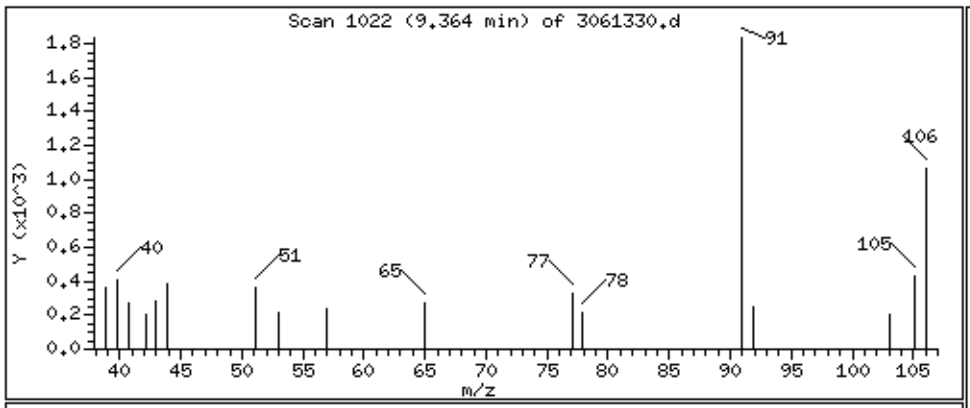
Operator: ACE

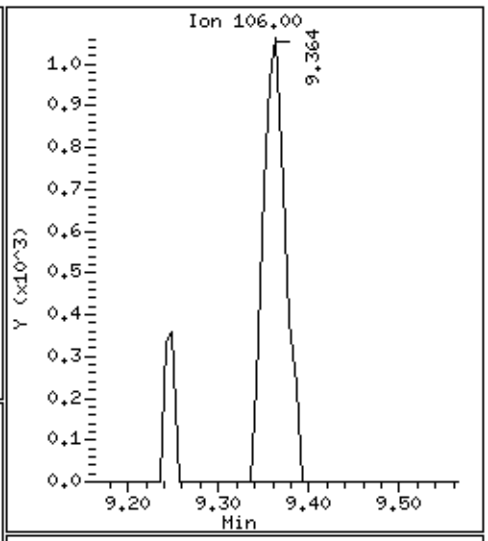
Column phase: RTX-624

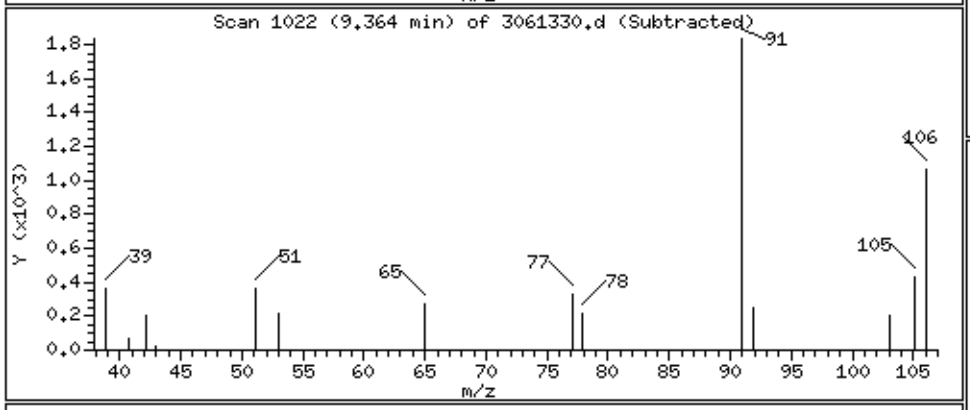
Column diameter: 0.25

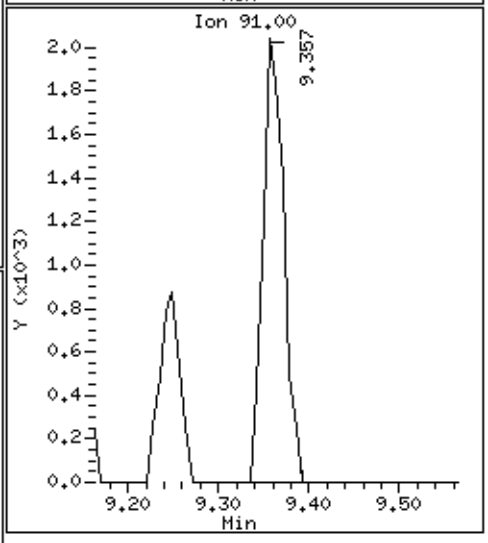
158 m,p-Xylene

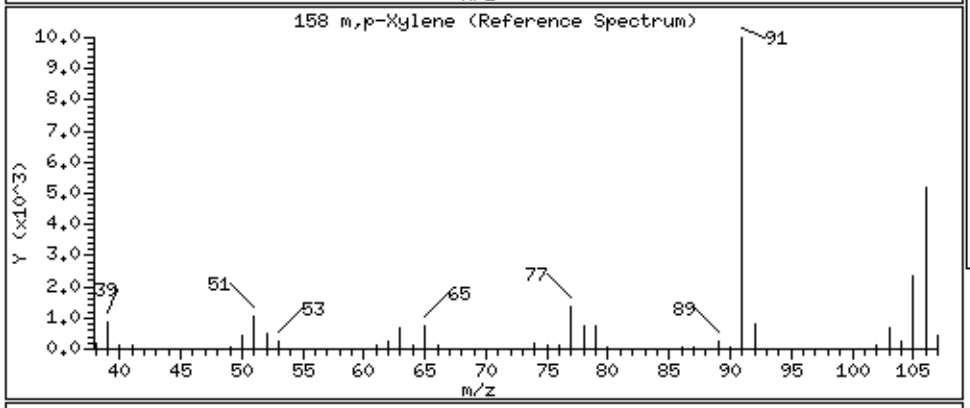
Concentration: 0.7337 PPBV

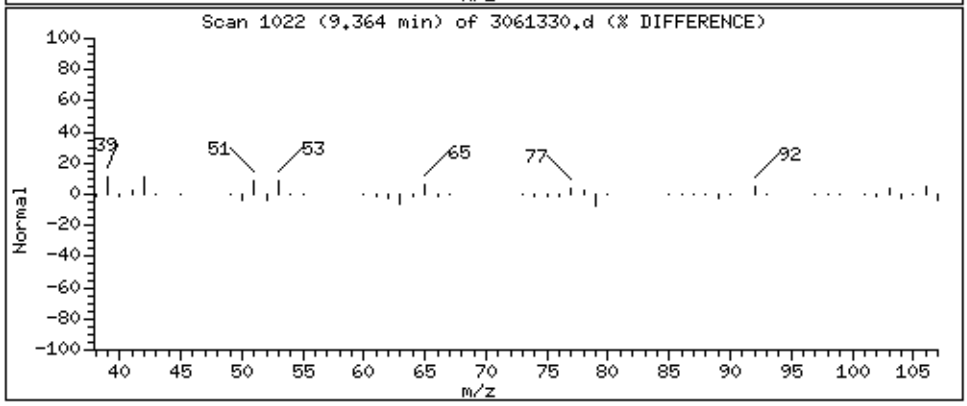


Data File: /chem/msd3.i/13JUN24.b/3061330.d

Date : 14-JUN-2024 05:10

Client ID:

Instrument: msd3.i

Sample Info: 200mL N3414

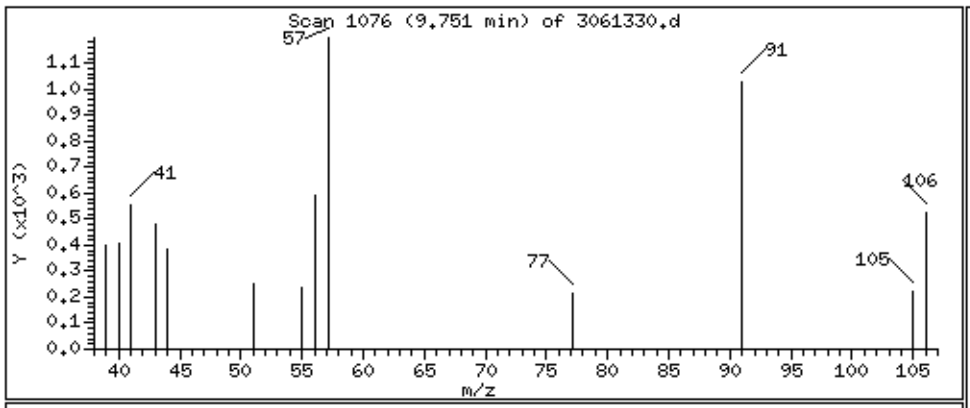
Operator: ACE

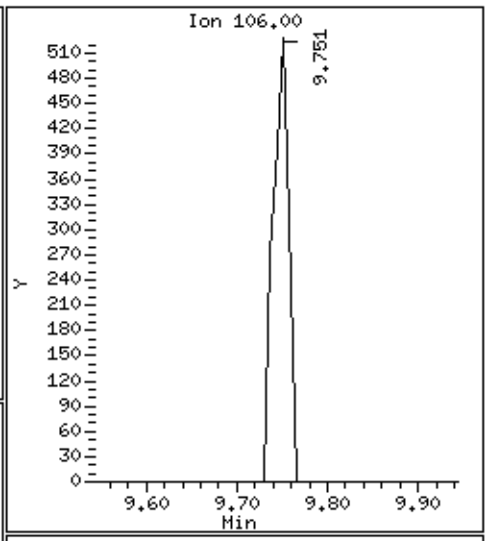
Column phase: RTX-624

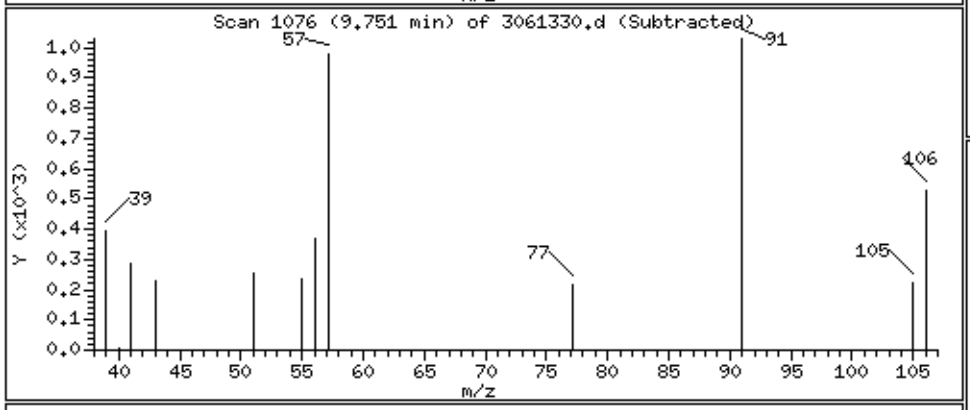
Column diameter: 0.25

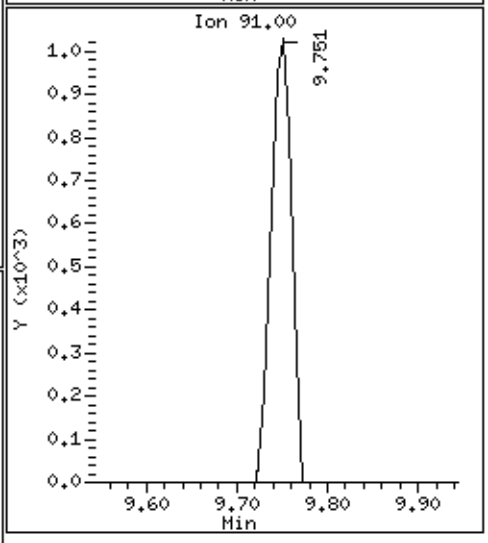
164 o-Xylene

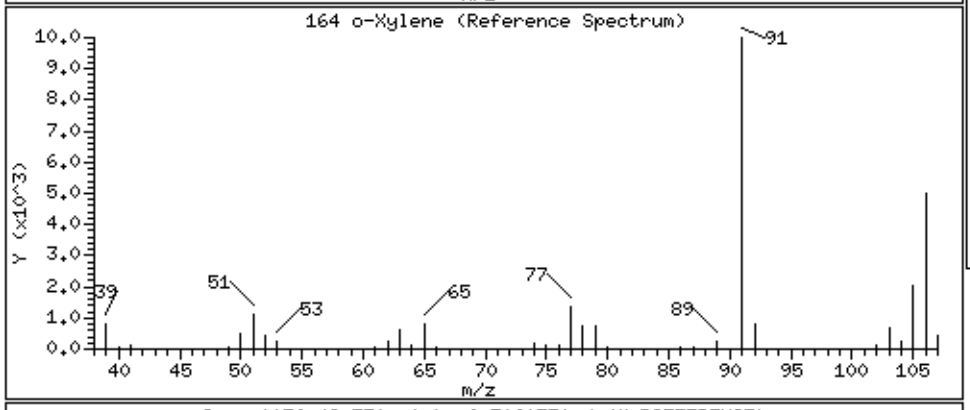
Concentration: 0.2720 PPBV

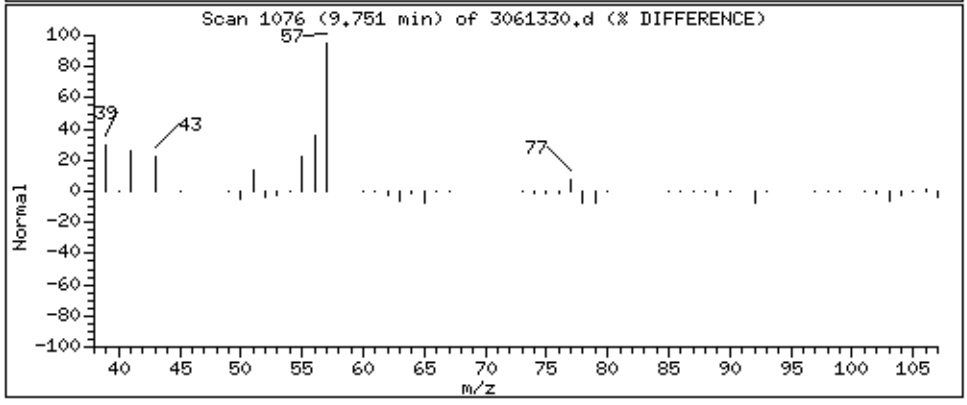


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV023_May24_FD | | |
| **Lab ID:** | 2406133-06A | **Date/Time Analyzed:** | 6/14/24 03:59 AM |
| **Date/Time Collected:** | 5/29/24 09:03 AM | **Dilution Factor:** | 2.00 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061328 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.0 | 3.6 | 4.0 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.0 | 5.4 | 6.0 | Not Detected U |
| Benzene | 71-43-2 | 0.76 | 2.9 | 3.2 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.86 | 3.6 | 4.0 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.0 | 3.9 | 4.3 | 1.2 J |
| m,p-Xylene | 108-38-3 | 0.62 | 3.9 | 8.7 | 3.7 J |
| o-Xylene | 95-47-6 | 1.0 | 3.9 | 4.3 | 1.8 J |
| Toluene | 108-88-3 | 0.94 | 3.4 | 7.5 | 4.1 J |
| trans-1,2-Dichloroethene | 156-60-5 | 1.8 | 3.6 | 4.0 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.6 | 4.8 | 5.4 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.1 | 2.3 | 2.6 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 89 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 103 |
| Toluene-d8 | 2037-26-5 | 91-110 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/13JUN24.b/3061328.d
Lab Smp Id: 2406133-06A
Inj Date : 14-JUN-2024 03:59
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL S1463
Misc Info : 6.7 Hg->8.1 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/13JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:00 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 11
Dil Factor: 2.00000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.432 (1.000) | 130 | 99089 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.432 (1.000) | 128 | 77171 | | | 47.79- 107.79 | 77.88 |
| 5.432 | 5.432 (1.000) | 49 | 147631 | | | 131.33- 191.33 | 148.99 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.019 (1.108) | 65 | 114892 | 22.2609 | 22.261 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.108) | 67 | 59807 | | | 23.17- 83.17 | 52.06 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 366743 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 53966 | | | 0.00- 45.65 | 14.72 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 348331 | 24.4321 | 24.432 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 36349 | | | 0.00- 41.42 | 10.44 |
| 7.767 | 7.760 (1.210) | 100 | 232919 | | | 37.54- 97.54 | 66.87 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 5599 | 0.54776 | 1.096 | 80.00- 120.00 | 100.00(a) |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 137 Toluene (continued) | | | | | | | |
| 7.824 | 7.824 (1.219) | 92 | 3387 | | | 27.89- 87.89 | 60.51 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 378864 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 187565 | | | 22.92- 82.92 | 49.51 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.249 | 9.242 (1.011) | 106 | 622 | 0.14087 | 0.2817 | 80.00- 120.00 | 100.00(a) |
| 9.249 | 9.242 (1.011) | 91 | 1885 | | | 281.09- 341.09 | 302.63 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 2345 | 0.42611 | 0.8522 | 80.00- 120.00 | 100.00(a) |
| 9.364 | 9.364 (1.023) | 91 | 4409 | | | 170.33- 230.33 | 188.00 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.744 (1.066) | 106 | 1080 | 0.20695 | 0.4139 | 80.00- 120.00 | 100.00(a) |
| 9.744 | 9.744 (1.065) | 91 | 1977 | | | 181.23- 241.23 | 183.03 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.288 (1.125) | 174 | 289310 | 25.6954 | 25.695 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 317935 | | | 88.49- 148.49 | 109.89 |
| 10.288 | 10.288 (1.124) | 176 | 280232 | | | 66.73- 126.73 | 96.86 |

## QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061328.d
Lab Smp Id: 2406133-06A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 6.7 Hg->8.1 psi

Calibration Date: 13-JUN-2024
Calibration Time: 11:42
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 94691 | 56815 | 132567 | 99089 | 4.64 |
| 108 1,4-Difluorobenze | 348240 | 208944 | 487536 | 366743 | 5.31 |
| 153 Chlorobenzene-d5 | 341662 | 204997 | 478327 | 378864 | 10.89 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:05

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 13JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-06A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 6.7 Hg->8.1 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.261 | 89.04 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.432 | 97.73 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.695 | 102.78 | 77-125 |

Data File: /chem/msd3.i/13JUN24.b/3061328.d



Date : 14-JUN-2024 03:59

Client ID:

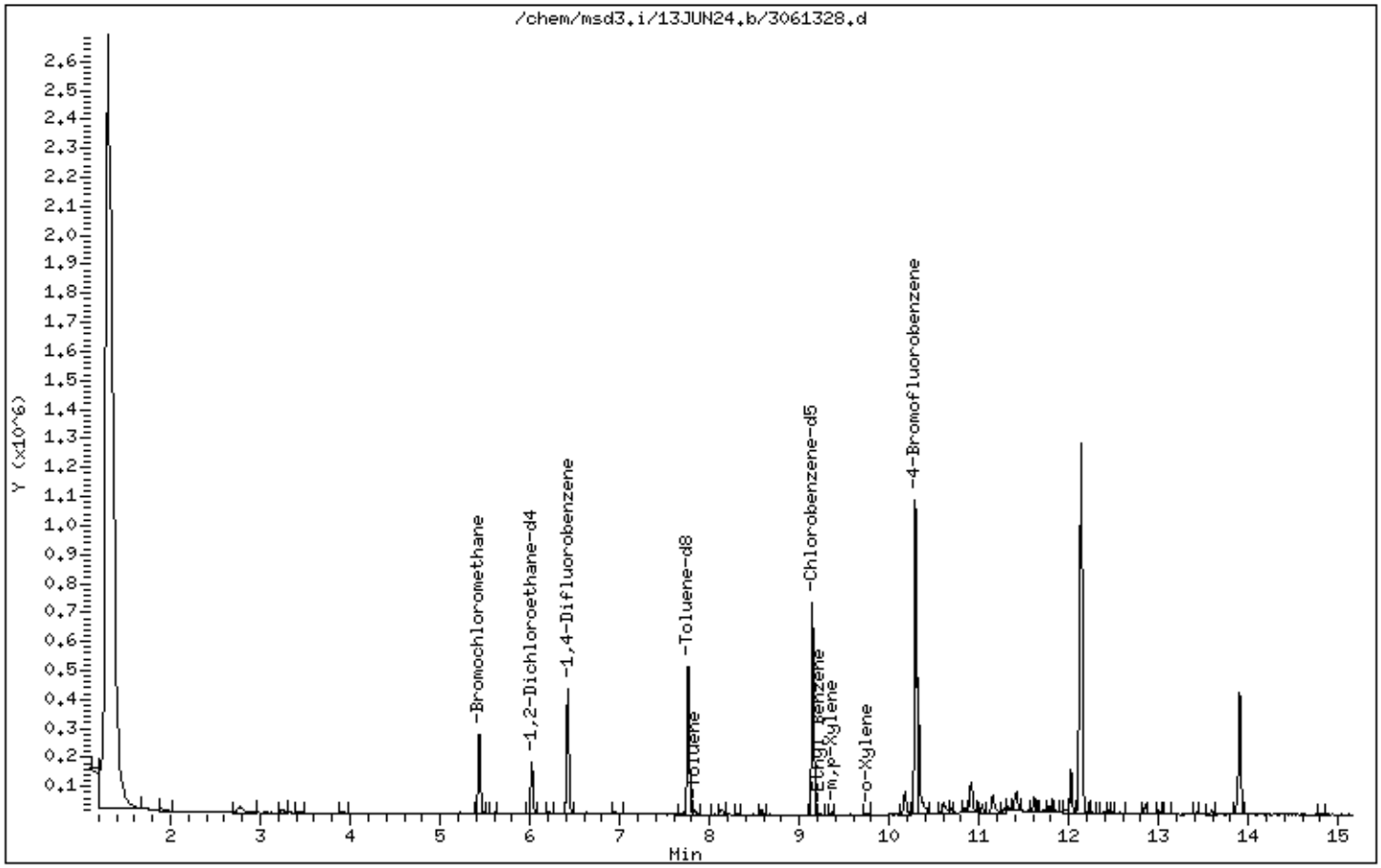
Instrument: msd3.i

Sample Info: 200mL S1463

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/13JUN24.b/3061328.d

Date : 14-JUN-2024 03:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL S1463

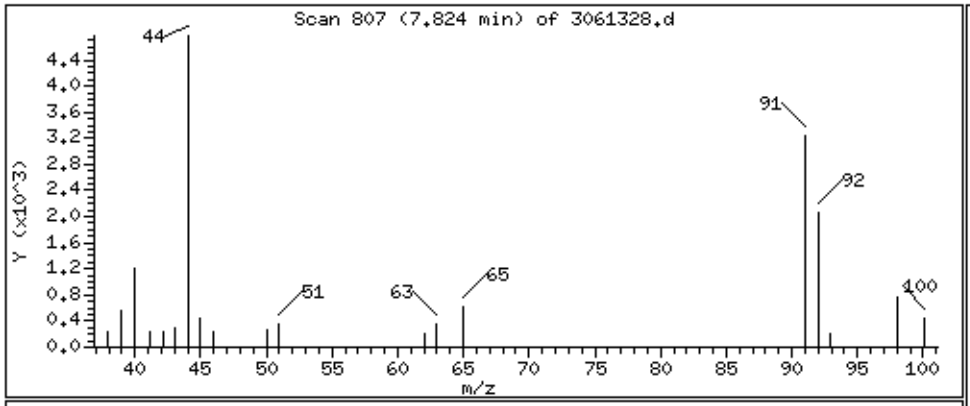
Operator: ACE

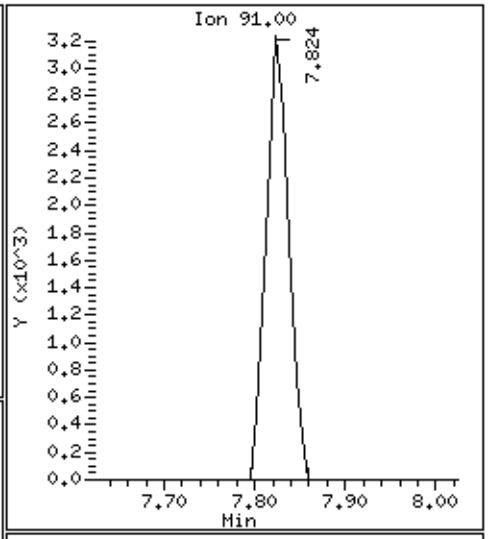
Column phase: RTX-624

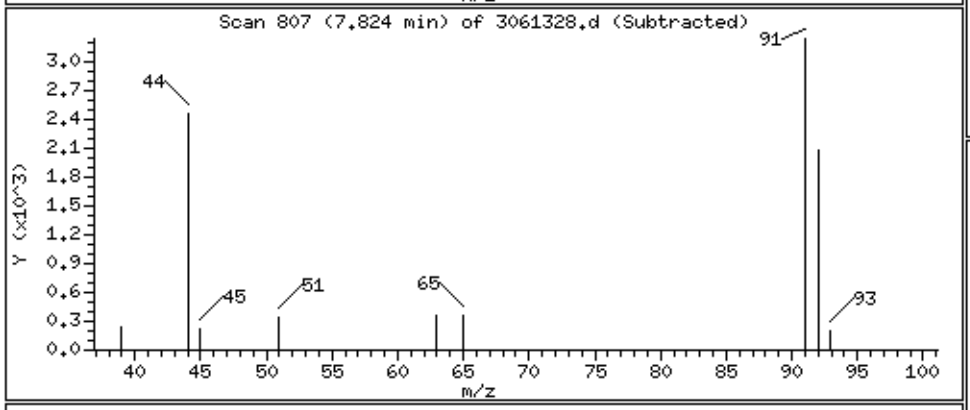
Column diameter: 0.25

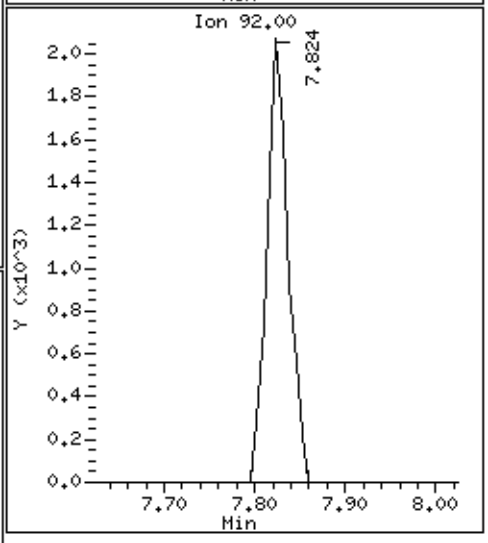
137 Toluene

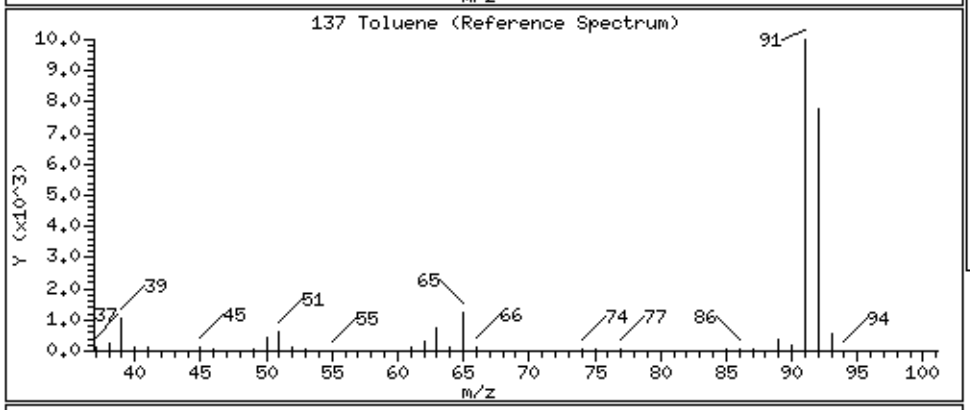
Concentration: 1.096 PPBV

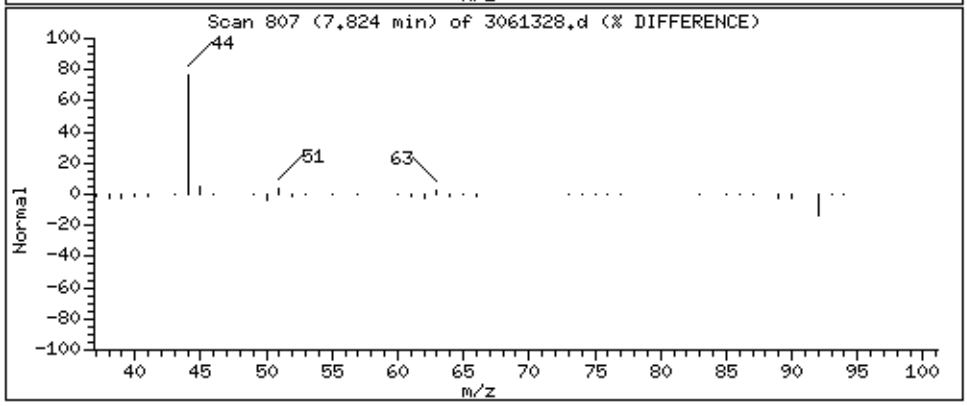


Data File: /chem/msd3.i/13JUN24.b/3061328.d

Date : 14-JUN-2024 03:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL S1463

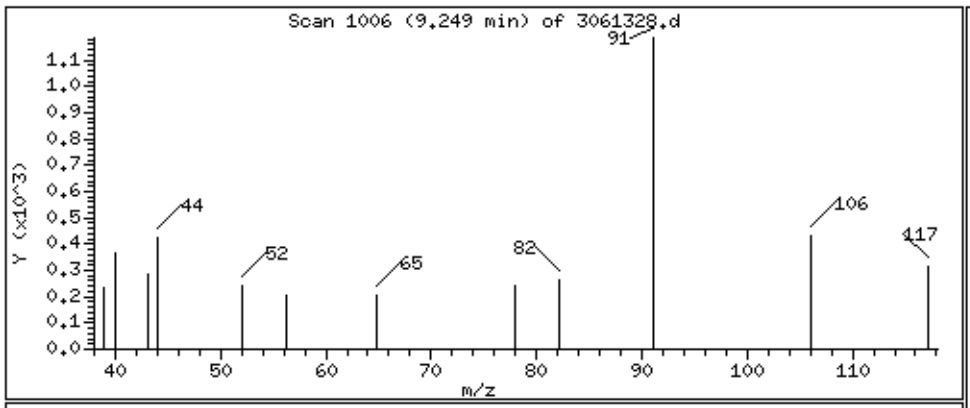
Operator: ACE

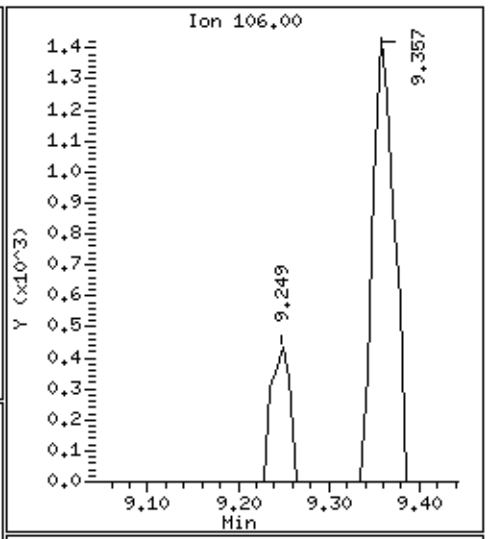
Column phase: RTX-624

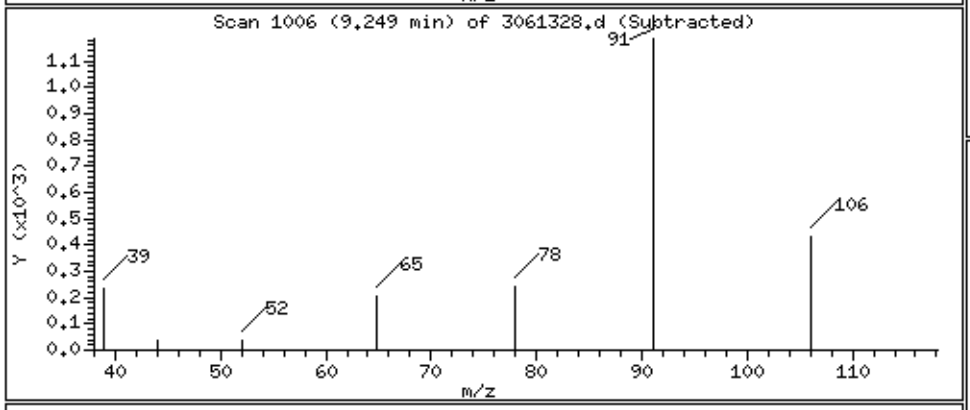
Column diameter: 0.25

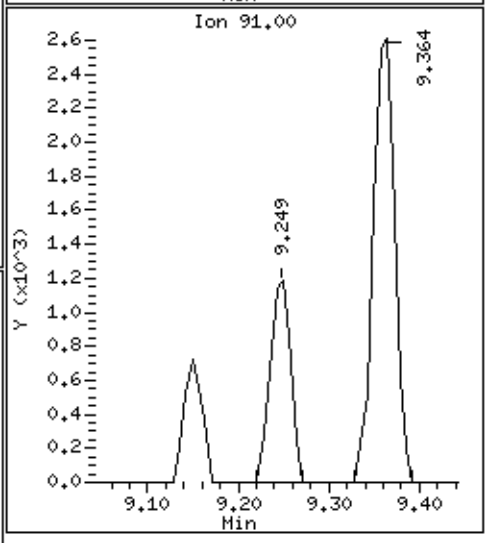
155 Ethyl Benzene

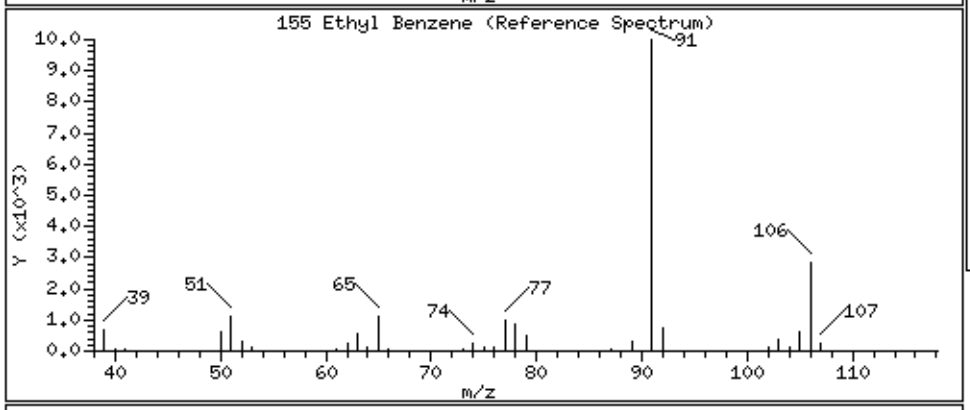
Concentration: 0.2817 PPBV

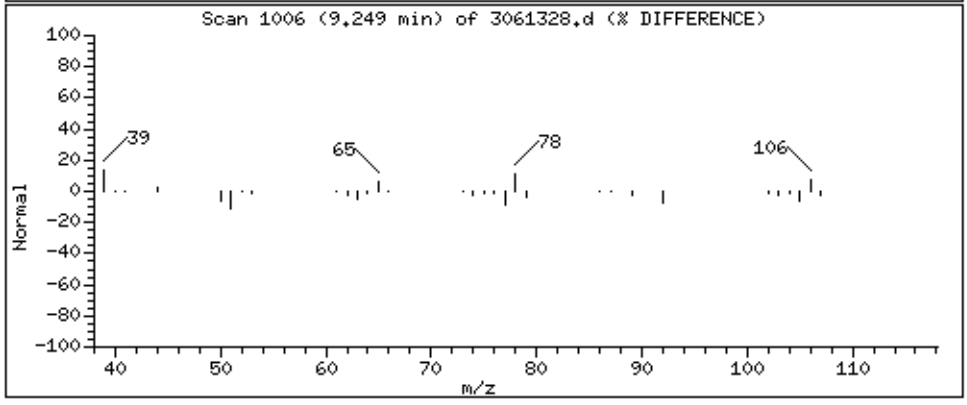


Data File: /chem/msd3.i/13JUN24.b/3061328.d

Date : 14-JUN-2024 03:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL S1463

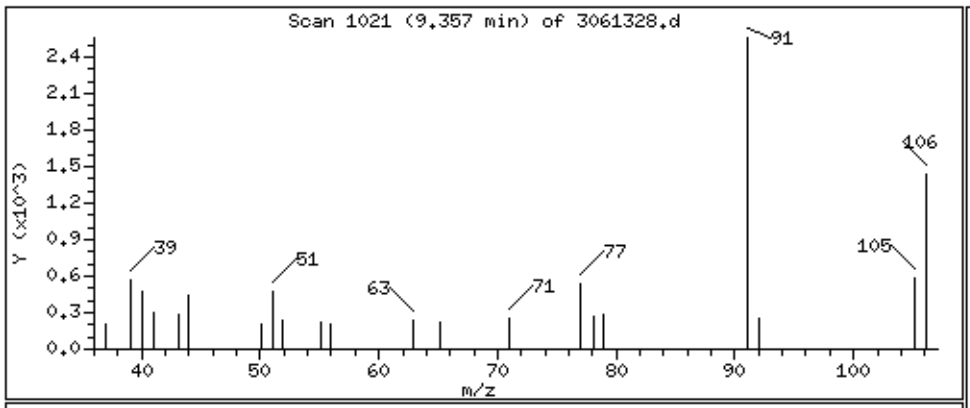
Operator: ACE

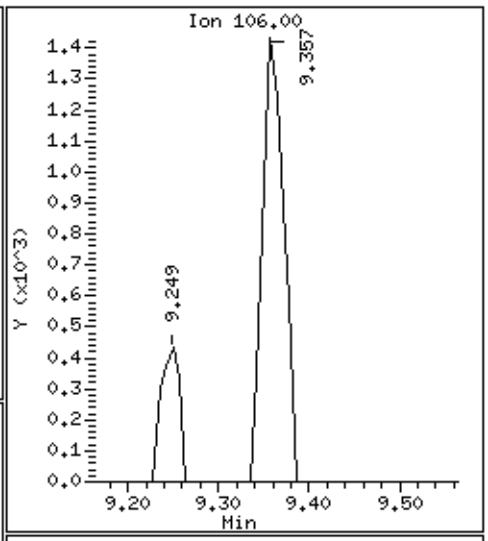
Column phase: RTX-624

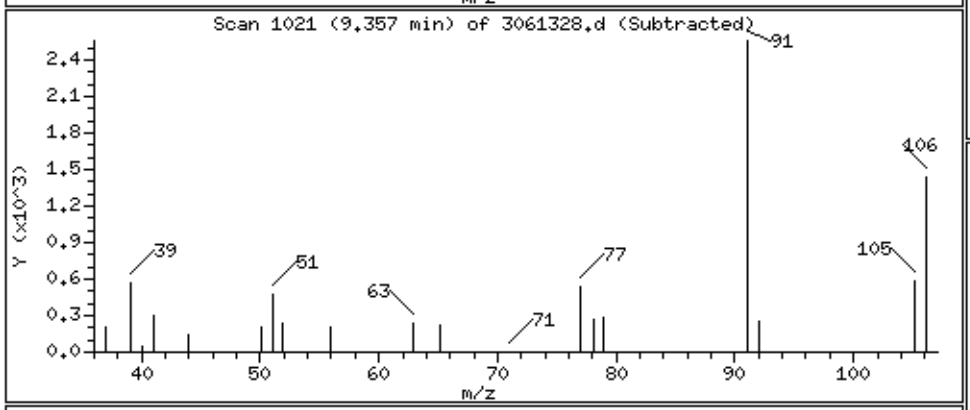
Column diameter: 0.25

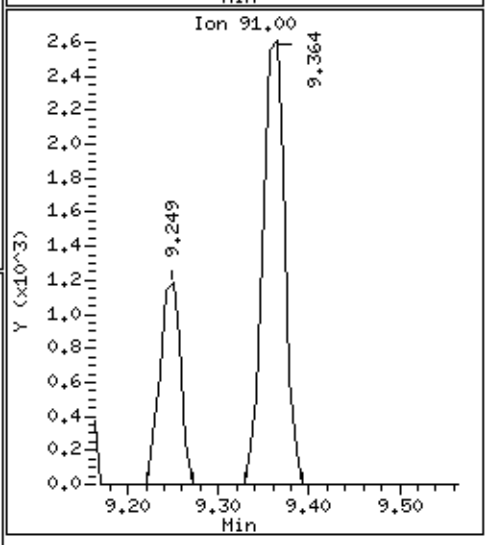
158 m,p-Xylene

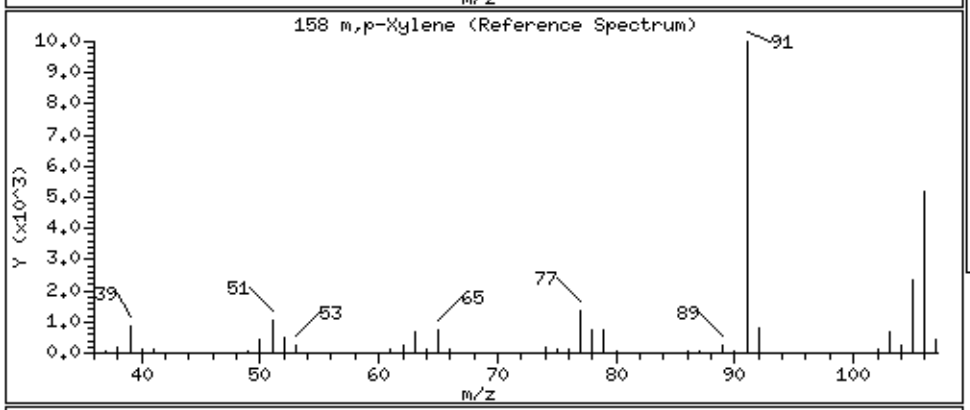
Concentration: 0.8522 PPBV

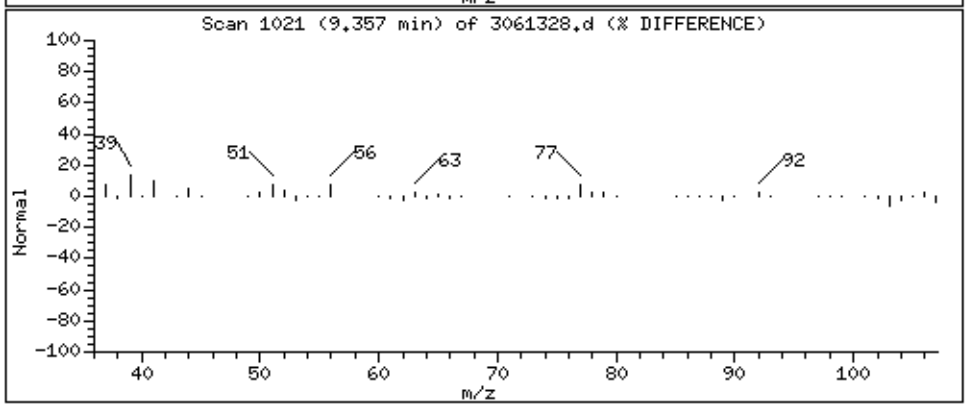


Data File: /chem/msd3.i/13JUN24.b/3061328.d

Date : 14-JUN-2024 03:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL S1463

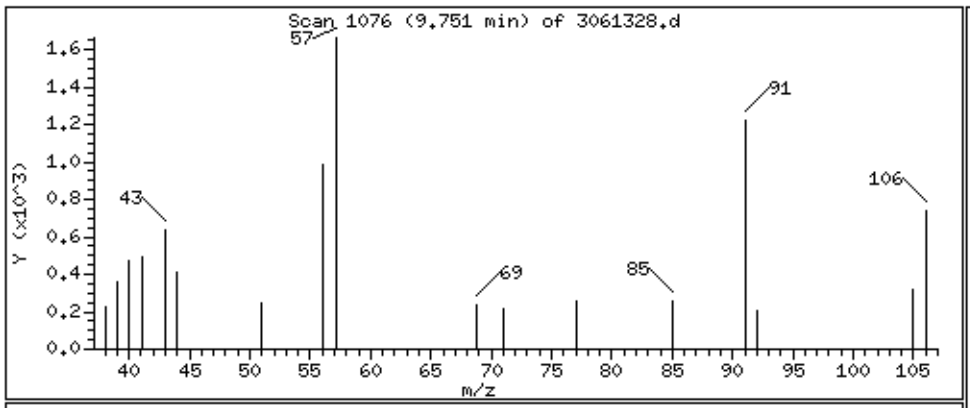
Operator: ACE

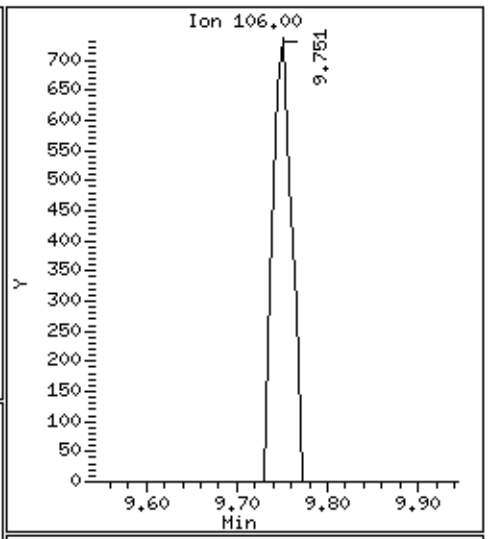
Column phase: RTX-624

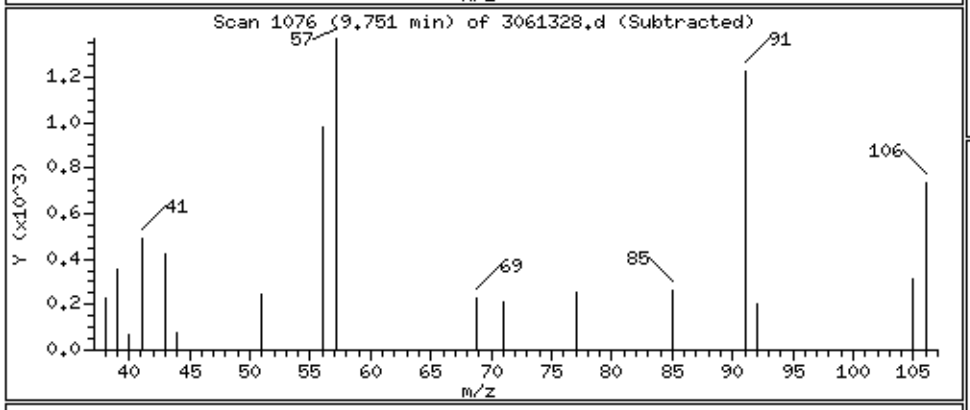
Column diameter: 0.25

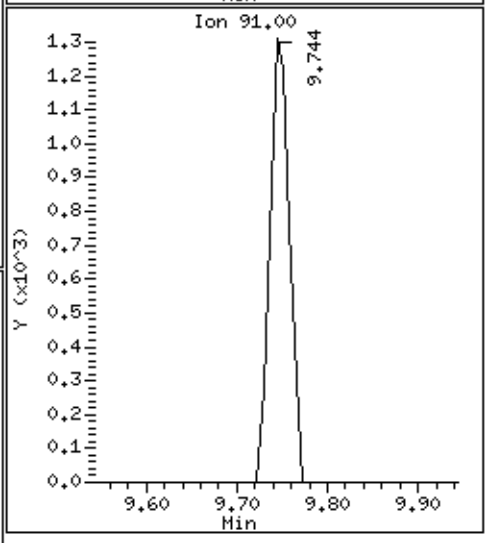
164 o-Xylene

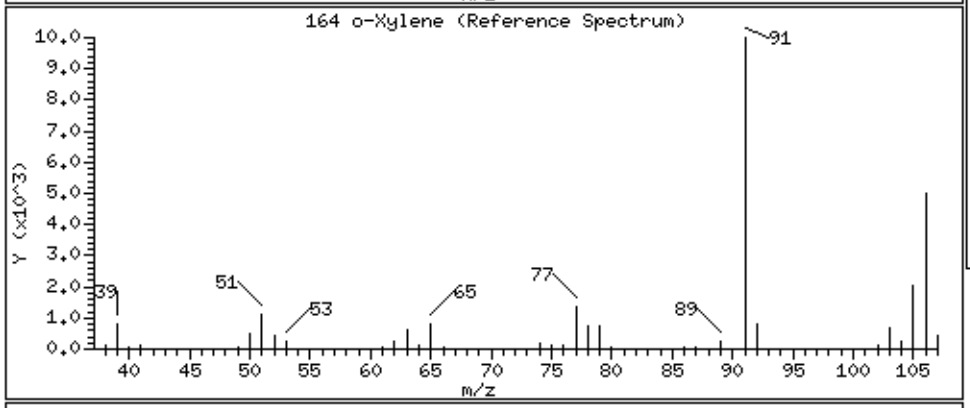
Concentration: 0.4139 PPBV

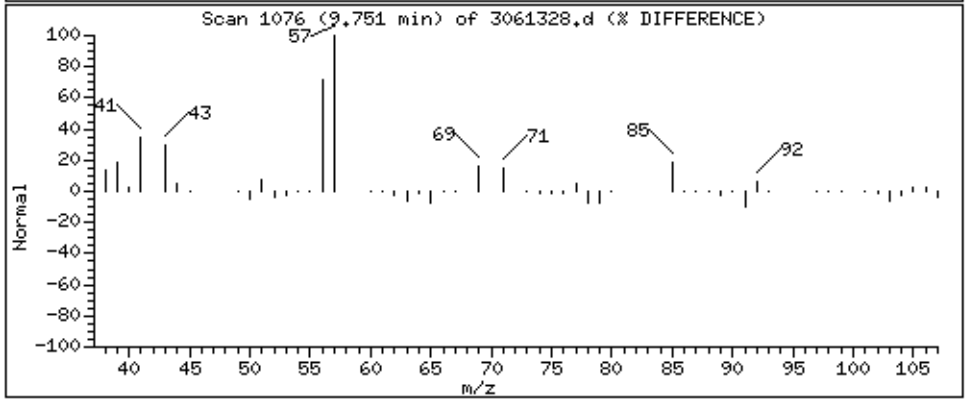


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV024_May24 | | |
| **Lab ID:** | 2406133-07A | **Date/Time Analyzed:** | 6/14/24 05:30 PM |
| **Date/Time Collected:** | 5/29/24 11:02 AM | **Dilution Factor:** | 10.0 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061411 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 10 | 18 | 20 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 10 | 27 | 30 | Not Detected U |
| Benzene | 71-43-2 | 3.8 | 14 | 16 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 4.3 | 18 | 20 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 5.2 | 20 | 22 | Not Detected U |
| m,p-Xylene | 108-38-3 | 3.1 | 20 | 43 | Not Detected U |
| o-Xylene | 95-47-6 | 5.2 | 20 | 22 | Not Detected U |
| Toluene | 108-88-3 | 4.7 | 17 | 38 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 9.1 | 18 | 20 | Not Detected U |
| Trichloroethene | 79-01-6 | 8.0 | 24 | 27 | 6300 |
| Vinyl Chloride | 75-01-4 | 11 | 12 | 13 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061411.d
Lab Smp Id: 2406133-07A
Inj Date : 14-JUN-2024 17:30
Operator : RT Inst ID: msd3.i
Smp Info : 40mL N7562
Misc Info : 5.1 Hg->9.7 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 3
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 96521 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 74917 | | | 47.79- 107.79 | 77.62 |
| 5.432 | 5.432 (1.000) | 49 | 143615 | | | 131.33- 191.33 | 148.79 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 113049 | 22.4866 | 22.487 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 59180 | | | 23.17- 83.17 | 52.35 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 350388 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 51961 | | | 0.00- 45.65 | 14.83 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 397698 | 116.920 | 1169.2 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 445778 | | | 80.23- 140.23 | 112.09 |
| 6.628 | 6.628 (1.032) | 97 | 258805 | | | 34.78- 94.78 | 65.08 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 329343 | 24.1785 | 24.178 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 70 | 35692 | | | 0.00- 41.42 | 10.84 |
| 7.760 | 7.760 (1.209) | 100 | 220470 | | | 37.54- 97.54 | 66.94 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 352152 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 177072 | | | 22.92- 82.92 | 50.28 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 265589 | 25.3779 | 25.378 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 293314 | | | 88.49- 148.49 | 110.44 |
| 10.288 | 10.288 (1.124) | 176 | 256626 | | | 66.73- 126.73 | 96.63 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061411.d
Lab Smp Id: 2406133-07A
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 5.1 Hg->9.7 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 96521 | -0.80 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 350388 | -1.63 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 352152 | -0.20 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:44

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-07A
Level: LOW Operator: RT
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 5.1 Hg->9.7 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.487 | 89.95 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.178 | 96.71 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.378 | 101.51 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061411.d



Date : 14-JUN-2024 17:30

Client ID:

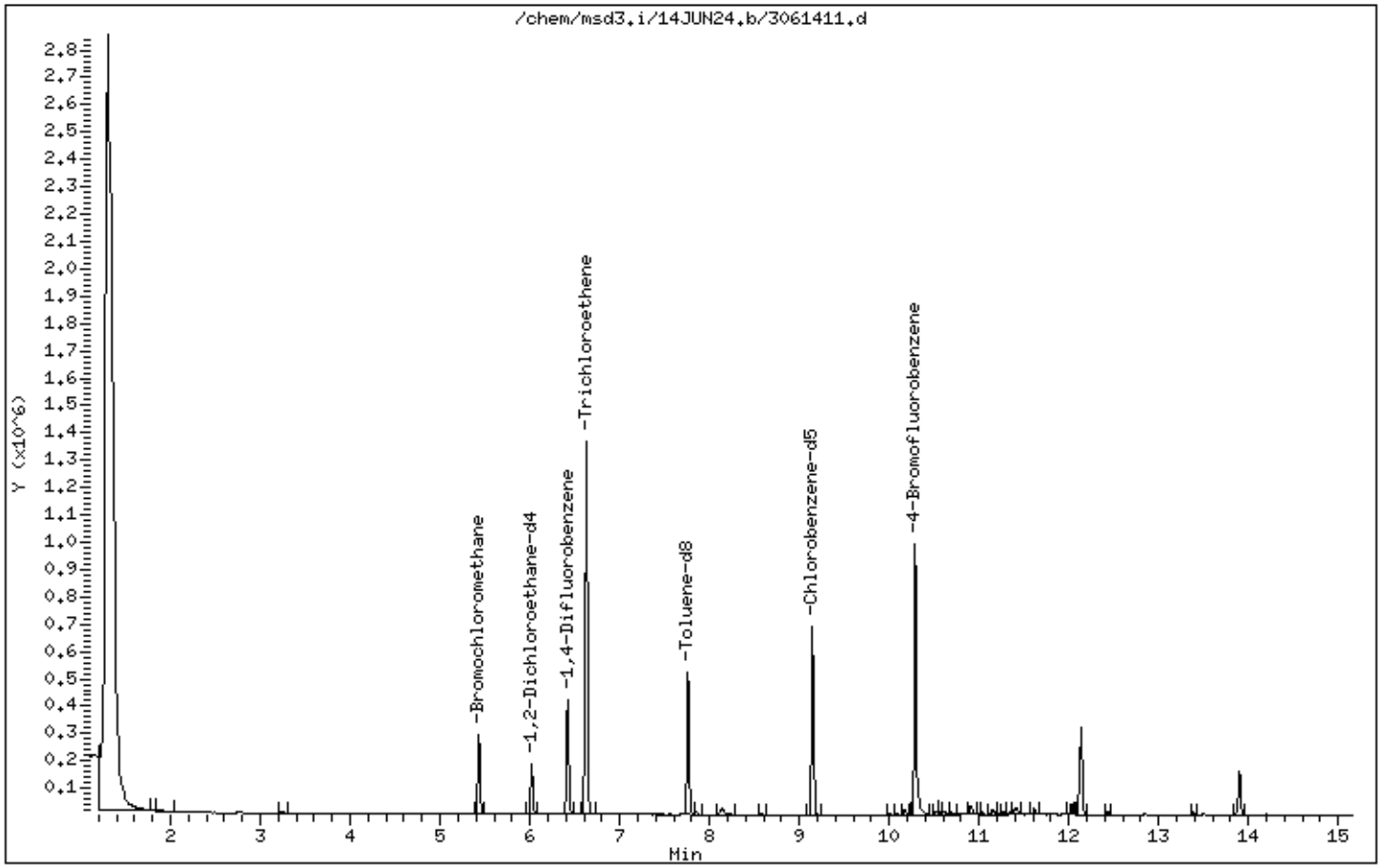
Instrument: msd3.i

Sample Info: 40mL N7562

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061411.d

Date : 14-JUN-2024 17:30

Client ID:

Instrument: msd3.i

Sample Info: 40mL N7562

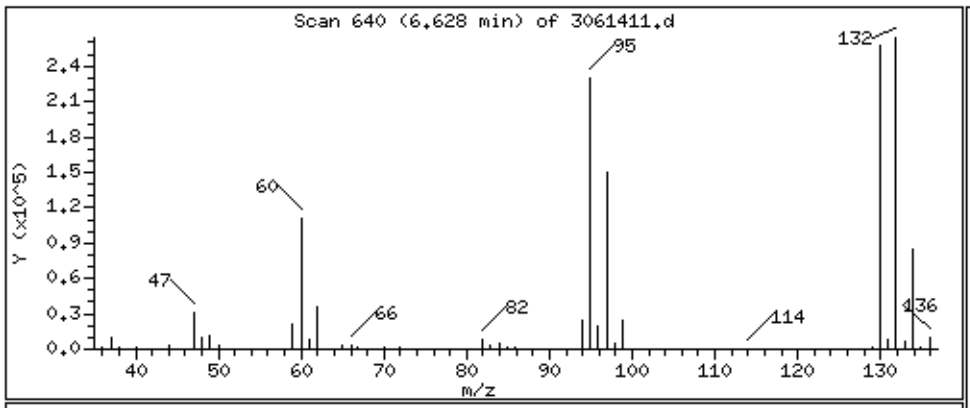
Operator: RT

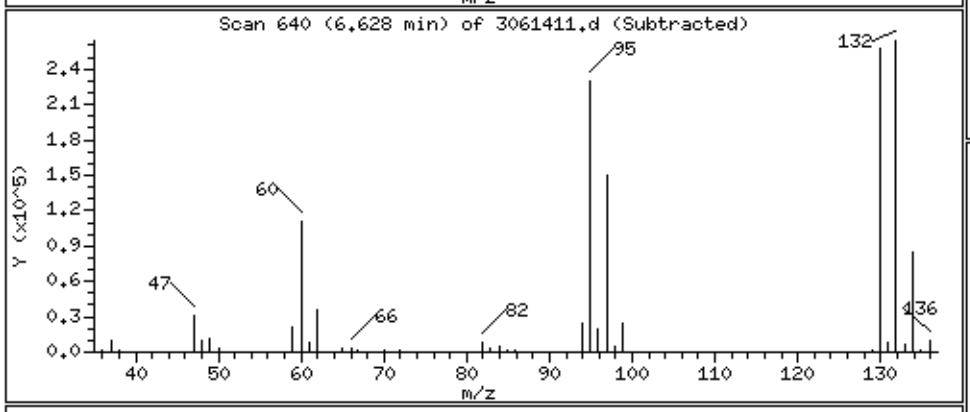
Column phase: RTX-624

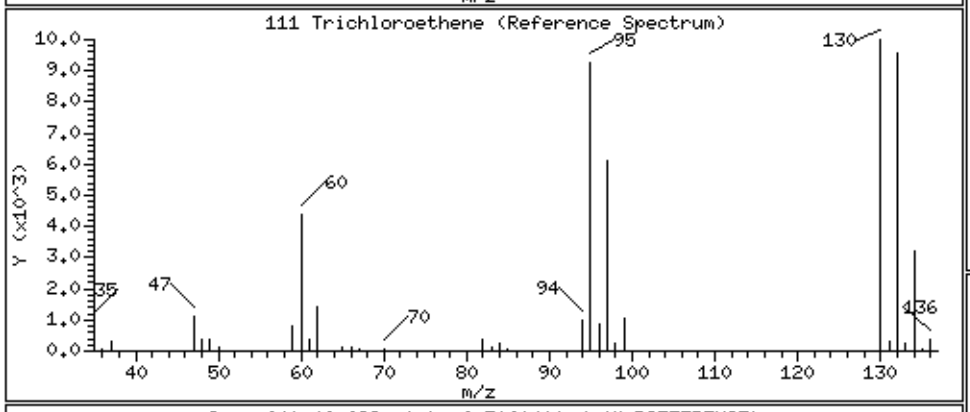
Column diameter: 0.25

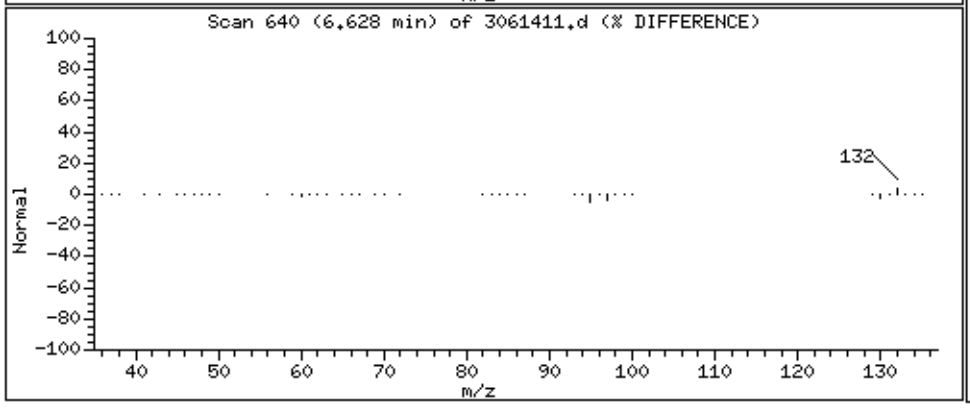
111 Trichloroethene

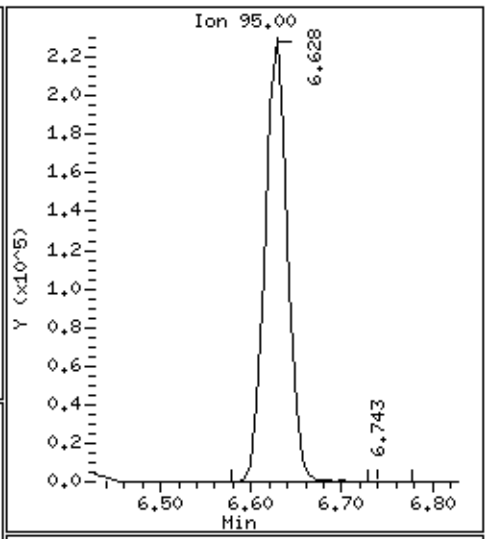
Concentration: 1169.2 PPBV

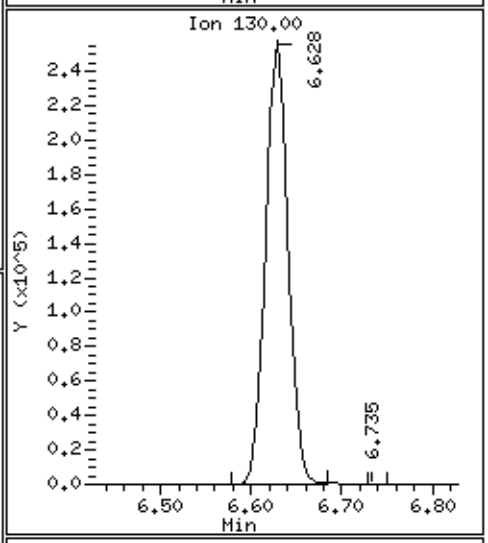


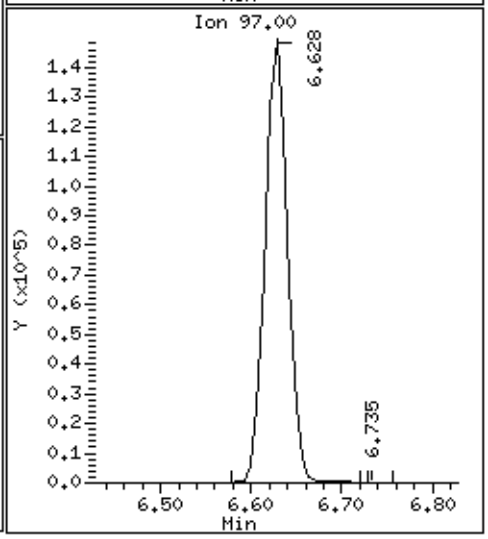



| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV026_May24 | | |
| **Lab ID:** | 2406133-08A | **Date/Time Analyzed:** | 6/14/24 06:05 PM |
| **Date/Time Collected:** | 5/29/24 12:20 PM | **Dilution Factor:** | 2.25 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061412 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.3 | 4.0 | 4.5 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.3 | 6.1 | 6.8 | Not Detected U |
| Benzene | 71-43-2 | 0.85 | 3.2 | 3.6 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.97 | 4.0 | 4.5 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.4 | 4.9 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.70 | 4.4 | 9.8 | 3.0 J |
| o-Xylene | 95-47-6 | 1.2 | 4.4 | 4.9 | 1.2 J |
| Toluene | 108-88-3 | 1.1 | 3.8 | 8.5 | 1.7 J |
| trans-1,2-Dichloroethene | 156-60-5 | 2.0 | 4.0 | 4.5 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.8 | 5.4 | 6.0 | 1100 |
| Vinyl Chloride | 75-01-4 | 2.4 | 2.6 | 2.9 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 104 |
| Toluene-d8 | 2037-26-5 | 91-110 | 94 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061412.d
Lab Smp Id: 2406133-08A
Inj Date : 14-JUN-2024 18:05
Operator : RT Inst ID: msd3.i
Smp Info : 200mL N5475
Misc Info : 7.6 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 4
Dil Factor: 2.25000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 108993 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 83856 | | | 47.79- 107.79 | 76.94 |
| 5.432 | 5.432 (1.000) | 49 | 162145 | | | 131.33- 191.33 | 148.77 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.019 (1.109) | 65 | 128876 | 22.7014 | 22.701 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.109) | 67 | 67102 | | | 23.17- 83.17 | 52.07 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 387485 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 56931 | | | 0.00- 45.65 | 14.69 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 333550 | 88.6730 | 199.51 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 375132 | | | 80.23- 140.23 | 112.47 |
| 6.628 | 6.628 (1.032) | 97 | 215526 | | | 34.78- 94.78 | 64.62 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 355016 | 23.5680 | 23.568 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.767 | 7.760 (1.210) | 70 | 38028 | | | 0.00- 41.42 | 10.71 |
| 7.767 | 7.760 (1.210) | 100 | 240792 | | | 37.54- 97.54 | 67.83 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 2190 | 0.20278 | 0.4562 | 80.00- 120.00 | 100.00(a) |
| 7.824 | 7.824 (1.219) | 92 | 1100 | | | 27.89- 87.89 | 50.25 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 403551 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 203458 | | | 22.92- 82.92 | 50.42 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 1820 | 0.31048 | 0.6986 | 80.00- 120.00 | 100.00(a) |
| 9.364 | 9.364 (1.023) | 91 | 3108 | | | 170.33- 230.33 | 170.71 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 679 | 0.12215 | 0.2748 | 80.00- 120.00 | 100.00(a) |
| 9.744 | 9.744 (1.065) | 91 | 1493 | | | 181.23- 241.23 | 219.73 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 310500 | 25.8904 | 25.890 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 341336 | | | 88.49- 148.49 | 109.93 |
| 10.288 | 10.288 (1.124) | 176 | 304361 | | | 66.73- 126.73 | 98.02 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061412.d
Lab Smp Id: 2406133-08A
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 7.6 Hg->10 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 108993 | 12.02 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 387485 | 8.79 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 403551 | 14.37 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:46

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-08A
Level: LOW Operator: RT
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 7.6 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.701 | 90.81 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 23.568 | 94.27 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.890 | 103.56 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061412.d



Date : 14-JUN-2024 18:05

Client ID:

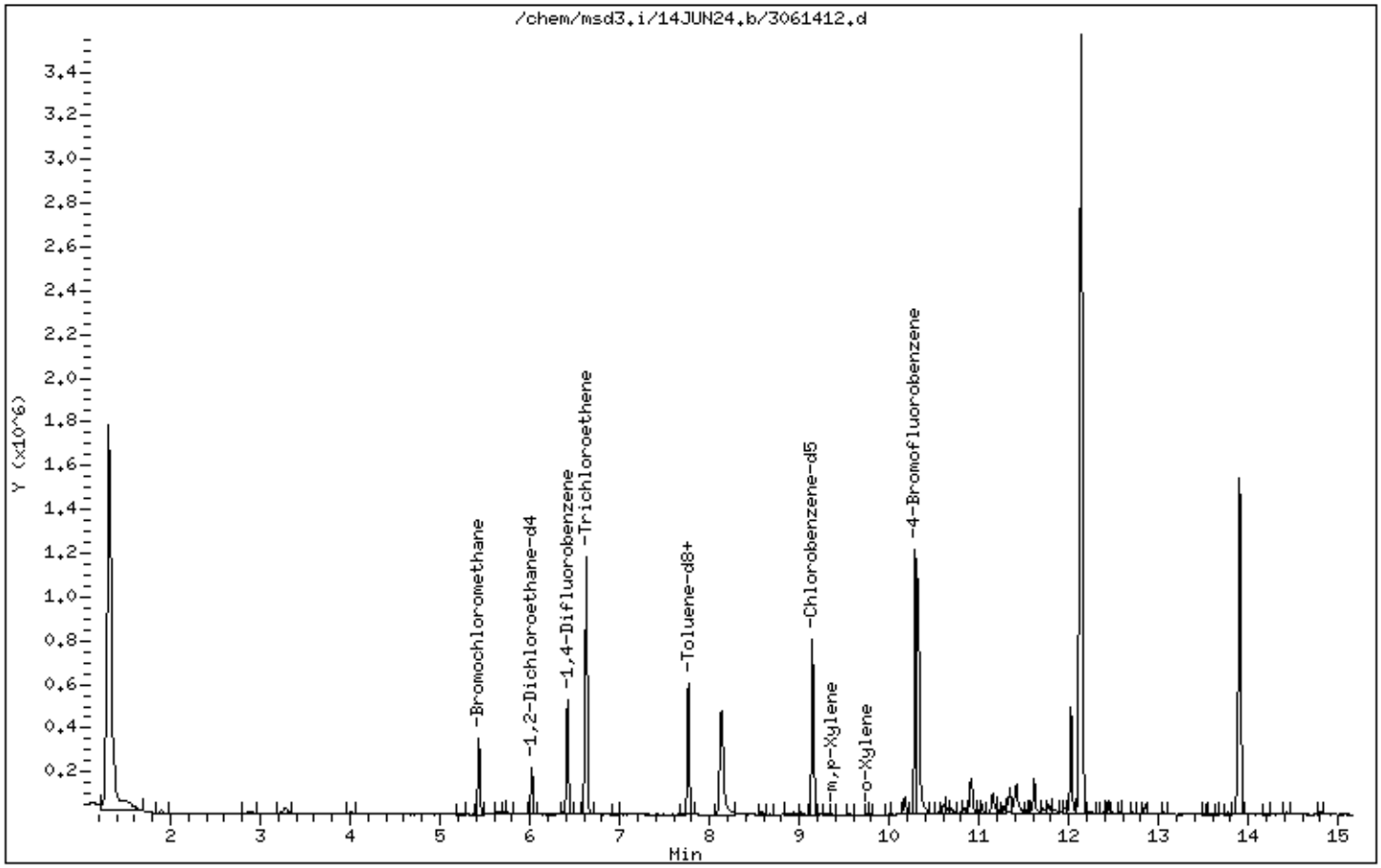
Instrument: msd3.i

Sample Info: 200mL N5475

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061412.d

Date : 14-JUN-2024 18:05

Client ID:

Instrument: msd3.i

Sample Info: 200mL N5475

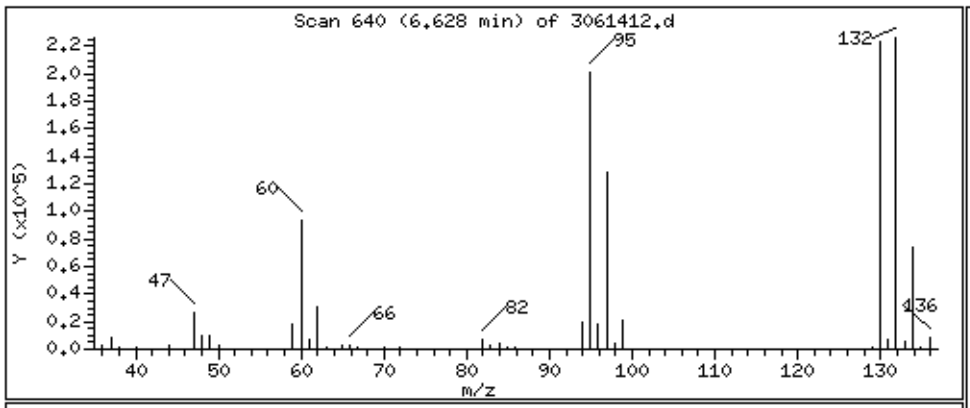
Operator: RT

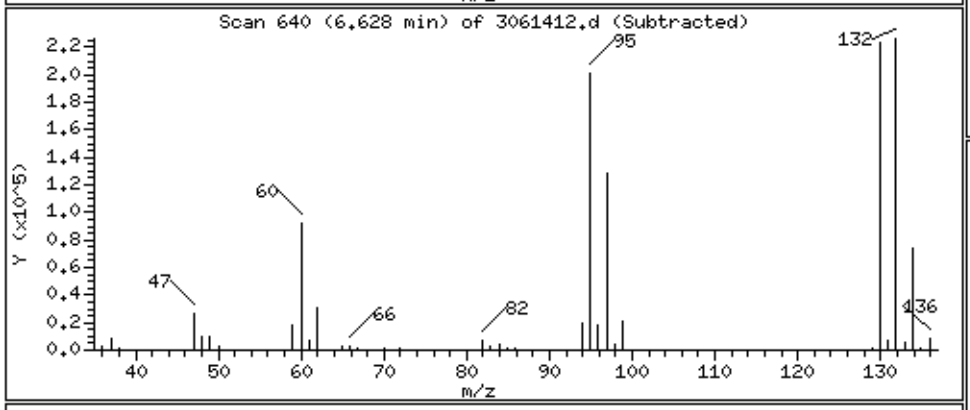
Column phase: RTX-624

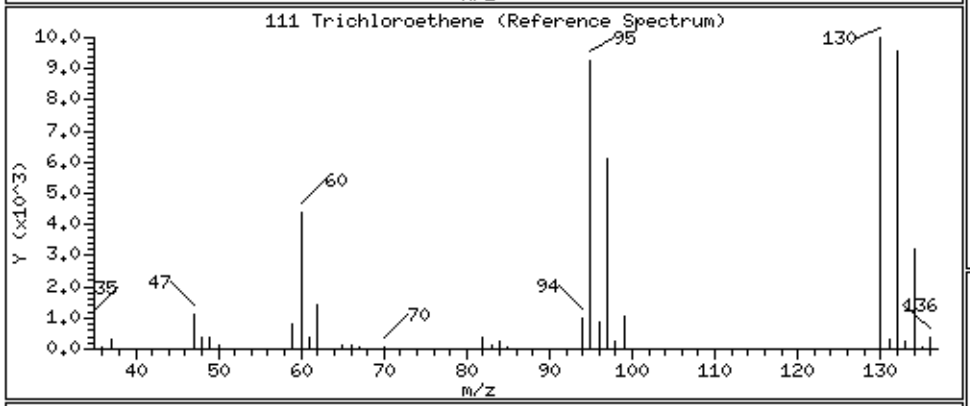
Column diameter: 0.25

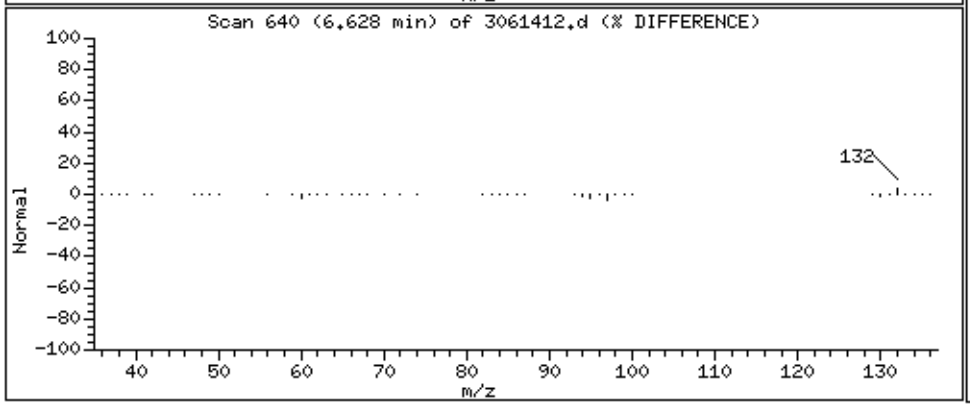
111 Trichloroethene

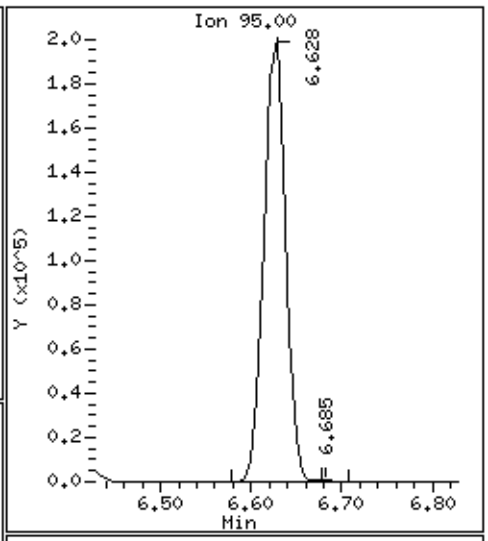
Concentration: 199.51 PPBV

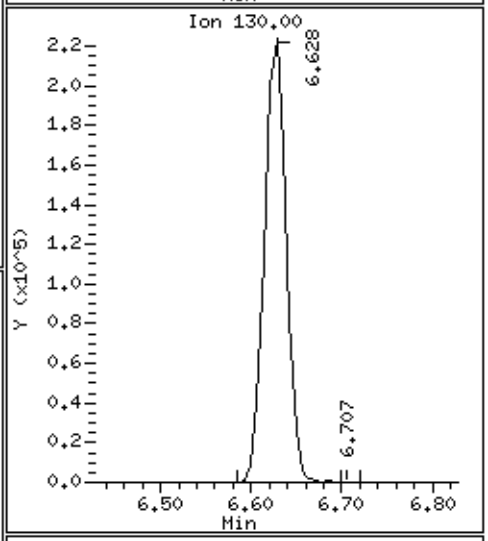


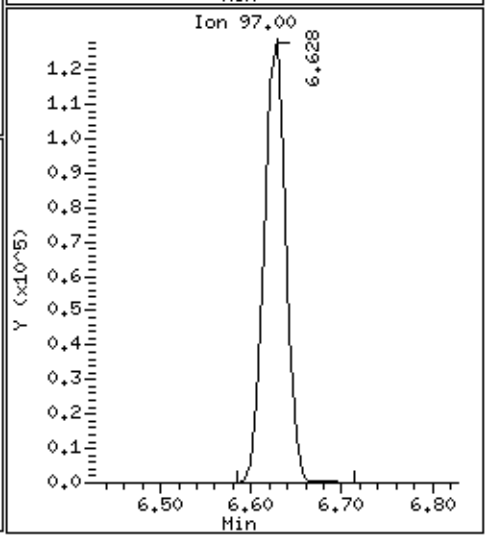



Data File: /chem/msd3.i/14JUN24.b/3061412.d

Date : 14-JUN-2024 18:05

Client ID:

Instrument: msd3.i

Sample Info: 200mL N5475

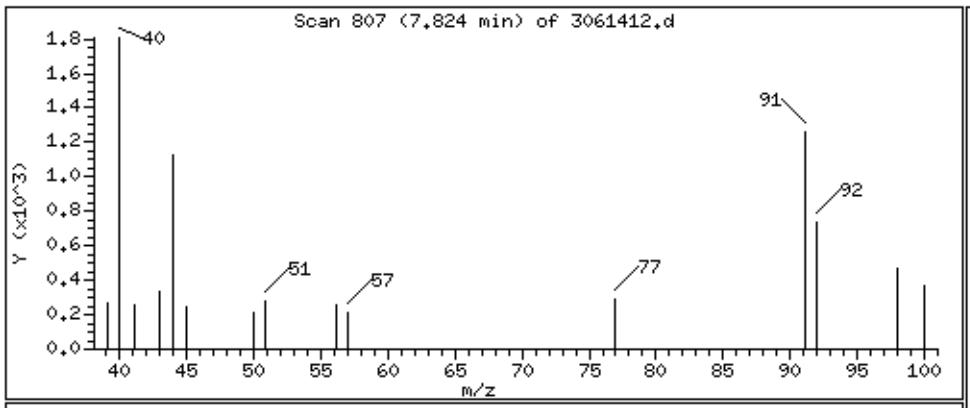
Operator: RT

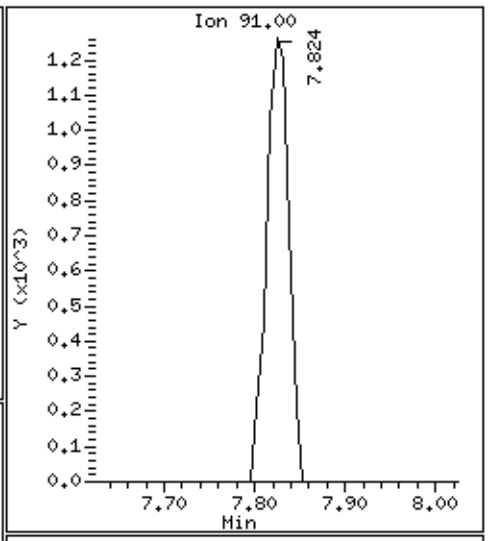
Column phase: RTX-624

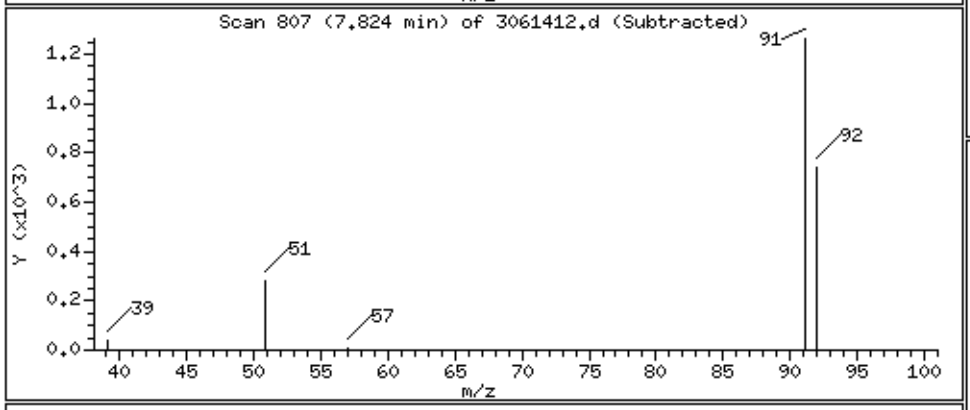
Column diameter: 0.25

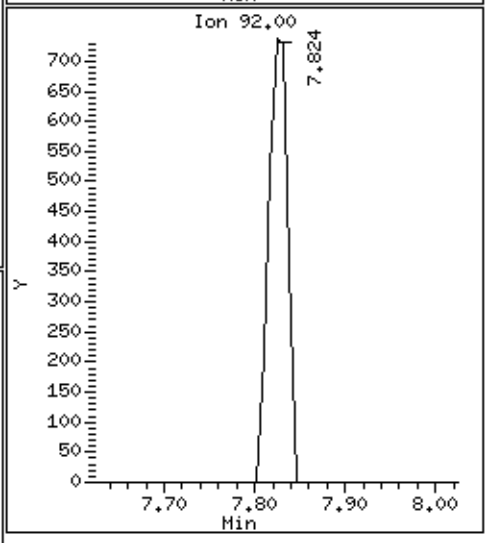
137 Toluene

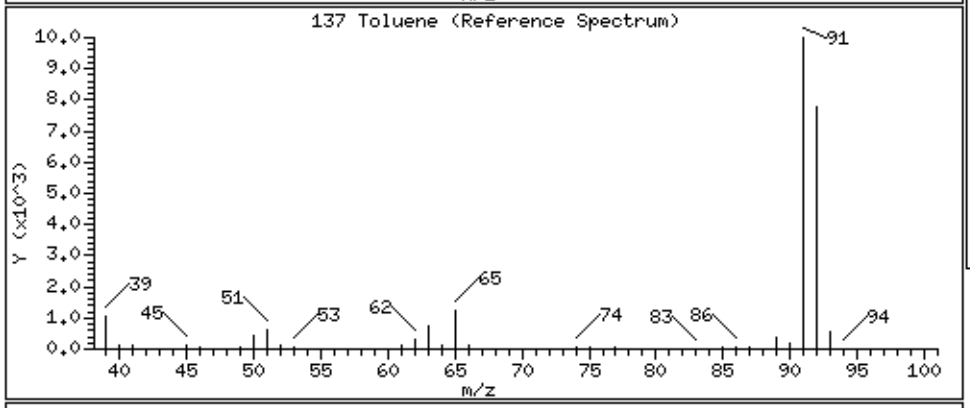
Concentration: 0.4562 PPBV

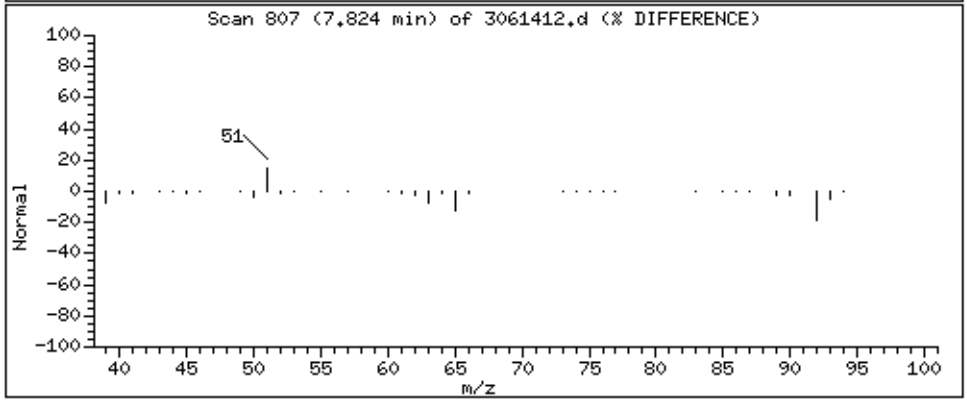


Data File: /chem/msd3.i/14JUN24.b/3061412.d

Date : 14-JUN-2024 18:05

Client ID:

Instrument: msd3.i

Sample Info: 200mL N5475

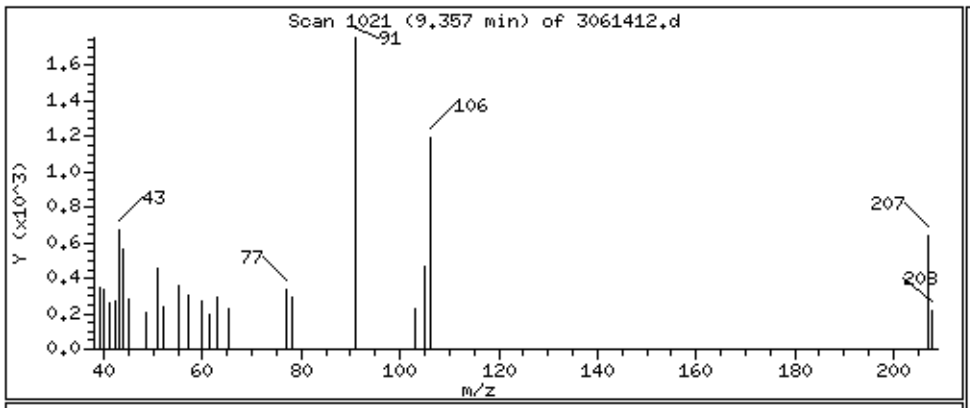
Operator: RT

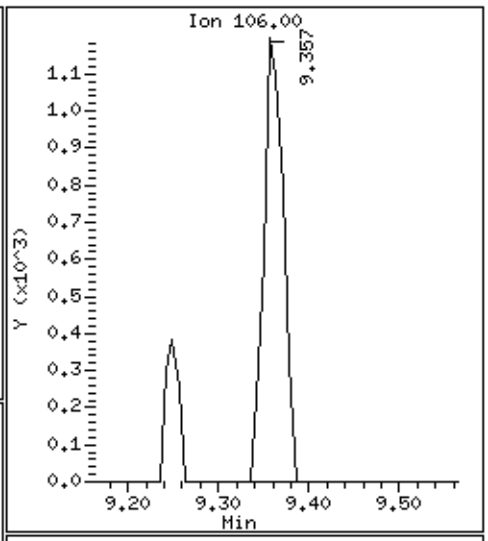
Column phase: RTX-624

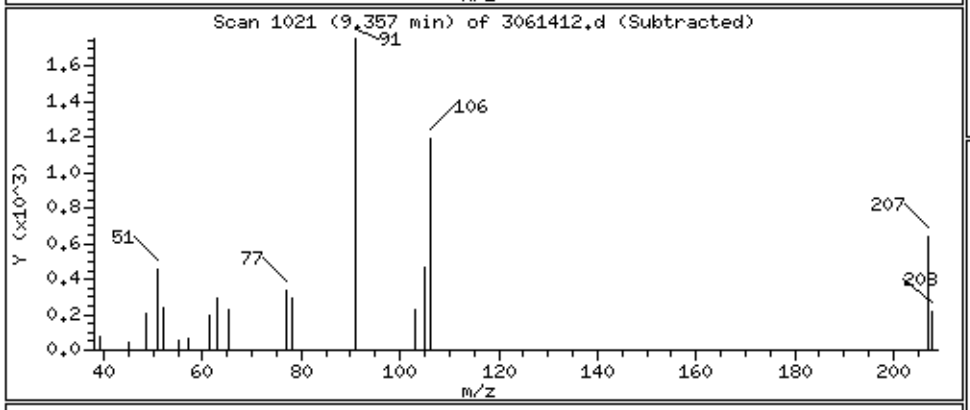
Column diameter: 0.25

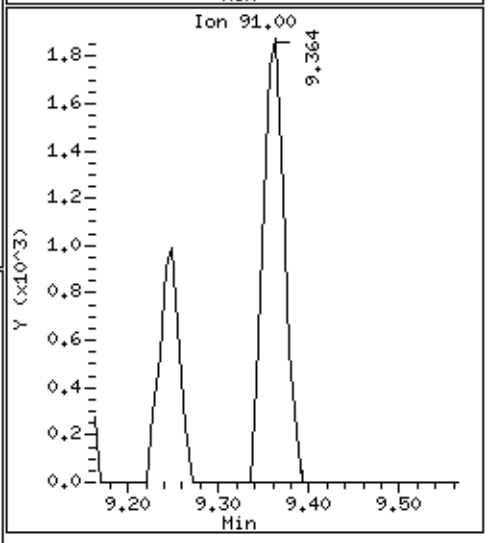
158 m,p-Xylene

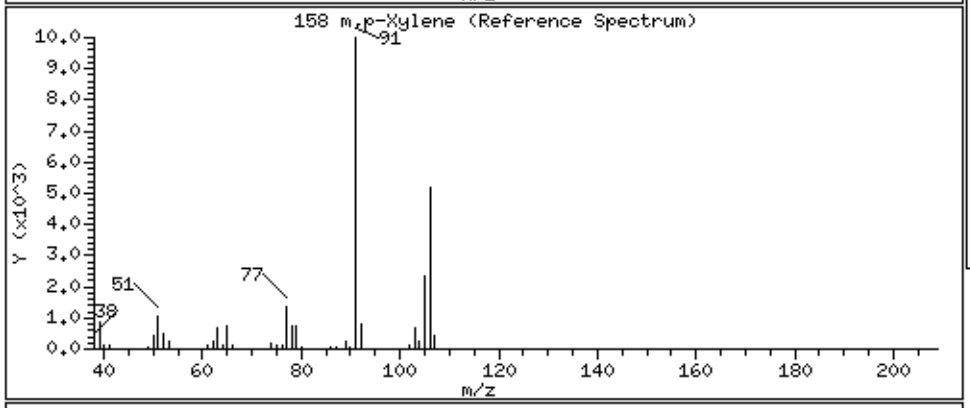
Concentration: 0.6986 PPBV

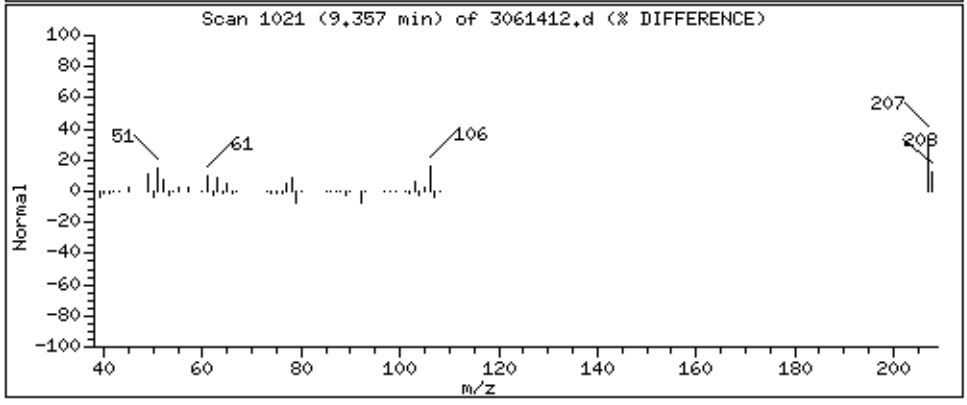


Data File: /chem/msd3.i/14JUN24.b/3061412.d

Date : 14-JUN-2024 18:05

Client ID:

Instrument: msd3.i

Sample Info: 200mL N5475

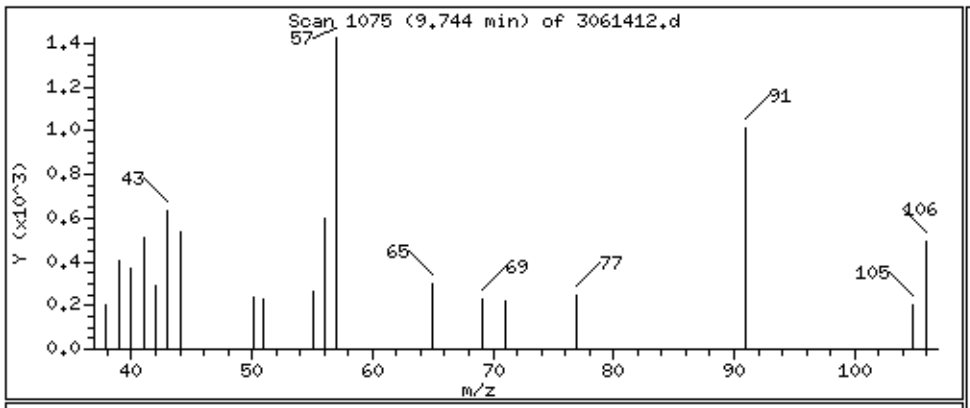
Operator: RT

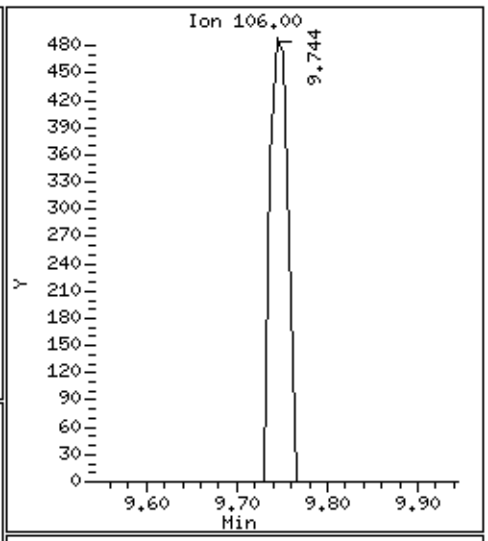
Column phase: RTX-624

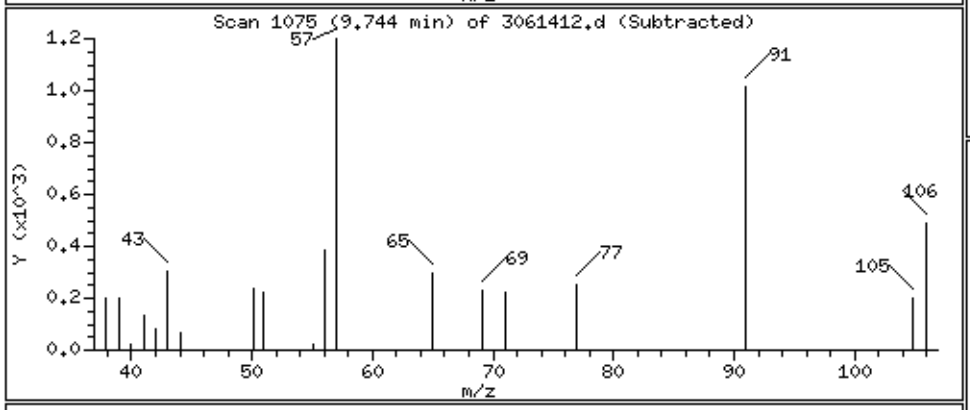
Column diameter: 0.25

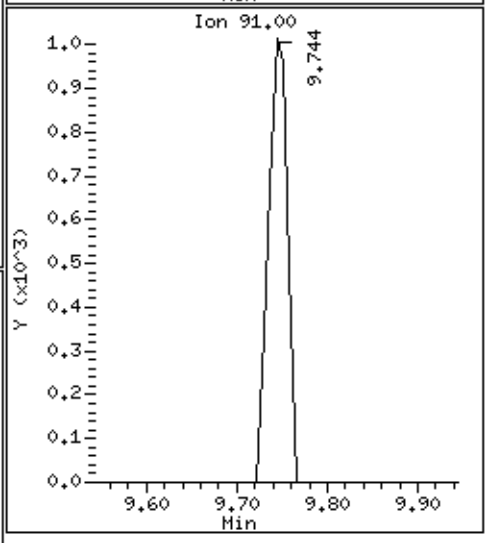
164 o-Xylene

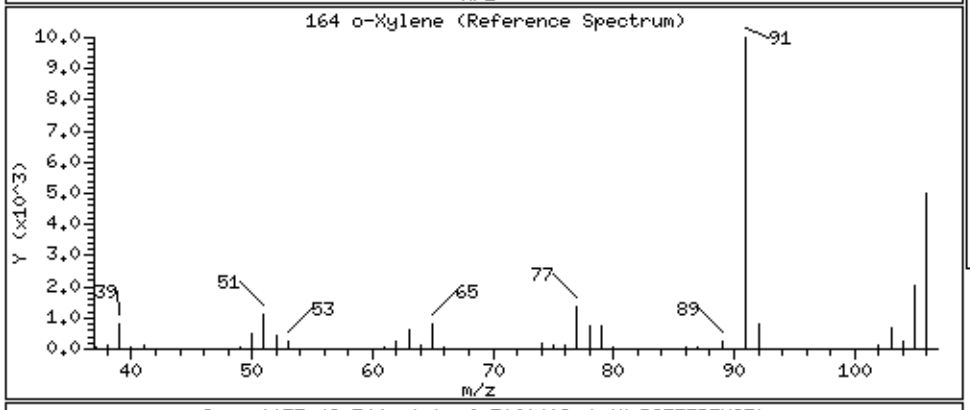
Concentration: 0.2748 PPBV

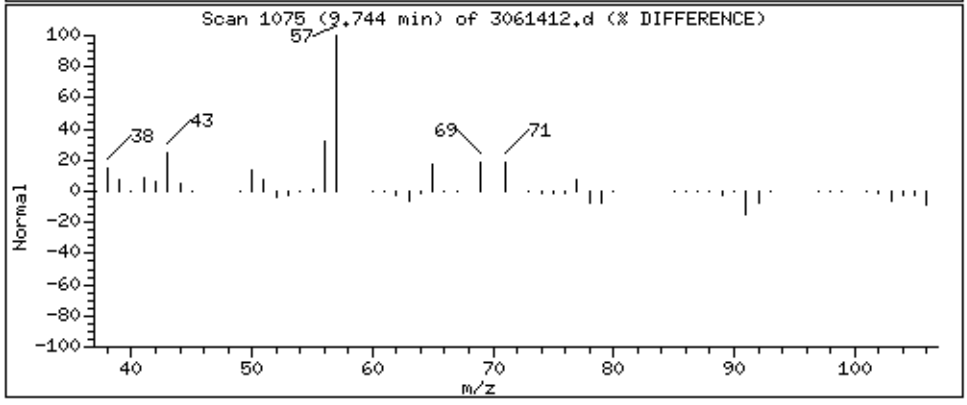


eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV026_May24_FD | | |
| **Lab ID:** | 2406133-09A | **Date/Time Analyzed:** | 6/14/24 06:40 PM |
| **Date/Time Collected:** | 5/29/24 12:20 PM | **Dilution Factor:** | 2.50 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061413 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.6 | 4.5 | 5.0 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.5 | 6.8 | 7.5 | Not Detected U |
| Benzene | 71-43-2 | 0.94 | 3.6 | 4.0 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 1.1 | 4.5 | 5.0 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.3 | 4.9 | 5.4 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.78 | 4.9 | 11 | 1.9 J |
| o-Xylene | 95-47-6 | 1.3 | 4.9 | 5.4 | Not Detected U |
| Toluene | 108-88-3 | 1.2 | 4.2 | 9.4 | 1.3 J |
| trans-1,2-Dichloroethene | 156-60-5 | 2.3 | 4.5 | 5.0 | Not Detected U |
| Trichloroethene | 79-01-6 | 2.0 | 6.0 | 6.7 | 1000 |
| Vinyl Chloride | 75-01-4 | 2.7 | 2.9 | 3.2 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 104 |
| Toluene-d8 | 2037-26-5 | 91-110 | 95 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061413.d
Lab Smp Id: 2406133-09A
Inj Date : 14-JUN-2024 18:40
Operator : RT Inst ID: msd3.i
Smp Info : 200mL N5166
Misc Info : 9.8 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 5
Dil Factor: 2.50000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 106230 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 83004 | | | | 47.79- 107.79 | 78.14 |
| 5.432 | 5.432 (1.000) | 49 | 161396 | | | | 131.33- 191.33 | 151.93 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 125614 | 22.7023 | 22.702 | | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.109) | 67 | 65619 | | | | 23.17- 83.17 | 52.24 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 383242 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 54907 | | | | 0.00- 45.65 | 14.33 |
| 111 Trichloroethene | | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 289719 | 77.8734 | 194.68 | | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 322936 | | | | 80.23- 140.23 | 111.47 |
| 6.628 | 6.628 (1.032) | 97 | 186118 | | | | 34.78- 94.78 | 64.24 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 353490 | 23.7265 | 23.726 | | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.767 | 7.760 (1.210) | 70 | 37946 | | | 0.00- 41.42 | 10.73 |
| 7.767 | 7.760 (1.210) | 100 | 235802 | | | 37.54- 97.54 | 66.71 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.824 (1.220) | 91 | 1508 | 0.14118 | 0.3529 | 80.00- 120.00 | 100.00(a) |
| 7.824 | 7.824 (1.219) | 92 | 768 | | | 27.89- 87.89 | 50.95 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 387966 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 193020 | | | 22.92- 82.92 | 49.75 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 1007 | 0.17869 | 0.4467 | 80.00- 120.00 | 100.00(a) |
| 9.364 | 9.364 (1.023) | 91 | 2240 | | | 170.33- 230.33 | 222.51 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 299800 | 26.0024 | 26.002 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 330669 | | | 88.49- 148.49 | 110.30 |
| 10.288 | 10.288 (1.124) | 176 | 333982 | | | 66.73- 126.73 | 111.40 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061413.d
Lab Smp Id: 2406133-09A
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 9.8 Hg->10 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 106230 | 9.18 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 383242 | 7.60 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 387966 | 9.95 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:47

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-09A
Level: LOW Operator: RT
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 9.8 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.702 | 90.81 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 23.726 | 94.91 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 26.002 | 104.01 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061413.d

Page 1

Date : 14-JUN-2024 18:40

Client ID:

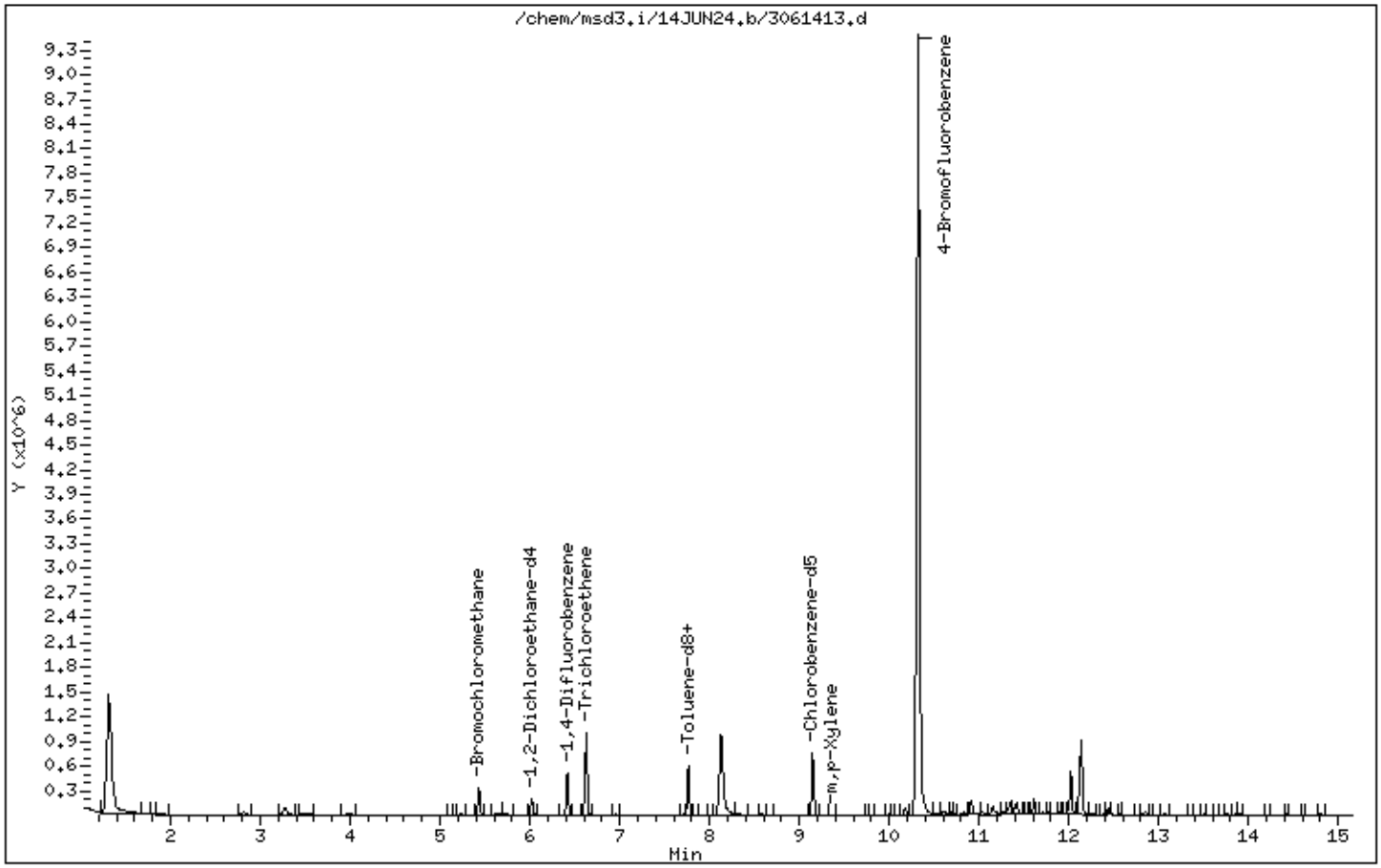
Instrument: msd3.i

Sample Info: 200mL N5166

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061413.d

Date : 14-JUN-2024 18:40

Client ID:

Instrument: msd3.i

Sample Info: 200mL N5166

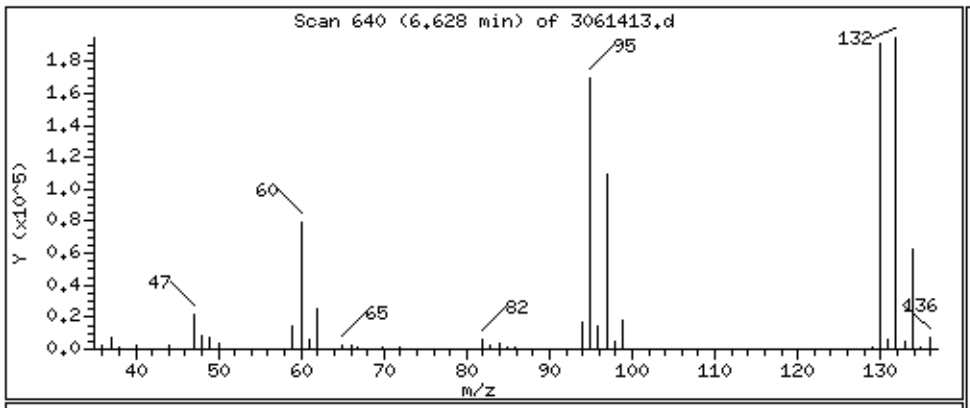
Operator: RT

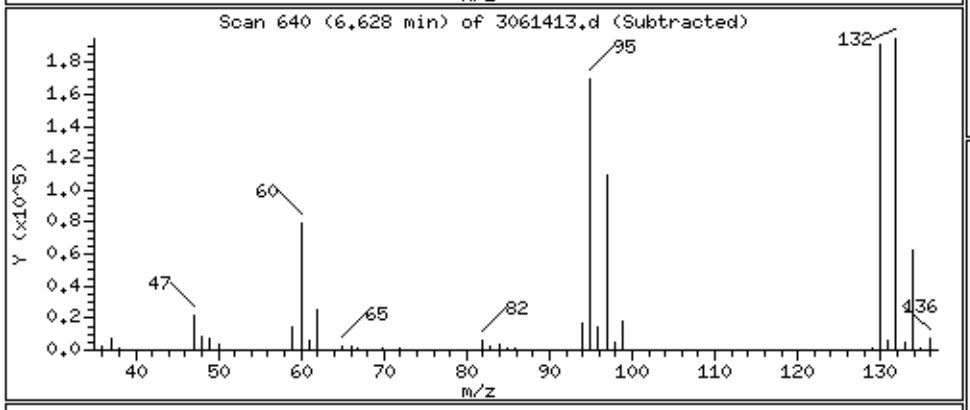
Column phase: RTX-624

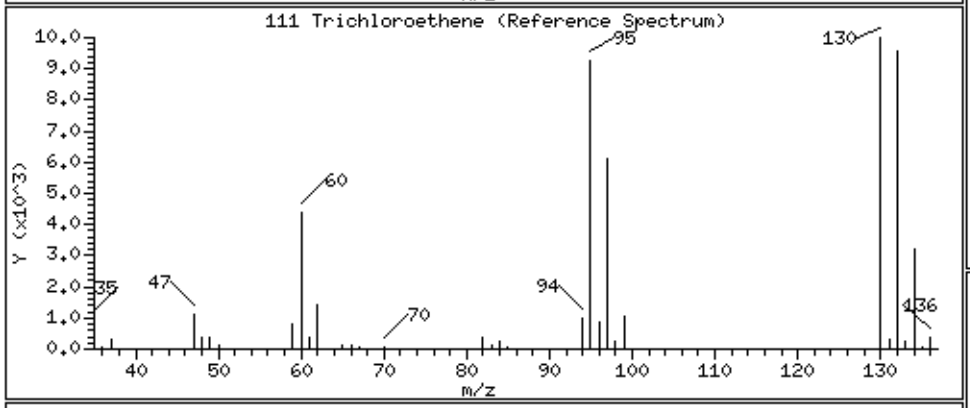
Column diameter: 0.25

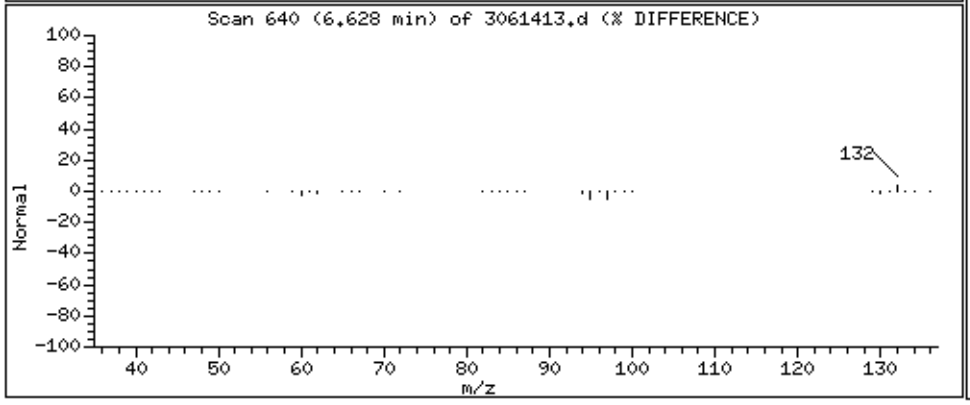
111 Trichloroethene

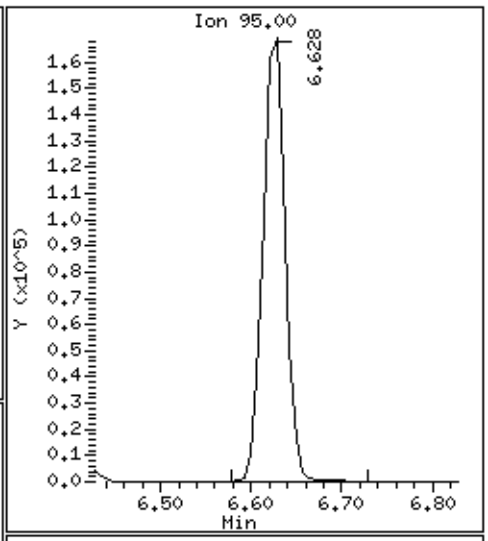
Concentration: 194.68 PPBV

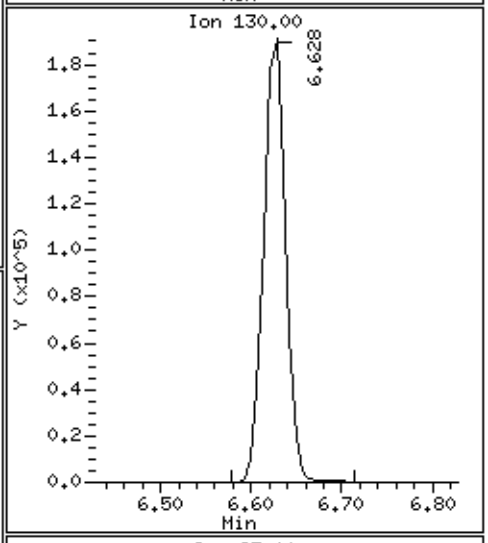


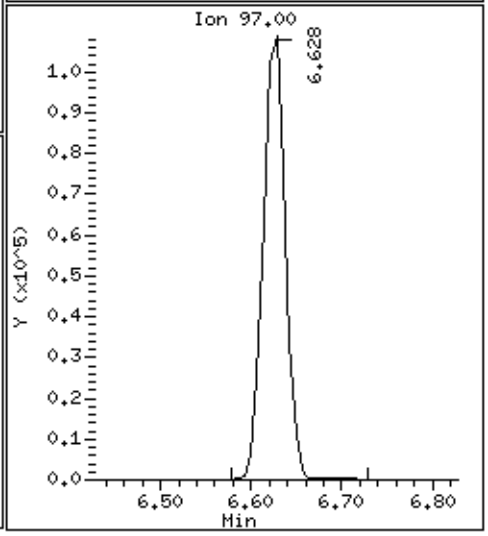



Data File: /chem/msd3.i/14JUN24.b/3061413.d

Date : 14-JUN-2024 18:40

Client ID:

Instrument: msd3.i

Sample Info: 200mL N5166

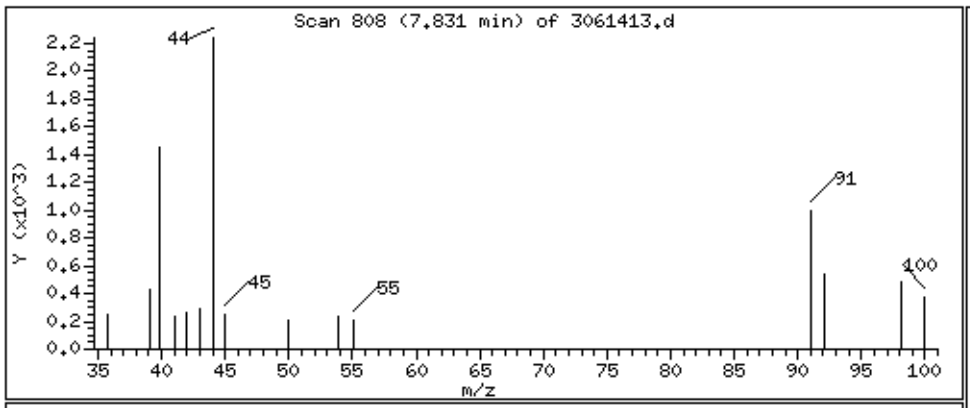
Operator: RT

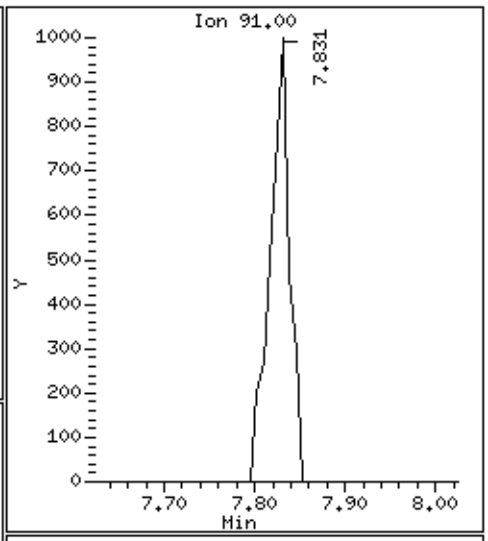
Column phase: RTX-624

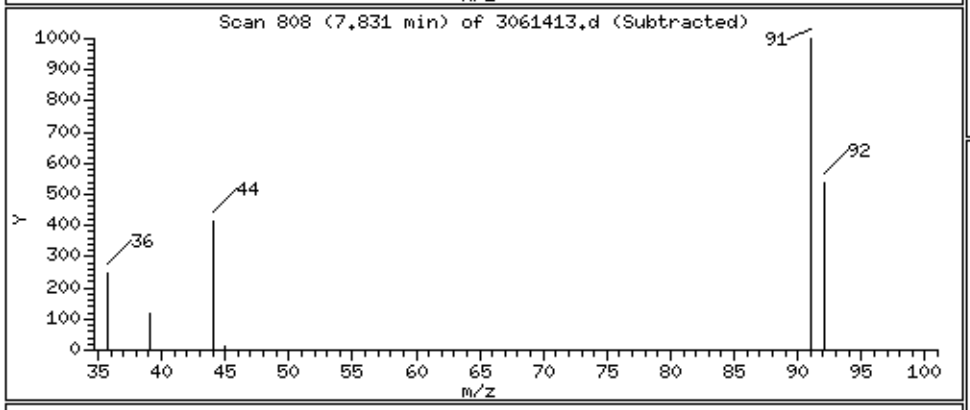
Column diameter: 0.25

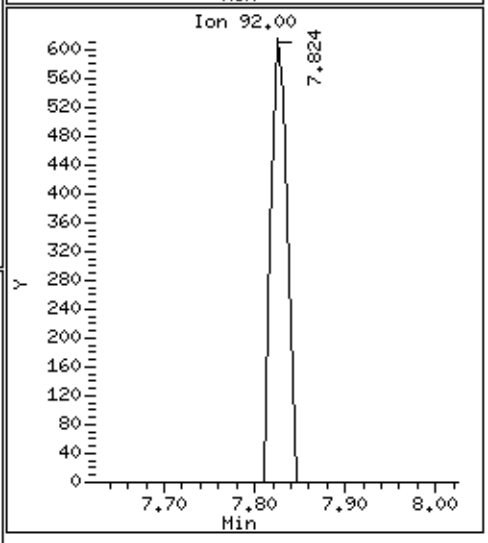
137 Toluene

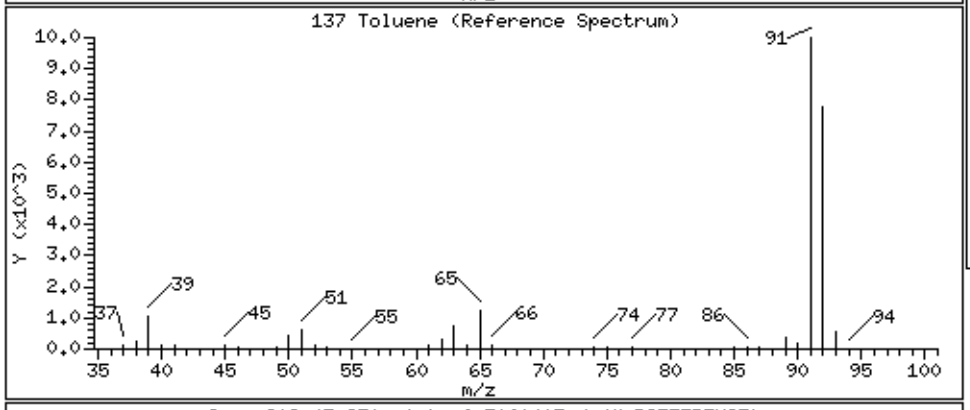
Concentration: 0.3529 PPBV

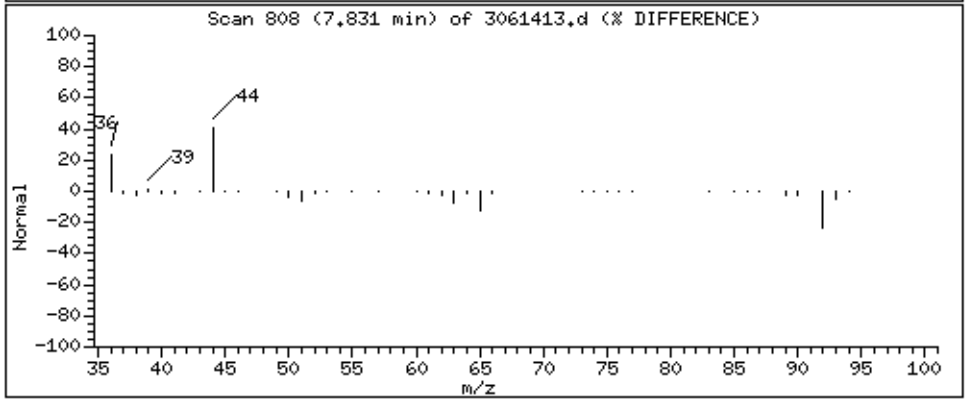


Data File: /chem/msd3.i/14JUN24.b/3061413.d

Date : 14-JUN-2024 18:40

Client ID:

Instrument: msd3.i

Sample Info: 200mL N5166

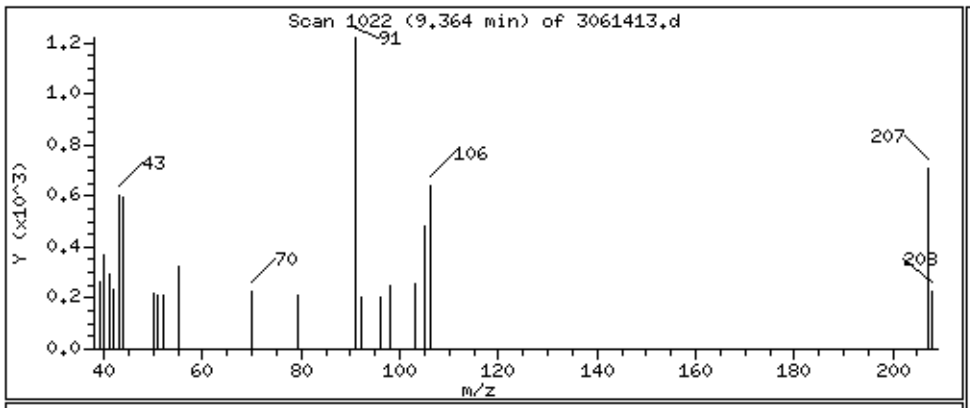
Operator: RT

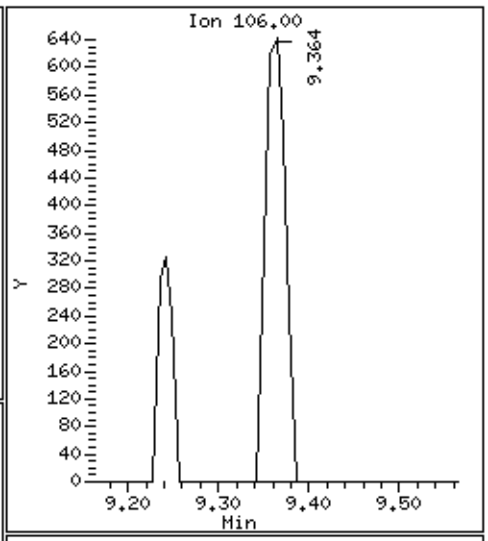
Column phase: RTX-624

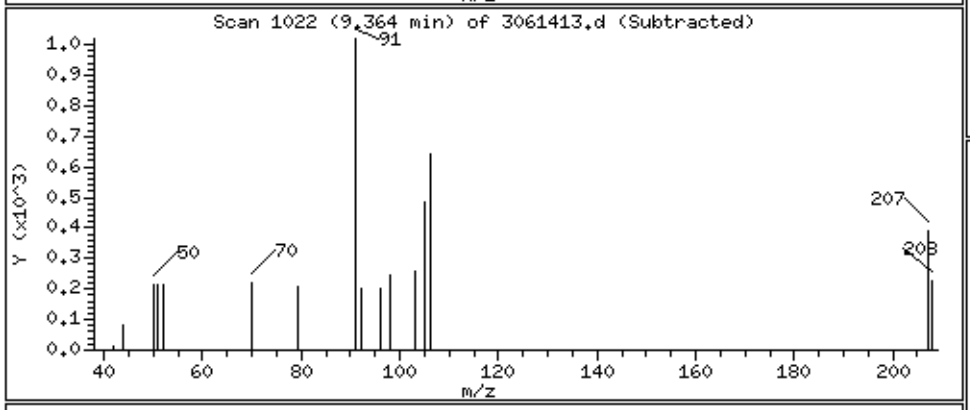
Column diameter: 0.25

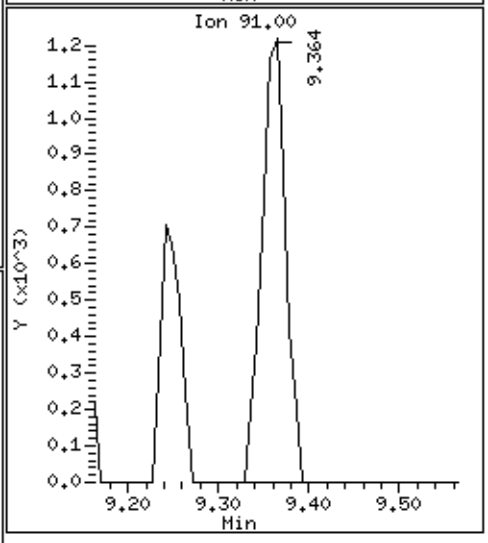
158 m,p-Xylene

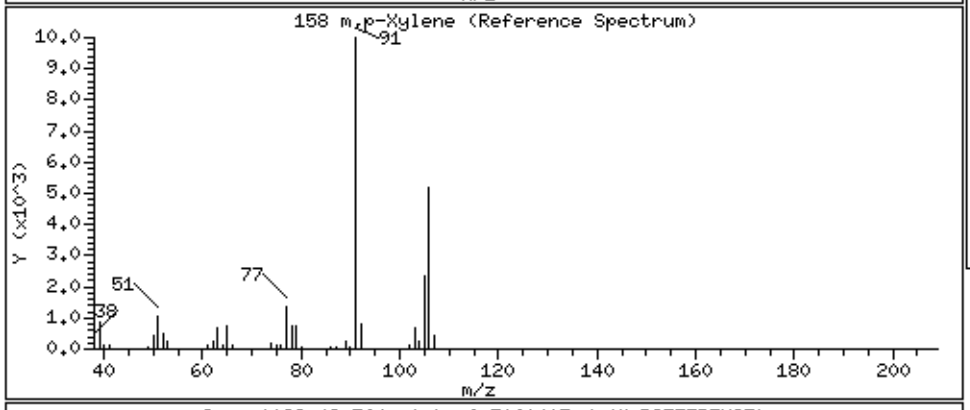
Concentration: 0.4467 PPBV

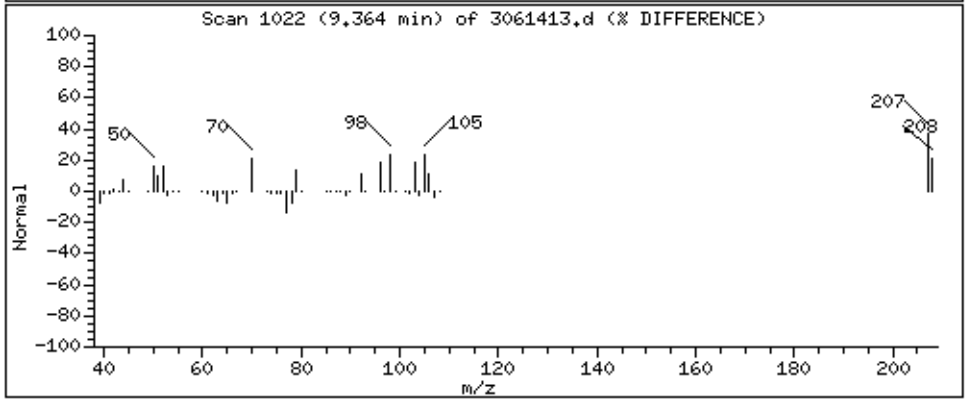


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV022_May24 | | |
| **Lab ID:** | 2406133-10A | **Date/Time Analyzed:** | 6/14/24 07:11 PM |
| **Date/Time Collected:** | 5/29/24 01:15 PM | **Dilution Factor:** | 11.9 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061414 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 12 | 21 | 24 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 12 | 32 | 36 | Not Detected U |
| Benzene | 71-43-2 | 4.5 | 17 | 19 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 5.1 | 21 | 24 | 30 |
| Ethyl Benzene | 100-41-4 | 6.1 | 23 | 26 | Not Detected U |
| m,p-Xylene | 108-38-3 | 3.7 | 23 | 52 | Not Detected U |
| o-Xylene | 95-47-6 | 6.2 | 23 | 26 | Not Detected U |
| Toluene | 108-88-3 | 5.6 | 20 | 45 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 11 | 21 | 24 | Not Detected U |
| Trichloroethene | 79-01-6 | 9.6 | 29 | 32 | 7200 |
| Vinyl Chloride | 75-01-4 | 13 | 14 | 15 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 96 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061414.d
Lab Smp Id: 2406133-10A
Inj Date : 14-JUN-2024 19:11
Operator : RT Inst ID: msd3.i
Smp Info : 45mL N2678
Misc Info : 11.2 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 6
Dil Factor: 11.90000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 85 cis-1,2-Dichloroethene | | | | | | CAS #: 156-59-2 | | |
| 5.188 | 5.181 (0.955) | 98 | 1117 | 0.64274 | | 7.648 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 1927 | | | | 125.53- 185.53 | 172.50 |
| 5.181 | 5.181 (0.954) | 61 | 2954 | | | | 219.86- 279.86 | 264.45 |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 97409 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 75818 | | | | 47.79- 107.79 | 77.83 |
| 5.432 | 5.432 (1.000) | 49 | 144149 | | | | 131.33- 191.33 | 147.98 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 113943 | 22.4578 | | 22.458 | 80.00- 120.00 | 100.00(a) |
| 6.019 | 6.019 (1.108) | 67 | 58839 | | | | 23.17- 83.17 | 51.64 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 347964 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 50792 | | | | 0.00- 45.65 | 14.60 |
| 111 Trichloroethene | | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 383165 | 113.432 | | 1349.8 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 111 Trichloroethene (continued) | | | | | | | |
| 6.628 | 6.628 (1.032) | 130 | 428856 | | | 80.23- 140.23 | 111.92 |
| 6.628 | 6.628 (1.032) | 97 | 246987 | | | 34.78- 94.78 | 64.46 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 326389 | 24.1286 | 24.128 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 35622 | | | 0.00- 41.42 | 10.91 |
| 7.760 | 7.760 (1.209) | 100 | 219944 | | | 37.54- 97.54 | 67.39 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 356109 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 178642 | | | 22.92- 82.92 | 50.16 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 269696 | 25.4840 | 25.484 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 295292 | | | 88.49- 148.49 | 109.49 |
| 10.288 | 10.288 (1.124) | 176 | 264632 | | | 66.73- 126.73 | 98.12 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061414.d
Lab Smp Id: 2406133-10A
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 11.2 Hg->10 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 97409 | 0.11 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 347964 | -2.31 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 356109 | 0.93 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:48

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-10A
Level: LOW Operator: RT
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 11.2 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.458 | 89.83 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.128 | 96.51 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.484 | 101.94 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061414.d



Date : 14-JUN-2024 19:11

Client ID:

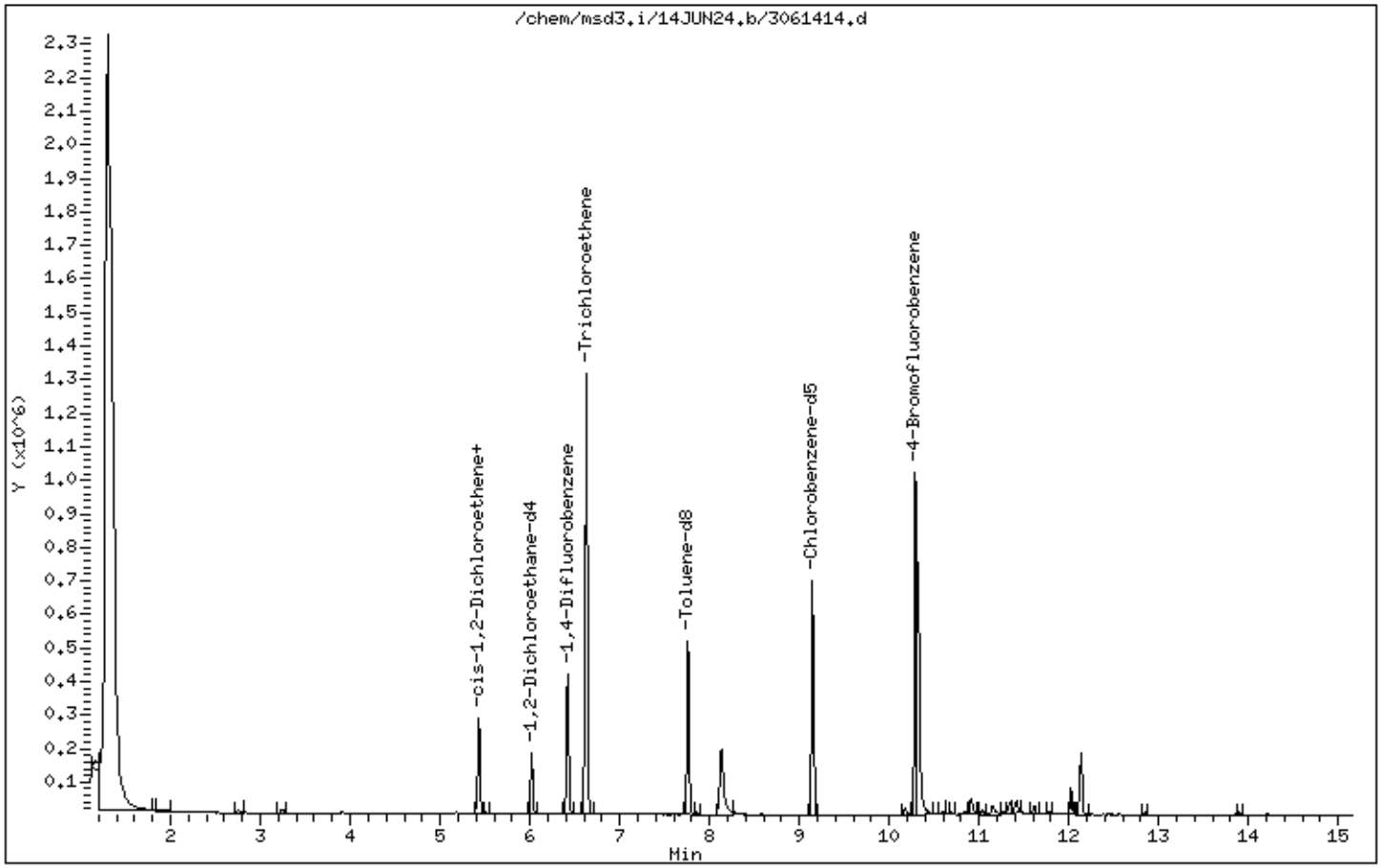
Instrument: msd3.i

Sample Info: 45mL N2678

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061414.d

Date : 14-JUN-2024 19:11

Client ID:

Instrument: msd3.i

Sample Info: 45mL N2678

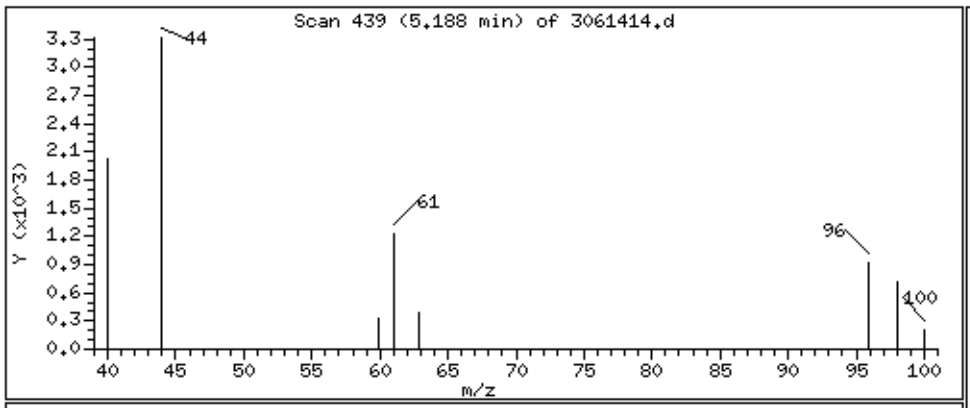
Operator: RT

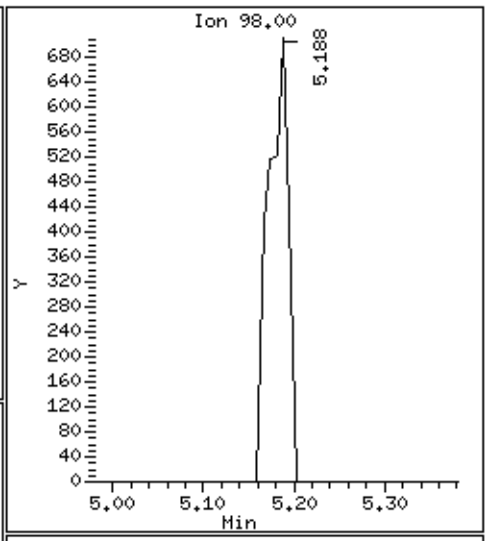
Column phase: RTX-624

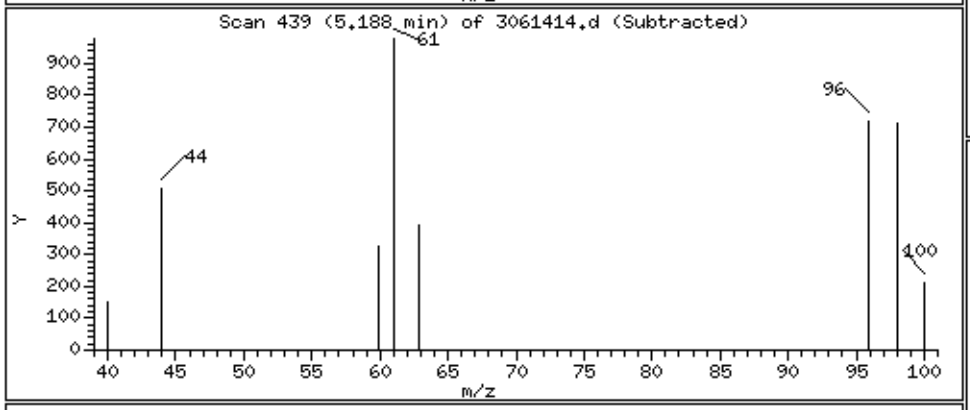
Column diameter: 0.25

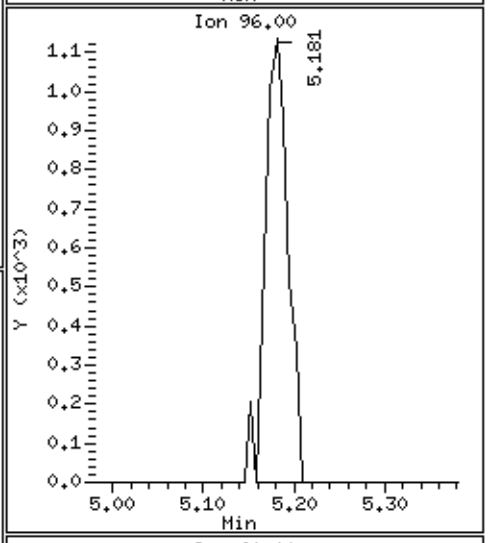
85 cis-1,2-Dichloroethene

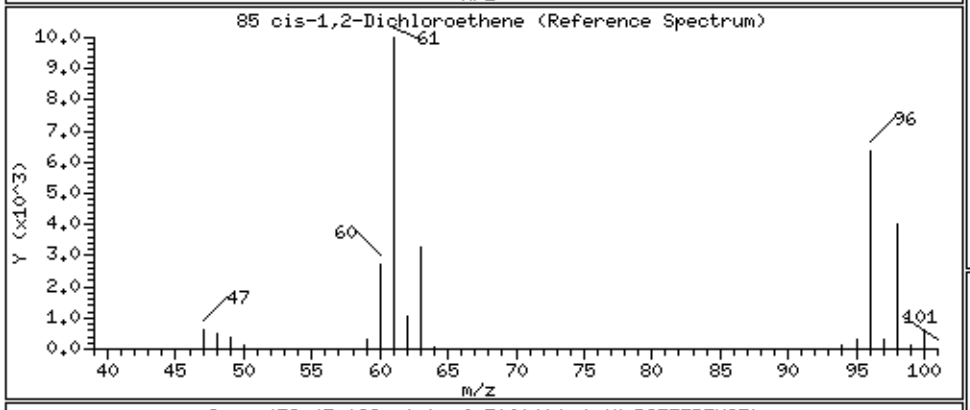
Concentration: 7.648 PPBV

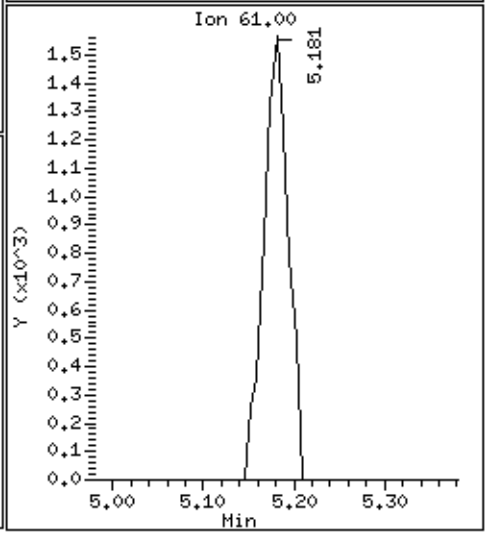


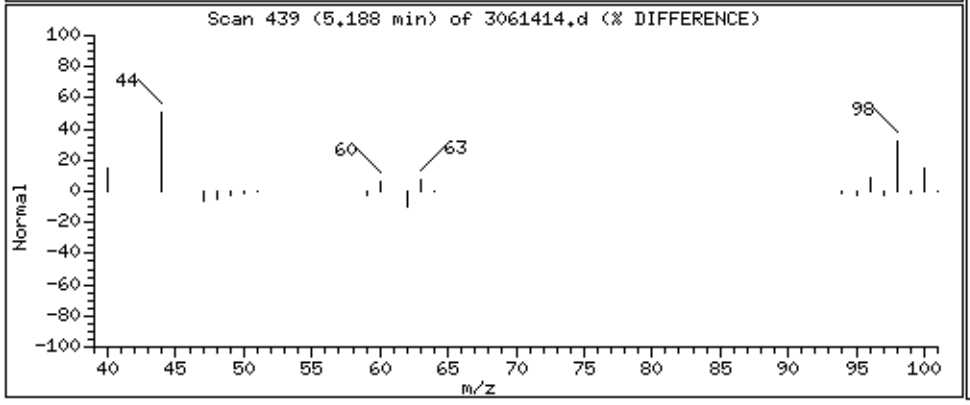



Data File: /chem/msd3.i/14JUN24.b/3061414.d

Date : 14-JUN-2024 19:11

Client ID:

Instrument: msd3.i

Sample Info: 45mL N2678

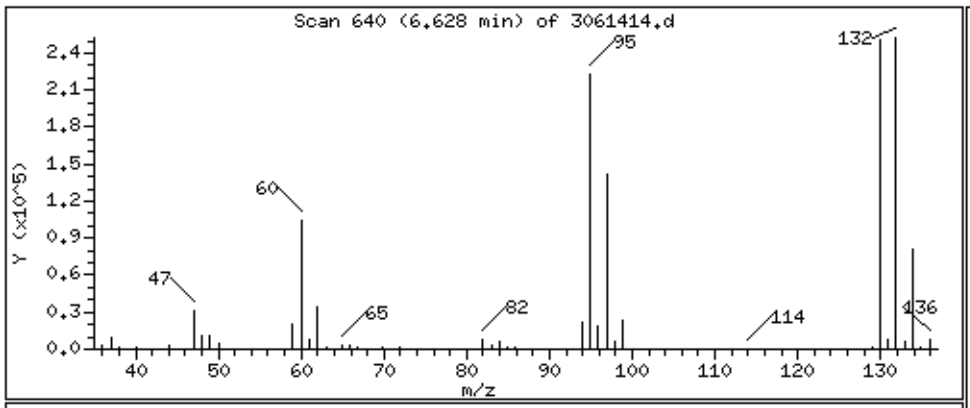
Operator: RT

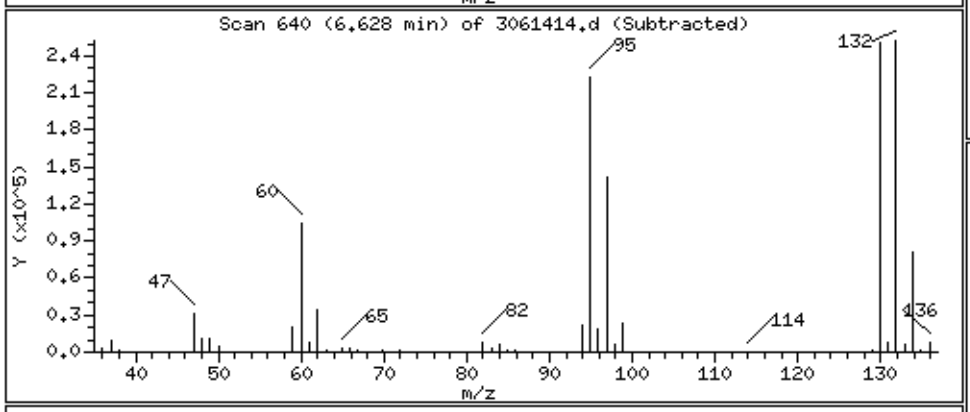
Column phase: RTX-624

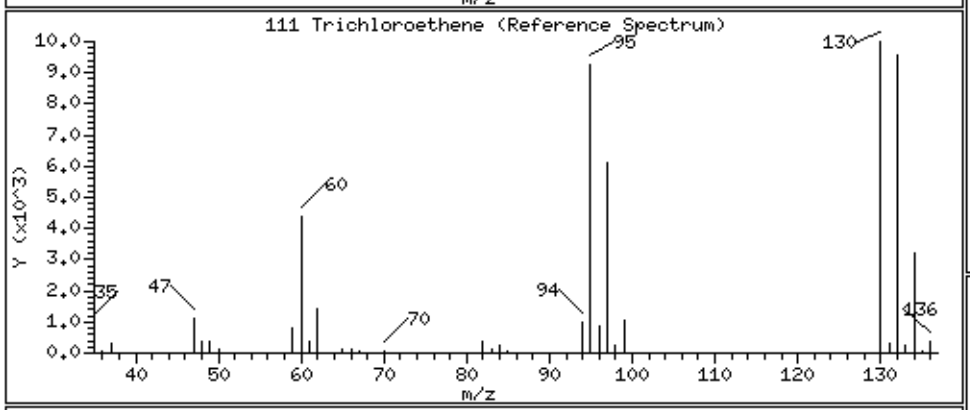
Column diameter: 0.25

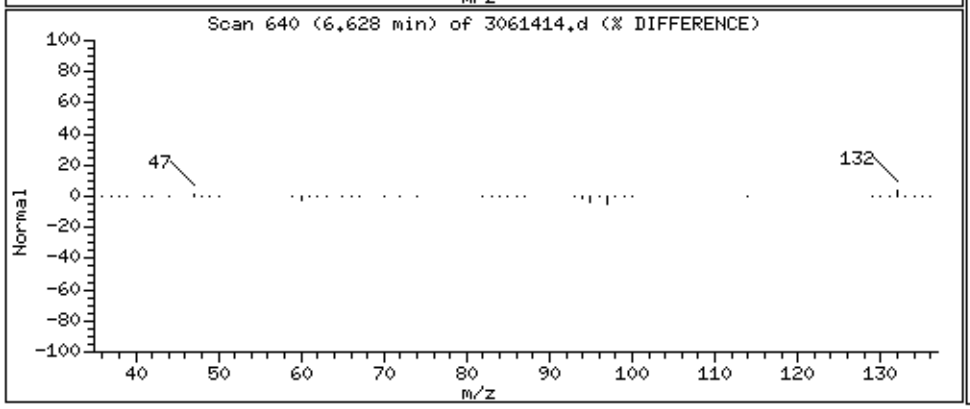
111 Trichloroethene

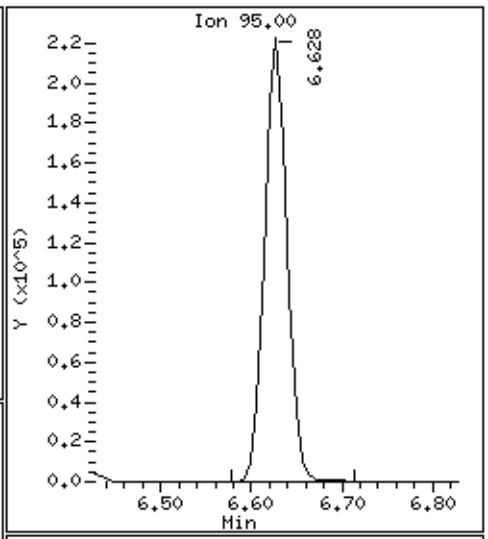
Concentration: 1349.8 PPBV

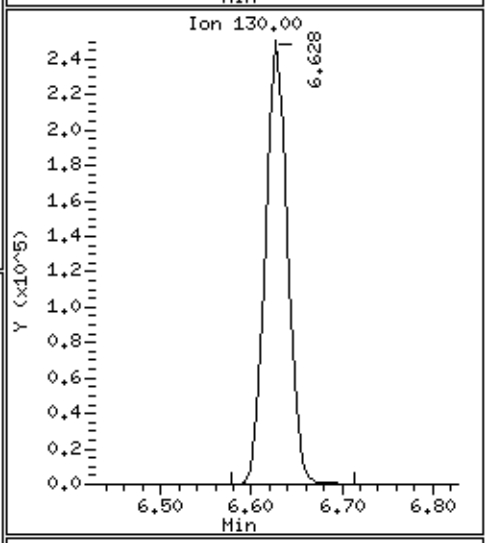


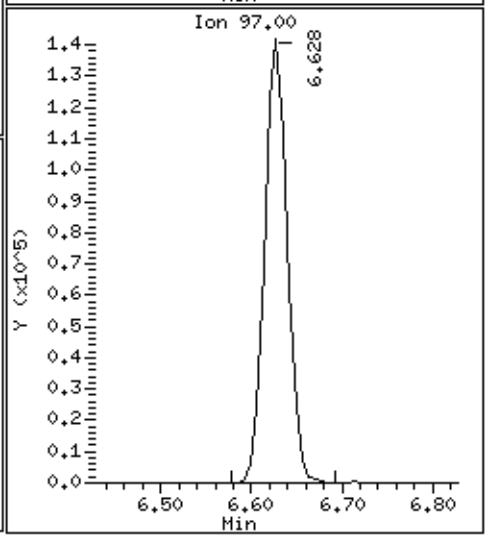



eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV020_May24 | | |
| **Lab ID:** | 2406133-11A | **Date/Time Analyzed:** | 6/14/24 07:46 PM |
| **Date/Time Collected:** | 5/29/24 03:05 PM | **Dilution Factor:** | 3.46 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061415 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 3.6 | 6.2 | 6.8 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 3.5 | 9.4 | 10 | Not Detected U |
| Benzene | 71-43-2 | 1.3 | 5.0 | 5.5 | 3.7 J |
| cis-1,2-Dichloroethene | 156-59-2 | 1.5 | 6.2 | 6.8 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.8 | 6.8 | 7.5 | 2.1 J |
| m,p-Xylene | 108-38-3 | 1.1 | 6.8 | 15 | 3.5 J |
| o-Xylene | 95-47-6 | 1.8 | 6.8 | 7.5 | Not Detected U |
| Toluene | 108-88-3 | 1.6 | 5.9 | 13 | 5.9 J |
| trans-1,2-Dichloroethene | 156-60-5 | 3.2 | 6.2 | 6.8 | Not Detected U |
| Trichloroethene | 79-01-6 | 2.8 | 8.4 | 9.3 | 390 |
| Vinyl Chloride | 75-01-4 | 3.7 | 4.0 | 4.4 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 96 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061415.d
Lab Smp Id: 2406133-11A
Inj Date : 14-JUN-2024 19:46
Operator : RT Inst ID: msd3.i
Smp Info : 200mL 1L1792
Misc Info : 15.5 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 7
Dil Factor: 3.46000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 97924 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 77063 | | | | 47.79- 107.79 | 78.70 |
| 5.432 | 5.432 (1.000) | 49 | 149021 | | | | 131.33- 191.33 | 152.18 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 117878 | 23.1112 | 23.111 | | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.109) | 67 | 62063 | | | | 23.17- 83.17 | 52.65 |
| 102 Benzene | | | | | | CAS #: 71-43-2 | | |
| 5.998 | 5.990 (0.934) | 78 | 2466 | 0.33729 | 1.167 | | 80.00- 120.00 | 100.00(a) |
| 5.990 | 5.990 (0.933) | 77 | 493 | | | | 0.00- 53.69 | 20.01 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 363132 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 51887 | | | | 0.00- 45.65 | 14.29 |
| 111 Trichloroethene | | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 74187 | 21.0450 | 72.816 | | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 84584 | | | | 80.23- 140.23 | 114.02 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 111 Trichloroethene (continued) | | | | | | | |
| 6.628 | 6.628 (1.032) | 97 | 48854 | | | 34.78- 94.78 | 65.85 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 340581 | 24.1261 | 24.126 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.760 (1.210) | 70 | 37326 | | | 0.00- 41.42 | 10.96 |
| 7.760 | 7.760 (1.209) | 100 | 228578 | | | 37.54- 97.54 | 67.11 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 4557 | 0.45025 | 1.558 | 80.00- 120.00 | 100.00(a) |
| 7.824 | 7.824 (1.219) | 92 | 2762 | | | 27.89- 87.89 | 60.62 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 373157 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 185878 | | | 22.92- 82.92 | 49.81 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.250 | 9.242 (1.011) | 106 | 600 | 0.13797 | 0.4774 | 80.00- 120.00 | 100.00(a) |
| 9.250 | 9.242 (1.011) | 91 | 1818 | | | 281.09- 341.09 | 302.69 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 1251 | 0.23079 | 0.7985 | 80.00- 120.00 | 100.00(a) |
| 9.364 | 9.364 (1.023) | 91 | 2525 | | | 170.33- 230.33 | 201.81 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 281866 | 25.4171 | 25.417 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 309957 | | | 88.49- 148.49 | 109.97 |
| 10.288 | 10.288 (1.124) | 176 | 276171 | | | 66.73- 126.73 | 97.98 |

## QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061415.d
Lab Smp Id: 2406133-11A
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 15.5 Hg->9.9 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 97924 | 0.64 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 363132 | 1.95 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 373157 | 5.76 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:48

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-11A
Level: LOW Operator: RT
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 15.5 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 23.111 | 92.44 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.126 | 96.50 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.417 | 101.67 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061415.d

Page 1

Date : 14-JUN-2024 19:46

Client ID:

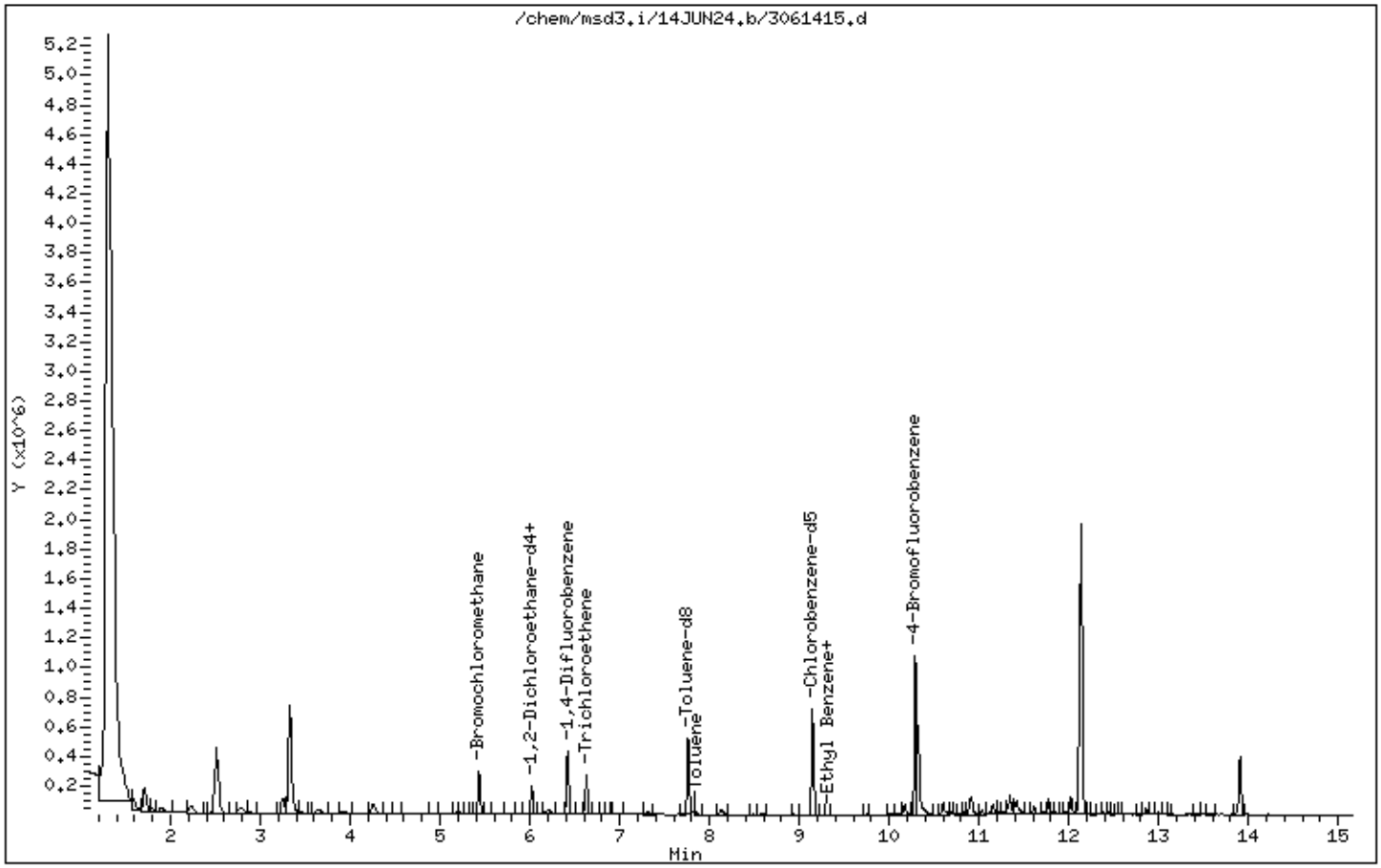
Instrument: msd3.i

Sample Info: 200mL 1L1792

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061415.d

Date : 14-JUN-2024 19:46

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L1792

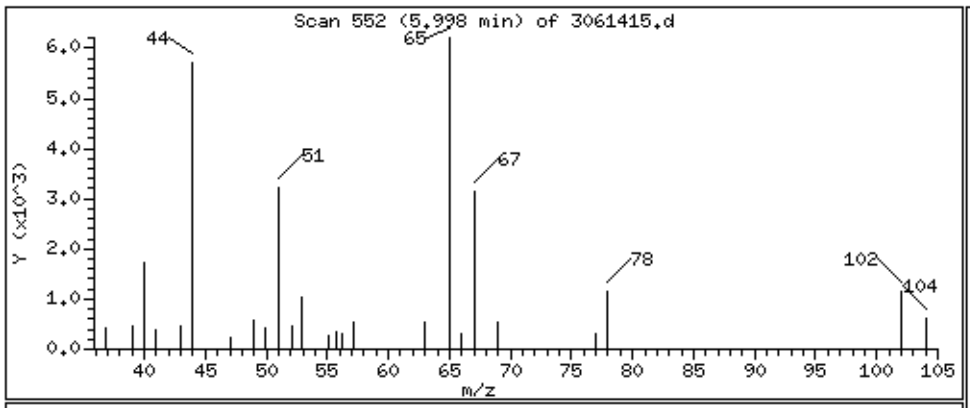
Operator: RT

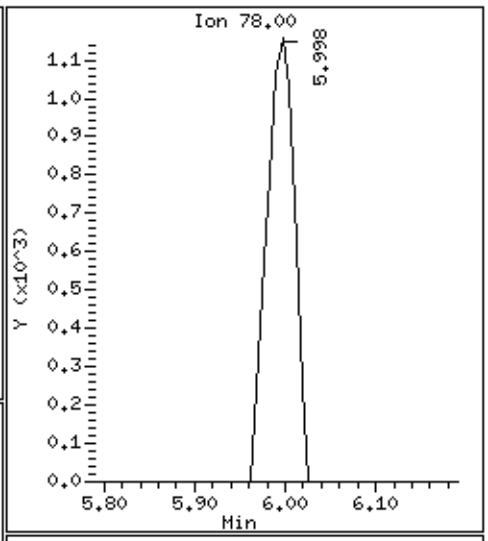
Column phase: RTX-624

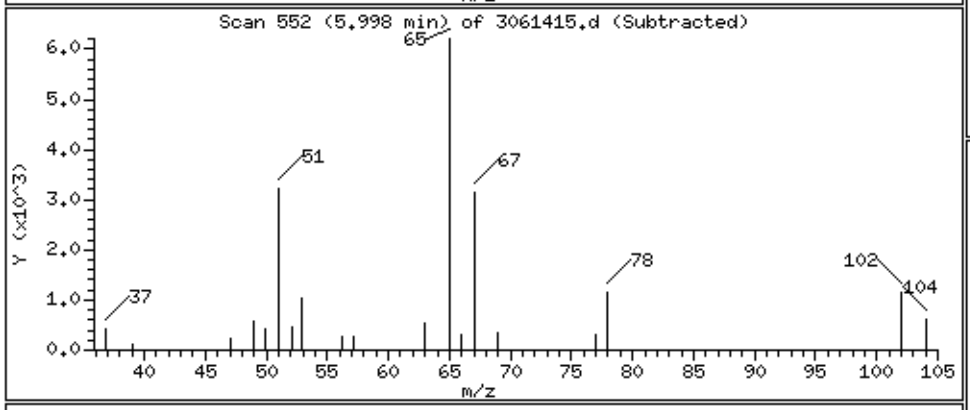
Column diameter: 0.25

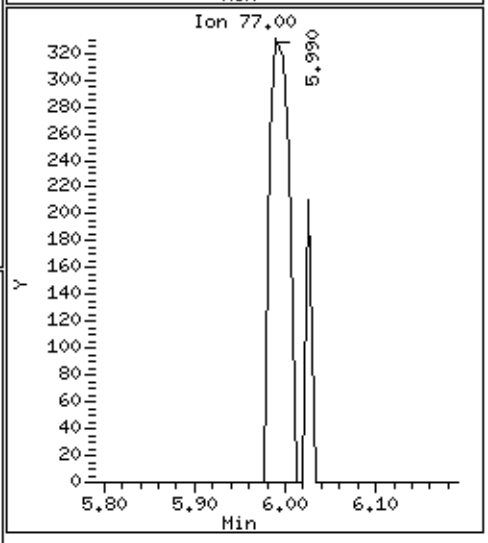
102 Benzene

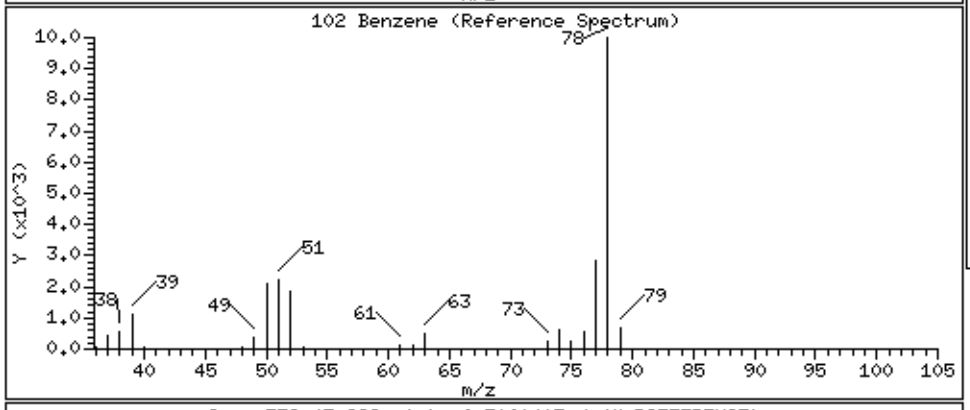
Concentration: 1.167 PPBV

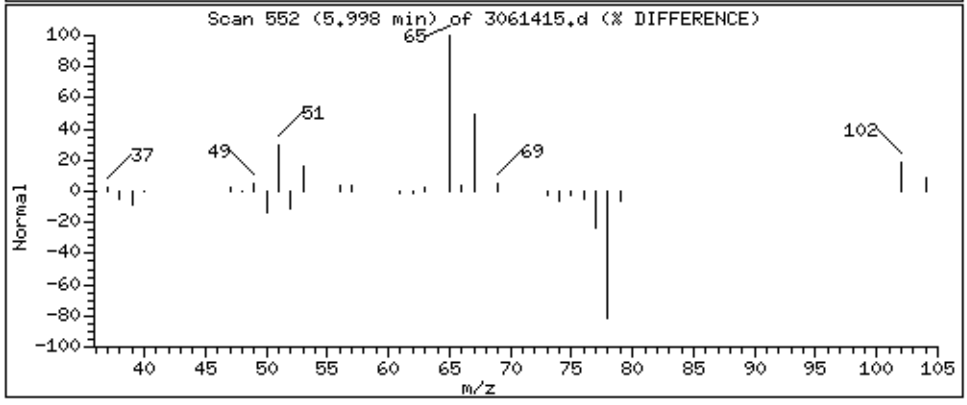


Data File: /chem/msd3.i/14JUN24.b/3061415.d

Date : 14-JUN-2024 19:46

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L1792

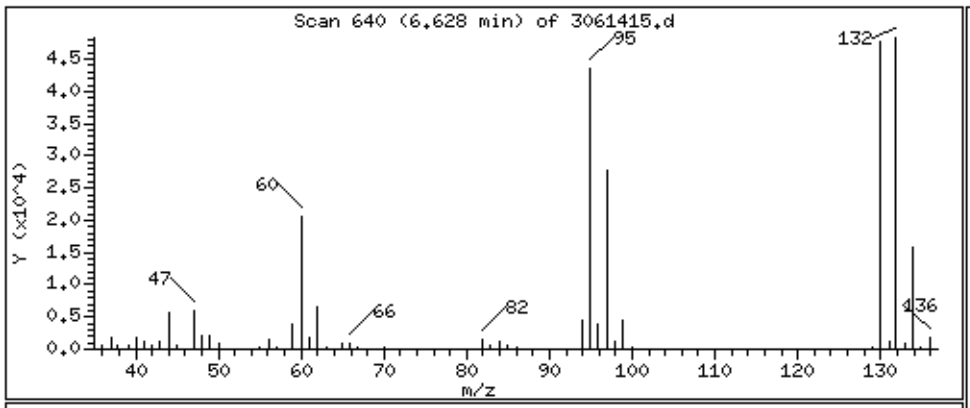
Operator: RT

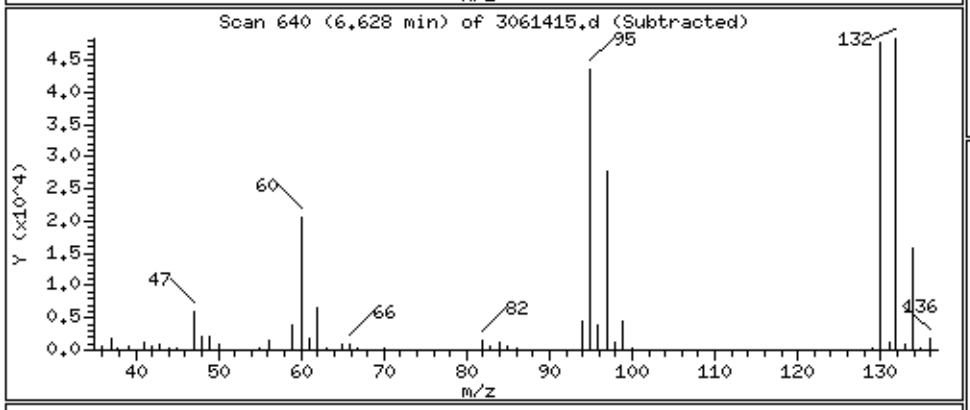
Column phase: RTX-624

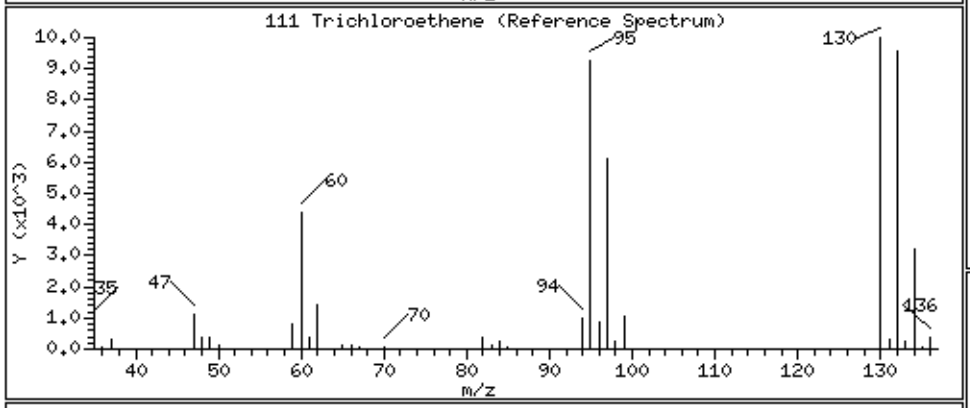
Column diameter: 0.25

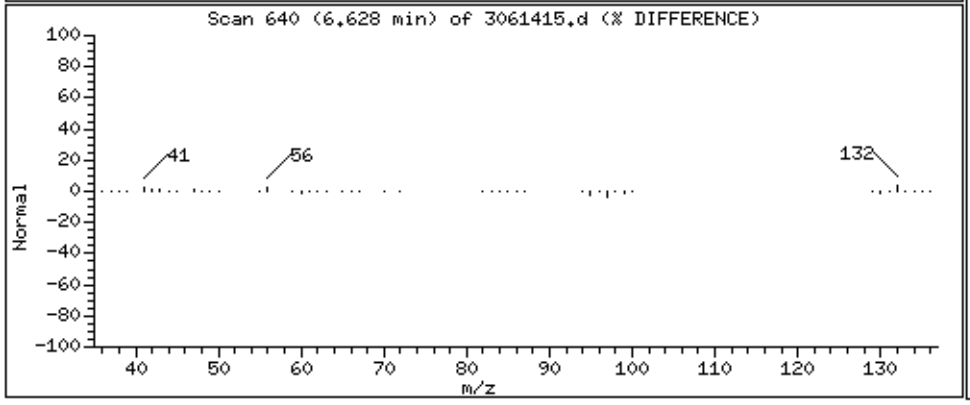
111 Trichloroethene

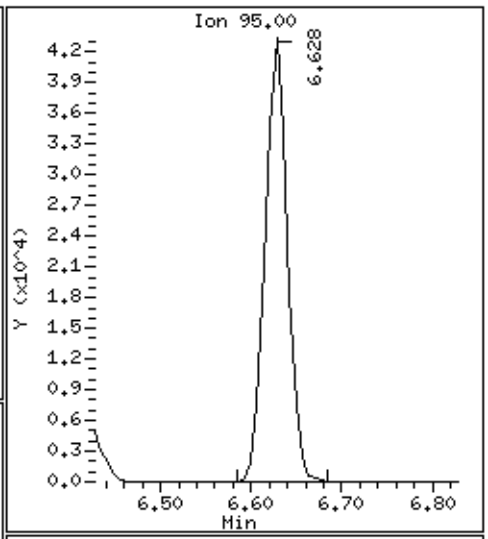
Concentration: 72.816 PPBV

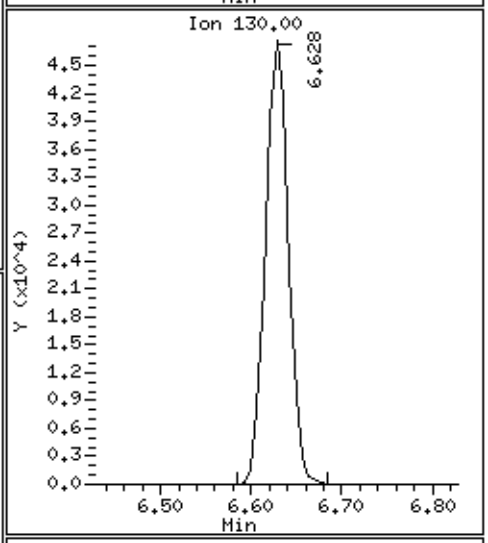


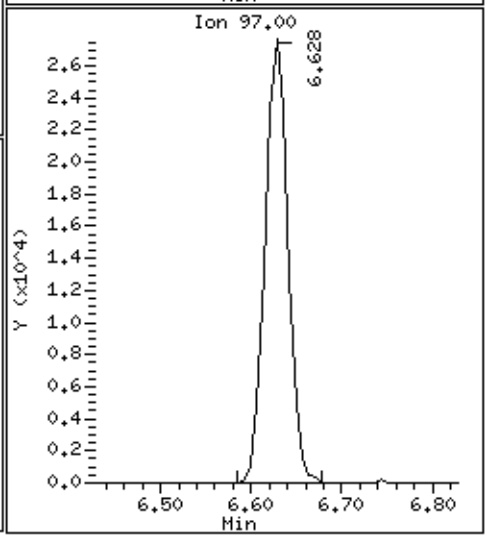



Data File: /chem/msd3.i/14JUN24.b/3061415.d

Date : 14-JUN-2024 19:46

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L1792

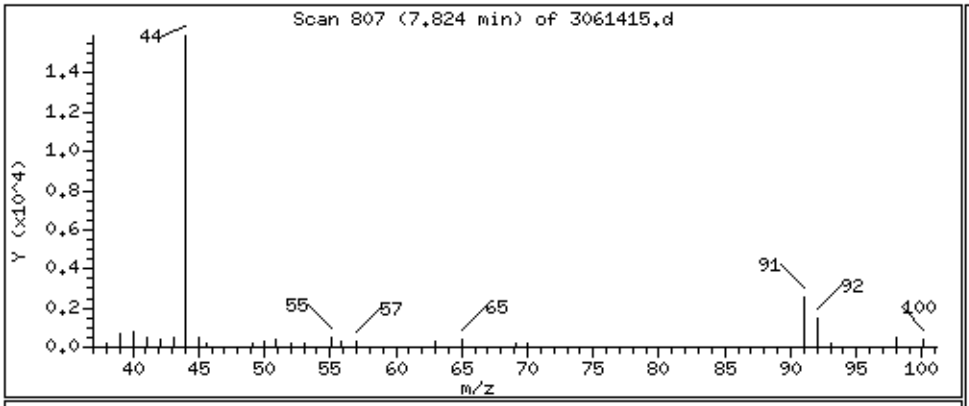
Operator: RT

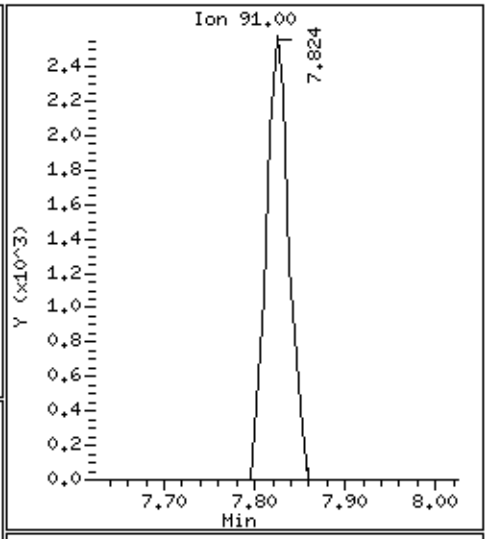
Column phase: RTX-624

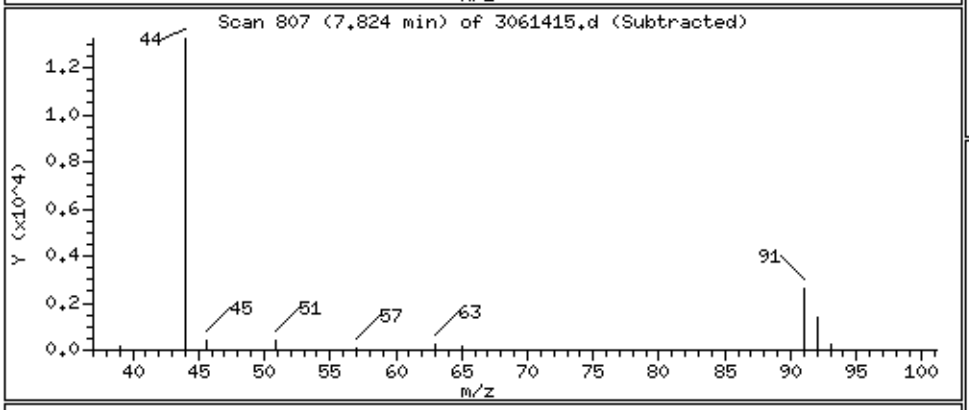
Column diameter: 0.25

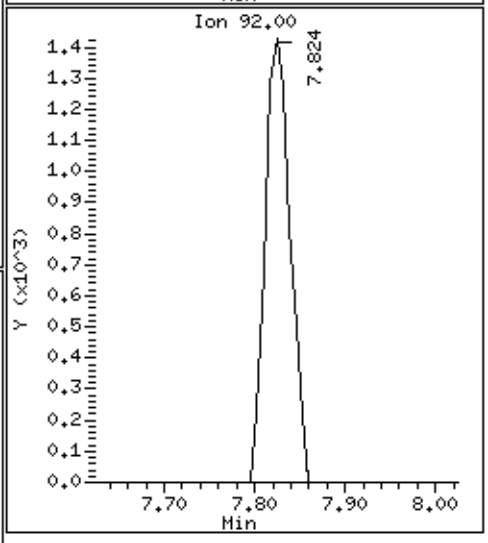
137 Toluene

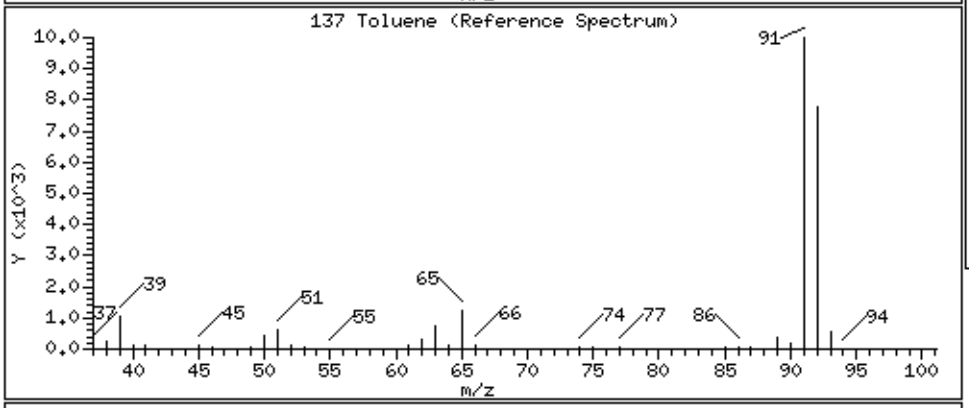
Concentration: 1.558 PPBV

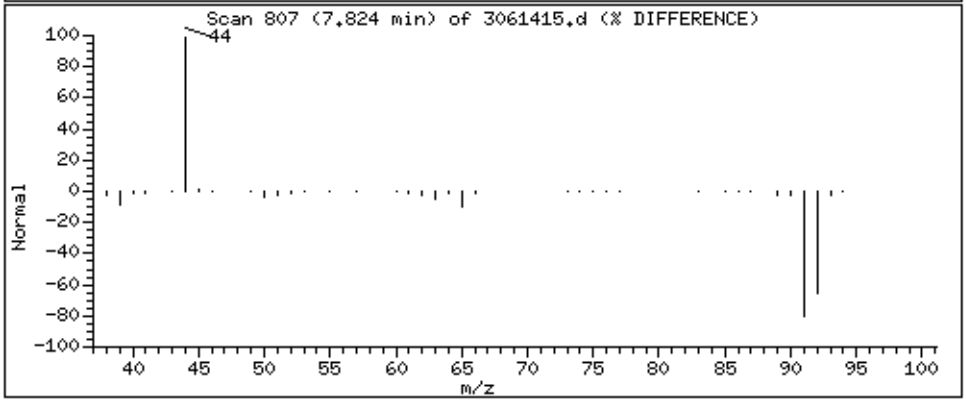


Data File: /chem/msd3.i/14JUN24.b/3061415.d



Date : 14-JUN-2024 19:46

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L1792

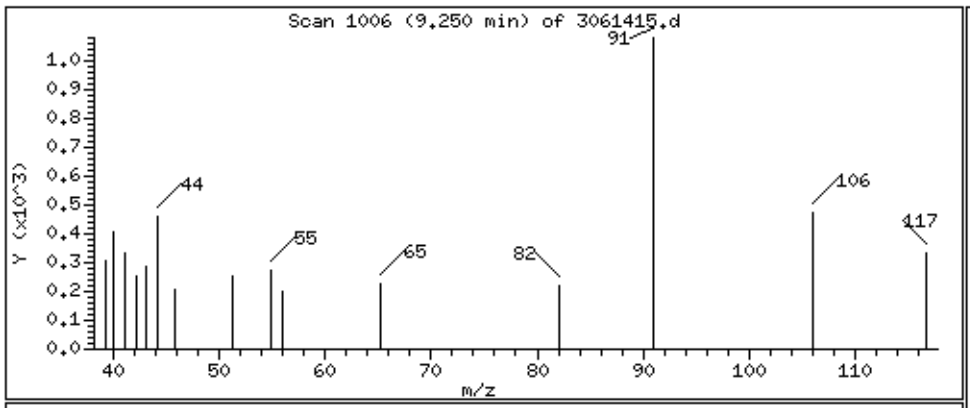
Operator: RT

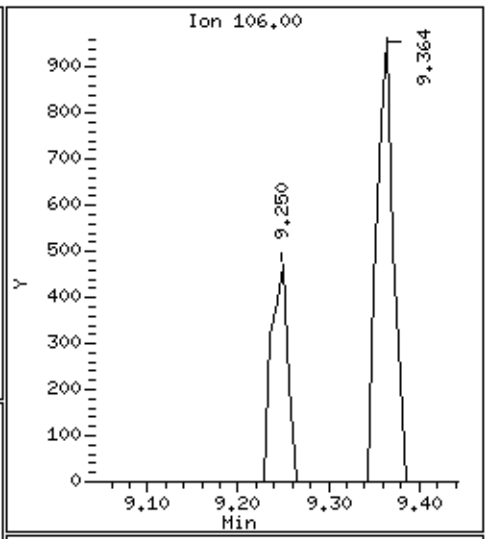
Column phase: RTX-624

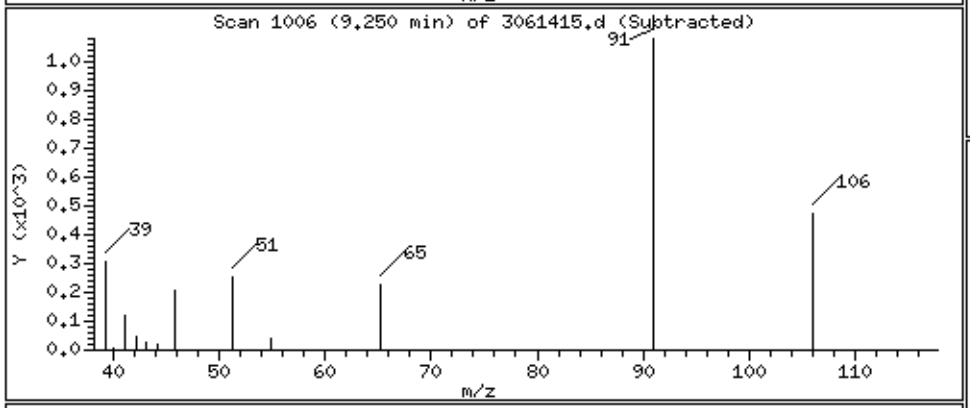
Column diameter: 0.25

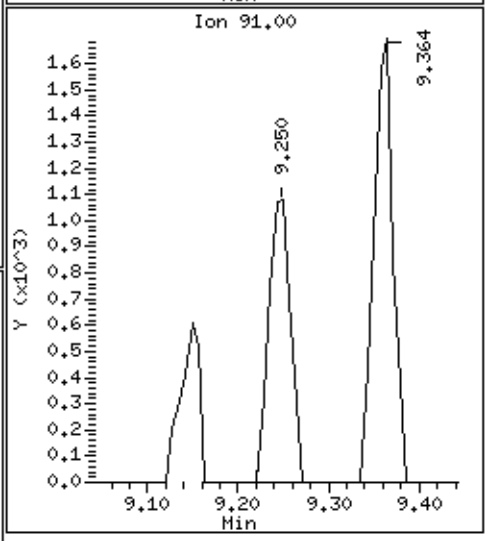
155 Ethyl Benzene

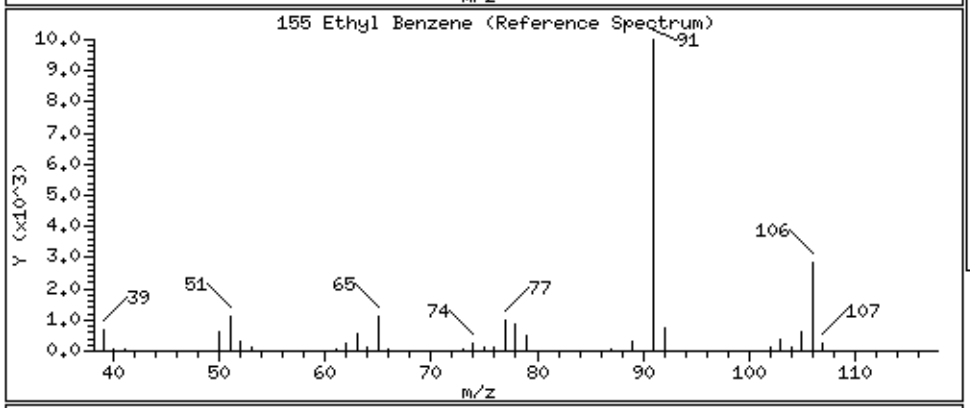
Concentration: 0.4774 PPBV

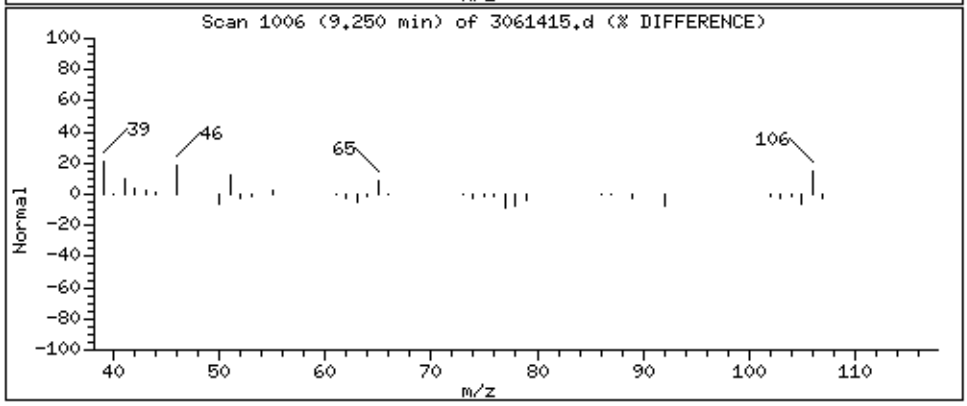


Data File: /chem/msd3.i/14JUN24.b/3061415.d

Date : 14-JUN-2024 19:46

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L1792

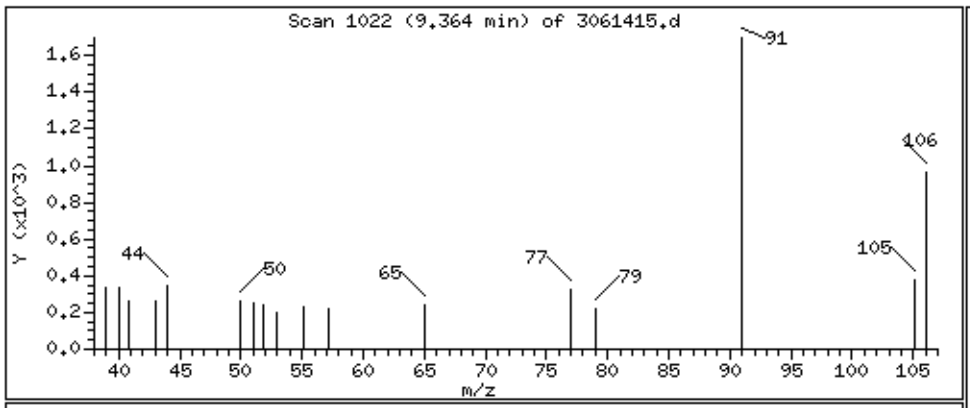
Operator: RT

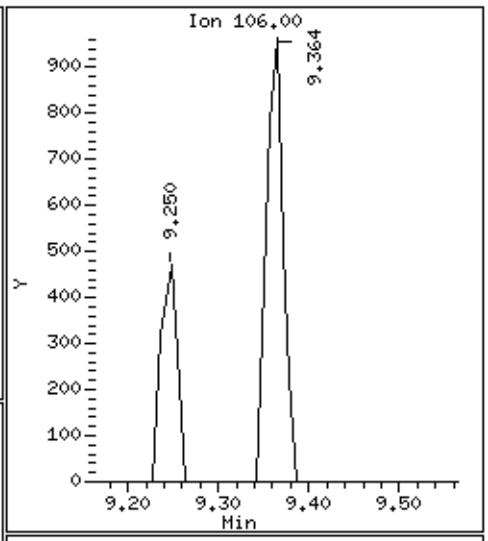
Column phase: RTX-624

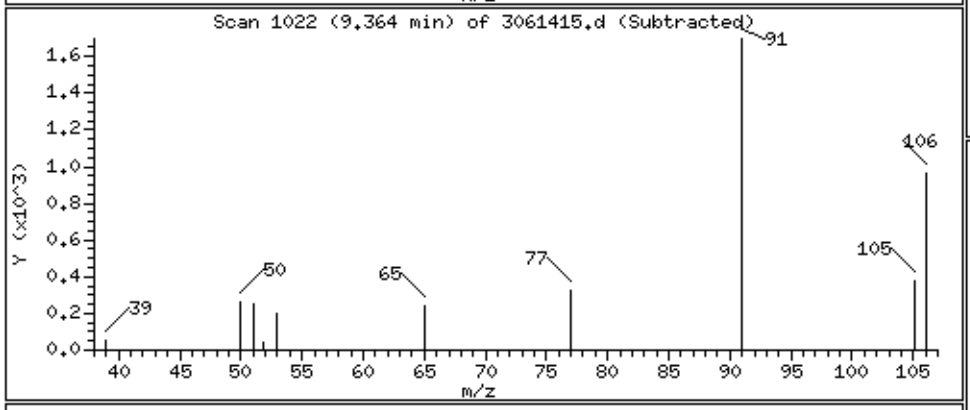
Column diameter: 0.25

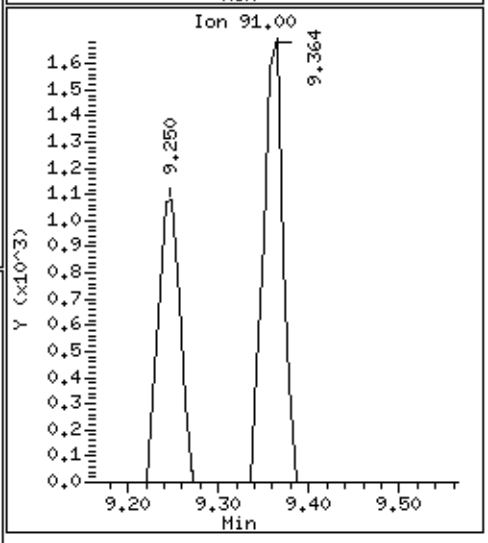
158 m,p-Xylene

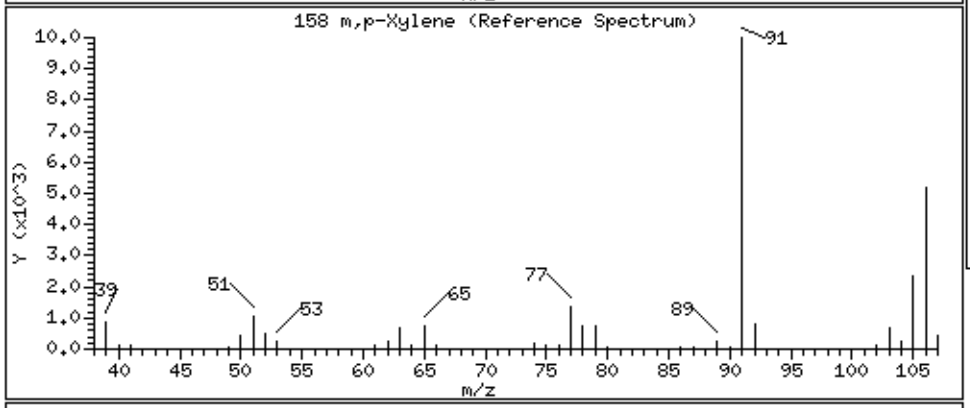
Concentration: 0.7985 PPBV

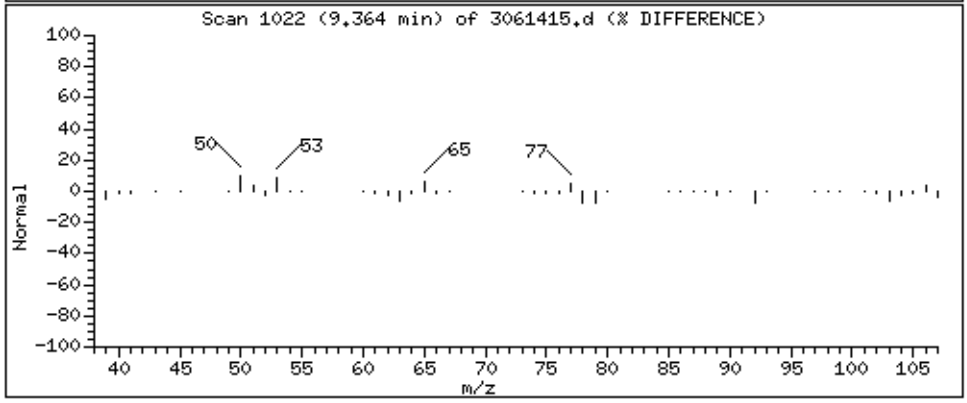


eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV017B_May24 | | |
| **Lab ID:** | 2406133-12A | **Date/Time Analyzed:** | 6/14/24 08:21 PM |
| **Date/Time Collected:** | 5/29/24 04:25 PM | **Dilution Factor:** | 2.71 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061416 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.8 | 4.8 | 5.4 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.7 | 7.3 | 8.1 | Not Detected U |
| Benzene | 71-43-2 | 1.0 | 3.9 | 4.3 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 1.2 | 4.8 | 5.4 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.4 | 5.3 | 5.9 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.84 | 5.3 | 12 | Not Detected U |
| o-Xylene | 95-47-6 | 1.4 | 5.3 | 5.9 | Not Detected U |
| Toluene | 108-88-3 | 1.3 | 4.6 | 10 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 2.5 | 4.8 | 5.4 | Not Detected U |
| Trichloroethene | 79-01-6 | 2.2 | 6.6 | 7.3 | 23 |
| Vinyl Chloride | 75-01-4 | 2.9 | 3.1 | 3.5 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 100 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061416.d
Lab Smp Id: 2406133-12A
Inj Date : 14-JUN-2024 20:21
Operator : RT Inst ID: msd3.i
Smp Info : 200mL N7793
Misc Info : 11.4 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 8
Dil Factor: 2.71000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 95394 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 74614 | | | 47.79- 107.79 | 78.22 |
| 5.432 | 5.432 (1.000) | 49 | 144134 | | | 131.33- 191.33 | 151.09 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 114798 | 23.1043 | 23.104 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 58686 | | | 23.17- 83.17 | 51.12 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 351805 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 51187 | | | 0.00- 45.65 | 14.55 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 5495 | 1.60898 | 4.360 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 5944 | | | 80.23- 140.23 | 108.17 |
| 6.628 | 6.628 (1.032) | 97 | 3565 | | | 34.78- 94.78 | 64.87 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 332555 | 24.3160 | 24.316 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 70 | 35939 | | | 0.00- 41.42 | 10.81 |
| 7.767 | 7.760 (1.210) | 100 | 224751 | | | 37.54- 97.54 | 67.58 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 361527 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 181519 | | | 22.92- 82.92 | 50.21 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 269255 | 25.0610 | 25.061 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 299279 | | | 88.49- 148.49 | 111.15 |
| 10.288 | 10.288 (1.124) | 176 | 262272 | | | 66.73- 126.73 | 97.41 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061416.d
Lab Smp Id: 2406133-12A
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 11.4 Hg->10 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 95394 | -1.96 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 351805 | -1.23 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 361527 | 2.46 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:51

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-12A
Level: LOW Operator: RT
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 11.4 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 23.104 | 92.42 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.316 | 97.26 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.061 | 100.24 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061416.d



Date : 14-JUN-2024 20:21

Client ID:

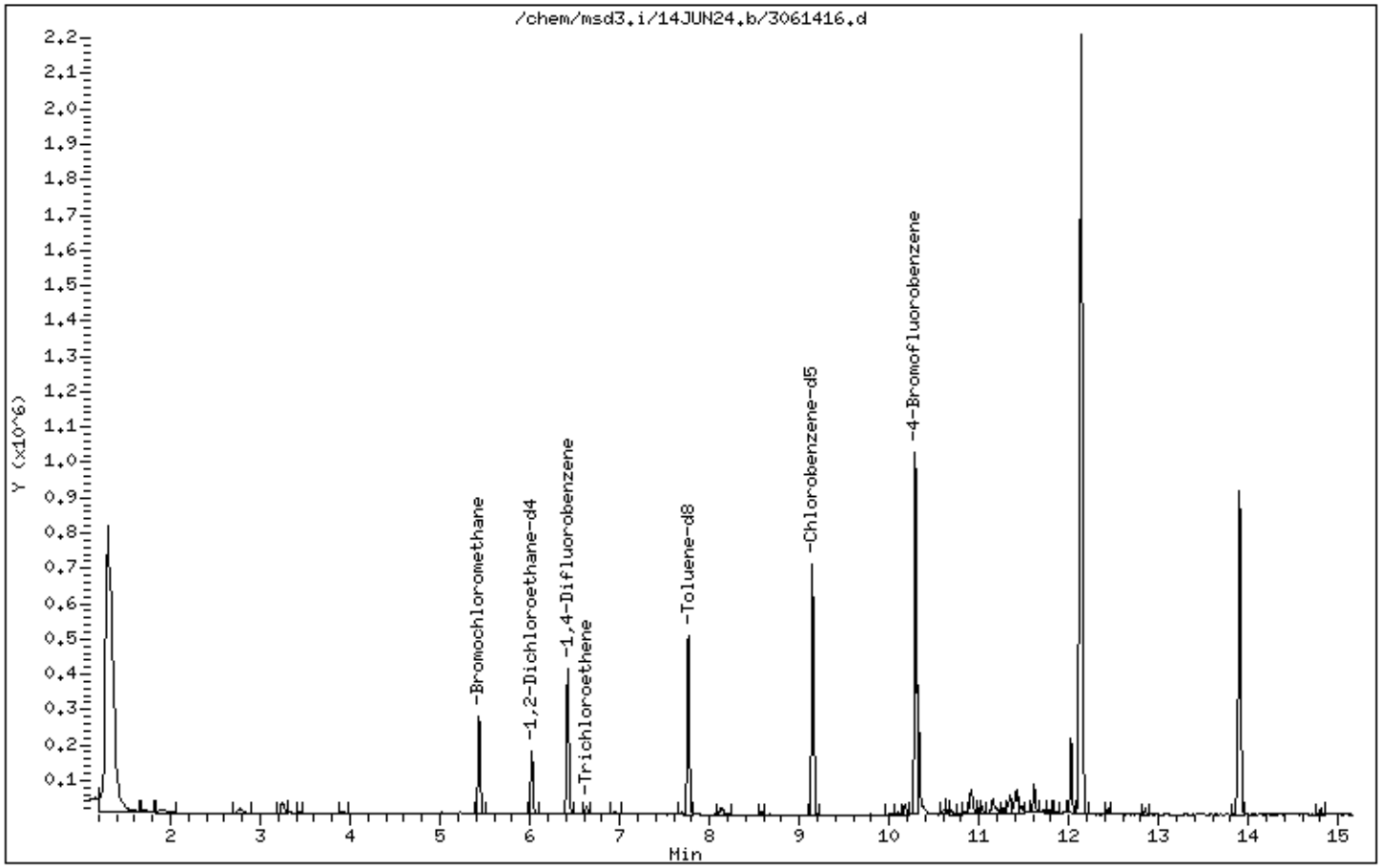
Instrument: msd3.i

Sample Info: 200mL N7793

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061416.d

Date : 14-JUN-2024 20:21

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7793

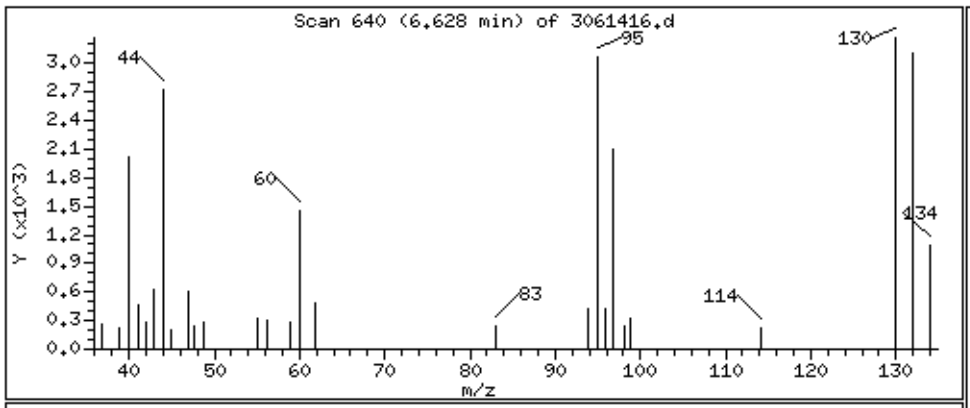
Operator: RT

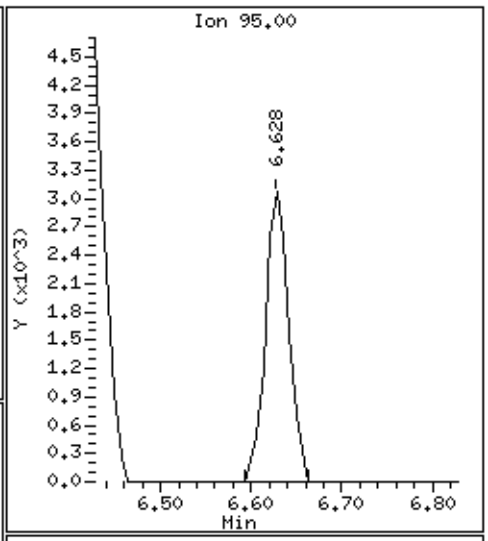
Column phase: RTX-624

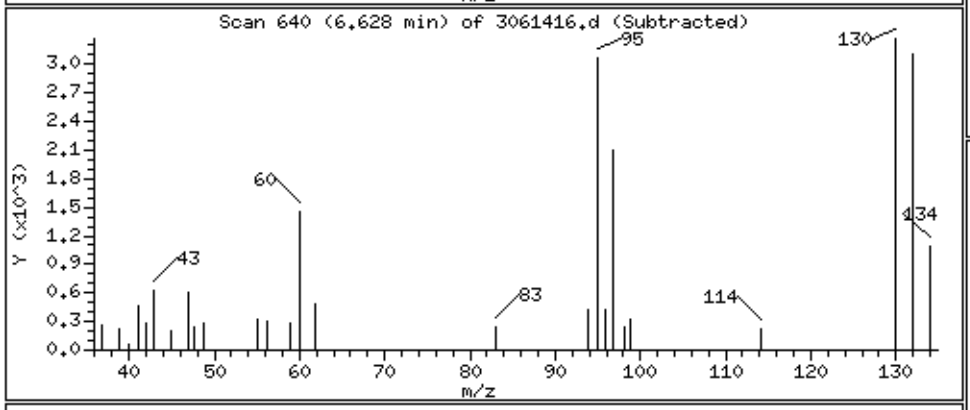
Column diameter: 0.25

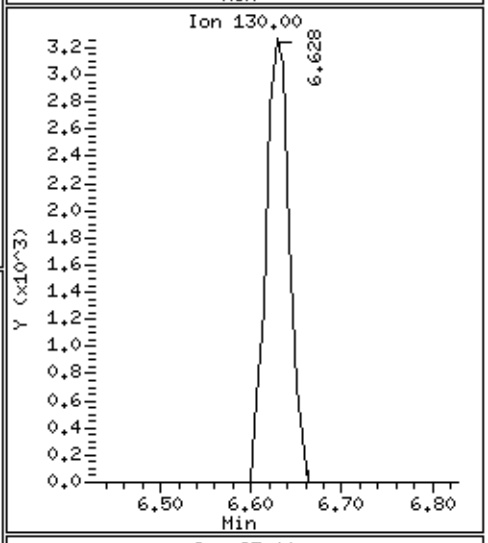
111 Trichloroethene

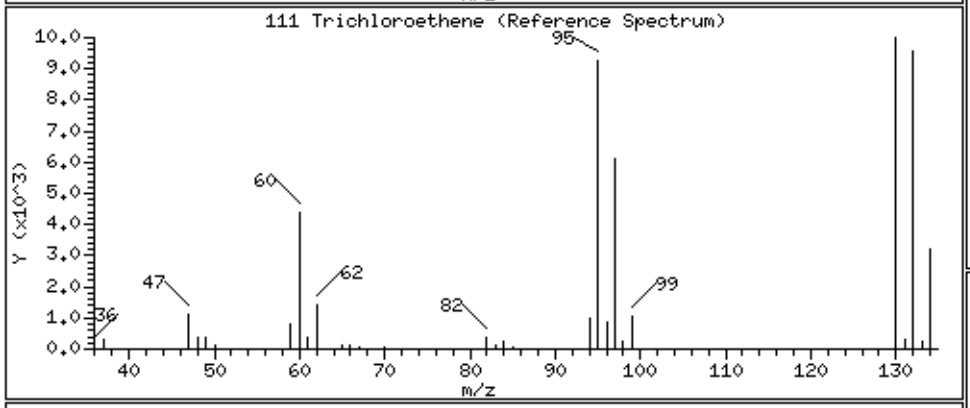
Concentration: 4.360 PPBV

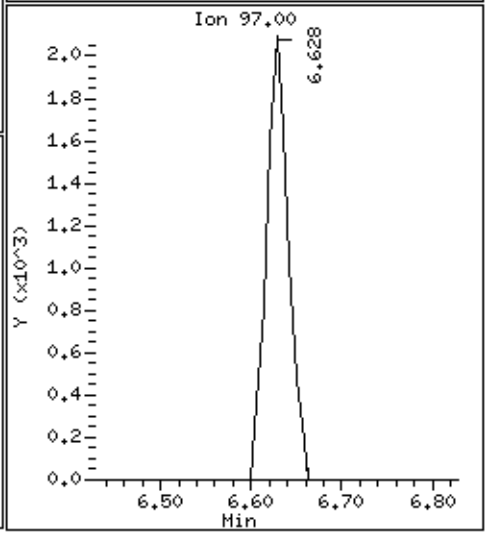


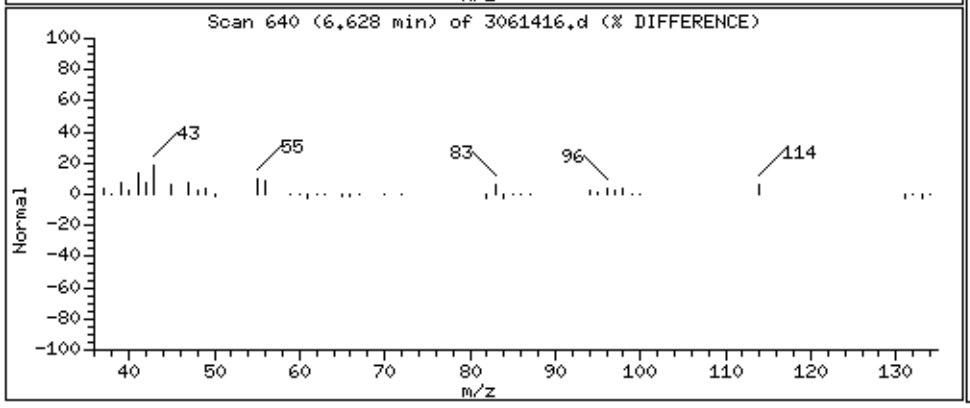



eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV007_May24 | | |
| **Lab ID:** | 2406133-13A | **Date/Time Analyzed:** | 6/14/24 08:56 PM |
| **Date/Time Collected:** | 5/30/24 09:11 AM | **Dilution Factor:** | 2.20 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061417 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.3 | 3.9 | 4.4 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.2 | 6.0 | 6.6 | Not Detected U |
| Benzene | 71-43-2 | 0.83 | 3.2 | 3.5 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.95 | 3.9 | 4.4 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.1 | 4.3 | 4.8 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.68 | 4.3 | 9.6 | Not Detected U |
| o-Xylene | 95-47-6 | 1.1 | 4.3 | 4.8 | Not Detected U |
| Toluene | 108-88-3 | 1.0 | 3.7 | 8.3 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 2.0 | 3.9 | 4.4 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.8 | 5.3 | 5.9 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.4 | 2.5 | 2.8 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 101 |
| Toluene-d8 | 2037-26-5 | 91-110 | 96 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061417.d
Lab Smp Id: 2406133-13A
Inj Date : 14-JUN-2024 20:56
Operator : RT Inst ID: msd3.i
Smp Info : 200mL N5605
Misc Info : 7.3 Hg->9.8 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 9
Dil Factor: 2.20000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 96418 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 76551 | | | | 47.79- 107.79 | 79.39 |
| 5.432 | 5.432 (1.000) | 49 | 146597 | | | | 131.33- 191.33 | 152.04 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 114189 | 22.7376 | 22.738 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 59425 | | | | 23.17- 83.17 | 52.04 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 358815 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 52097 | | | | 0.00- 45.65 | 14.52 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 336523 | 24.1254 | 24.125 | | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 35548 | | | | 0.00- 41.42 | 10.56 |
| 7.760 | 7.760 (1.209) | 100 | 228931 | | | | 37.54- 97.54 | 68.03 |
| * 153 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 365351 | 25.0000 | | | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 9.149 | 9.149 (1.000) | 82 | 183650 | | | 22.92- 82.92 | 50.27 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 274520 | 25.2836 | 25.284 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 302697 | | | 88.49- 148.49 | 110.26 |
| 10.288 | 10.288 (1.124) | 176 | 266309 | | | 66.73- 126.73 | 97.01 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061417.d
Lab Smp Id: 2406133-13A
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 7.3 Hg->9.8 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 96418 | -0.90 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 358815 | 0.74 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 365351 | 3.55 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:53

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-13A
Level: LOW Operator: RT
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 7.3 Hg->9.8 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.738 | 90.95 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.125 | 96.50 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.284 | 101.13 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061417.d

Page 1

Date : 14-JUN-2024 20:56

Client ID:

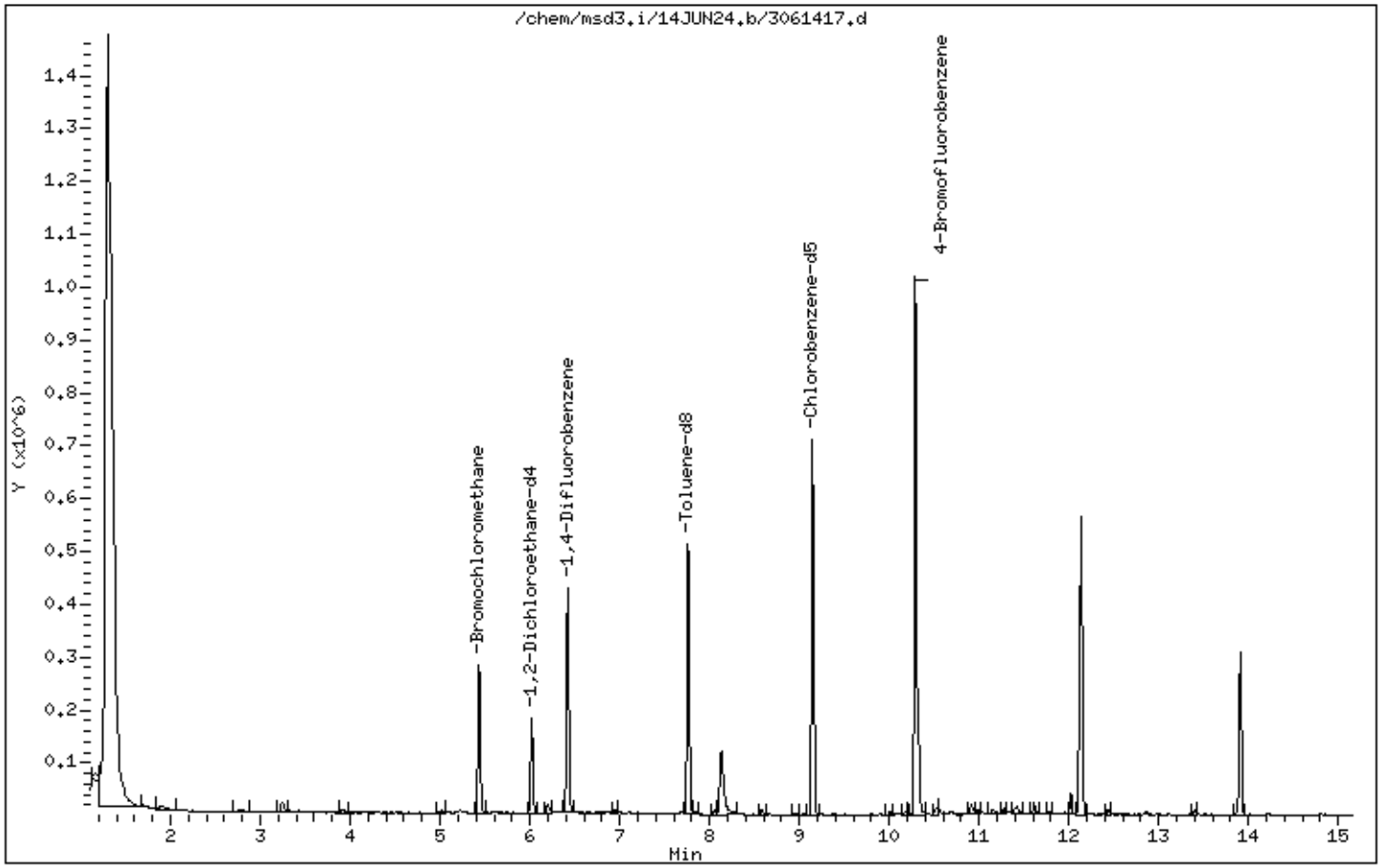
Instrument: msd3.i

Sample Info: 200mL N5605

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV006_May24 | | |
| **Lab ID:** | 2406133-14A | **Date/Time Analyzed:** | 6/15/24 12:02 AM |
| **Date/Time Collected:** | 5/30/24 10:28 AM | **Dilution Factor:** | 2.30 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061420 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.4 | 4.1 | 4.6 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.3 | 6.2 | 6.9 | Not Detected U |
| Benzene | 71-43-2 | 0.87 | 3.3 | 3.7 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.99 | 4.1 | 4.6 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.5 | 5.0 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.72 | 4.5 | 10 | Not Detected U |
| o-Xylene | 95-47-6 | 1.2 | 4.5 | 5.0 | Not Detected U |
| Toluene | 108-88-3 | 1.1 | 3.9 | 8.7 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 2.1 | 4.1 | 4.6 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.8 | 5.6 | 6.2 | 2.8 J |
| Vinyl Chloride | 75-01-4 | 2.5 | 2.6 | 2.9 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061420.d
Lab Smp Id: 2406133-14A
Inj Date : 15-JUN-2024 00:02
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL 1L4700
Misc Info : 8.2 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 3
Dil Factor: 2.30000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.432 (1.000) | 130 | 98968 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 78621 | | | 47.79- 107.79 | 79.44 |
| 5.432 | 5.432 (1.000) | 49 | 147737 | | | 131.33- 191.33 | 149.28 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.107) | 65 | 118021 | 22.8952 | 22.895 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.107) | 67 | 60802 | | | 23.17- 83.17 | 51.52 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 358784 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 52310 | | | 0.00- 45.65 | 14.58 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.628 (1.033) | 95 | 805 | 0.23113 | 0.5316 | 80.00- 120.00 | 100.00(a) |
| 6.628 | 6.628 (1.032) | 130 | 1092 | | | 80.23- 140.23 | 135.58 |
| 6.628 | 6.628 (1.032) | 97 | 900 | | | 34.78- 94.78 | 111.79 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 340447 | 24.4088 | 24.409 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 70 | 36214 | | | 0.00- 41.42 | 10.64 |
| 7.767 | 7.760 (1.210) | 100 | 228070 | | | 37.54- 97.54 | 66.99 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 374417 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 186486 | | | 22.92- 82.92 | 49.81 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 284042 | 25.5271 | 25.527 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 314841 | | | 88.49- 148.49 | 110.84 |
| 10.288 | 10.288 (1.124) | 176 | 278782 | | | 66.73- 126.73 | 98.15 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061420.d
Lab Smp Id: 2406133-14A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.2 Hg->9.9 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 98968 | 1.72 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 358784 | 0.73 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 374417 | 6.11 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:55

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-14A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.2 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.895 | 91.58 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.409 | 97.64 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.527 | 102.11 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061420.d

Page 1

Date : 15-JUN-2024 00:02

Client ID:

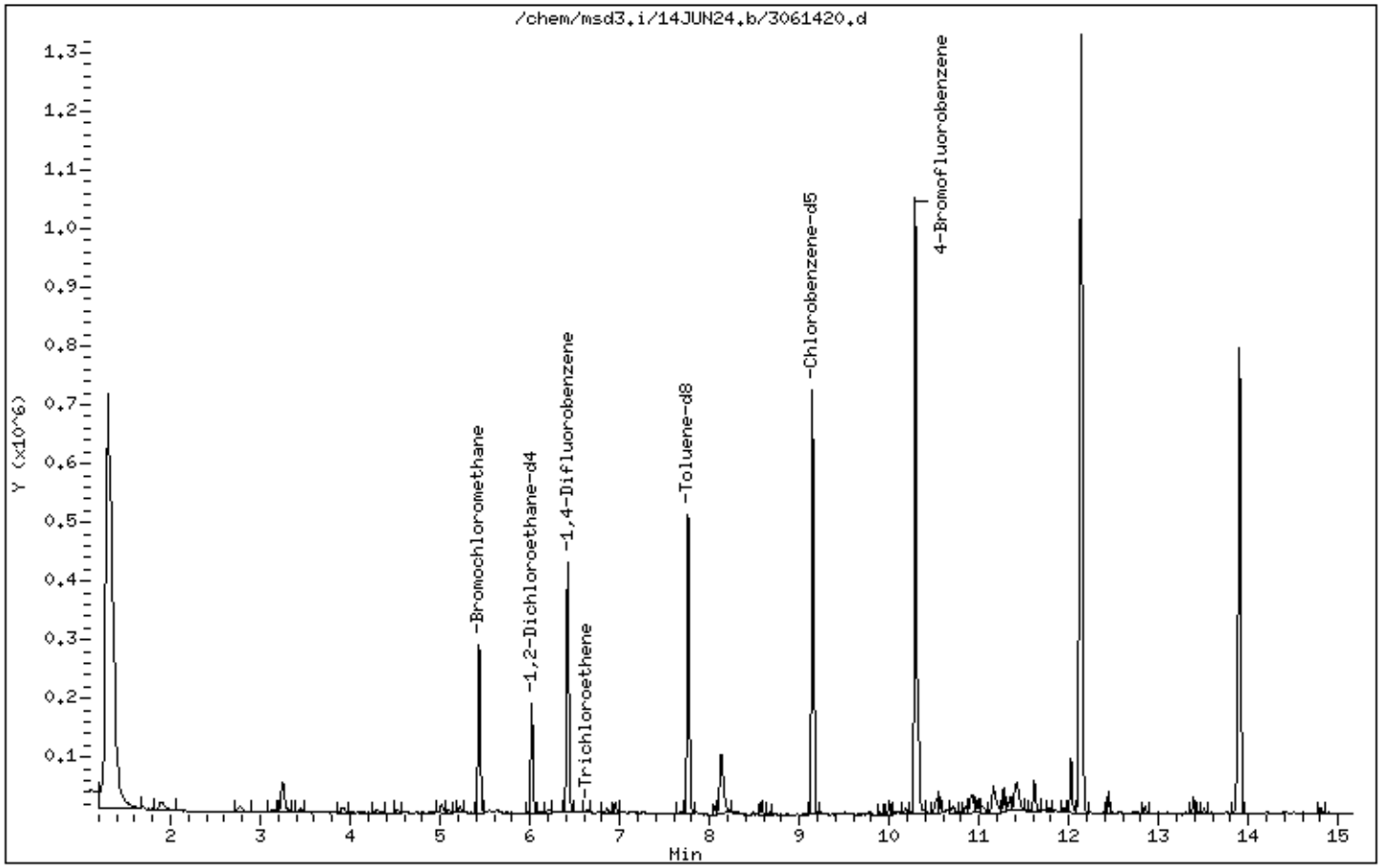
Instrument: msd3.i

Sample Info: 200mL 1L4700

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061420.d

Date : 15-JUN-2024 00:02

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4700

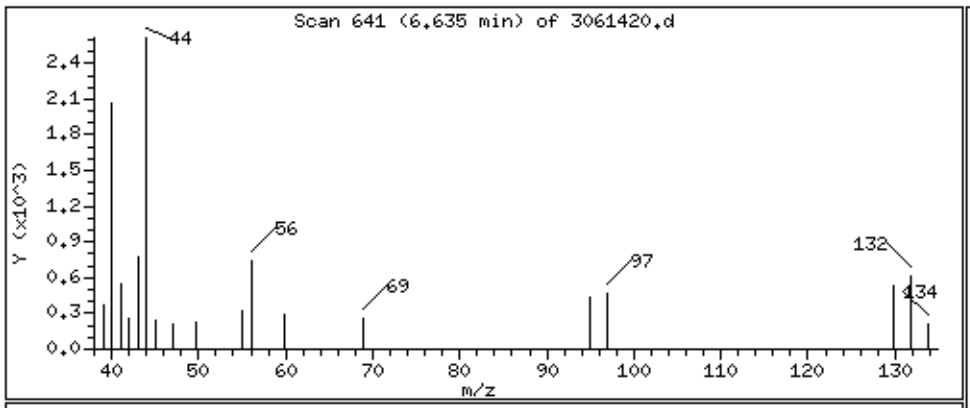
Operator: ACE

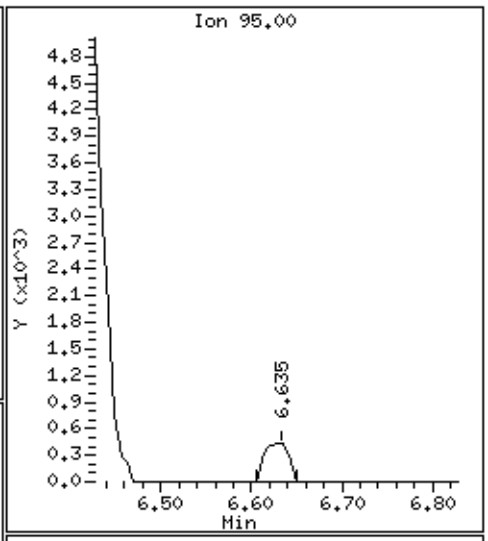
Column phase: RTX-624

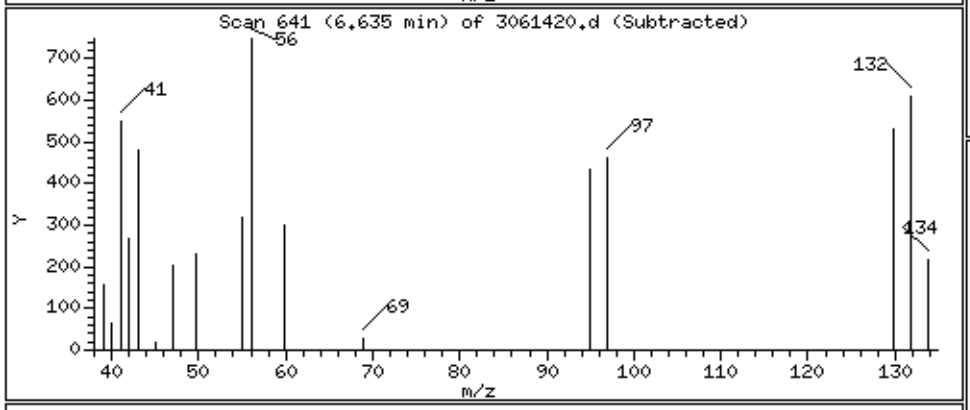
Column diameter: 0.25

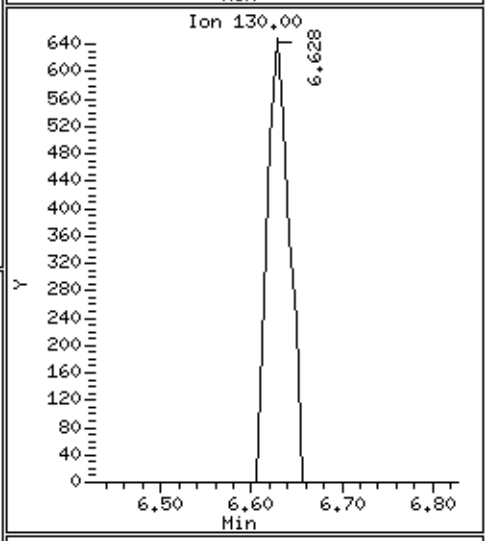
111 Trichloroethene

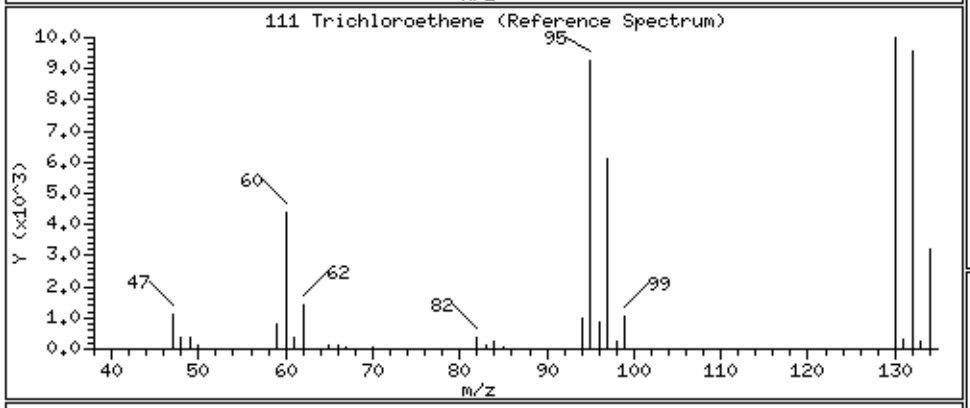
Concentration: 0.5316 PPBV

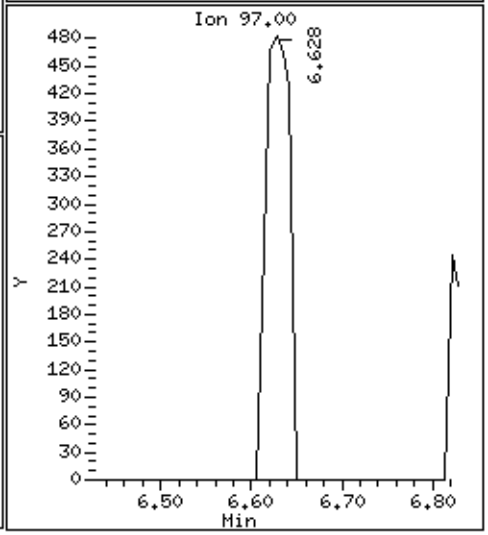


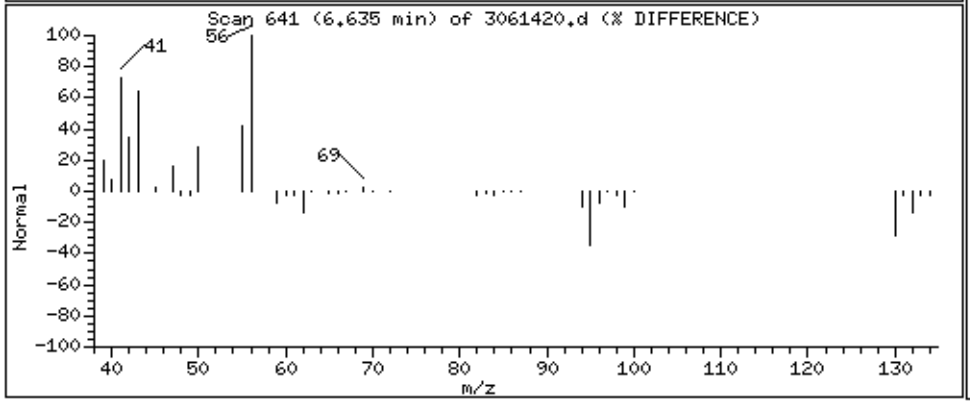



| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV016_May24 | | |
| **Lab ID:** | 2406133-15A | **Date/Time Analyzed:** | 6/15/24 12:37 AM |
| **Date/Time Collected:** | 5/30/24 11:37 AM | **Dilution Factor:** | 2.34 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061421 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.4 | 4.2 | 4.6 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.4 | 6.3 | 7.0 | Not Detected U |
| Benzene | 71-43-2 | 0.88 | 3.4 | 3.7 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 1.0 | 4.2 | 4.6 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.6 | 5.1 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.73 | 4.6 | 10 | Not Detected U |
| o-Xylene | 95-47-6 | 1.2 | 4.6 | 5.1 | Not Detected U |
| Toluene | 108-88-3 | 1.1 | 4.0 | 8.8 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 2.1 | 4.2 | 4.6 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.9 | 5.6 | 6.3 | 140 |
| Vinyl Chloride | 75-01-4 | 2.5 | 2.7 | 3.0 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 101 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061421.d
Lab Smp Id: 2406133-15A
Inj Date : 15-JUN-2024 00:37
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N7285
Misc Info : 8.6 Hg->9.8 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 4
Dil Factor: 2.34000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 98259 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 77639 | | | 47.79- 107.79 | 79.02 |
| 5.432 | 5.432 (1.000) | 49 | 148841 | | | 131.33- 191.33 | 151.48 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 115975 | 22.6606 | 22.660 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 59260 | | | 23.17- 83.17 | 51.10 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 358720 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 52371 | | | 0.00- 45.65 | 14.60 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 40332 | 11.5819 | 27.102 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 44028 | | | 80.23- 140.23 | 109.16 |
| 6.628 | 6.628 (1.032) | 97 | 25645 | | | 34.78- 94.78 | 63.58 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 339821 | 24.3683 | 24.368 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 70 | 35948 | | | 0.00- 41.42 | 10.58 |
| 7.760 | 7.760 (1.209) | 100 | 228178 | | | 37.54- 97.54 | 67.15 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 375660 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 187035 | | | 22.92- 82.92 | 49.79 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 281990 | 25.2589 | 25.259 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 308765 | | | 88.49- 148.49 | 109.49 |
| 10.288 | 10.288 (1.124) | 176 | 274012 | | | 66.73- 126.73 | 97.17 |

Report Date: 17-Jun-2024 08:55

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061421.d
Lab Smp Id: 2406133-15A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.6 Hg->9.8 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 98259 | 0.99 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 358720 | 0.71 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 375660 | 6.47 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:55

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-15A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.6 Hg->9.8 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.660 | 90.64 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.368 | 97.47 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.259 | 101.04 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061421.d



Date : 15-JUN-2024 00:37

Client ID:

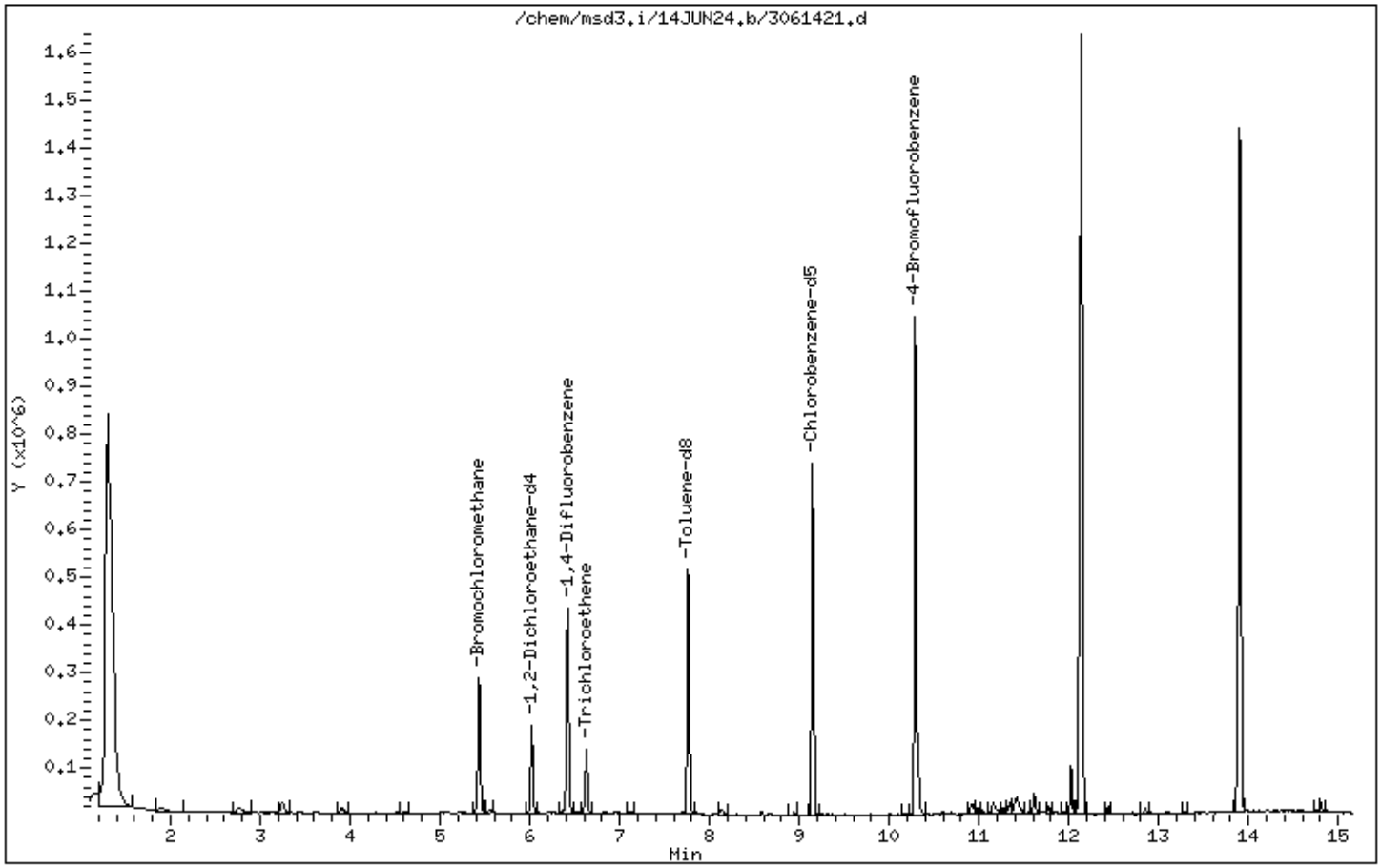
Instrument: msd3.i

Sample Info: 200mL N7285

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061421.d

Date : 15-JUN-2024 00:37

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7285

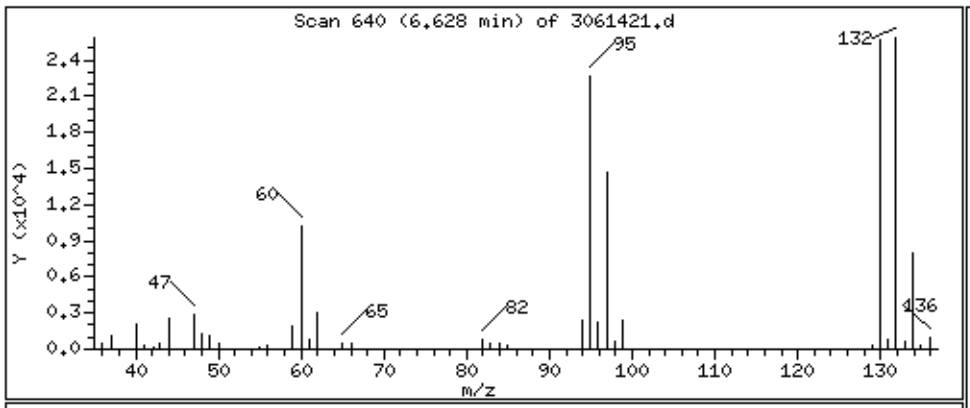
Operator: ACE

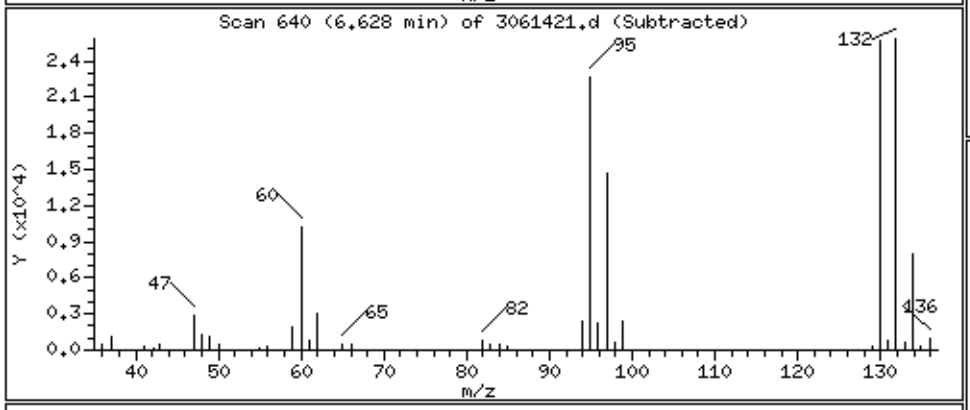
Column phase: RTX-624

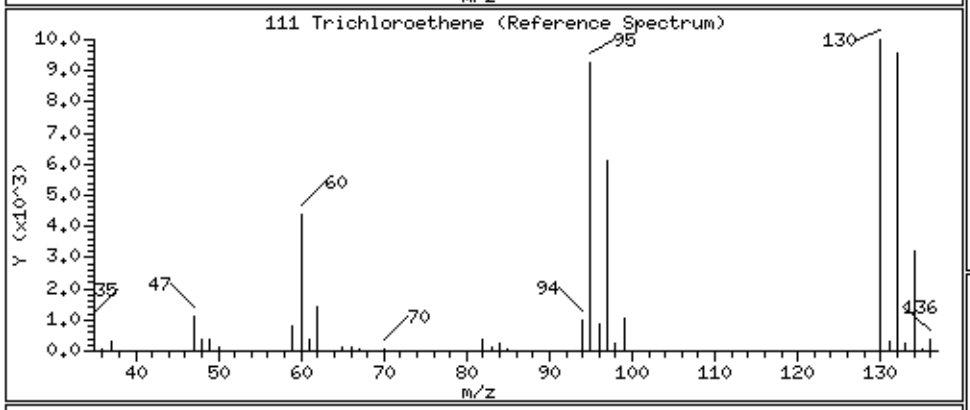
Column diameter: 0.25

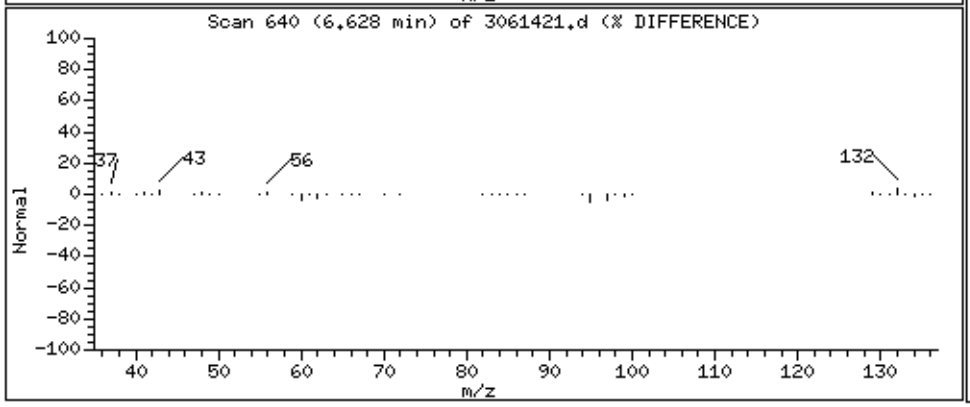
111 Trichloroethene

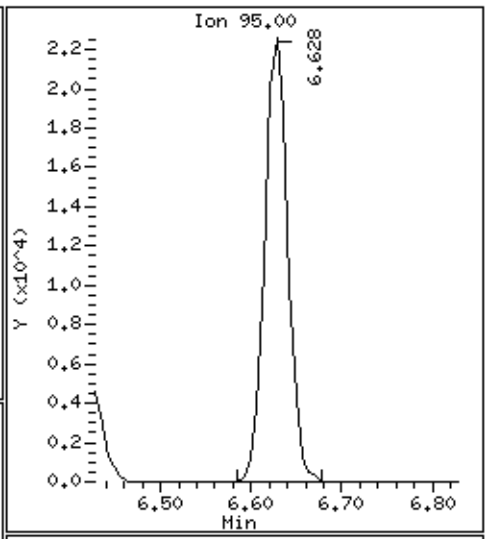
Concentration: 27.102 PPBV

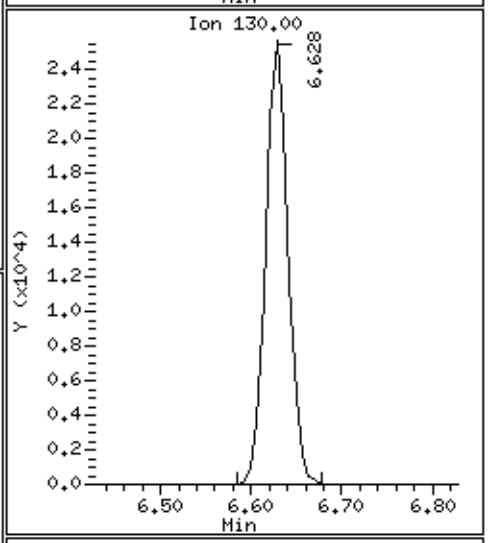


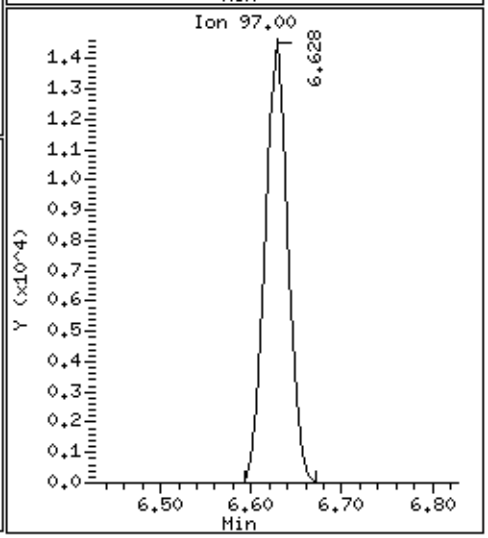



eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV008_May24 | | |
| **Lab ID:** | 2406133-16A | **Date/Time Analyzed:** | 6/15/24 01:12 AM |
| **Date/Time Collected:** | 5/30/24 12:51 PM | **Dilution Factor:** | 2.38 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061422 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.4 | 4.2 | 4.7 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.4 | 6.4 | 7.2 | Not Detected U |
| Benzene | 71-43-2 | 0.90 | 3.4 | 3.8 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 1.0 | 4.2 | 4.7 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.6 | 5.2 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.74 | 4.6 | 10 | 3.3 J |
| o-Xylene | 95-47-6 | 1.2 | 4.6 | 5.2 | 1.9 J |
| Toluene | 108-88-3 | 1.1 | 4.0 | 9.0 | 2.1 J |
| trans-1,2-Dichloroethene | 156-60-5 | 2.2 | 4.2 | 4.7 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.9 | 5.8 | 6.4 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.6 | 2.7 | 3.0 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 103 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061422.d
Lab Smp Id: 2406133-16A
Inj Date : 15-JUN-2024 01:12
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N8419
Misc Info : 8.8 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 5
Dil Factor: 2.38000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 97310 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 75999 | | | | 47.79- 107.79 | 78.10 |
| 5.432 | 5.432 (1.000) | 49 | 146195 | | | | 131.33- 191.33 | 150.24 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 114867 | 22.6630 | 22.663 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 59292 | | | | 23.17- 83.17 | 51.62 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 355528 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 51531 | | | | 0.00- 45.65 | 14.49 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 334261 | 24.1848 | 24.185 | | 80.00- 120.00 | 100.00 |
| 7.767 | 7.760 (1.210) | 70 | 35794 | | | | 0.00- 41.42 | 10.71 |
| 7.767 | 7.760 (1.210) | 100 | 225944 | | | | 37.54- 97.54 | 67.60 |
| 137 Toluene | | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 2296 | 0.23171 | 0.5514 | | 80.00- 120.00 | 100.00(a) |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 137 Toluene (continued) | | | | | | | |
| 7.824 | 7.824 (1.219) | 92 | 1595 | | | 27.89- 87.89 | 69.48 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 367397 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 184622 | | | 22.92- 82.92 | 50.25 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 1711 | 0.32061 | 0.7630 | 80.00- 120.00 | 100.00(a) |
| 9.357 | 9.364 (1.023) | 91 | 3661 | | | 170.33- 230.33 | 213.93 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 926 | 0.18298 | 0.4355 | 80.00- 120.00 | 100.00(a) |
| 9.744 | 9.744 (1.065) | 91 | 1855 | | | 181.23- 241.23 | 200.16 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.288 (1.125) | 174 | 281799 | 25.8095 | 25.809 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 308194 | | | 88.49- 148.49 | 109.37 |
| 10.295 | 10.288 (1.125) | 176 | 276389 | | | 66.73- 126.73 | 98.08 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061422.d
Lab Smp Id: 2406133-16A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.8 Hg->10 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 97310 | 0.01 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 355528 | -0.18 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 367397 | 4.13 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:55

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-16A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.8 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.663 | 90.65 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.185 | 96.74 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.809 | 103.24 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061422.d



Date : 15-JUN-2024 01:12

Client ID:

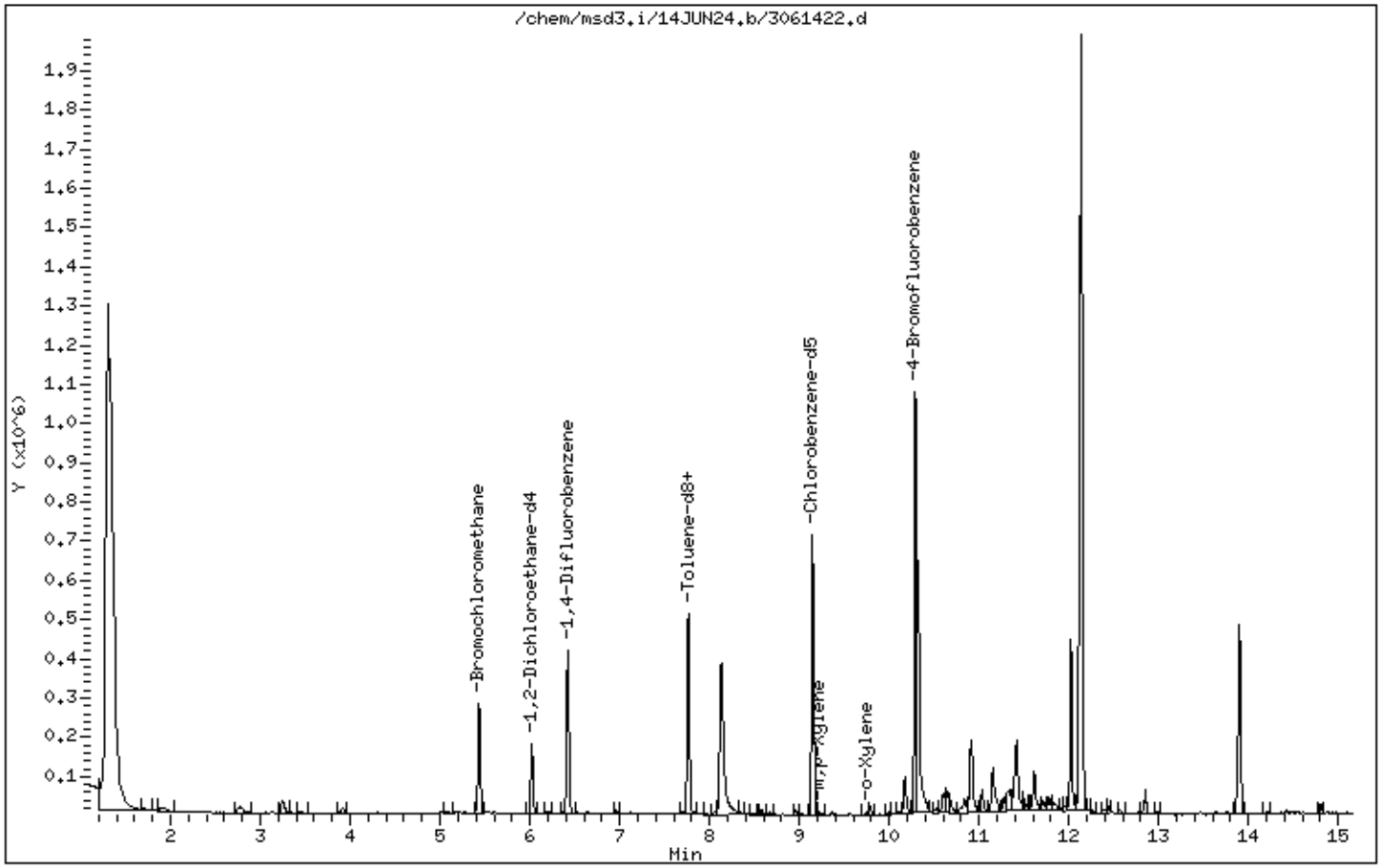
Instrument: msd3.i

Sample Info: 200mL N8419

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061422.d

Date : 15-JUN-2024 01:12

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8419

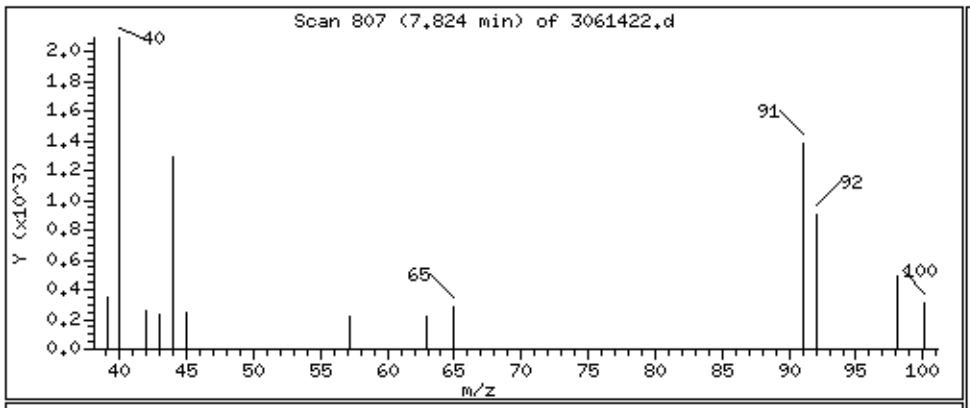
Operator: ACE

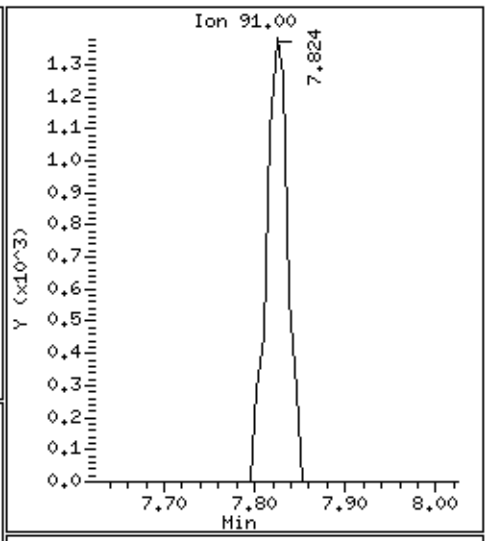
Column phase: RTX-624

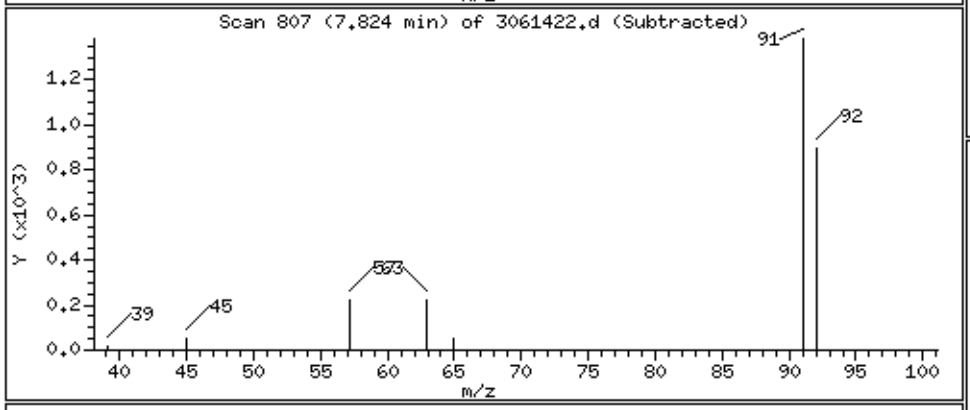
Column diameter: 0.25

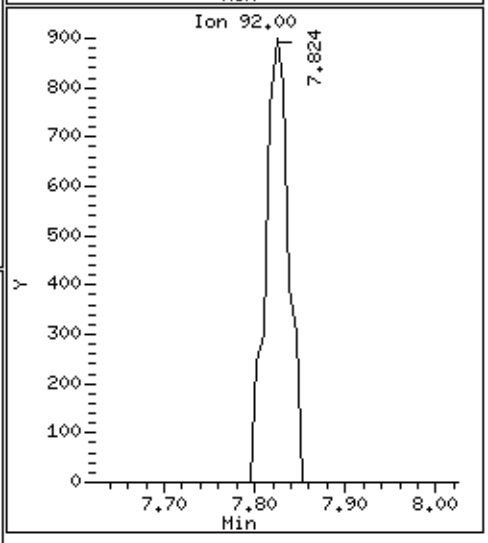
137 Toluene

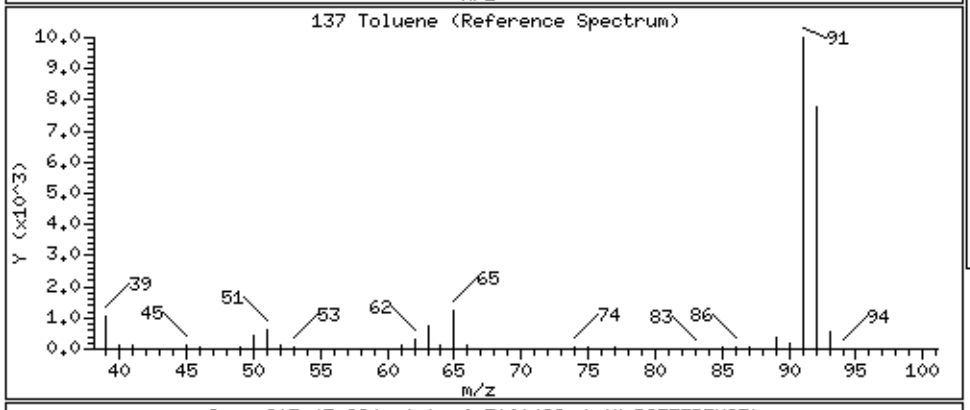
Concentration: 0.5514 PPBV

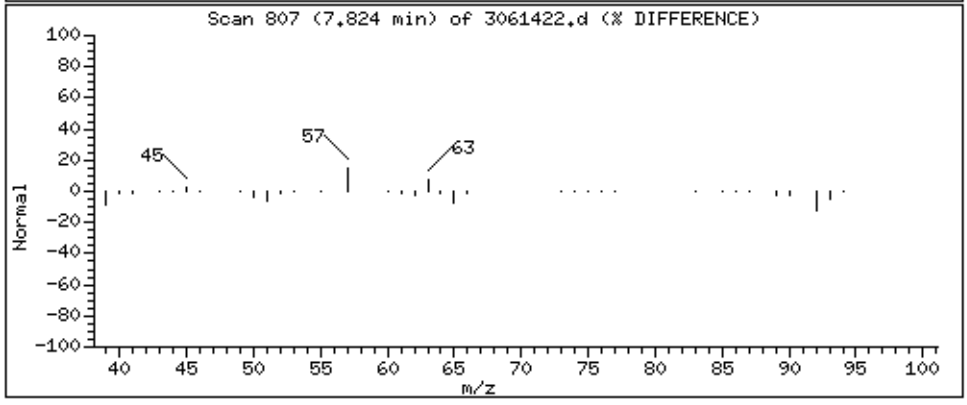


Data File: /chem/msd3.i/14JUN24.b/3061422.d

Date : 15-JUN-2024 01:12

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8419

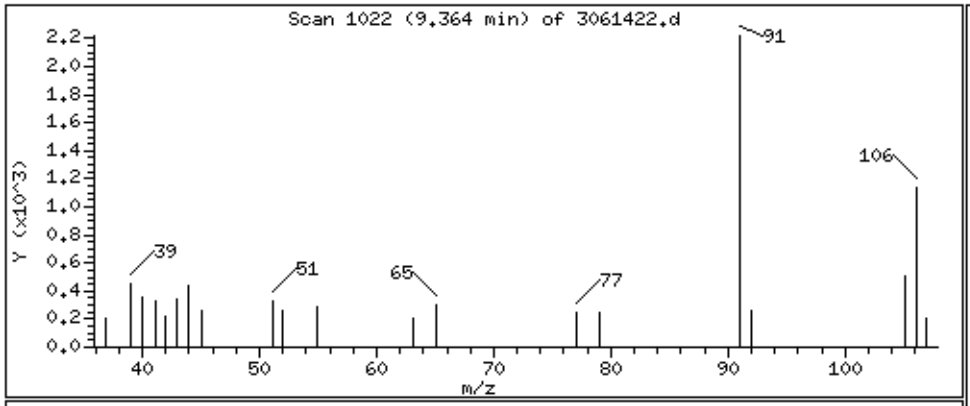
Operator: ACE

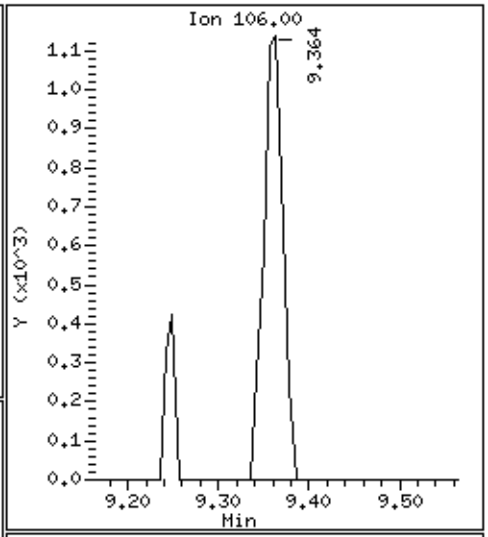
Column phase: RTX-624

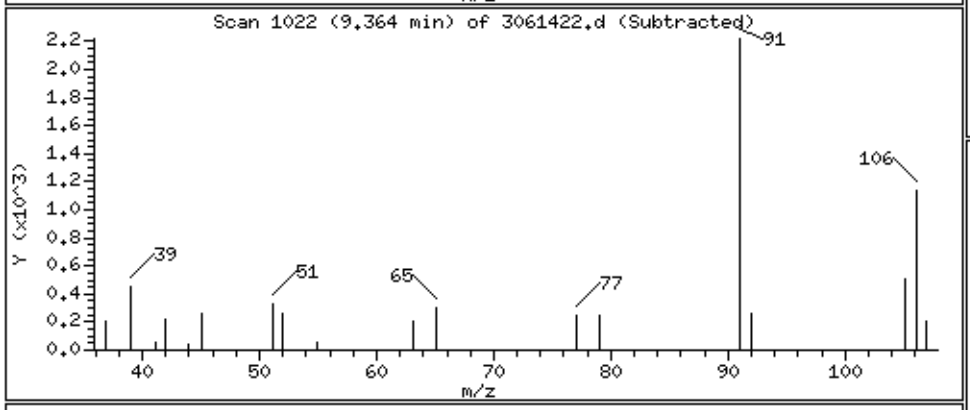
Column diameter: 0.25

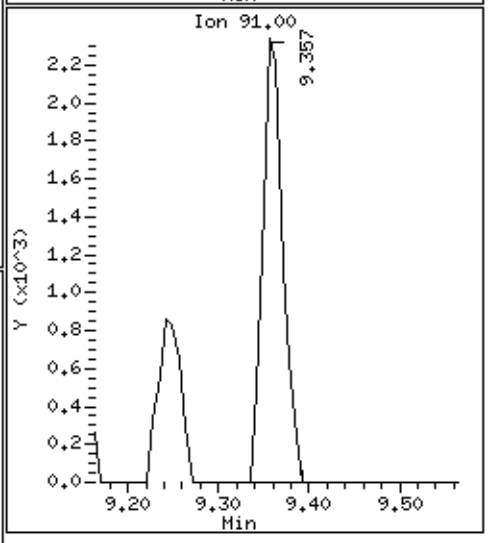
158 m,p-Xylene

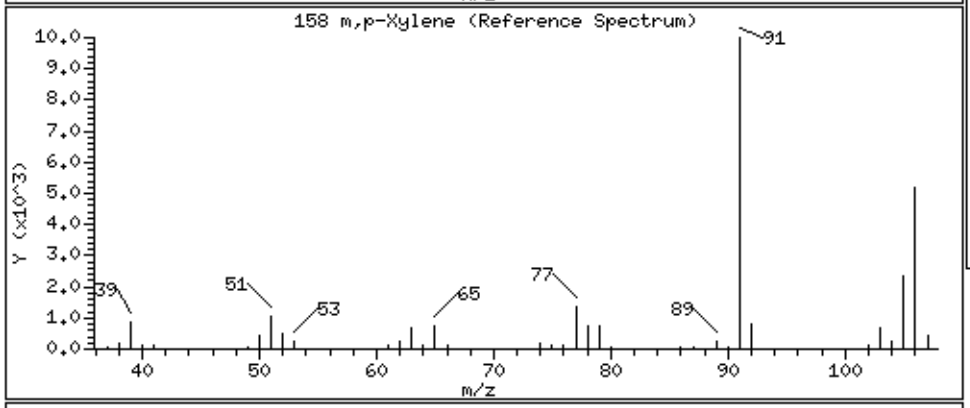
Concentration: 0.7630 PPBV

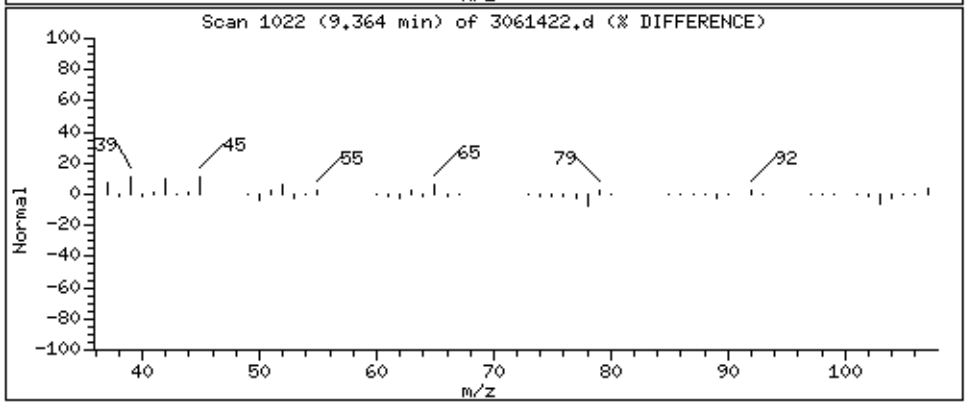


Data File: /chem/msd3.i/14JUN24.b/3061422.d

Date : 15-JUN-2024 01:12

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8419

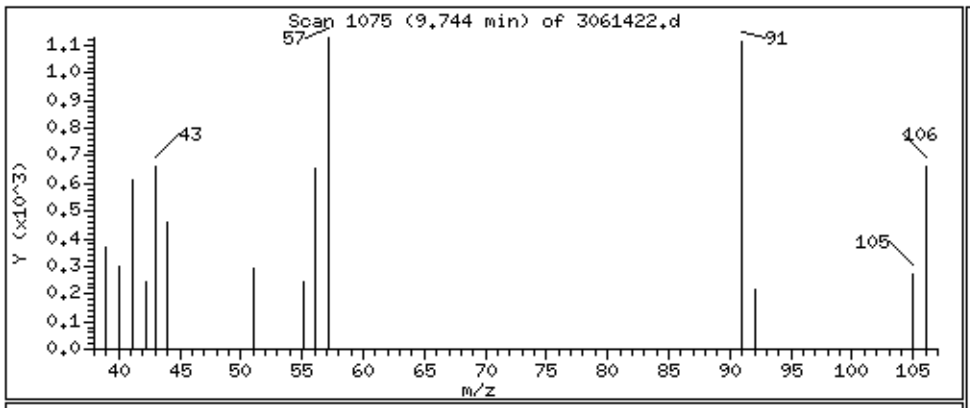
Operator: ACE

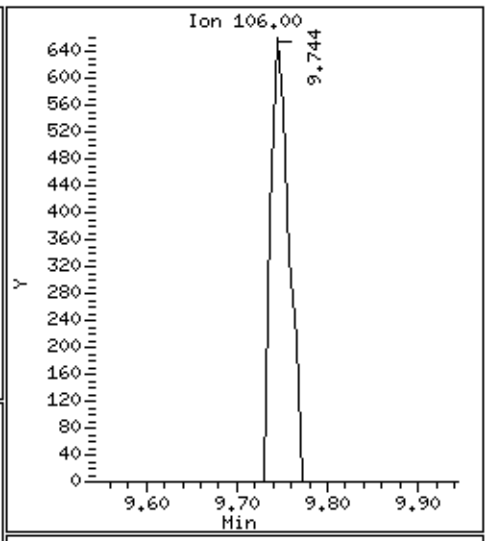
Column phase: RTX-624

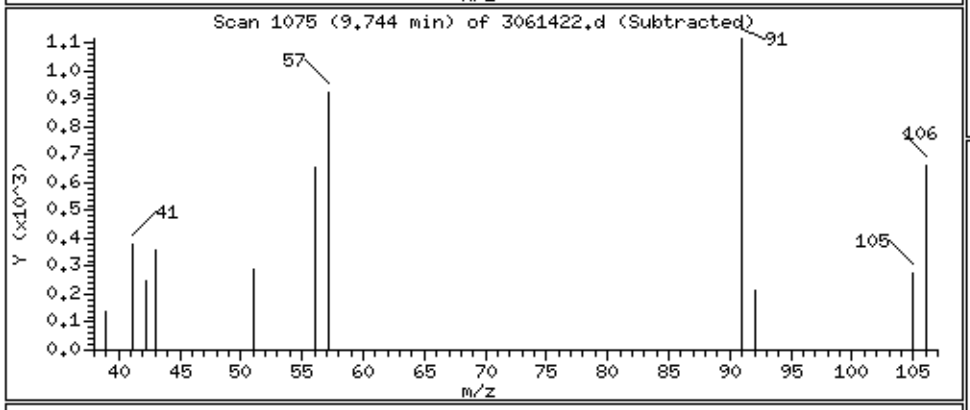
Column diameter: 0.25

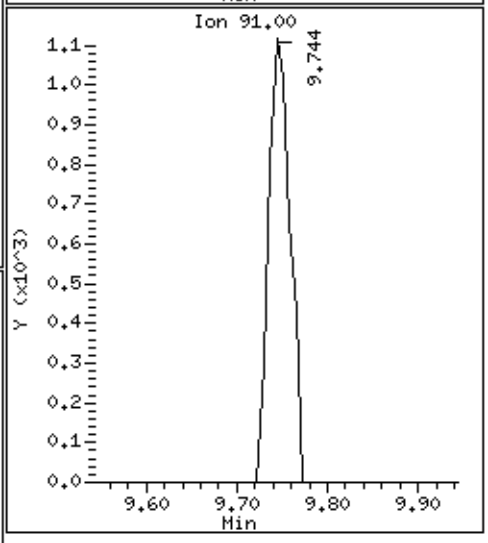
164 o-Xylene

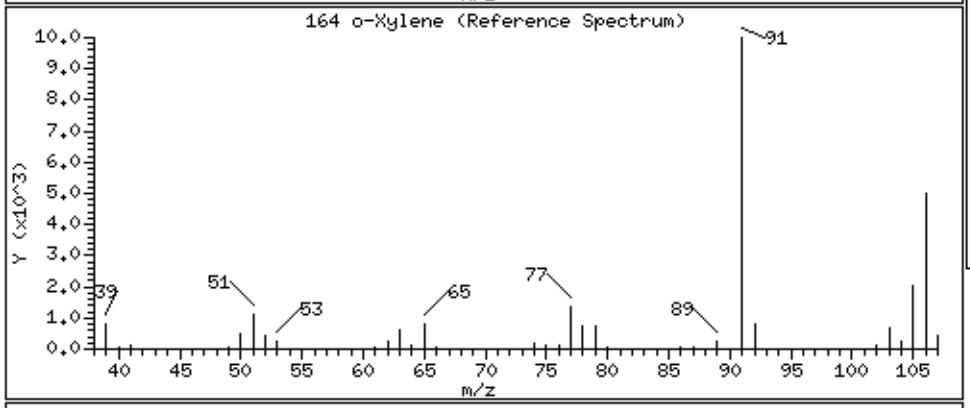
Concentration: 0.4355 PPBV

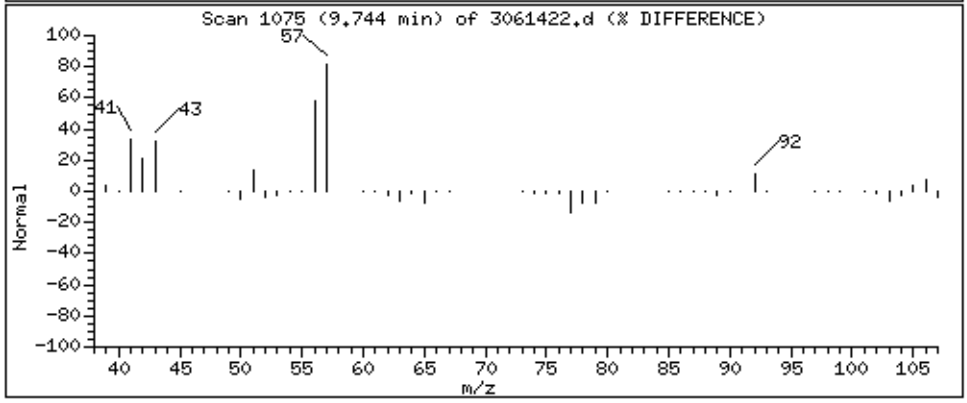


eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV005B_May24 | | |
| **Lab ID:** | 2406133-17A | **Date/Time Analyzed:** | 6/15/24 01:47 AM |
| **Date/Time Collected:** | 5/30/24 03:04 PM | **Dilution Factor:** | 2.50 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061423 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.6 | 4.5 | 5.0 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.5 | 6.8 | 7.5 | Not Detected U |
| Benzene | 71-43-2 | 0.94 | 3.6 | 4.0 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 1.1 | 4.5 | 5.0 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.3 | 4.9 | 5.4 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.78 | 4.9 | 11 | 1.9 J |
| o-Xylene | 95-47-6 | 1.3 | 4.9 | 5.4 | Not Detected U |
| Toluene | 108-88-3 | 1.2 | 4.2 | 9.4 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 2.3 | 4.5 | 5.0 | Not Detected U |
| Trichloroethene | 79-01-6 | 2.0 | 6.0 | 6.7 | 110 |
| Vinyl Chloride | 75-01-4 | 2.7 | 2.9 | 3.2 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 99 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061423.d
Lab Smp Id: 2406133-17A
Inj Date : 15-JUN-2024 01:47
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N8082
Misc Info : 9.6 Hg->10.3 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 6
Dil Factor: 2.50000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 97269 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 74675 | | | | 47.79- 107.79 | 76.77 |
| 5.432 | 5.432 (1.000) | 49 | 146216 | | | | 131.33- 191.33 | 150.32 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.019 (1.109) | 65 | 114618 | 22.6234 | 22.623 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 59663 | | | | 23.17- 83.17 | 52.05 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 354335 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 52687 | | | | 0.00- 45.65 | 14.87 |
| 111 Trichloroethene | | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 28633 | 8.32412 | 20.810 | | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 32474 | | | | 80.23- 140.23 | 113.41 |
| 6.628 | 6.628 (1.032) | 97 | 18409 | | | | 34.78- 94.78 | 64.29 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 339988 | 24.6820 | 24.682 | | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 70 | 35547 | | | 0.00- 41.42 | 10.46 |
| 7.767 | 7.760 (1.210) | 100 | 225976 | | | 37.54- 97.54 | 66.47 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 370574 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 186151 | | | 22.92- 82.92 | 50.23 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 930 | 0.17277 | 0.4319 | 80.00- 120.00 | 100.00(a) |
| 9.364 | 9.364 (1.023) | 91 | 1828 | | | 170.33- 230.33 | 196.49 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 281168 | 25.5309 | 25.531 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 309522 | | | 88.49- 148.49 | 110.08 |
| 10.288 | 10.288 (1.124) | 176 | 273161 | | | 66.73- 126.73 | 97.15 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 17-Jun-2024 08:57

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061423.d
Lab Smp Id: 2406133-17A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 9.6 Hg->10.3 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 97269 | -0.03 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 354335 | -0.52 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 370574 | 5.03 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:57

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-17A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 9.6 Hg->10.3 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.623 | 90.49 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.682 | 98.73 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.531 | 102.12 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061423.d

Page 1

Date : 15-JUN-2024 01:47

Client ID:

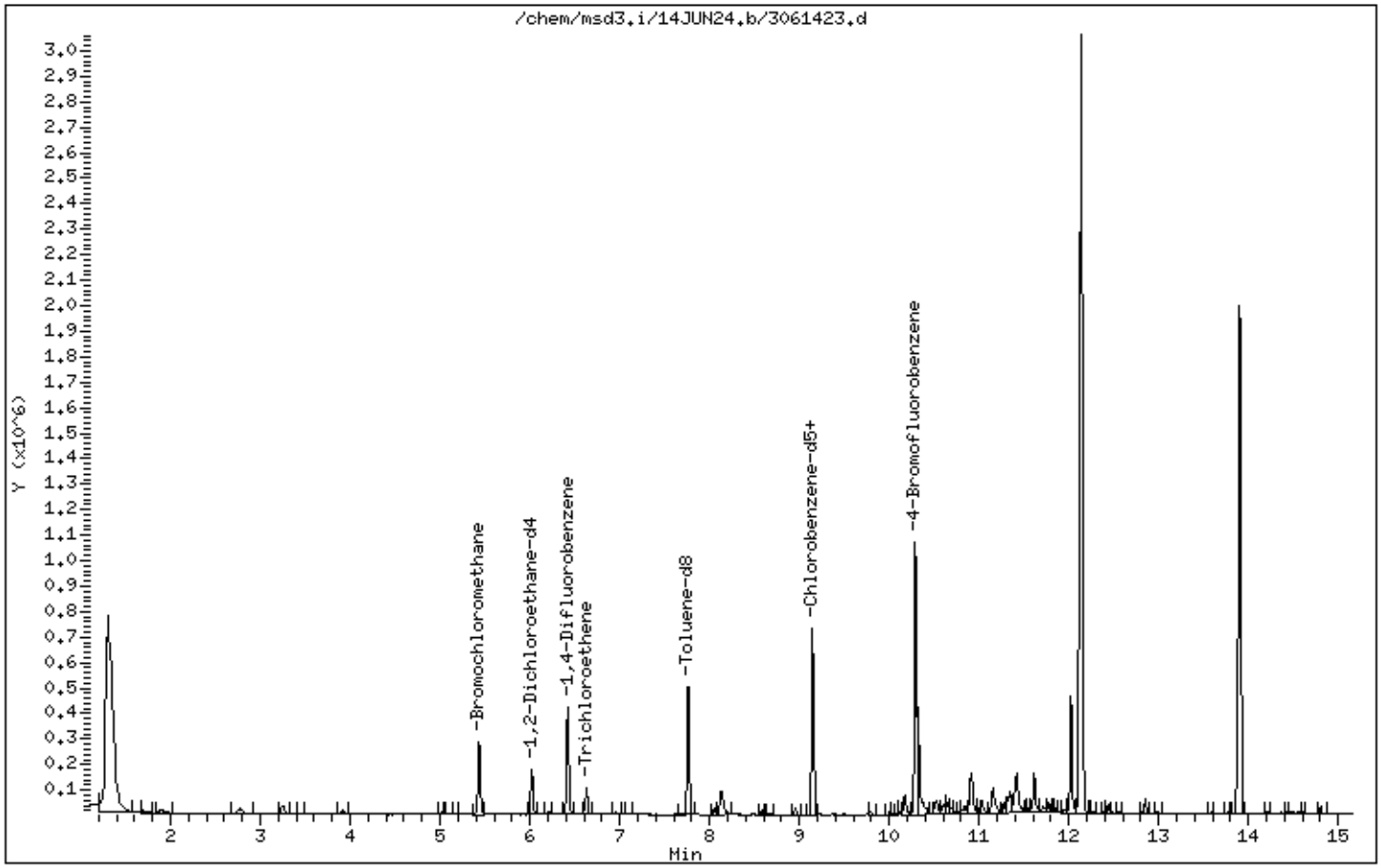
Instrument: msd3.i

Sample Info: 200mL N8082

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061423.d

Date : 15-JUN-2024 01:47

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8082

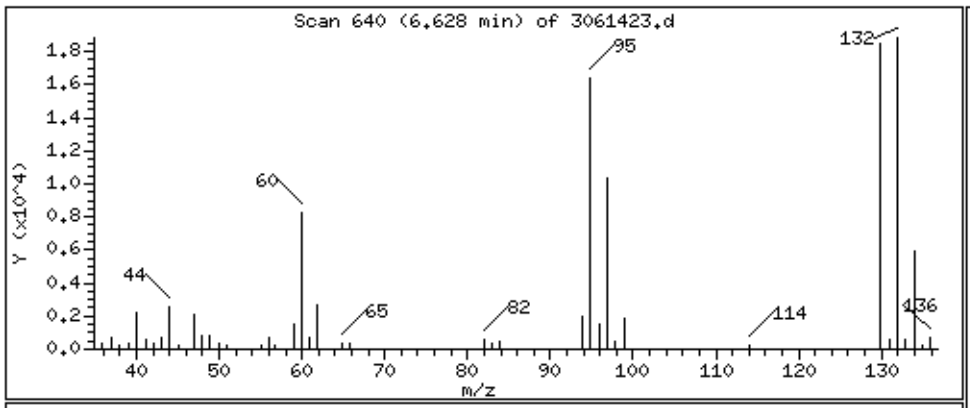
Operator: ACE

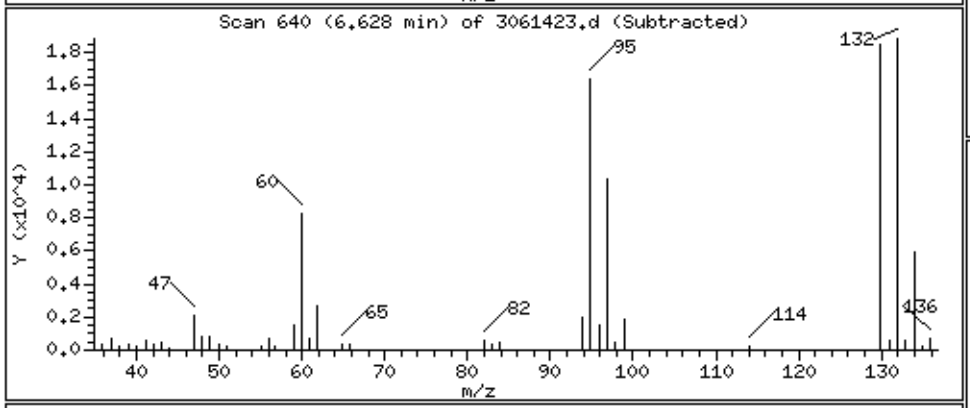
Column phase: RTX-624

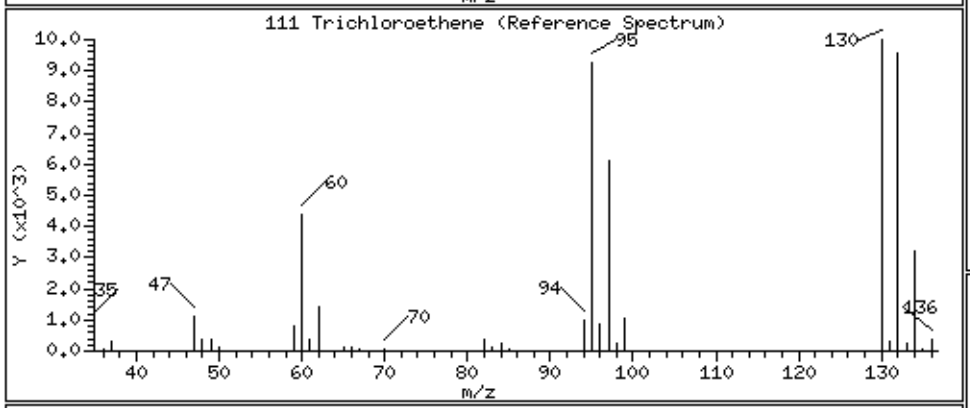
Column diameter: 0.25

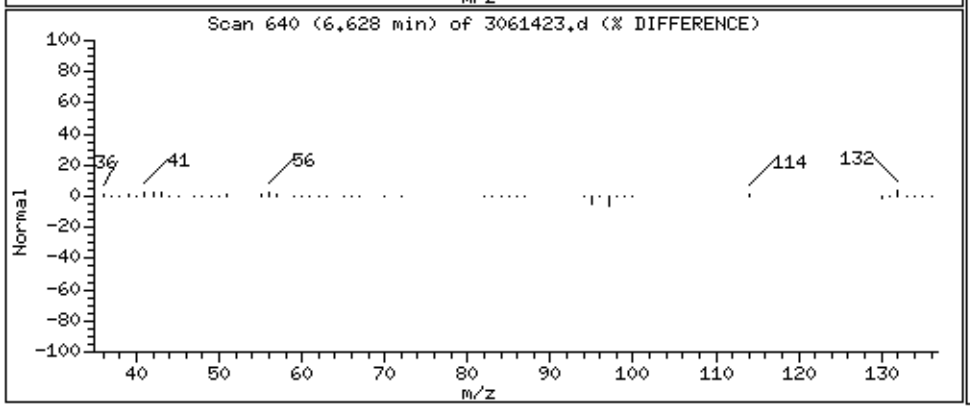
111 Trichloroethene

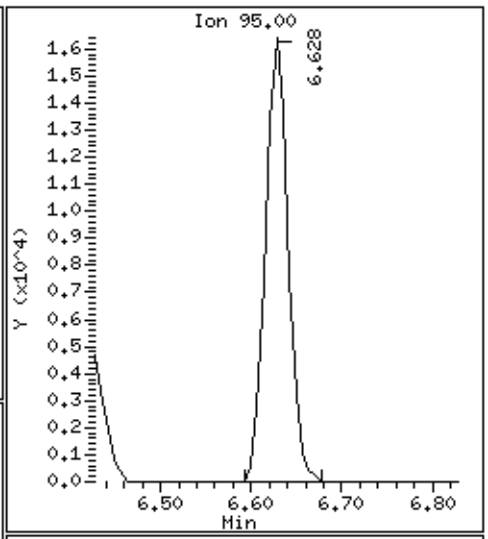
Concentration: 20.810 PPBV

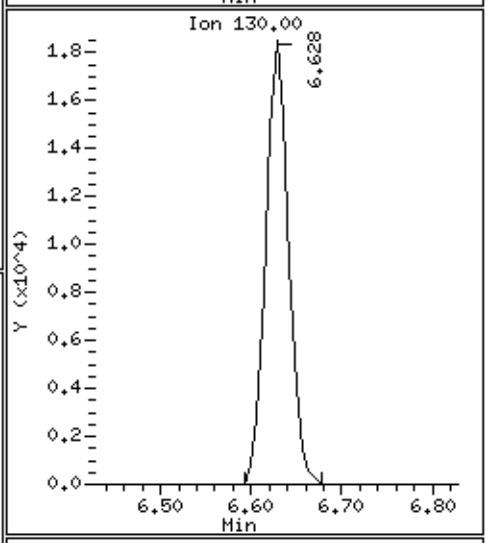


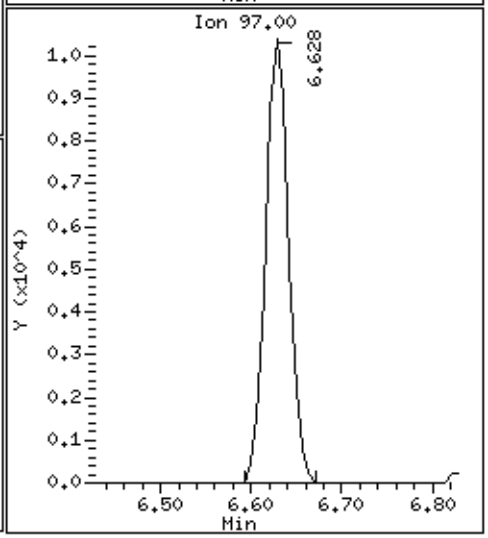



Data File: /chem/msd3.i/14JUN24.b/3061423.d

Date : 15-JUN-2024 01:47

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8082

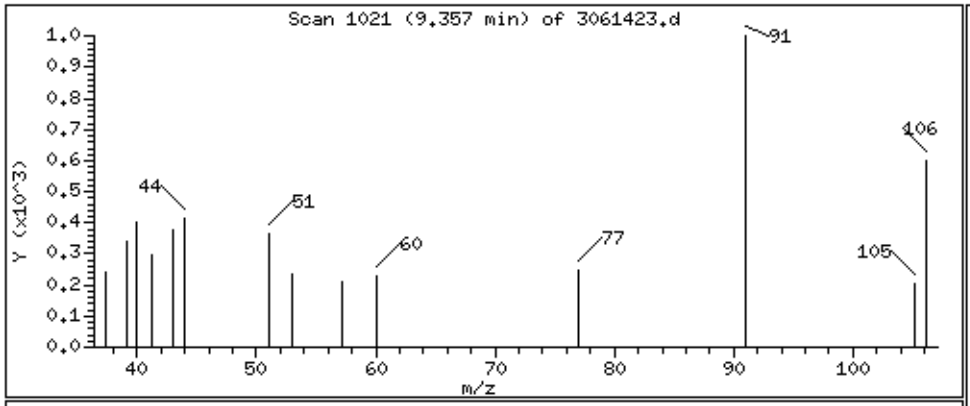
Operator: ACE

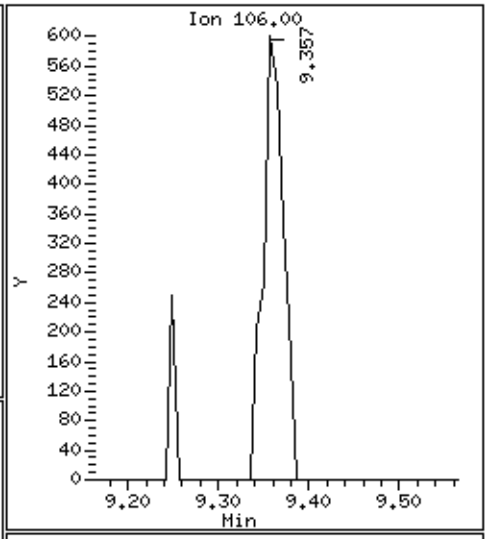
Column phase: RTX-624

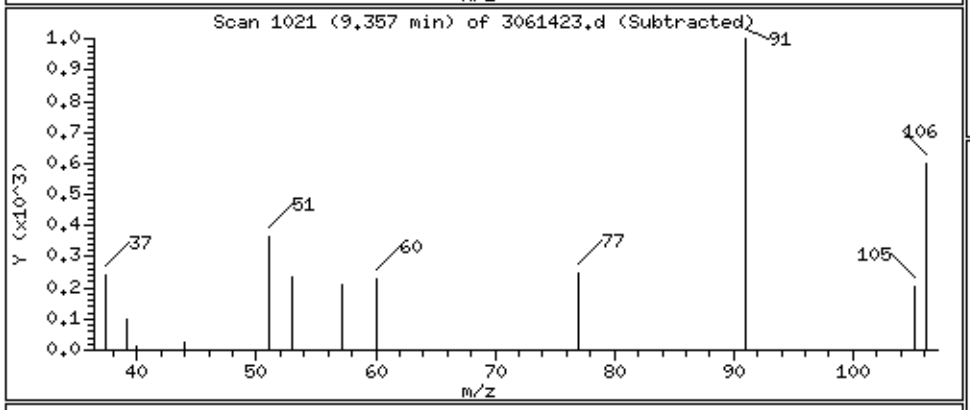
Column diameter: 0.25

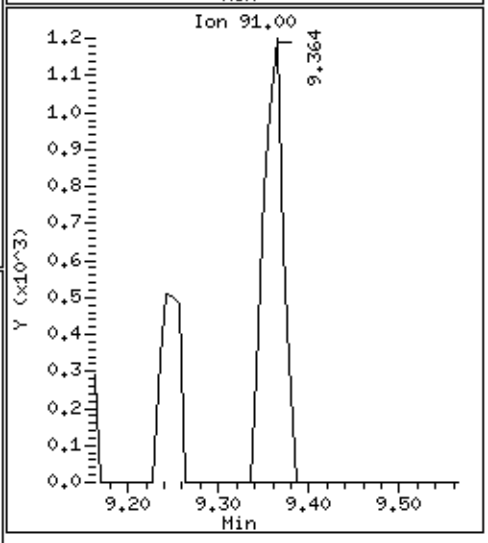
158 m,p-Xylene

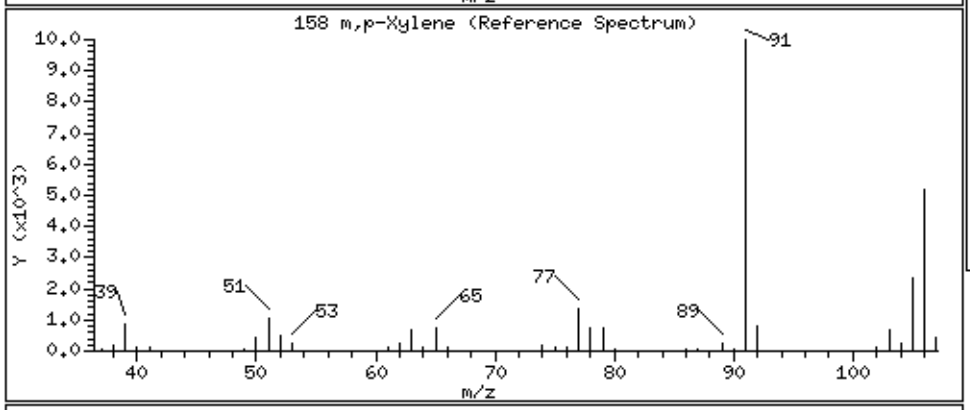
Concentration: 0.4319 PPBV

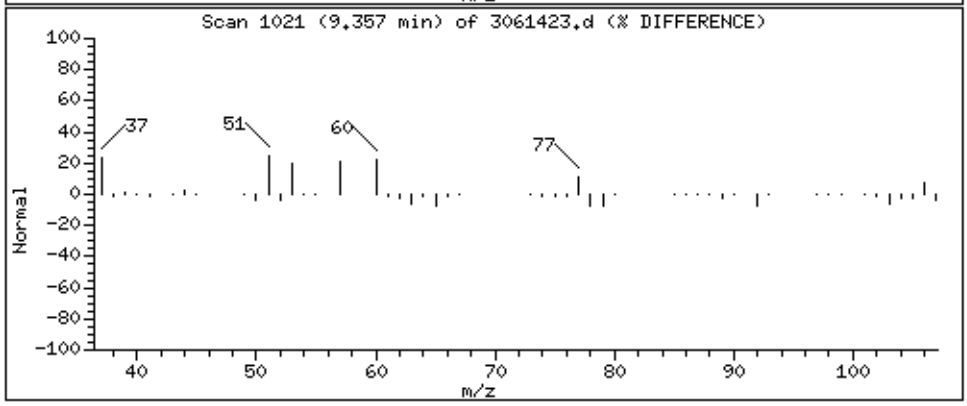


eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV004_May24 | | |
| **Lab ID:** | 2406133-18A | **Date/Time Analyzed:** | 6/15/24 02:22 AM |
| **Date/Time Collected:** | 5/30/24 04:26 PM | **Dilution Factor:** | 2.37 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061424 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.4 | 4.2 | 4.7 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.4 | 6.4 | 7.1 | Not Detected U |
| Benzene | 71-43-2 | 0.90 | 3.4 | 3.8 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 1.0 | 4.2 | 4.7 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.6 | 5.1 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.74 | 4.6 | 10 | 1.2 J |
| o-Xylene | 95-47-6 | 1.2 | 4.6 | 5.1 | Not Detected U |
| Toluene | 108-88-3 | 1.1 | 4.0 | 8.9 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 2.2 | 4.2 | 4.7 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.9 | 5.7 | 6.4 | 3.2 J |
| Vinyl Chloride | 75-01-4 | 2.5 | 2.7 | 3.0 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 103 |
| Toluene-d8 | 2037-26-5 | 91-110 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061424.d
Lab Smp Id: 2406133-18A
Inj Date : 15-JUN-2024 02:22
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL B2546
Misc Info : 9 Hg->9.7 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 7
Dil Factor: 2.37000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 98337 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.432 (1.000) | 128 | 75373 | | | 47.79- 107.79 | 76.65 |
| 5.432 | 5.432 (1.000) | 49 | 146342 | | | 131.33- 191.33 | 148.82 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 115203 | 22.4919 | 22.492 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.109) | 67 | 60022 | | | 23.17- 83.17 | 52.10 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 355711 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 51943 | | | 0.00- 45.65 | 14.60 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 873 | 0.25281 | 0.5992 | 80.00- 120.00 | 100.00(a) |
| 6.628 | 6.628 (1.032) | 130 | 844 | | | 80.23- 140.23 | 96.70 |
| 6.621 | 6.628 (1.031) | 97 | 453 | | | 34.78- 94.78 | 51.93 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 338178 | 24.4556 | 24.456 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.767 | 7.760 (1.210) | 70 | 35577 | | | 0.00- 41.42 | 10.52 |
| 7.767 | 7.760 (1.210) | 100 | 226605 | | | 37.54- 97.54 | 67.01 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 367409 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 185642 | | | 22.92- 82.92 | 50.53 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 632 | 0.11842 | 0.2806 | 80.00- 120.00 | 100.00(a) |
| 9.357 | 9.364 (1.023) | 91 | 1359 | | | 170.33- 230.33 | 214.89 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.288 (1.125) | 174 | 281925 | 25.8202 | 25.820 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 307300 | | | 88.49- 148.49 | 109.00 |
| 10.295 | 10.288 (1.125) | 176 | 275027 | | | 66.73- 126.73 | 97.55 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061424.d
Lab Smp Id: 2406133-18A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 9 Hg->9.7 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 98337 | 1.07 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 355711 | -0.13 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 367409 | 4.13 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:57

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-18A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 9 Hg->9.7 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.492 | 89.97 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.456 | 97.82 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.820 | 103.28 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061424.d



Date : 15-JUN-2024 02:22

Client ID:

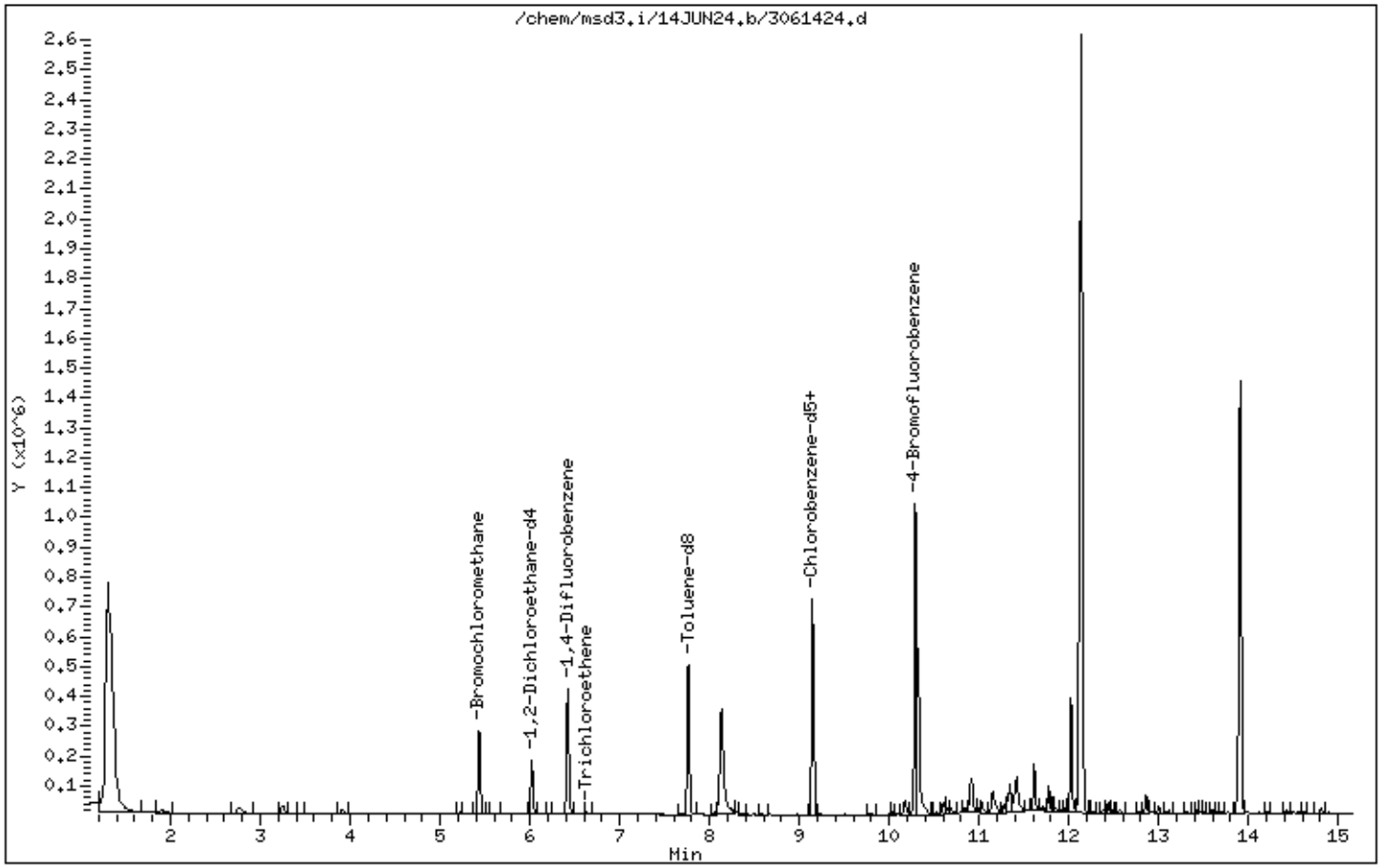
Instrument: msd3.i

Sample Info: 200mL B2546

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061424.d

Date : 15-JUN-2024 02:22

Client ID:

Instrument: msd3.i

Sample Info: 200mL B2546

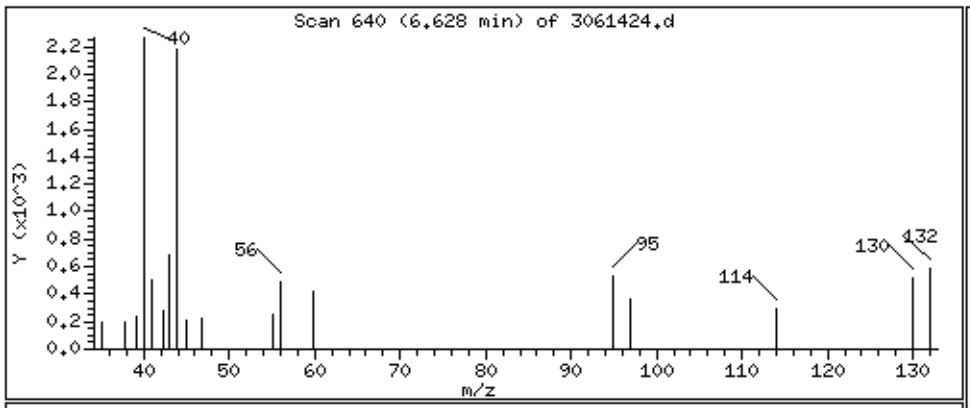
Operator: ACE

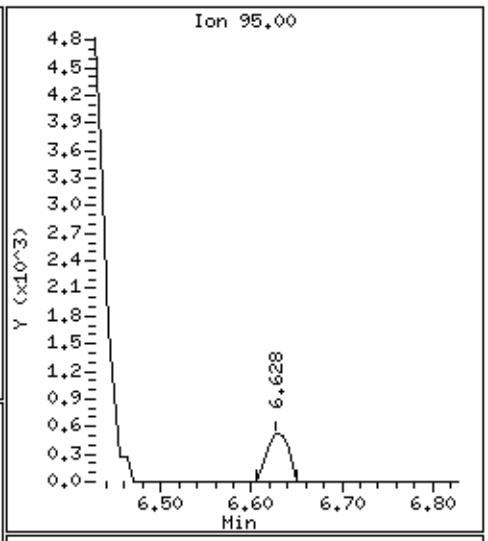
Column phase: RTX-624

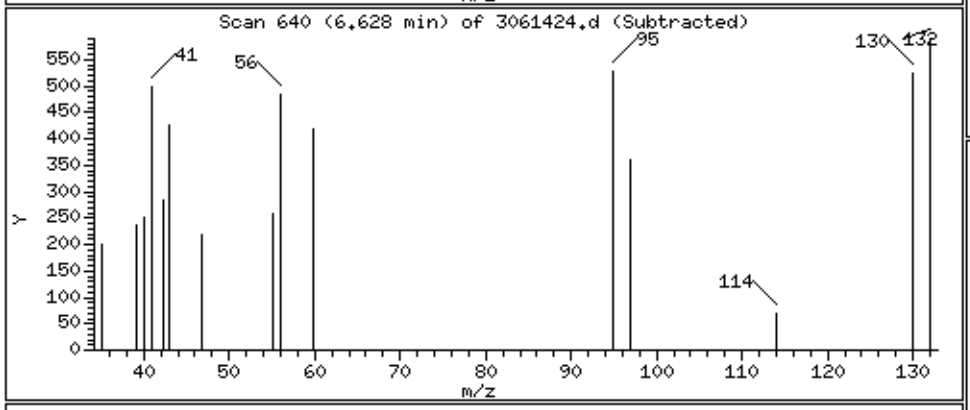
Column diameter: 0.25

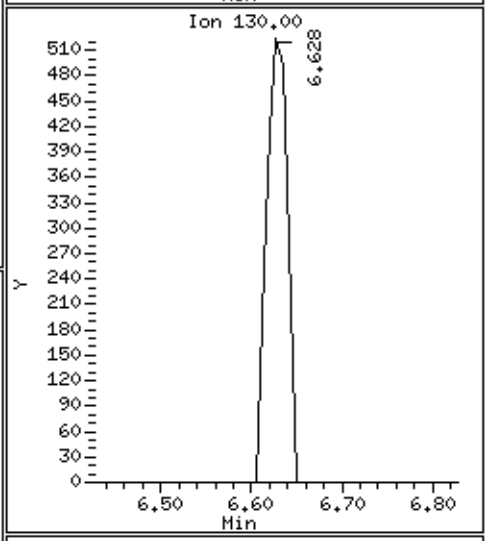
111 Trichloroethene

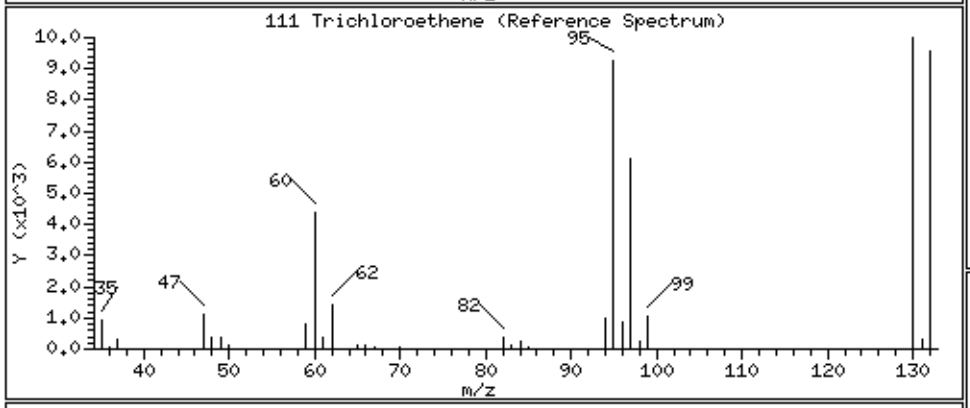
Concentration: 0.5992 PPBV

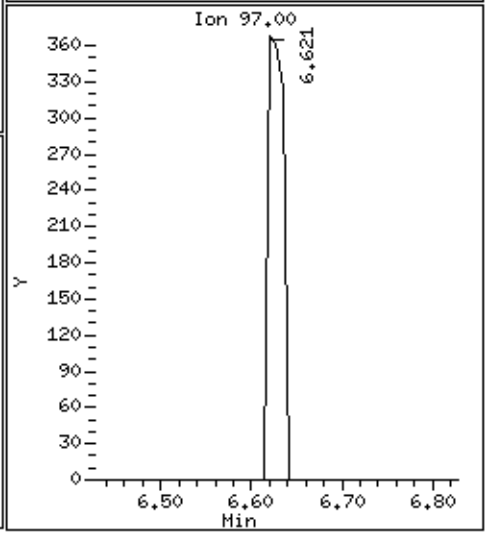


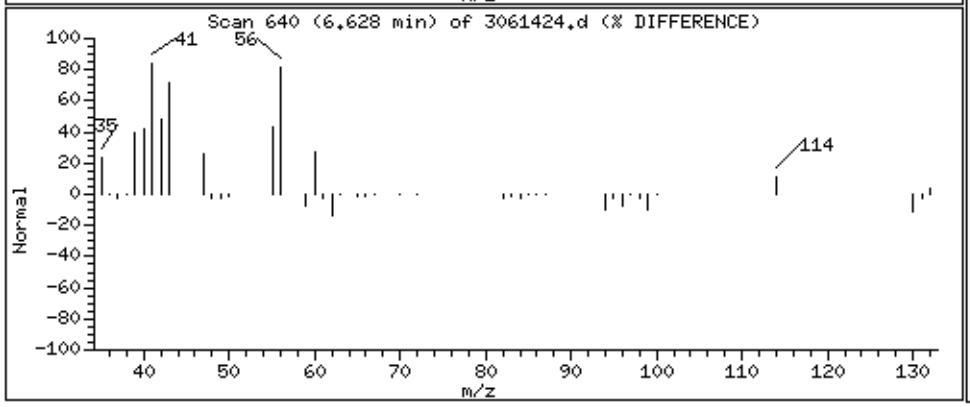



Data File: /chem/msd3.i/14JUN24.b/3061424.d

Date : 15-JUN-2024 02:22

Client ID:

Instrument: msd3.i

Sample Info: 200mL B2546

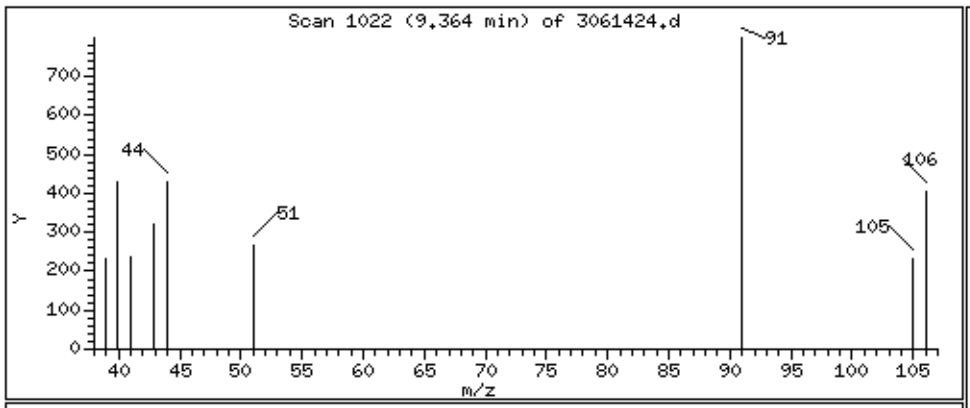
Operator: ACE

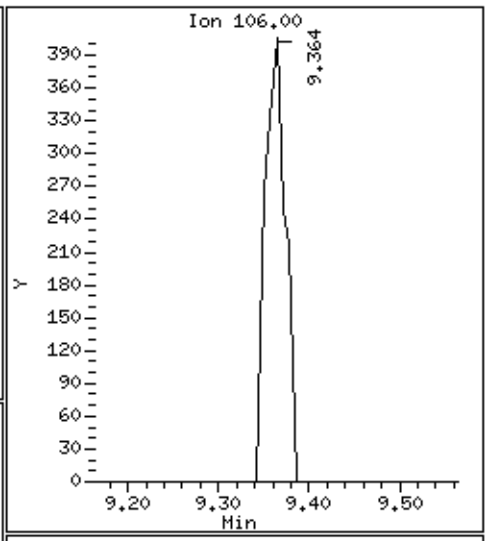
Column phase: RTX-624

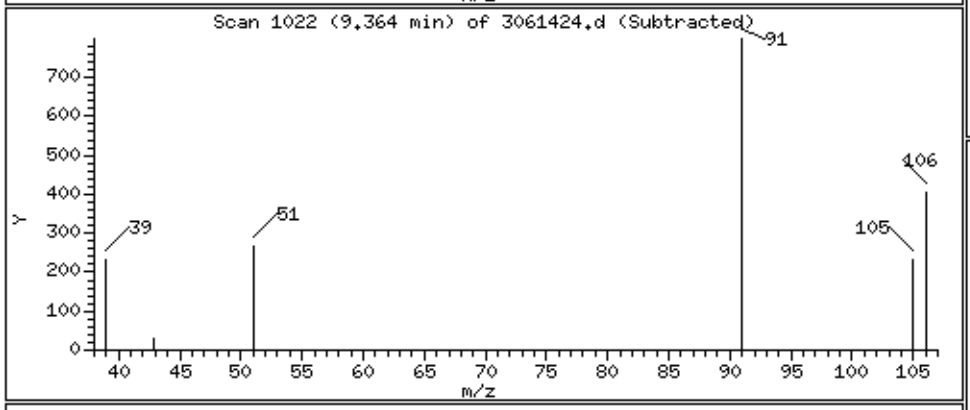
Column diameter: 0.25

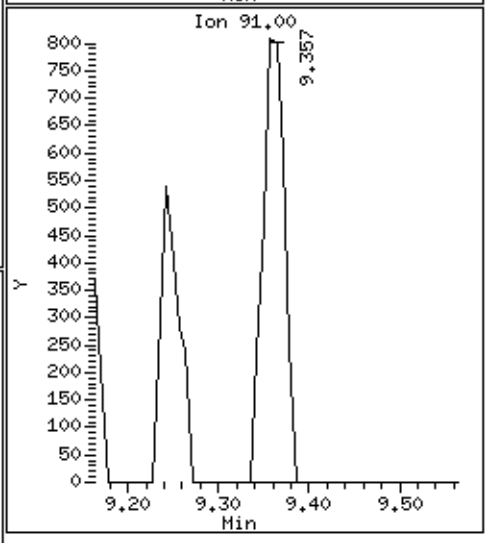
158 m,p-Xylene

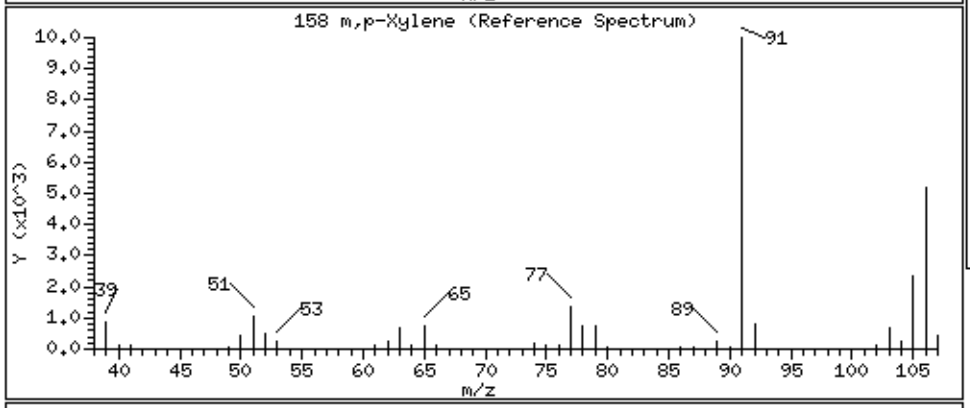
Concentration: 0.2806 PPBV

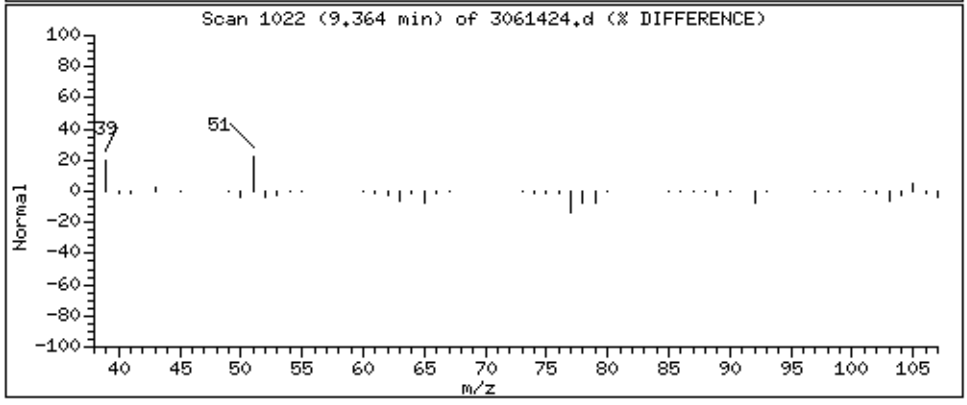


eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV025_May24 | | |
| **Lab ID:** | 2406133-19A | **Date/Time Analyzed:** | 6/15/24 02:57 AM |
| **Date/Time Collected:** | 5/31/24 09:07 AM | **Dilution Factor:** | 2.31 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061425 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.4 | 4.1 | 4.6 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.3 | 6.2 | 6.9 | Not Detected U |
| Benzene | 71-43-2 | 0.87 | 3.3 | 3.7 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 1.0 | 4.1 | 4.6 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.5 | 5.0 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.72 | 4.5 | 10 | 0.98 J |
| o-Xylene | 95-47-6 | 1.2 | 4.5 | 5.0 | Not Detected U |
| Toluene | 108-88-3 | 1.1 | 3.9 | 8.7 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 2.1 | 4.1 | 4.6 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.8 | 5.6 | 6.2 | 2.2 J |
| Vinyl Chloride | 75-01-4 | 2.5 | 2.6 | 3.0 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061425.d
Lab Smp Id: 2406133-19A
Inj Date : 15-JUN-2024 02:57
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N8317
Misc Info : 8.4 Hg->9.8 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 8
Dil Factor: 2.31000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.432 (1.000) | 130 | 97566 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 75350 | | | 47.79- 107.79 | 77.23 |
| 5.432 | 5.432 (1.000) | 49 | 145578 | | | 131.33- 191.33 | 149.21 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.019 (1.108) | 65 | 114366 | 22.5049 | 22.505 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.108) | 67 | 59047 | | | 23.17- 83.17 | 51.63 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 355792 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 51366 | | | 0.00- 45.65 | 14.44 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 605 | 0.17516 | 0.4046 | 80.00- 120.00 | 100.00(a) |
| 6.628 | 6.628 (1.032) | 130 | 766 | | | 80.23- 140.23 | 126.61 |
| 6.635 | 6.628 (1.033) | 97 | 402 | | | 34.78- 94.78 | 66.53 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 338097 | 24.4442 | 24.444 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.767 | 7.760 (1.210) | 70 | 34999 | | | 0.00- 41.42 | 10.35 |
| 7.767 | 7.760 (1.210) | 100 | 226193 | | | 37.54- 97.54 | 66.90 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 366279 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 184919 | | | 22.92- 82.92 | 50.49 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 521 | 0.09792 | 0.2262 | 80.00- 120.00 | 100.00(a) |
| 9.364 | 9.364 (1.023) | 91 | 1203 | | | 170.33- 230.33 | 230.51 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 277909 | 25.5309 | 25.531 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 303009 | | | 88.49- 148.49 | 109.03 |
| 10.295 | 10.288 (1.125) | 176 | 273929 | | | 66.73- 126.73 | 98.57 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 17-Jun-2024 08:59

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061425.d
Lab Smp Id: 2406133-19A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.4 Hg->9.8 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 97566 | 0.28 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 355792 | -0.11 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 366279 | 3.81 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:59

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-19A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.4 Hg->9.8 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.505 | 90.02 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.444 | 97.78 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.531 | 102.12 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061425.d



Date : 15-JUN-2024 02:57

Client ID:

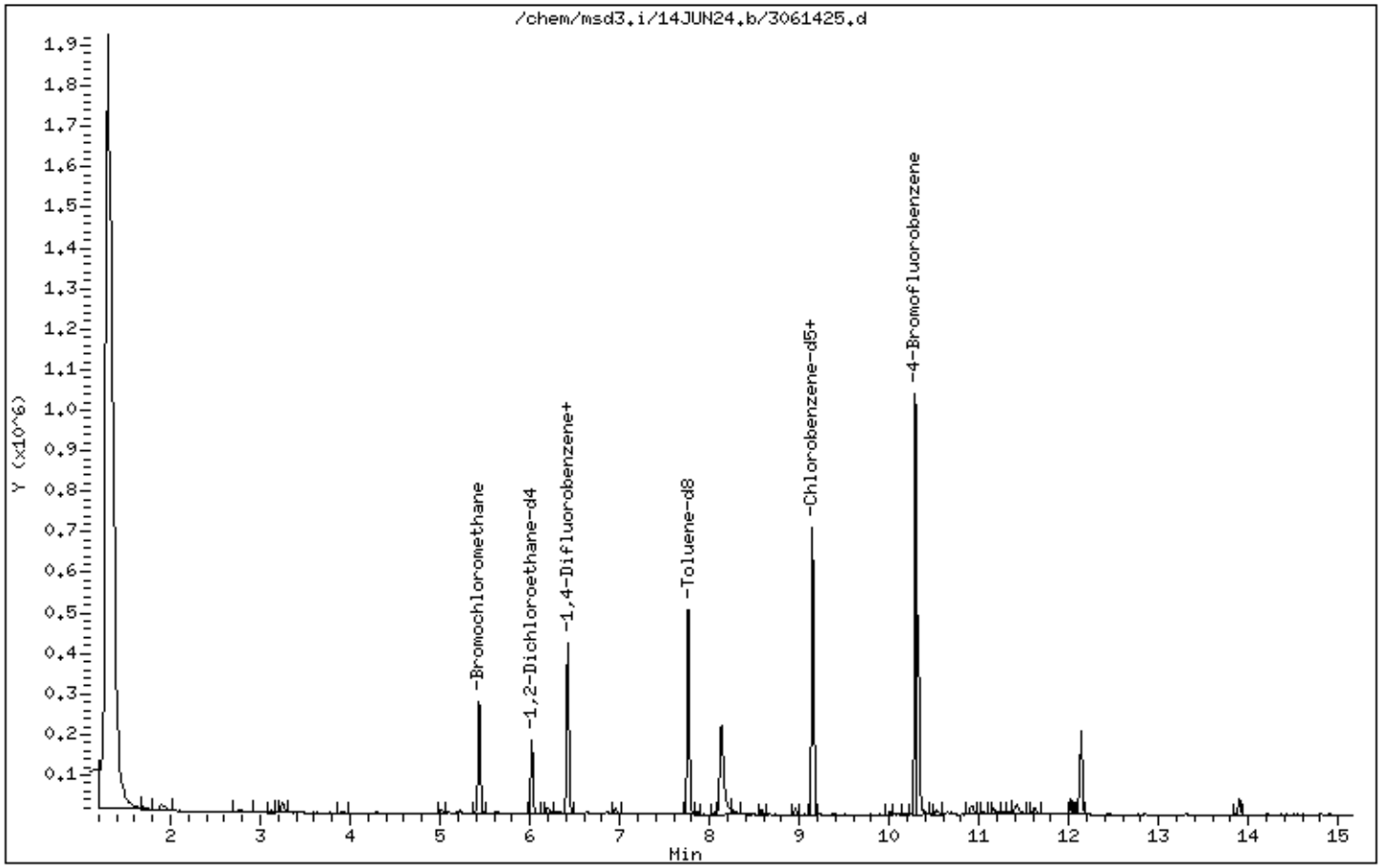
Instrument: msd3.i

Sample Info: 200mL N8317

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061425.d

Date : 15-JUN-2024 02:57

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8317

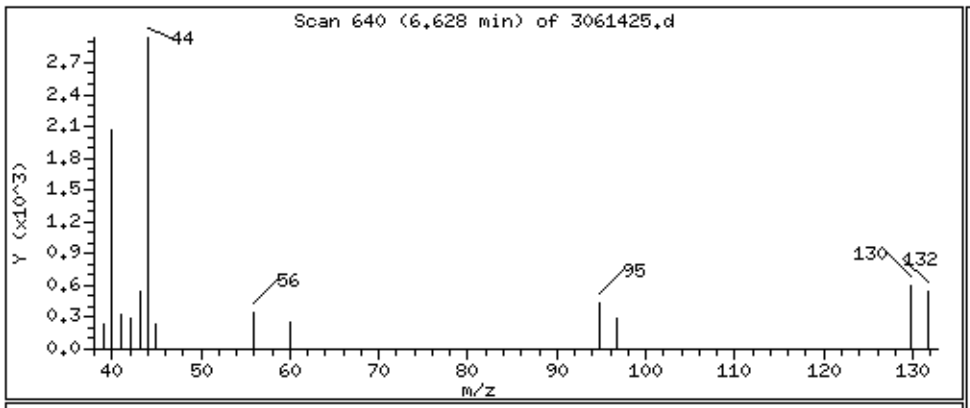
Operator: ACE

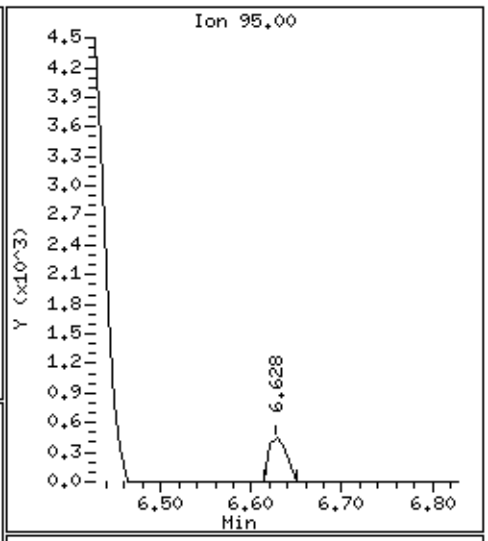
Column phase: RTX-624

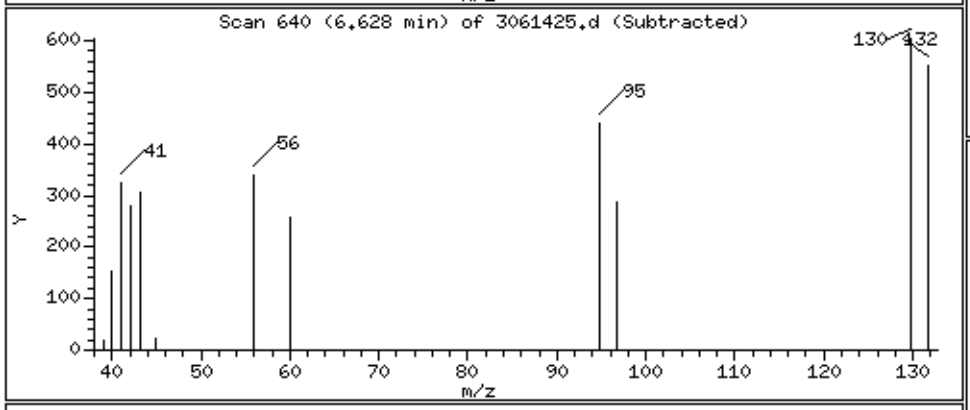
Column diameter: 0.25

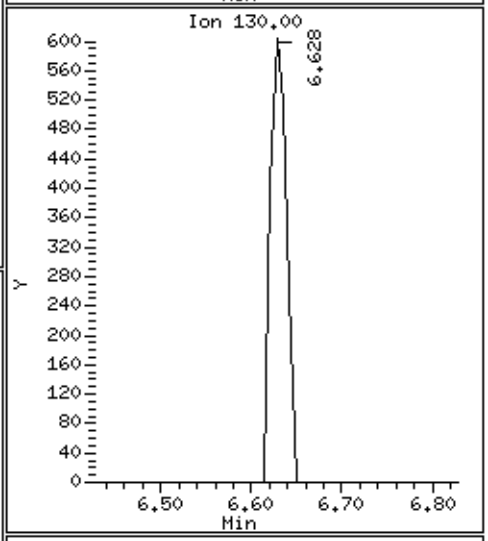
111 Trichloroethene

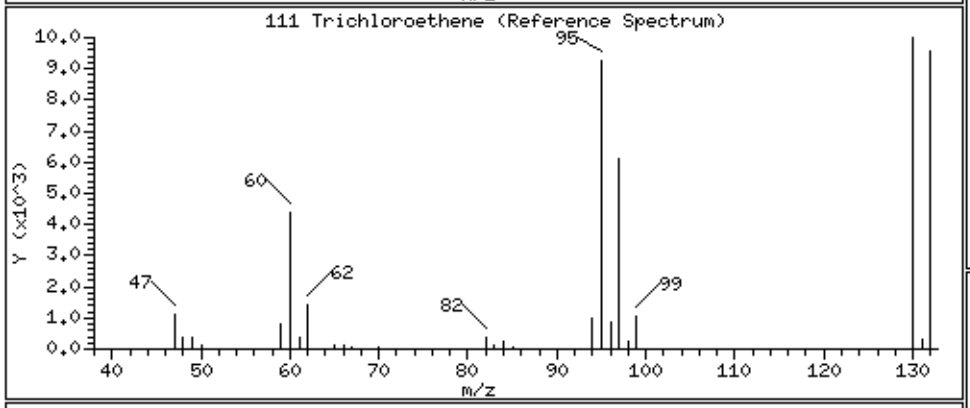
Concentration: 0.4046 PPBV

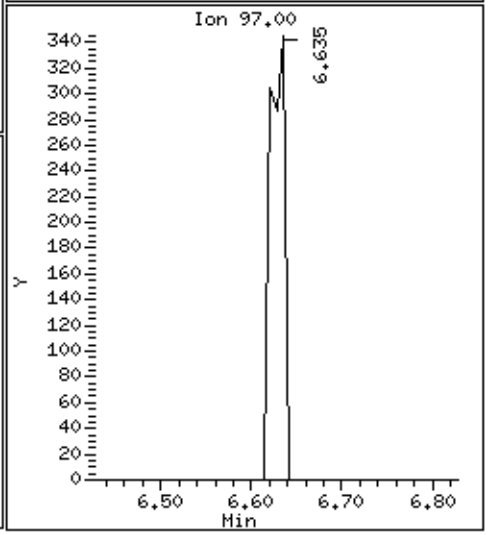


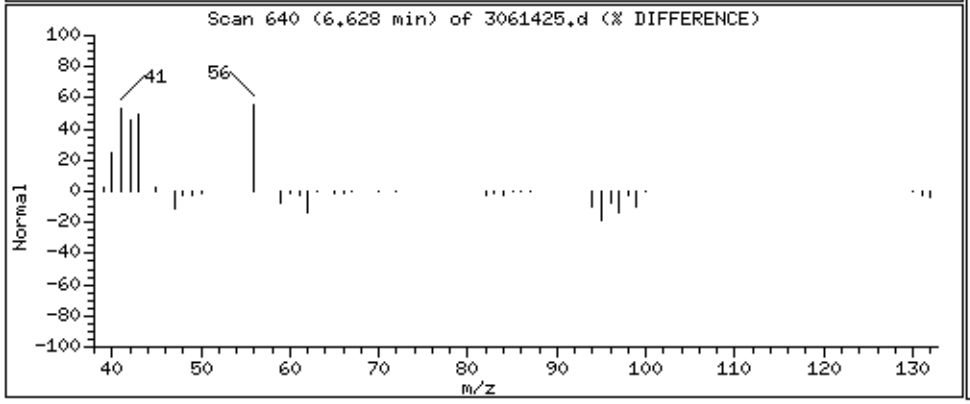



Data File: /chem/msd3.i/14JUN24.b/3061425.d

Date : 15-JUN-2024 02:57

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8317

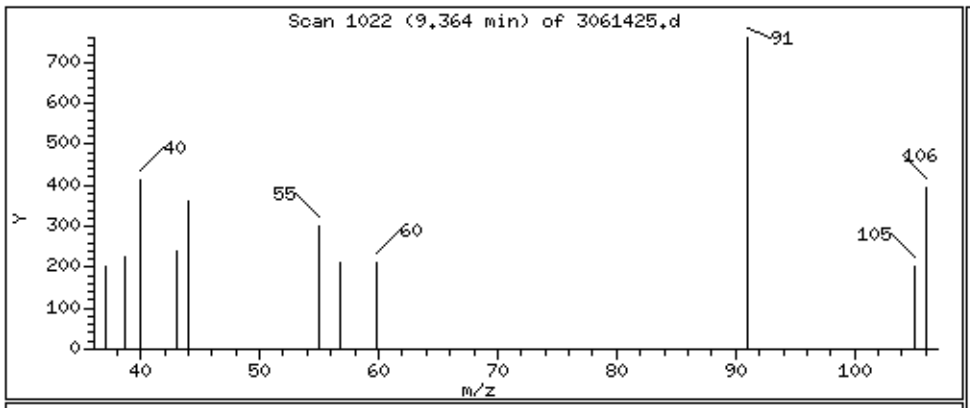
Operator: ACE

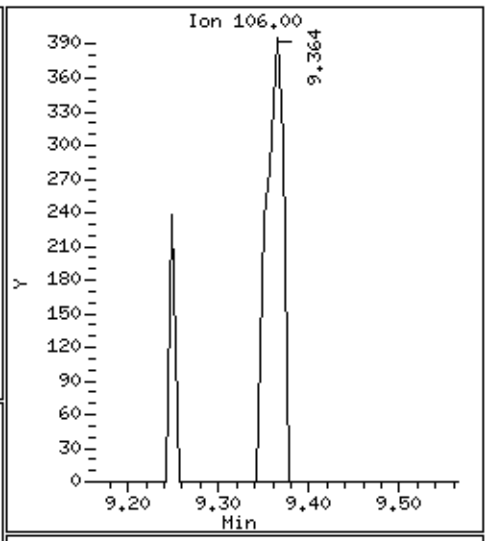
Column phase: RTX-624

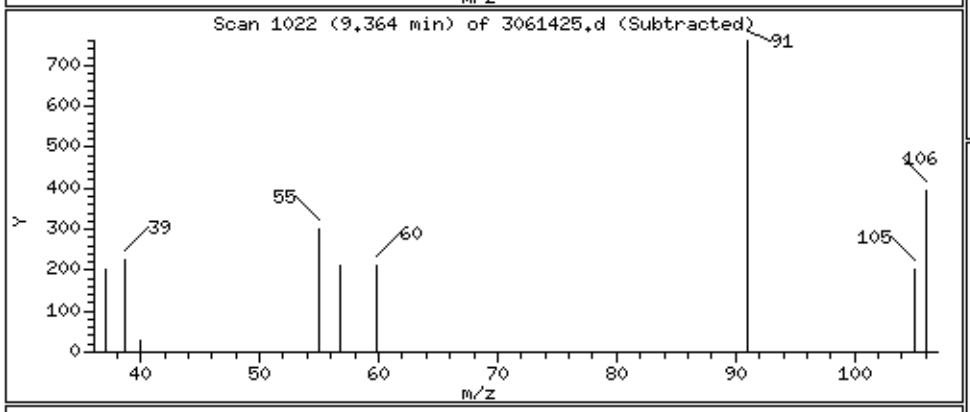
Column diameter: 0.25

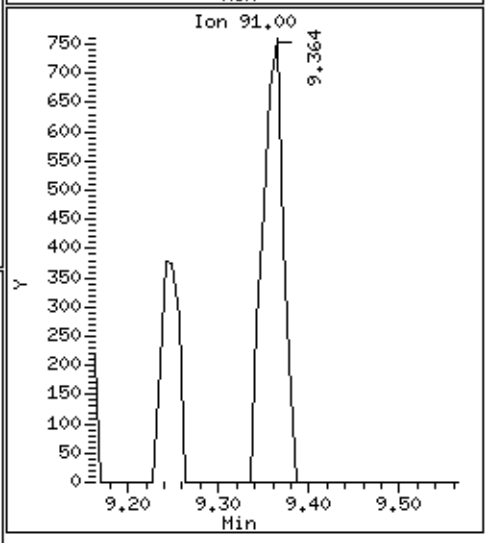
158 m,p-Xylene

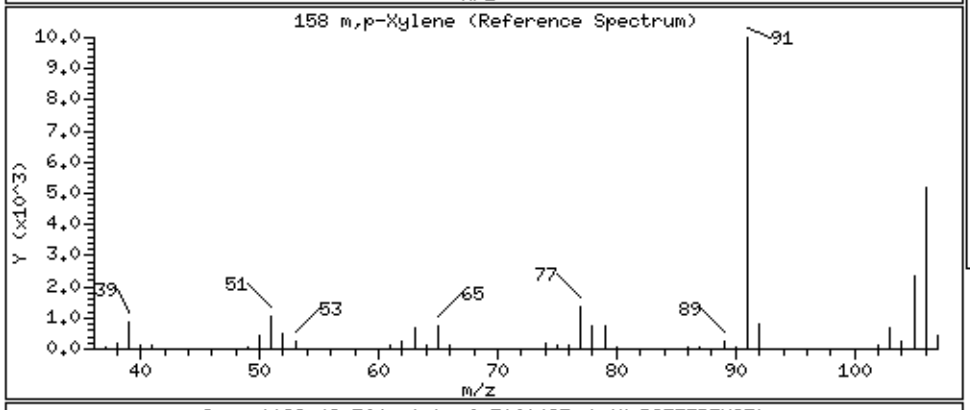
Concentration: 0.2262 PPBV

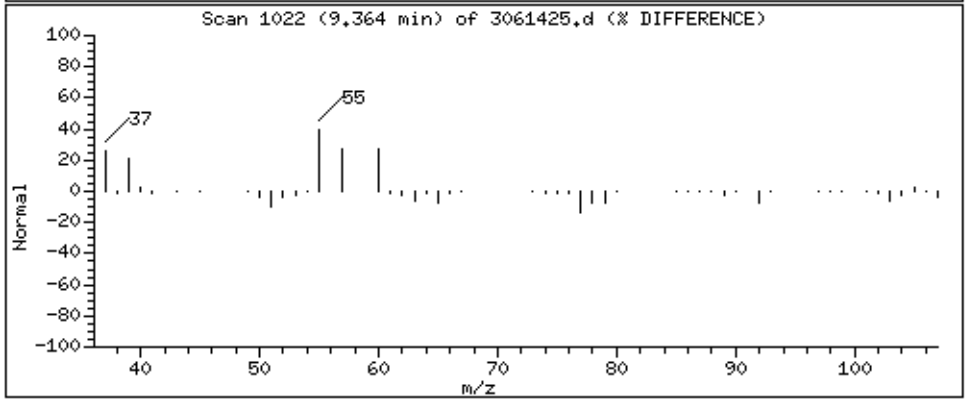


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV019_May24 | | |
| **Lab ID:** | 2406133-20A | **Date/Time Analyzed:** | 6/15/24 03:32 AM |
| **Date/Time Collected:** | 5/31/24 10:09 AM | **Dilution Factor:** | 2.25 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061426 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.3 | 4.0 | 4.5 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.3 | 6.1 | 6.8 | Not Detected U |
| Benzene | 71-43-2 | 0.85 | 3.2 | 3.6 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.97 | 4.0 | 4.5 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.4 | 4.9 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.70 | 4.4 | 9.8 | 0.87 J |
| o-Xylene | 95-47-6 | 1.2 | 4.4 | 4.9 | Not Detected U |
| Toluene | 108-88-3 | 1.1 | 3.8 | 8.5 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 2.0 | 4.0 | 4.5 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.8 | 5.4 | 6.0 | 4.8 J |
| Vinyl Chloride | 75-01-4 | 2.4 | 2.6 | 2.9 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061426.d
Lab Smp Id: 2406133-20A
Inj Date : 15-JUN-2024 03:32
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL 1L4761
Misc Info : 7.6 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 9
Dil Factor: 2.25000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | | CAS #: 74-97-5 | |
| 5.432 | 5.432 (1.000) | 130 | 96277 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.432 (1.000) | 128 | 74138 | | | | 47.79- 107.79 | 77.01 |
| 5.432 | 5.432 (1.000) | 49 | 144884 | | | | 131.33- 191.33 | 150.49 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | | CAS #: 17060-07-0 | |
| 6.019 | 6.019 (1.108) | 65 | 114286 | 22.7903 | 22.790 | | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.109) | 67 | 58708 | | | | 23.17- 83.17 | 51.37 |
| * 108 1,4-Difluorobenzene | | | | | | | CAS #: 540-36-3 | |
| 6.420 | 6.420 (1.000) | 114 | 350140 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 50484 | | | | 0.00- 45.65 | 14.42 |
| 111 Trichloroethene | | | | | | | CAS #: 79-01-6 | |
| 6.628 | 6.628 (1.032) | 95 | 1341 | 0.39452 | 0.8877 | | 80.00- 120.00 | 100.00(a) |
| 6.635 | 6.628 (1.033) | 130 | 1432 | | | | 80.23- 140.23 | 106.82 |
| 6.628 | 6.628 (1.032) | 97 | 923 | | | | 34.78- 94.78 | 68.87 |
| $ 134 Toluene-d8 | | | | | | | CAS #: 2037-26-5 | |
| 7.767 | 7.760 (1.210) | 98 | 333897 | 24.5302 | 24.530 | | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 70 | 35822 | | | 0.00- 41.42 | 10.73 |
| 7.767 | 7.760 (1.210) | 100 | 223195 | | | 37.54- 97.54 | 66.85 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 365460 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 180275 | | | 22.92- 82.92 | 49.33 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 471 | 0.08872 | 0.1996 | 80.00- 120.00 | 100.00(a) |
| 9.364 | 9.364 (1.023) | 91 | 817 | | | 170.33- 230.33 | 173.22 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 277047 | 25.5087 | 25.509 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 304299 | | | 88.49- 148.49 | 109.84 |
| 10.288 | 10.288 (1.124) | 176 | 269692 | | | 66.73- 126.73 | 97.35 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061426.d
Lab Smp Id: 2406133-20A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 7.6 Hg->10 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 96277 | -1.05 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 350140 | -1.70 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 365460 | 3.58 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 08:59

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-20A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 7.6 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.790 | 91.16 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.530 | 98.12 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.509 | 102.03 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061426.d



Date : 15-JUN-2024 03:32

Client ID:

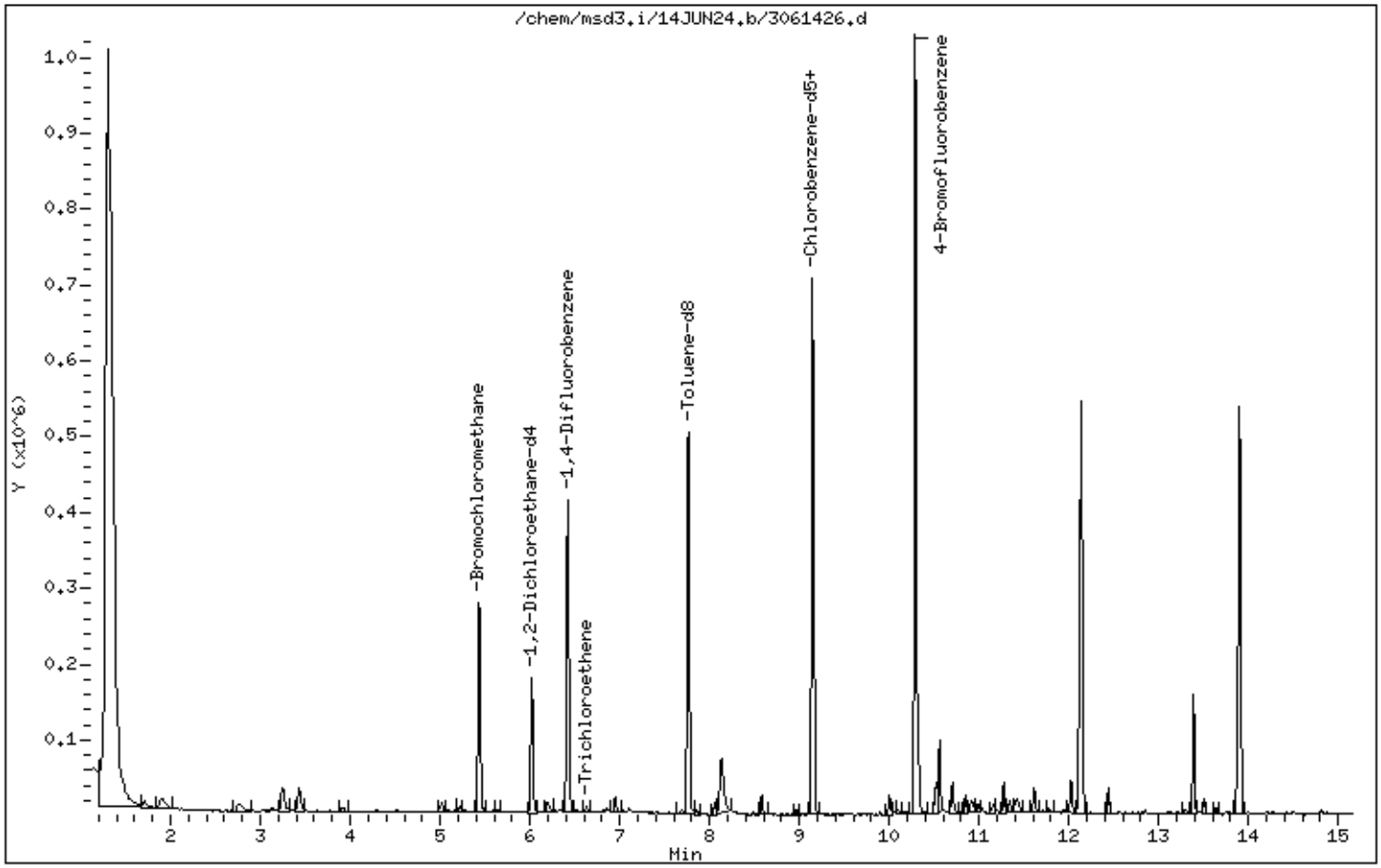
Instrument: msd3.i

Sample Info: 200mL 1L4761

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061426.d

Date : 15-JUN-2024 03:32

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4761

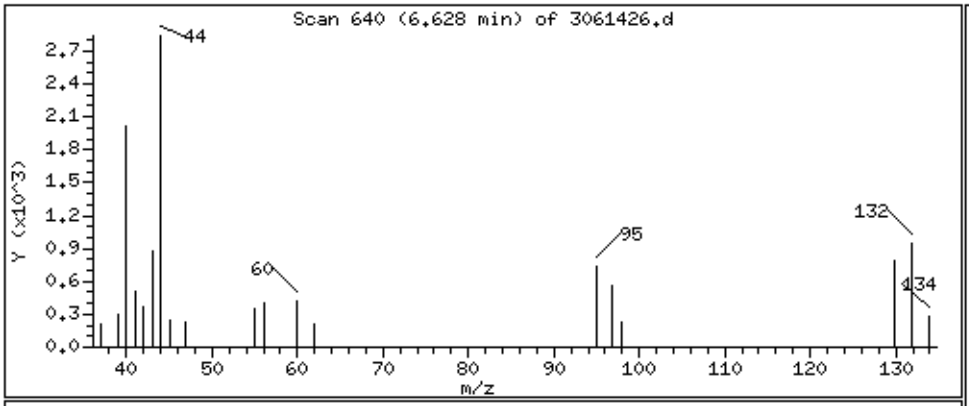
Operator: ACE

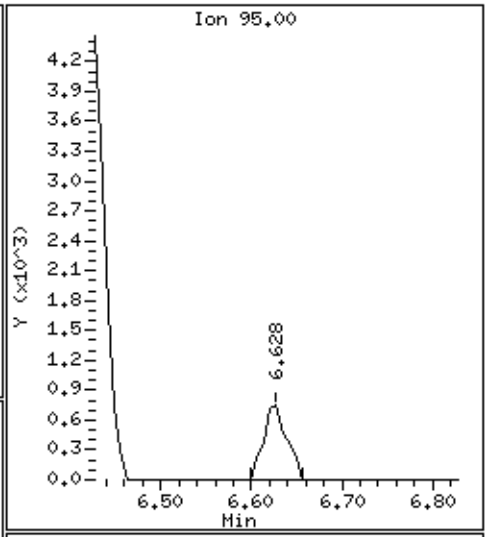
Column phase: RTX-624

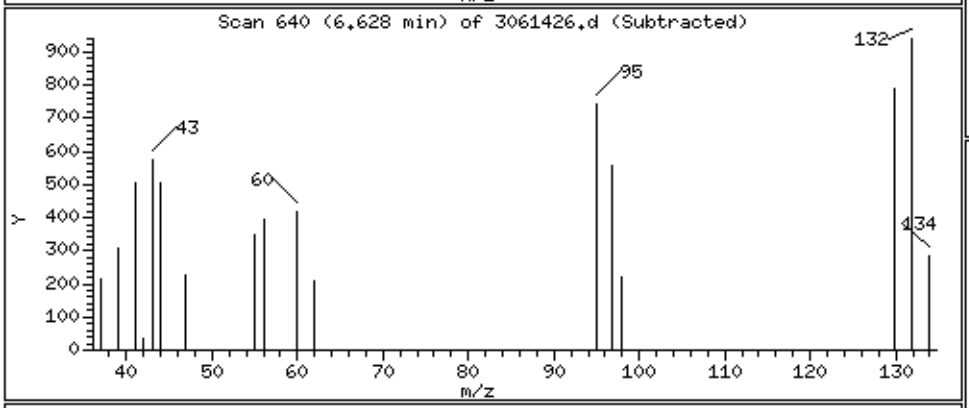
Column diameter: 0.25

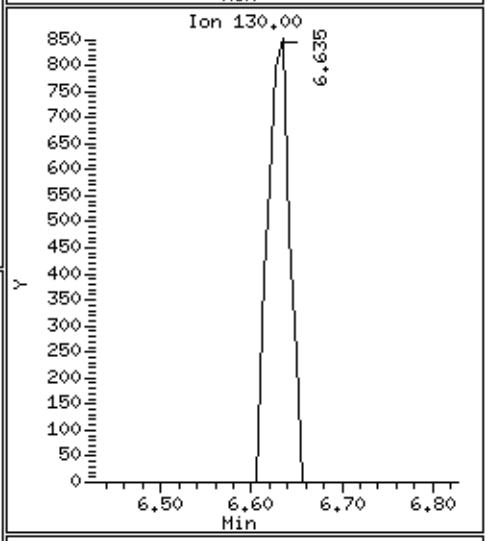
111 Trichloroethene

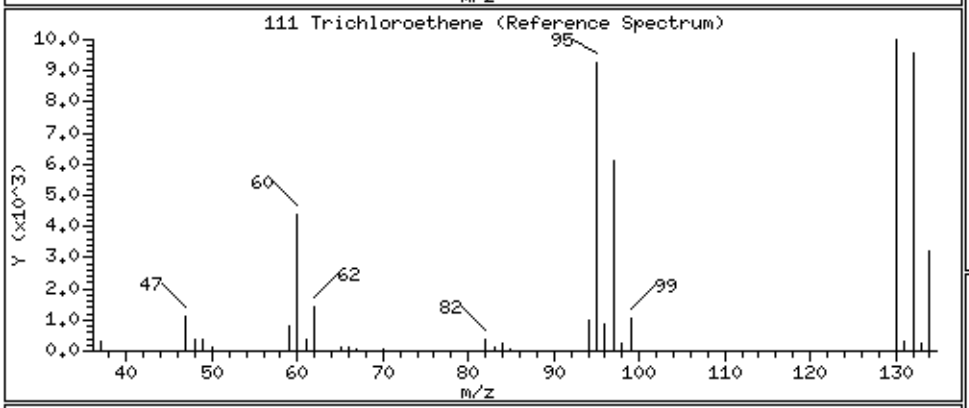
Concentration: 0.8877 PPBV

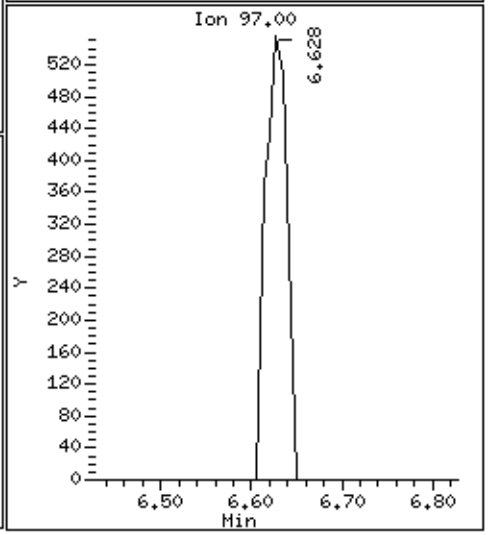


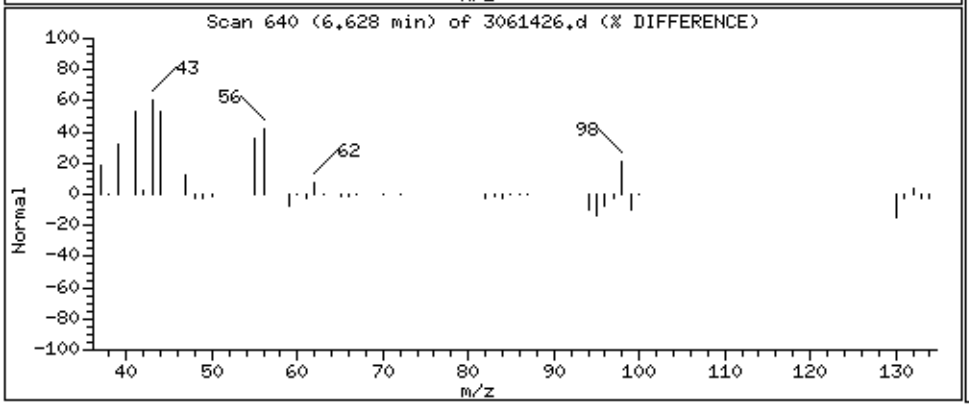



Data File: /chem/msd3.i/14JUN24.b/3061426.d

Date : 15-JUN-2024 03:32

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4761

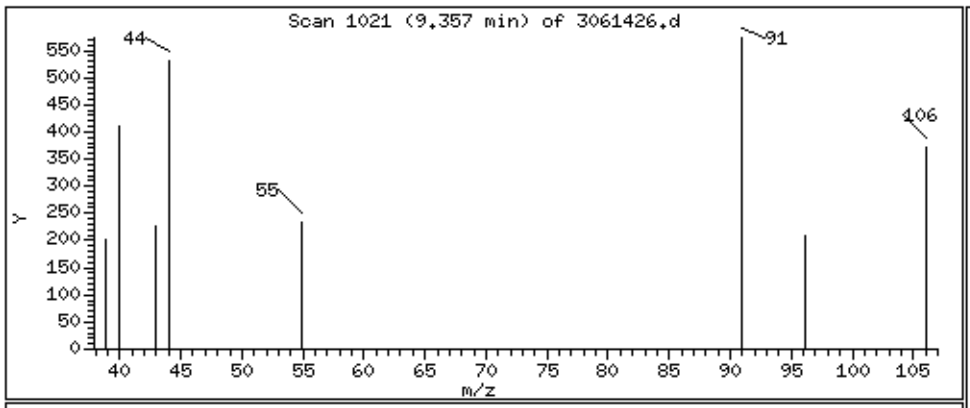
Operator: ACE

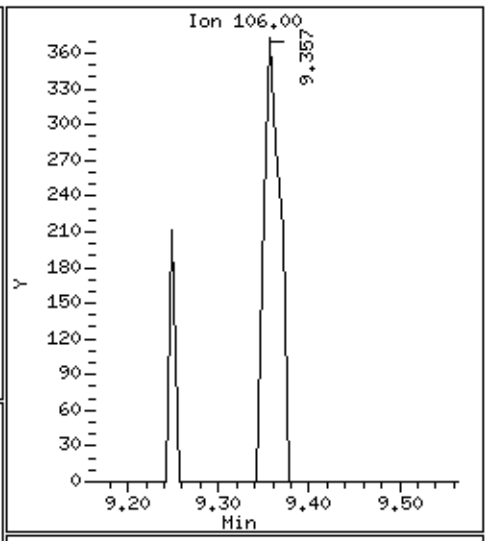
Column phase: RTX-624

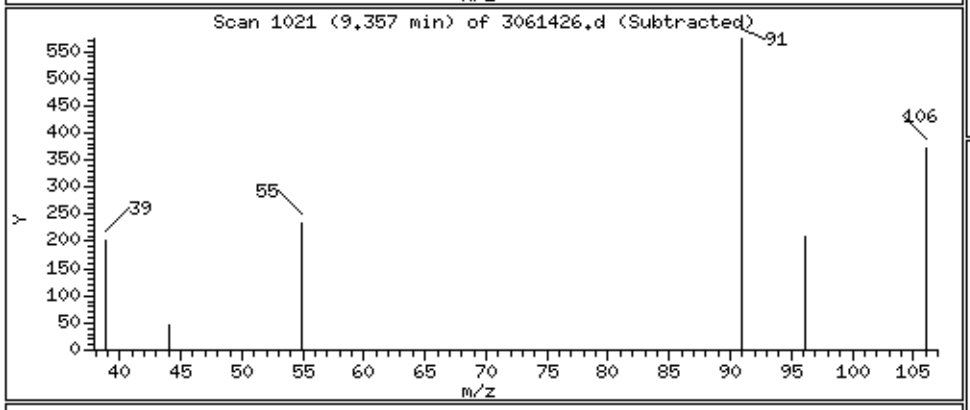
Column diameter: 0.25

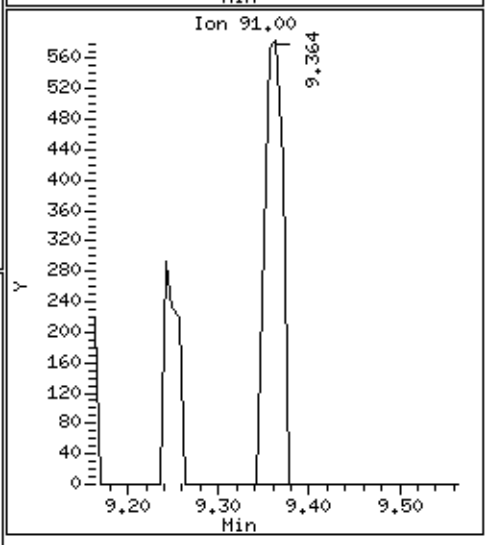
158 m,p-Xylene

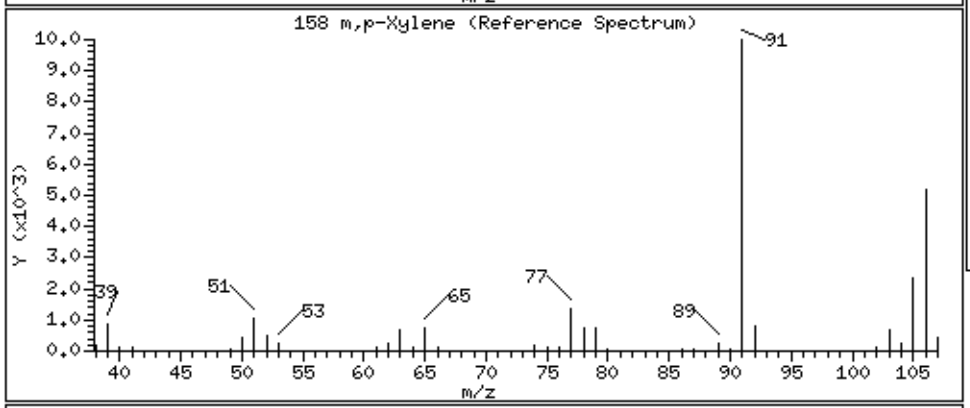
Concentration: 0.1996 PPBV

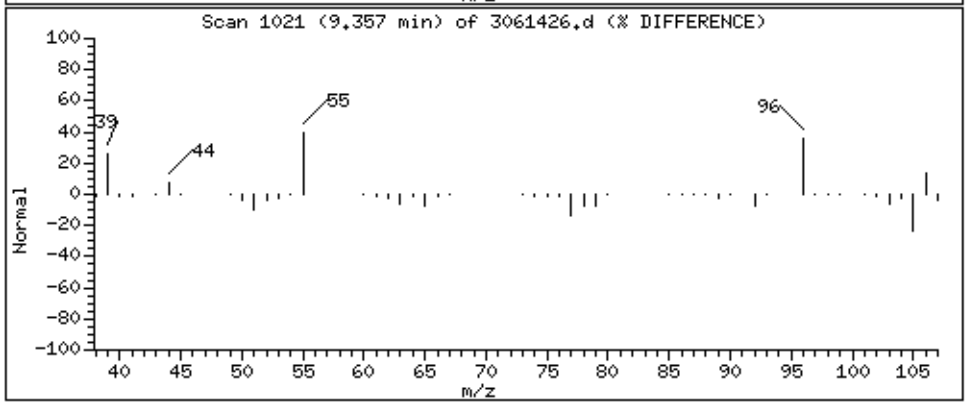


eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV002_May24 | | |
| **Lab ID:** | 2406133-21A | **Date/Time Analyzed:** | 6/15/24 04:07 AM |
| **Date/Time Collected:** | 5/31/24 11:28 AM | **Dilution Factor:** | 2.28 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061427 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.3 | 4.1 | 4.5 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.3 | 6.2 | 6.8 | Not Detected U |
| Benzene | 71-43-2 | 0.86 | 3.3 | 3.6 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.98 | 4.1 | 4.5 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.4 | 4.9 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.71 | 4.4 | 9.9 | Not Detected U |
| o-Xylene | 95-47-6 | 1.2 | 4.4 | 5.0 | Not Detected U |
| Toluene | 108-88-3 | 1.1 | 3.9 | 8.6 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 2.1 | 4.1 | 4.5 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.8 | 5.5 | 6.1 | 2.3 J |
| Vinyl Chloride | 75-01-4 | 2.4 | 2.6 | 2.9 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061427.d
Lab Smp Id: 2406133-21A
Inj Date : 15-JUN-2024 04:07
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N5169
Misc Info : 8.2 Hg->9.7 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 10
Dil Factor: 2.28000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 96611 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.432 (1.000) | 128 | 75112 | | | 47.79- 107.79 | 77.75 |
| 5.432 | 5.432 (1.000) | 49 | 145237 | | | 131.33- 191.33 | 150.33 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 113679 | 22.5909 | 22.591 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.109) | 67 | 58893 | | | 23.17- 83.17 | 51.81 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 354707 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 51595 | | | 0.00- 45.65 | 14.55 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 654 | 0.18993 | 0.4330 | 80.00- 120.00 | 100.00(a) |
| 6.628 | 6.628 (1.032) | 130 | 495 | | | 80.23- 140.23 | 75.80 |
| 6.628 | 6.628 (1.032) | 97 | 225 | | | 34.78- 94.78 | 34.47 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 333532 | 24.1879 | 24.188 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 70 | 35716 | | | 0.00- 41.42 | 10.71 |
| 7.760 | 7.760 (1.209) | 100 | 225301 | | | 37.54- 97.54 | 67.55 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 364388 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 181808 | | | 22.92- 82.92 | 49.89 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 276743 | 25.5557 | 25.556 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 299804 | | | 88.49- 148.49 | 108.33 |
| 10.288 | 10.288 (1.124) | 176 | 265610 | | | 66.73- 126.73 | 95.98 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061427.d
Lab Smp Id: 2406133-21A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.2 Hg->9.7 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 96611 | -0.71 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 354707 | -0.41 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 364388 | 3.27 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 09:04

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-21A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 8.2 Hg->9.7 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.591 | 90.36 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.188 | 96.75 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.556 | 102.22 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061427.d



Date : 15-JUN-2024 04:07

Client ID:

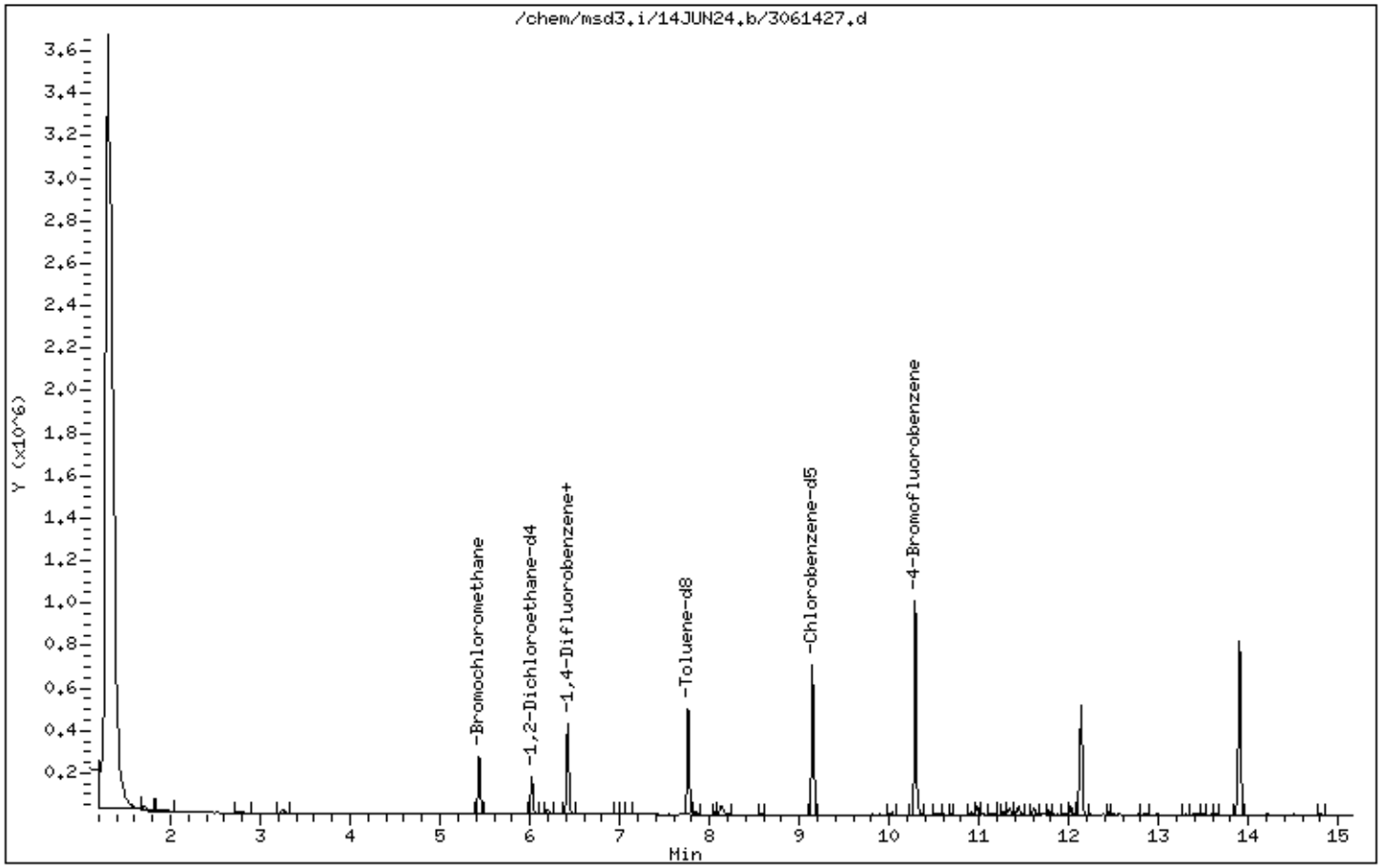
Instrument: msd3.i

Sample Info: 200mL N5169

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/14JUN24.b/3061427.d

Date : 15-JUN-2024 04:07

Client ID:

Instrument: msd3.i

Sample Info: 200mL N5169

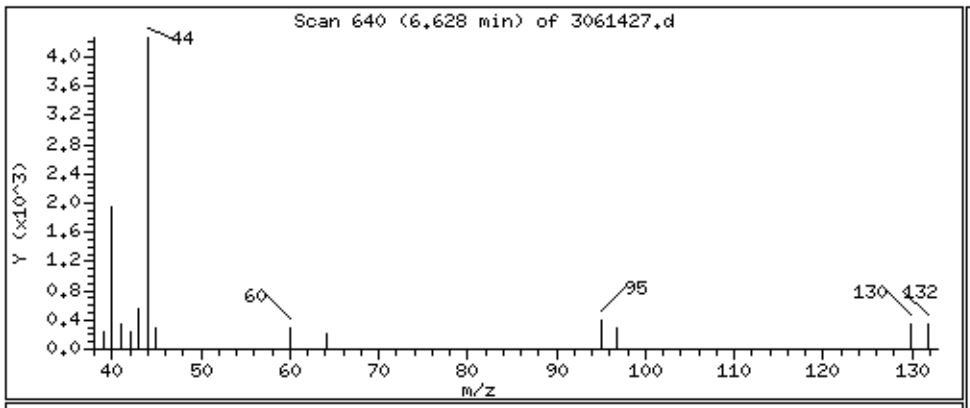
Operator: ACE

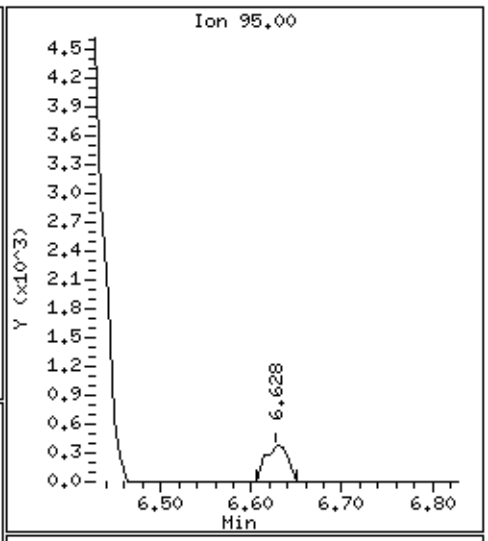
Column phase: RTX-624

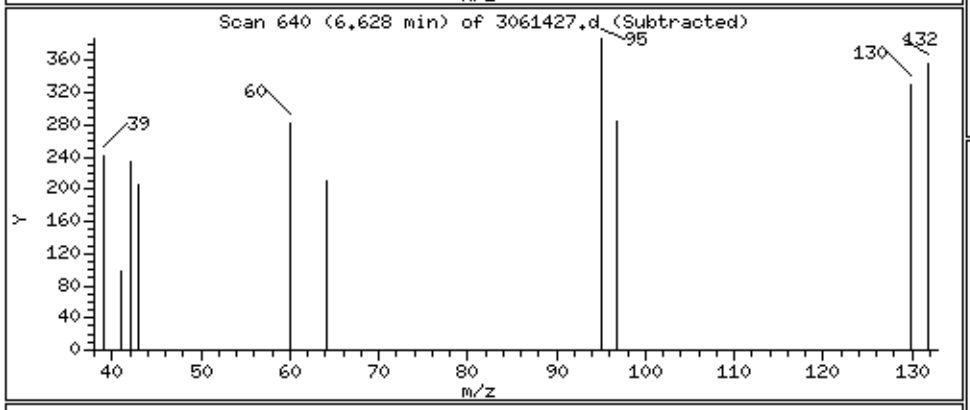
Column diameter: 0.25

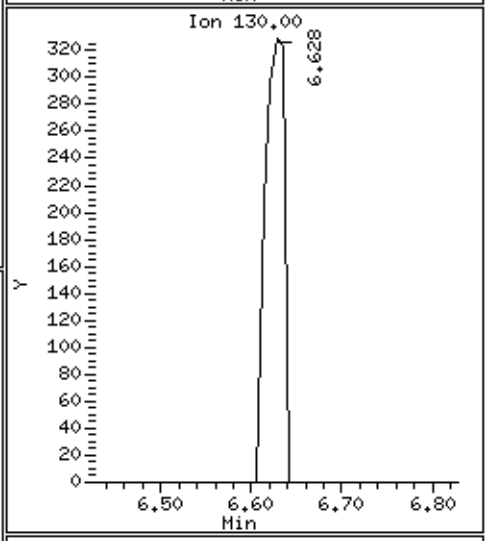
111 Trichloroethene

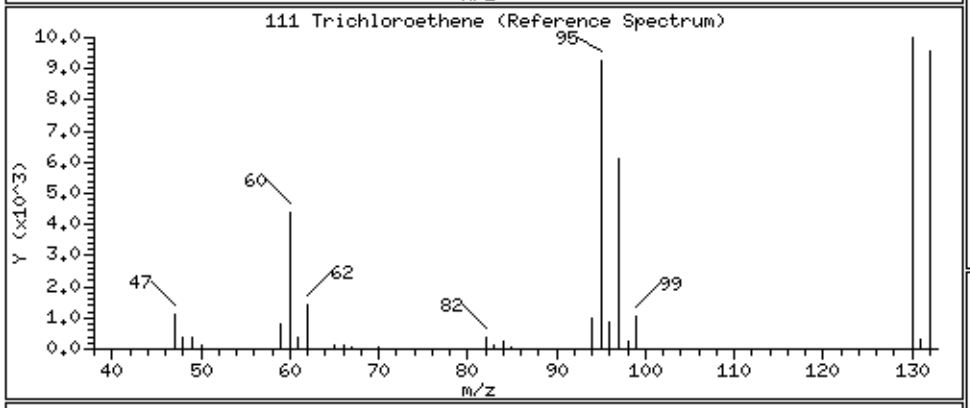
Concentration: 0.4330 PPBV

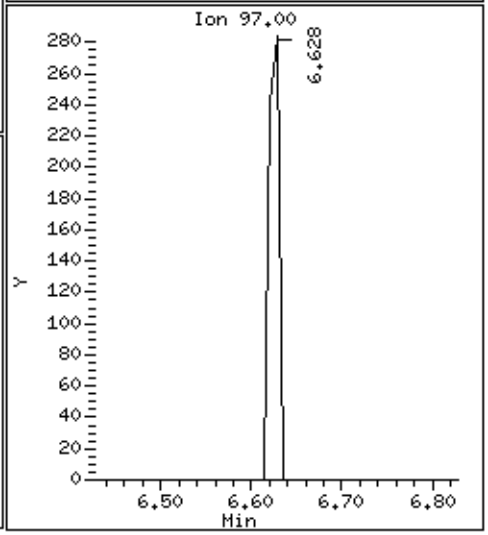


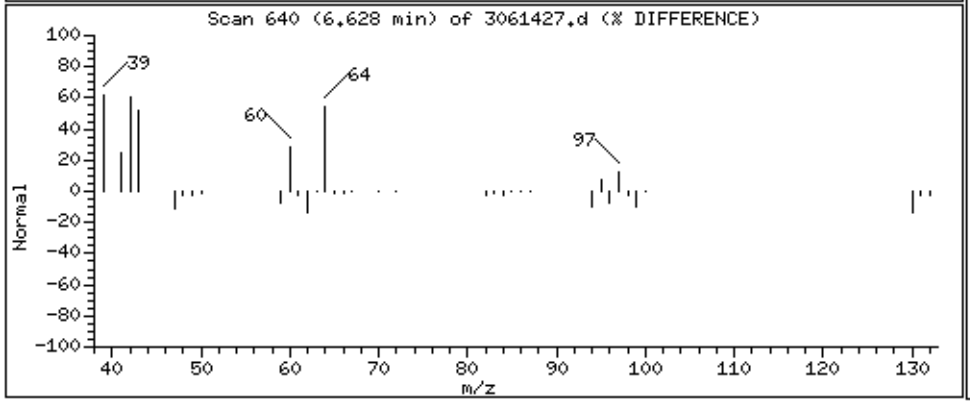



eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV015B_May24 | | |
| **Lab ID:** | 2406133-22A | **Date/Time Analyzed:** | 6/15/24 04:42 AM |
| **Date/Time Collected:** | 5/31/24 01:15 PM | **Dilution Factor:** | 2.13 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061428 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.2 | 3.8 | 4.2 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.2 | 5.8 | 6.4 | Not Detected U |
| Benzene | 71-43-2 | 0.80 | 3.1 | 3.4 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.92 | 3.8 | 4.2 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.1 | 4.2 | 4.6 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.66 | 4.2 | 9.2 | Not Detected U |
| o-Xylene | 95-47-6 | 1.1 | 4.2 | 4.6 | Not Detected U |
| Toluene | 108-88-3 | 1.0 | 3.6 | 8.0 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 1.9 | 3.8 | 4.2 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.7 | 5.2 | 5.7 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.3 | 2.4 | 2.7 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061428.d
Lab Smp Id: 2406133-22A
Inj Date : 15-JUN-2024 04:42
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL O0248
Misc Info : 6.7 Hg->9.6 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 11
Dil Factor: 2.13000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 97334 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 75361 | | | 47.79- 107.79 | 77.43 |
| 5.432 | 5.432 (1.000) | 49 | 144747 | | | 131.33- 191.33 | 148.71 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.019 (1.109) | 65 | 113885 | 22.4637 | 22.464 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 59397 | | | 23.17- 83.17 | 52.16 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 352622 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 51646 | | | 0.00- 45.65 | 14.65 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 336665 | 24.5595 | 24.559 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 35247 | | | 0.00- 41.42 | 10.47 |
| 7.767 | 7.760 (1.210) | 100 | 226296 | | | 37.54- 97.54 | 67.22 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 365505 | 25.0000 | | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 9.149 | 9.149 (1.000) | 82 | 183690 | | | 22.92- 82.92 | 50.26 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 277301 | 25.5290 | 25.529 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 302015 | | | 88.49- 148.49 | 108.91 |
| 10.288 | 10.288 (1.124) | 176 | 268087 | | | 66.73- 126.73 | 96.68 |

Report Date: 17-Jun-2024 09:10

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061428.d
Lab Smp Id: 2406133-22A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 6.7 Hg->9.6 psi

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 97334 | 0.04 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 352622 | -1.00 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 365505 | 3.59 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 17-Jun-2024 09:10

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406133-22A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 6.7 Hg->9.6 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.464 | 89.85 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.559 | 98.24 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.529 | 102.12 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061428.d

Page 1

Date : 15-JUN-2024 04:42

Client ID:

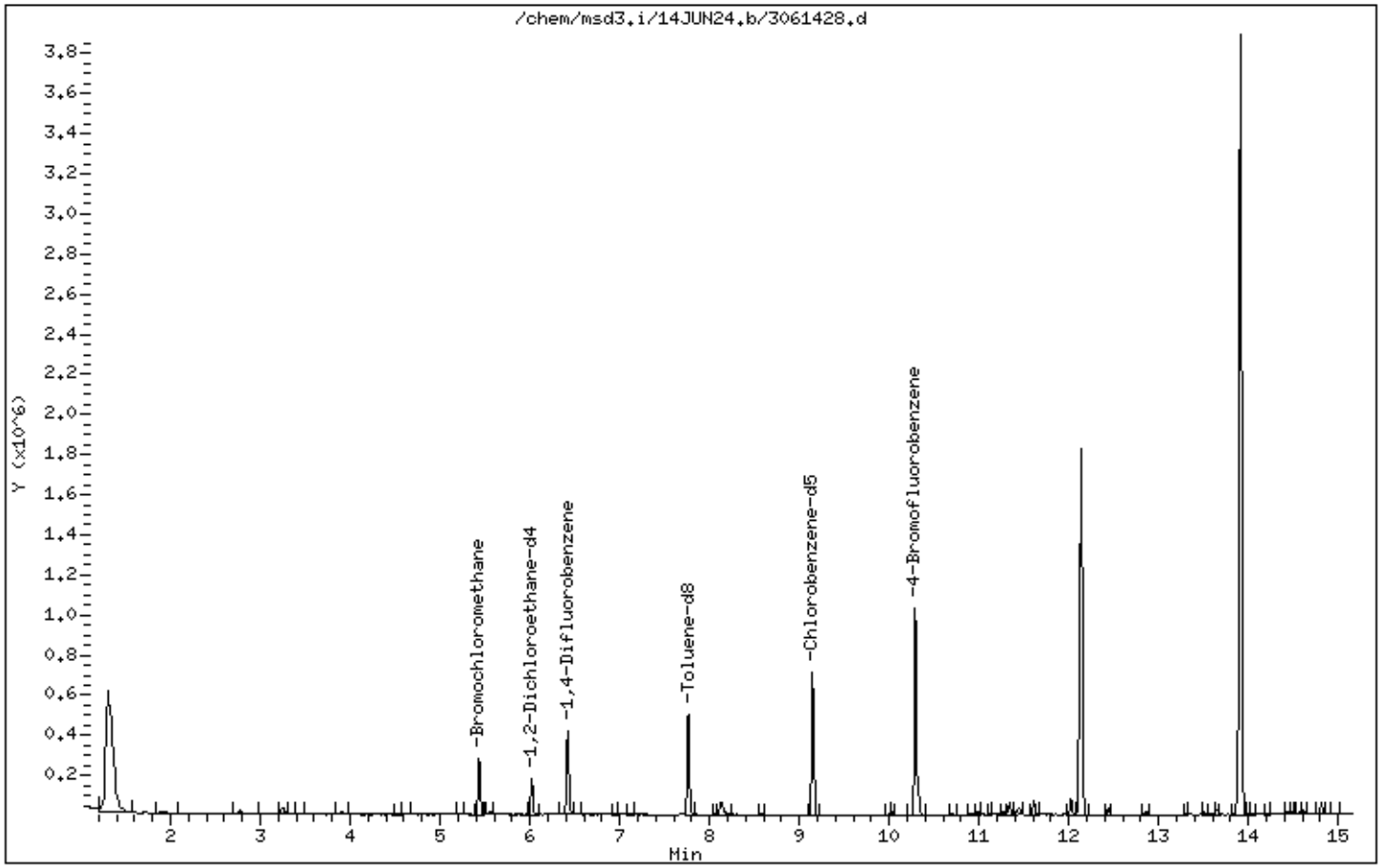
Instrument: msd3.i

Sample Info: 200mL 00248

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



# QC Results and Raw Data

eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | Lab Blank | | |
| **Lab ID:** | 2406133-23A | **Date/Time Analyzed:** | 6/13/24 01:19 PM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061306c |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 1.0 | 1.8 | 2.0 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 1.0 | 2.7 | 3.0 | Not Detected U |
| Benzene | 71-43-2 | 0.38 | 1.4 | 1.6 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.43 | 1.8 | 2.0 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 0.52 | 2.0 | 2.2 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.31 | 2.0 | 4.3 | Not Detected U |
| o-Xylene | 95-47-6 | 0.52 | 2.0 | 2.2 | Not Detected U |
| Toluene | 108-88-3 | 0.47 | 1.7 | 3.8 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 0.91 | 1.8 | 2.0 | Not Detected U |
| Trichloroethene | 79-01-6 | 0.80 | 2.4 | 2.7 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 1.1 | 1.2 | 1.3 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 99 |
| Toluene-d8 | 2037-26-5 | 91-110 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/13JUN24.b/3061306c.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 13-JUN-2024 13:19
Operator : RT Inst ID: msd3.i
Smp Info : 200mL N1876
Misc Info : Humid
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/13JUN24.b/324q0423a.m
Meth Date : 13-Jun-2024 15:08 yrc5 Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 102137 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 79104 | | | 47.79- 107.79 | 77.45 |
| 5.432 | 5.432 (1.000) | 49 | 152691 | | | 131.33- 191.33 | 149.50 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 120018 | 22.5602 | 22.560 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 62099 | | | 23.17- 83.17 | 51.74 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 374972 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 54215 | | | 0.00- 45.65 | 14.46 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 356994 | 24.4902 | 24.490 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 37170 | | | 0.00- 41.42 | 10.41 |
| 7.760 | 7.760 (1.209) | 100 | 238168 | | | 37.54- 97.54 | 66.71 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 381816 | 25.0000 | | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 153 Chlorobenzene-d5 (continued) | | | | | | | |
| 9.149 | 9.149 (1.000) | 82 | 190504 | | | 22.92- 82.92 | 49.89 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 281635 | 24.8203 | 24.820 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 308910 | | | 88.49- 148.49 | 109.68 |
| 10.288 | 10.288 (1.124) | 176 | 274417 | | | 66.73- 126.73 | 97.44 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061306c.d
Lab Smp Id: Lab Blank
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: Humid

Calibration Date: 13-JUN-2024
Calibration Time: 11:42
Client Smp ID: Lab Blank
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 94691 | 56815 | 132567 | 102137 | 7.86 |
| 108 1,4-Difluorobenze | 348240 | 208944 | 487536 | 374972 | 7.68 |
| 153 Chlorobenzene-d5 | 341662 | 204997 | 478327 | 381816 | 11.75 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 13-Jun-2024 15:08

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 13JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Level: LOW Operator: RT
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: Humid

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.560 | 90.24 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.490 | 97.96 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 24.820 | 99.28 | 77-125 |

Data File: /chem/msd3.i/13JUN24.b/3061306c.d



Date : 13-JUN-2024 13:19

Client ID: Lab Blank

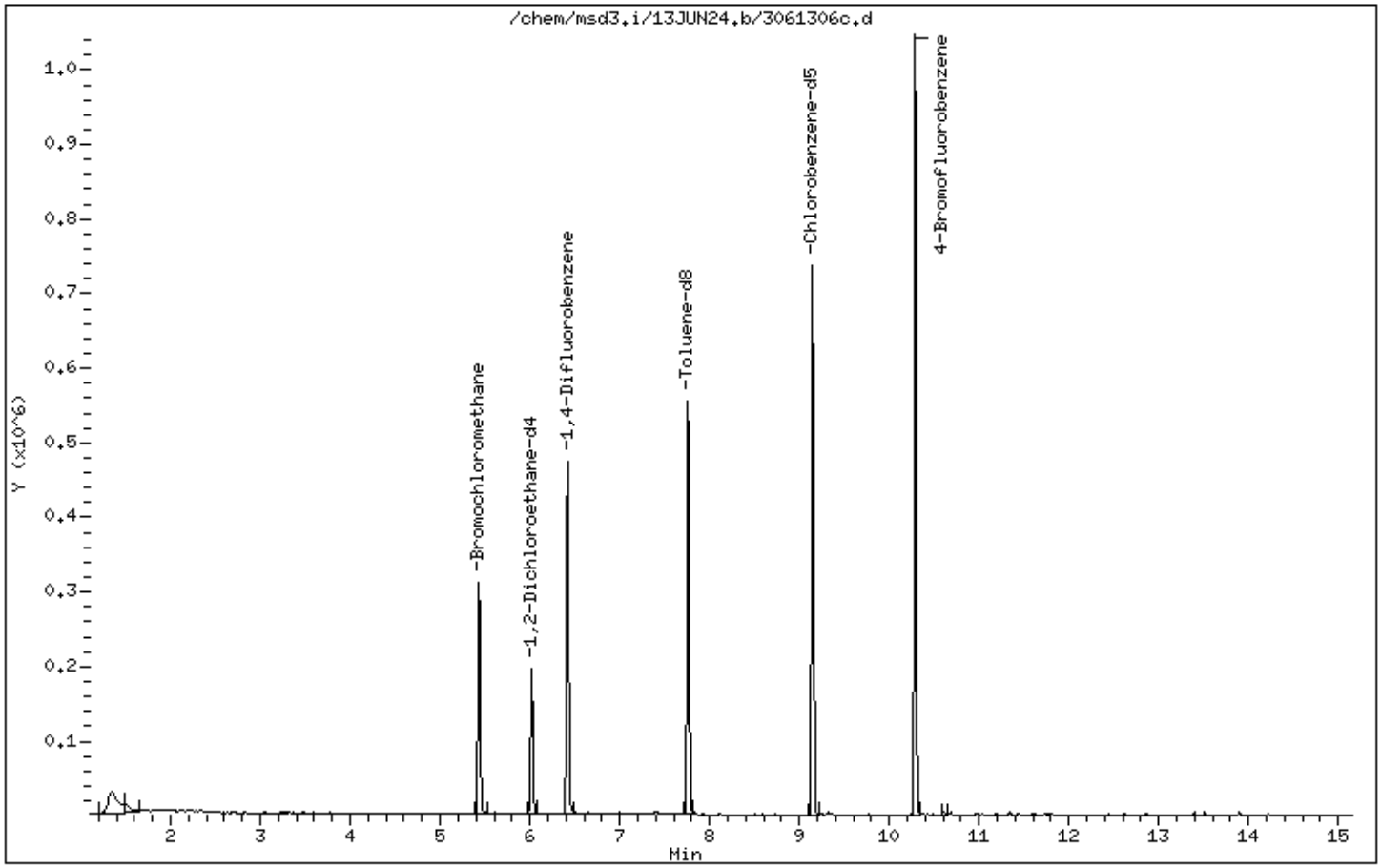
Instrument: msd3.i

Sample Info: 200mL N1876

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



| | | | |
|---|---|---|---|
| **Client ID:** | Lab Blank | | |
| **Lab ID:** | 2406133-23B | **Date/Time Analyzed:** | 6/14/24 01:40 PM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061406a |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 1.0 | 1.8 | 2.0 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 1.0 | 2.7 | 3.0 | Not Detected U |
| Benzene | 71-43-2 | 0.38 | 1.4 | 1.6 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.43 | 1.8 | 2.0 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 0.52 | 2.0 | 2.2 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.31 | 2.0 | 4.3 | Not Detected U |
| o-Xylene | 95-47-6 | 0.52 | 2.0 | 2.2 | Not Detected U |
| Toluene | 108-88-3 | 0.47 | 1.7 | 3.8 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 0.91 | 1.8 | 2.0 | Not Detected U |
| Trichloroethene | 79-01-6 | 0.80 | 2.4 | 2.7 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 1.1 | 1.2 | 1.3 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 100 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061406a.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 14-JUN-2024 13:40
Operator : RT Inst ID: msd3.i
Smp Info : 200mL 34424
Misc Info : Humid
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 14-Jun-2024 12:32 yrc5 Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 98497 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 76569 | | | 47.79- 107.79 | 77.74 |
| 5.432 | 5.432 (1.000) | 49 | 147231 | | | 131.33- 191.33 | 149.48 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 115935 | 22.5980 | 22.598 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.109) | 67 | 60928 | | | 23.17- 83.17 | 52.55 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 368760 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 53670 | | | 0.00- 45.65 | 14.55 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 347065 | 24.2101 | 24.210 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 36661 | | | 0.00- 41.42 | 10.56 |
| 7.760 | 7.760 (1.209) | 100 | 233498 | | | 37.54- 97.54 | 67.28 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 371862 | 25.0000 | | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 153 Chlorobenzene-d5 (continued) | | | | | | | |
| 9.149 | 9.149 (1.000) | 82 | 187569 | | | 22.92- 82.92 | 50.44 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 277630 | 25.1223 | 25.122 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 305436 | | | 88.49- 148.49 | 110.02 |
| 10.288 | 10.288 (1.124) | 176 | 269055 | | | 66.73- 126.73 | 96.91 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061406a.d
Lab Smp Id: Lab Blank
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: Humid

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Client Smp ID: Lab Blank
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 98497 | 1.23 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 368760 | 3.53 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 371862 | 5.39 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 14-Jun-2024 15:09

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Level: LOW Operator: RT
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: Humid

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.598 | 90.39 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.210 | 96.84 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.122 | 100.49 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061406a.d



Date : 14-JUN-2024 13:40

Client ID: Lab Blank

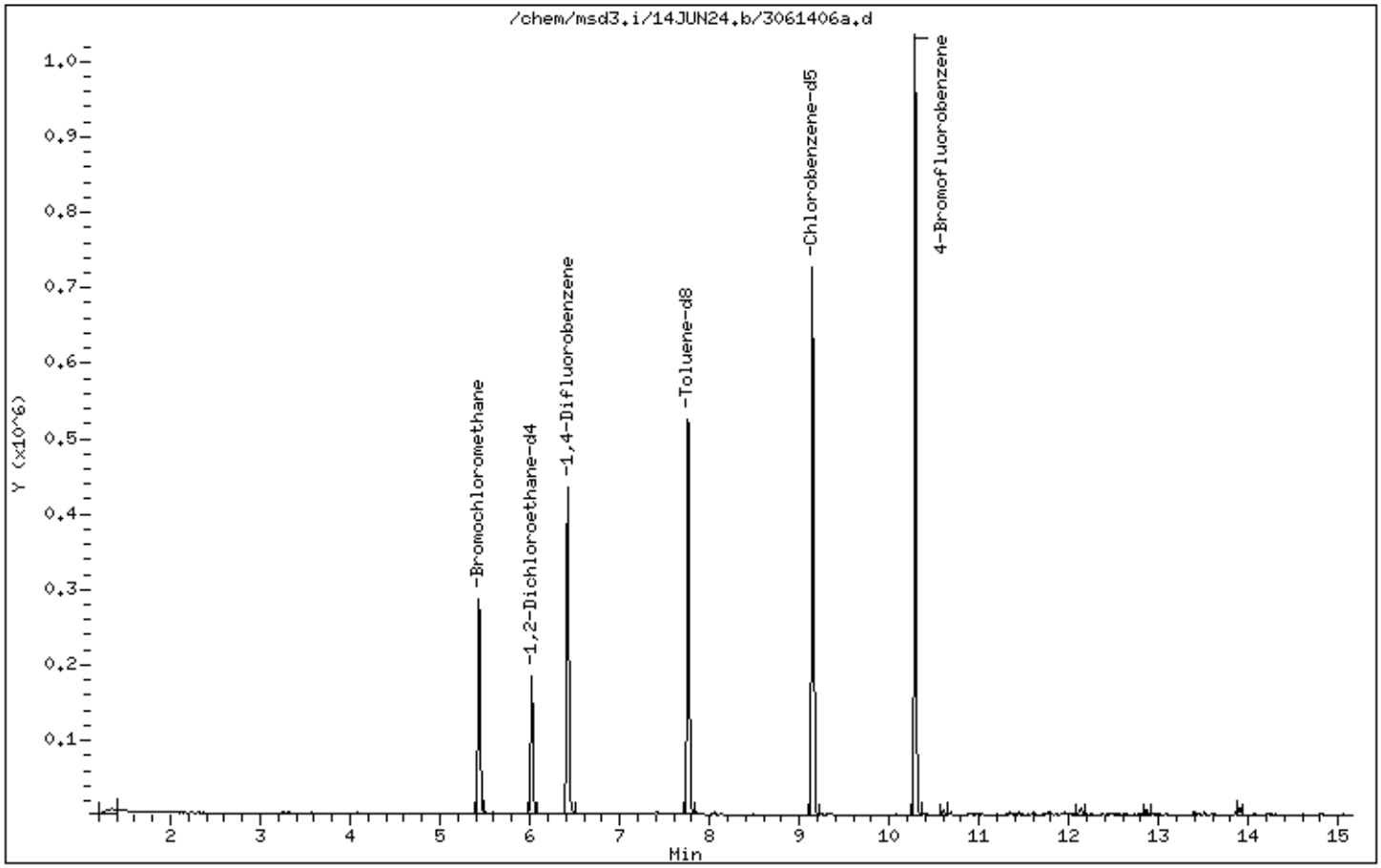
Instrument: msd3.i

Sample Info: 200mL 34424

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



**LEVEL-IV VALIDATABLE**

MODIFIED EPA METHOD TO-15

SURROGATE RECOVERY FORM

Lab Name : Eurofins Air Toxics _____ SDG No. :2406133

| | CLIENT SAMPLE NO. | SURROGATE % RECOVERY | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 1,2-Dichloroethane-d4 | # | Toluene-d8 | # | 4-Bromofluorobenzene | # | TOTAL OUT |
| 1 | T1AMF-SV018_May24 | 88 | | 97 | | 102 | | |
| 2 | T1AMF-SV001_May24 | 89 | | 96 | | 102 | | |
| 3 | T1AMF-SV033_May24 | 90 | | 97 | | 100 | | |
| 4 | T1AMF-SV033_May24 Lab Duplicat | 90 | | 97 | | 101 | | |
| 5 | T1AMF-SV023_May24 | 90 | | 97 | | 102 | | |
| 6 | T1AMF-SV023_May24 Lab Duplicat | 91 | | 98 | | 102 | | |
| 7 | T1AMF-SV023_May24_FD | 89 | | 98 | | 103 | | |
| 8 | T1AMF-SV024_May24 | 90 | | 97 | | 102 | | |
| 9 | T1AMF-SV026_May24 | 91 | | 94 | | 104 | | |
| 10 | T1AMF-SV026_May24_FD | 91 | | 95 | | 104 | | |
| 11 | T1AMF-SV022_May24 | 90 | | 96 | | 102 | | |
| 12 | T1AMF-SV020_May24 | 92 | | 96 | | 102 | | |
| 13 | T1AMF-SV017B_May24 | 92 | | 97 | | 100 | | |
| 14 | T1AMF-SV007_May24 | 91 | | 96 | | 101 | | |
| 15 | T1AMF-SV006_May24 | 92 | | 98 | | 102 | | |
| 16 | T1AMF-SV016_May24 | 91 | | 97 | | 101 | | |
| 17 | T1AMF-SV008_May24 | 91 | | 97 | | 103 | | |
| 18 | T1AMF-SV005B_May24 | 90 | | 99 | | 102 | | |
| 19 | T1AMF-SV004_May24 | 90 | | 98 | | 103 | | |
| 20 | T1AMF-SV025_May24 | 90 | | 98 | | 102 | | |
| 21 | T1AMF-SV019_May24 | 91 | | 98 | | 102 | | |
| 22 | T1AMF-SV002_May24 | 90 | | 97 | | 102 | | |
| 23 | T1AMF-SV015B_May24 | 90 | | 98 | | 102 | | |
| 24 | Lab Blank | 90 | | 98 | | 99 | | |
| 25 | Lab Blank | 90 | | 97 | | 100 | | |
| 26 | CCV | 93 | | 97 | | 100 | | |
| 27 | CCV | 91 | | 97 | | 101 | | |
| 28 | CCV | 91 | | 96 | | 100 | | |
| 29 | CCV | 92 | | 98 | | 100 | | |
| 30 | LCS | 91 | | 97 | | 102 | | |
| 31 | LCSD | 92 | | 96 | | 100 | | |
| 32 | LCS | 90 | | 97 | | 100 | | |
| 33 | LCSD | 92 | | 96 | | 101 | | |

Surrogate Recovery Limits

| | |
|---|---|
| 1,2-Dichloroethane-d4 | 68 - 132 |
| Toluene-d8 | 91 - 110 |
| 4-Bromofluorobenzene | 77 - 125 |

* Designates Values Outside of QC limits

**LEVEL-IV VALIDATABLE**

MODIFIED EPA METHOD TO-15

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : Eurofins Air Toxics File ID: 3061303a.d Date : 2024-06-13 11:42:00 SDG No. : 2406133

| | | Bromochloromethane | | RT | | 1,4-Difluorobenzene | | RT | | Chlorobenzene-d5 | | RT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24-HOUR CCV | 94691 | | 5.43 | | 348240 | | 6.42 | | 341662 | | 9.15 | |
| | UPPER LIMIT | 132567 | | 5.76 | | 487535 | | 6.75 | | 478326 | | 9.48 | |
| | LOWER LIMIT | 56814 | | 5.10 | | 208944 | | 6.09 | | 204997 | | 8.82 | |
| | CLIENT SAMPLE NO. | | | | | | | | | | | | |
| 1 | T1AMF-SV018_May24 | 105686 | | 5.43 | | 383023 | | 6.42 | | 392737 | | 9.15 | |
| 2 | T1AMF-SV001_May24 | 98440 | | 5.43 | | 355668 | | 6.42 | | 367238 | | 9.15 | |
| 3 | T1AMF-SV023_May24 | 98935 | | 5.44 | | 363677 | | 6.42 | | 376739 | | 9.15 | |
| 4 | T1AMF-SV023_May24 Lab Duplicat | 98975 | | 5.44 | | 365944 | | 6.42 | | 378697 | | 9.15 | |
| 5 | T1AMF-SV023_May24_FD | 99089 | | 5.44 | | 366743 | | 6.42 | | 378864 | | 9.15 | |
| 6 | Lab Blank | 102137 | | 5.43 | | 374972 | | 6.42 | | 381816 | | 9.15 | |
| 7 | CCV | 94691 | | 5.43 | | 348240 | | 6.42 | | 341662 | | 9.15 | |
| 8 | CCV | 99024 | | 5.43 | | 358909 | | 6.42 | | 349704 | | 9.15 | |
| 9 | LCS | 94778 | | 5.43 | | 341342 | | 6.42 | | 336630 | | 9.15 | |
| 10 | LCSD | 94751 | | 5.43 | | 345903 | | 6.42 | | 338443 | | 9.15 | |

Area Upper Limit = +40% of intenral standard area

Area Lower Limit = -40% of intenral standard area

RT Upper Limit = +0.33 minutes of internal standard RT

RT Lower Limit = -0.33 minutes of internal standard RT

* Designates Values Outside of QC limits

**LEVEL-IV VALIDATABLE**

MODIFIED EPA METHOD TO-15

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : Eurofins Air Toxics File ID: 3061403a.d Date : 2024-06-14 12:02:00 SDG No. : 2406133

| | | Bromochloromethane | | RT | | 1,4-Difluorobenzene | | RT | | Chlorobenzene-d5 | | RT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24-HOUR CCV | 97298 | | 5.43 | | 356185 | | 6.42 | | 352841 | | 9.15 | |
| | UPPER LIMIT | 136217 | | 5.76 | | 498658 | | 6.75 | | 493977 | | 9.48 | |
| | LOWER LIMIT | 58378 | | 5.10 | | 213711 | | 6.09 | | 211704 | | 8.82 | |
| | CLIENT SAMPLE NO. | | | | | | | | | | | | |
| 1 | T1AMF-SV033_May24 | 102169 | | 5.43 | | 370903 | | 6.42 | | 381883 | | 9.15 | |
| 2 | T1AMF-SV033_May24 Lab Duplicat | 97430 | | 5.44 | | 365121 | | 6.42 | | 371816 | | 9.15 | |
| 3 | T1AMF-SV024_May24 | 96521 | | 5.43 | | 350388 | | 6.42 | | 352152 | | 9.15 | |
| 4 | T1AMF-SV026_May24 | 108993 | | 5.43 | | 387485 | | 6.42 | | 403551 | | 9.15 | |
| 5 | T1AMF-SV026_May24_FD | 106230 | | 5.43 | | 383242 | | 6.42 | | 387966 | | 9.15 | |
| 6 | T1AMF-SV022_May24 | 97409 | | 5.43 | | 347964 | | 6.42 | | 356109 | | 9.15 | |
| 7 | T1AMF-SV020_May24 | 97924 | | 5.43 | | 363132 | | 6.42 | | 373157 | | 9.15 | |
| 8 | T1AMF-SV017B_May24 | 95394 | | 5.43 | | 351805 | | 6.42 | | 361527 | | 9.15 | |
| 9 | T1AMF-SV007_May24 | 96418 | | 5.43 | | 358815 | | 6.42 | | 365351 | | 9.15 | |
| 10 | T1AMF-SV006_May24 | 98968 | | 5.44 | | 358784 | | 6.42 | | 374417 | | 9.15 | |
| 11 | T1AMF-SV016_May24 | 98259 | | 5.43 | | 358720 | | 6.42 | | 375660 | | 9.15 | |
| 12 | T1AMF-SV008_May24 | 97310 | | 5.43 | | 355528 | | 6.42 | | 367397 | | 9.15 | |
| 13 | T1AMF-SV005B_May24 | 97269 | | 5.43 | | 354335 | | 6.42 | | 370574 | | 9.15 | |
| 14 | T1AMF-SV004_May24 | 98337 | | 5.43 | | 355711 | | 6.42 | | 367409 | | 9.15 | |
| 15 | T1AMF-SV025_May24 | 97566 | | 5.44 | | 355792 | | 6.42 | | 366279 | | 9.15 | |
| 16 | T1AMF-SV019_May24 | 96277 | | 5.43 | | 350140 | | 6.42 | | 365460 | | 9.15 | |
| 17 | T1AMF-SV002_May24 | 96611 | | 5.43 | | 354707 | | 6.42 | | 364388 | | 9.15 | |
| 18 | T1AMF-SV015B_May24 | 97334 | | 5.43 | | 352622 | | 6.42 | | 365505 | | 9.15 | |
| 19 | Lab Blank | 98497 | | 5.43 | | 368760 | | 6.42 | | 371862 | | 9.15 | |
| 20 | CCV | 97298 | | 5.43 | | 356185 | | 6.42 | | 352841 | | 9.15 | |
| 21 | CCV | 94062 | | 5.43 | | 341260 | | 6.42 | | 337707 | | 9.15 | |
| 22 | LCS | 98163 | | 5.43 | | 353455 | | 6.42 | | 348308 | | 9.15 | |
| 23 | LCSD | 96328 | | 5.43 | | 353186 | | 6.42 | | 347473 | | 9.15 | |

Area Upper Limit = +40% of intenral standard area

Area Lower Limit = -40% of intenral standard area

RT Upper Limit = +0.33 minutes of internal standard RT

RT Lower Limit = -0.33 minutes of internal standard RT

* Designates Values Outside of QC limits

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab File ID: 3061409.d & 3061410.d

Lab Sample ID: 04A & 04AA

| CAS Number | Compound | Original Amount | Duplicate Amount | RPD | Result Less Than 5X RL |
|---|---|---|---|---|---|
| 75-35-4 | 1,1-Dichloroethene | ND | ND | 0 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ND | 0 | |
| 71-43-2 | Benzene | 3.982 | 4.044 | 1.5 | Y |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ND | 0 | |
| 100-41-4 | Ethyl Benzene | 2.574 | 2.552 | 0.86 | Y |
| 108-38-3 | m,p-Xylene | 8.313 | 8.372 | 0.71 | Y |
| 95-47-6 | o-Xylene | 2.785 | 2.902 | 4.1 | Y |
| 108-88-3 | Toluene | 23 | 23 | 1.1 | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ND | 0 | |
| 79-01-6 | Trichloroethene | 12 | 12 | 0.17 | |
| 75-01-4 | Vinyl Chloride | ND | ND | 0 | |

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab File ID: 3061329.d & 3061330.d

Lab Sample ID: 05A & 05AA

| CAS Number | Compound | Original Amount | Duplicate Amount | RPD | Result Less Than 5X RL |
|---|---|---|---|---|---|
| 75-35-4 | 1,1-Dichloroethene | ND | ND | 0 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ND | 0 | |
| 71-43-2 | Benzene | ND | ND | 0 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ND | 0 | |
| 100-41-4 | Ethyl Benzene | ND | ND | 0 | |
| 108-38-3 | m,p-Xylene | 0.7251 | 0.7337 | 1.2 | Y |
| 95-47-6 | o-Xylene | 0.2929 | 0.272 | 7.4 | Y |
| 108-88-3 | Toluene | 0.7949 | 0.7775 | 2.2 | Y |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ND | 0 | |
| 79-01-6 | Trichloroethene | ND | ND | 0 | |
| 75-01-4 | Vinyl Chloride | ND | ND | 0 | |

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab File ID: 3061304a.d & 3061305a.d

Lab Sample ID: 25A & 25AA

| CAS Number | Compound | Original Amount | Duplicate Amount | RPD | Result Less Than 5X RL |
|---|---|---|---|---|---|
| 75-35-4 | 1,1-Dichloroethene | 102 | 102 | 0 | |
| 106-46-7 | 1,4-Dichlorobenzene | 101 | 100 | 1.00 | |
| 71-43-2 | Benzene | 94 | 91 | 3.2 | |
| 156-59-2 | cis-1,2-Dichloroethene | 88 | 88 | 0 | |
| 100-41-4 | Ethyl Benzene | 102 | 101 | 0.99 | |
| 108-38-3 | m,p-Xylene | 100 | 98 | 2.0 | |
| 95-47-6 | o-Xylene | 100 | 100 | 0 | |
| 108-88-3 | Toluene | 93 | 90 | 3.3 | |
| 156-60-5 | trans-1,2-Dichloroethene | 88 | 88 | 0 | |
| 79-01-6 | Trichloroethene | 96 | 93 | 3.2 | |
| 75-01-4 | Vinyl Chloride | 93 | 91 | 2.2 | |

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab File ID: 3061404a.d & 3061405a.d

Lab Sample ID: 25B & 25BB

| CAS Number | Compound | Original Amount | Duplicate Amount | RPD | Result Less Than 5X RL |
|---|---|---|---|---|---|
| 75-35-4 | 1,1-Dichloroethene | 101 | 86 | 16 | |
| 106-46-7 | 1,4-Dichlorobenzene | 100 | 99 | 1.0 | |
| 71-43-2 | Benzene | 93 | 92 | 1.1 | |
| 156-59-2 | cis-1,2-Dichloroethene | 90 | 88 | 2.2 | |
| 100-41-4 | Ethyl Benzene | 100 | 100 | 0 | |
| 108-38-3 | m,p-Xylene | 99 | 98 | 1.0 | |
| 95-47-6 | o-Xylene | 100 | 98 | 2.0 | |
| 108-88-3 | Toluene | 92 | 91 | 1.1 | |
| 156-60-5 | trans-1,2-Dichloroethene | 89 | 89 | 0 | |
| 79-01-6 | Trichloroethene | 96 | 94 | 2.1 | |
| 75-01-4 | Vinyl Chloride | 93 | 93 | 0 | |

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 18-APR-2024 09:31
End Cal Date : 24-APR-2024 01:06
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

Calibration File Names:
Level 2: /chem/msd3.i/23APR24.b/3042307.d
Level 3: /chem/msd3.i/23APR24.b/3042308.d
Level 4: /chem/msd3.i/23APR24.b/3042309.d
Level 5: /chem/msd3.i/23APR24.b/3042310.d
Level 6: /chem/msd3.i/23APR24.b/3042311.d
Level 7: /chem/msd3.i/23APR24.b/3042312.d
Level 8: /chem/msd3.i/23APR24.b/3042313.d
Level 9: /chem/msd3.i/23APR24.b/3042314.d

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 Dimethyl Ether | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 2 1,1-Dichloro-1-Fluoroethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 3 Freon 143a | +++++ | +++++ | +++++ | 0.30523 | 0.37100 | 0.37702 | 0.36181 | 0.27107 | 0.33723 | 13.852 |
| 4 Freon 134a | +++++ | 0.72119 | 0.70420 | 0.52336 | 0.52292 | 0.55741 | 0.55245 | 0.46348 | 0.57786 | 16.814 |
| 5 Propylene | +++++ | +++++ | 0.77776 | 0.68917 | 0.55183 | 0.61351 | 0.64995 | 0.64651 | 0.65479 | 11.571 |
| 6 Propane | +++++ | +++++ | 0.22880 | 0.25542 | 0.21349 | 0.22284 | 0.23289 | 0.23470 | 0.23136 | 6.085 |

US32TAR1

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Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 1,1-Difluoroethane | +++++ | +++++ | 0.44889 | 0.36911 | 0.34787 | 0.36855 | 0.37256 | 0.35777 | 0.37746 | 9.580 |
| 8 Freon 12 | 1.54241 | 1.56672 | 1.62097 | 1.60242 | 1.25762 | 1.37796 | 1.43356 | 1.44271 | 1.48055 | 8.455 |
| 9 Chlorodifluoromethane | +++++ | 0.18924 | 0.24469 | 0.19953 | 0.15516 | 0.17120 | 0.17024 | 0.16682 | 0.18527 | 16.222 |
| 10 Freon 114 | 1.40804 | 1.35024 | 1.29615 | 1.36279 | 1.17198 | 1.22351 | 1.28545 | 1.31396 | 1.30152 | 5.865 |
| 11 Freon 14 | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 12 Isobutane | +++++ | 1.48998 | 1.44089 | 1.44830 | 1.25214 | 1.31313 | 1.36493 | 1.38236 | 1.38453 | 5.998 |
| 13 Freon 142b | +++++ | +++++ | 1.43876 | 1.35654 | 1.07715 | 1.13372 | 1.18303 | 1.18223 | 1.22857 | 11.320 |
| 14 Acetaldehyde | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 15 Chloromethane | +++++ | +++++ | 0.86661 | 0.67727 | 0.67218 | 0.70827 | 0.70855 | 0.65013 | 0.71383 | 10.947 |

US32TAR1

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Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 16 Hexafluoropropene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 17 Freon 13 | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 18 Butane | +++++ | +++++ | 0.18116 | 0.15164 | 0.13259 | 0.13363 | | |
| | 0.13777 | 0.12193 | | | | | 0.14312 | 14.649 |
| 19 Vinyl Chloride | 0.69616 | 0.80550 | 0.81980 | 0.66054 | 0.59336 | 0.66247 | | |
| | 0.68917 | 0.59843 | | | | | 0.69068 | 12.184 |
| 20 1,3-Butadiene | 0.81338 | 0.79437 | 0.66097 | 0.66462 | 0.54792 | 0.58727 | | |
| | 0.59388 | 0.52824 | | | | | 0.64883 | 16.496 |
| 21 Vinyl Fluoride | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 22 Ethylene Oxide | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 23 Methanol | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 24 Bromomethane | +++++ | +++++ | 0.40518 | 0.47518 | 0.44807 | 0.52114 | | |
| | 0.55257 | 0.55915 | | | | | 0.49355 | 12.412 |

US32TAR1

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Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 Isobutylene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 26 2-Butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 27 trans-2-butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 28 1-Butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 29 cis-2-Butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 30 Chloroethane | +++++ | +++++ | 0.38536 | 0.31345 | 0.29052 | 0.31927 | 0.33707 | 0.34165 | 0.33122 | 9.726 |
| 31 Isopentane | +++++ | +++++ | 1.04072 | 0.85546 | 0.96194 | 0.93154 | 0.93447 | 0.94699 | 0.94519 | 6.306 |
| 32 Vinyl Bromide | +++++ | 0.52342 | 0.61309 | 0.55313 | 0.53106 | 0.58046 | 0.60821 | 0.60881 | 0.57403 | 6.668 |
| 33 Freon 11 | 1.83641 | 1.80285 | 1.72892 | 1.54797 | 1.63886 | 1.65186 | 1.69723 | 1.74103 | 1.70564 | 5.456 |

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Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 34 Dichlorofluoromethane | +++++ | 1.53285 | 1.52317 | 1.23917 | 1.17294 | 1.31548 | 1.36451 | 1.37229 | 1.36006 | 9.876 |
| 35 Pentane | +++++ | 1.44735 | 1.51433 | 1.41840 | 1.35200 | 1.41404 | 1.44984 | 1.47106 | 1.43815 | 3.534 |
| 36 1-Pentene | +++++ | +++++ | 0.83987 | 0.78490 | 0.69911 | 0.73005 | 0.75784 | 0.76439 | 0.76269 | 6.311 |
| 37 3-Methyl-1-butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 38 Ethyl Ether | +++++ | +++++ | 0.37748 | 0.34533 | 0.27498 | 0.29021 | 0.30103 | 0.30356 | 0.31543 | 12.168 |
| 39 Ethanol | +++++ | 0.18436 | 0.15266 | 0.18262 | 0.10055 | 0.10656 | 0.10931 | 0.11118 | 0.13532 | 27.382 |
| 40 Freon 123a | +++++ | +++++ | 1.10488 | 1.03219 | 0.98058 | 0.93242 | 0.94532 | 0.96848 | 0.99398 | 6.480 |
| 41 Freon 123 | +++++ | +++++ | 0.94985 | 1.08149 | 0.91929 | 0.86109 | 0.86805 | 0.84384 | 0.92060 | 9.586 |
| 42 Acrolein | +++++ | 0.45376 | 0.30802 | 0.32146 | 0.24344 | 0.23561 | 0.23653 | 0.23990 | 0.29124 | 27.546 |

US32TAR1

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Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 43 Freon 113 | 1.86595 | 1.62688 | 1.61512 | 1.24434 | 1.49765 | 1.41698 | 1.39875 | 1.39329 | 1.50737 | 12.705 |
| 44 1,1-Dichloroethene | 0.60515 | 0.64374 | 0.70492 | 0.59015 | 0.54121 | 0.59791 | 0.71158 | 0.73634 | 0.64138 | 10.842 |
| 45 2-Chloropropane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 46 2,3-Dimethylbutane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 47 Acetone | +++++ | +++++ | 0.42680 | 0.41978 | 0.30301 | 0.33798 | 0.34974 | 0.35251 | 0.36497 | 13.300 |
| 48 Carbon Disulfide | +++++ | +++++ | 2.11106 | 1.95784 | 1.44200 | 1.60640 | 1.67756 | 1.69837 | 1.74887 | 13.935 |
| 49 Iodomethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 50 Isoprene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 51 2-Methyl-2-butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

US32TAR1

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Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 52 2-Propanol | +++++ | 1.59656 | 1.58240 | 1.62245 | 1.31642 | 1.44540 | | |
| | 1.51827 | 1.54012 | | | | | 1.51737 | 6.996 |
| 53 trans-2-Pentene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 54 3-Chloropropene | +++++ | 0.32850 | 0.32028 | 0.31749 | 0.24397 | 0.27020 | | |
| | 0.28643 | 0.29557 | | | | | 0.29464 | 10.331 |
| 55 Cyclopentene | +++++ | +++++ | 1.44282 | 1.48469 | 1.30213 | 1.34016 | | |
| | 1.41190 | 1.42761 | | | | | 1.40155 | 4.845 |
| 56 Methyl Acetate | +++++ | +++++ | 1.59483 | 1.69469 | 1.38900 | 1.49856 | | |
| | 1.58305 | 1.58399 | | | | | 1.55735 | 6.638 |
| 57 Acetonitrile | +++++ | 0.65897 | 0.73844 | 0.74834 | 0.55568 | 0.63778 | | |
| | 0.67282 | 0.67595 | | | | | 0.66971 | 9.656 |
| 58 cis-2-Pentene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 59 Methylene Chloride | +++++ | +++++ | 1.14712 | 1.07953 | 0.86078 | 0.95197 | | |
| | 0.99215 | 0.98325 | | | | | 1.00247 | 9.972 |
| 60 Cyclopentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |

US32TAR1

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Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 61 1,2-Dichloro-1-fluoroethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 62 tert-Butyl alcohol | +++++ | 1.56703 | 1.57171 | 1.60247 | 1.49502 | 1.50125 | 1.52466 | 1.57384 | 1.54800 | 2.650 |
| 63 Methyl tert-butyl ether | +++++ | 1.92056 | 1.95032 | 1.87485 | 1.79398 | 1.76698 | 1.75121 | 1.75247 | 1.83005 | 4.582 |
| 64 trans-1,2-Dichloroethene | 0.47268 | 0.43721 | 0.48794 | 0.44315 | 0.35780 | 0.40059 | 0.41677 | 0.42969 | 0.43073 | 9.472 |
| 65 2,2-Dimethylbutane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 66 Acrylonitrile | 0.64422 | 0.58003 | 0.58670 | 0.59640 | 0.44803 | 0.51586 | 0.54117 | 0.54380 | 0.55703 | 10.634 |
| 67 Hexane | 1.65487 | 1.52953 | 1.36816 | 1.34111 | 1.19658 | 1.19460 | 1.22132 | 1.23061 | 1.34210 | 12.707 |
| 68 1-Hexene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 69 Bromoethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |

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INITIAL CALIBRATION DATA

Start Cal Date : 18-APR-2024 09:31
End Cal Date : 24-APR-2024 01:06
Quant Method : ISTD
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Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 70 4-Methyl-1-pentene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 71 1,1-Dichloroethane | 1.24460 | 1.26119 | 1.31574 | 1.32803 | 1.11842 | 1.17721 | 1.23670 | 1.27584 | 1.24472 | 5.582 |
| 72 Isopropyl ether | +++++ | +++++ | 3.24648 | 3.13736 | 2.87519 | 2.89213 | 2.89682 | 2.86013 | 2.98469 | 5.518 |
| 73 Vinyl Acetate | +++++ | +++++ | 0.11404 | 0.12014 | 0.09644 | 0.10183 | 0.11301 | 0.11214 | 0.10960 | 7.979 |
| 74 Chloroprene | +++++ | +++++ | 1.26428 | 1.31386 | 1.11547 | 1.16905 | 1.21348 | 1.23187 | 1.21800 | 5.742 |
| 75 1-Propanol | +++++ | +++++ | 0.25710 | 0.20346 | 0.15090 | 0.16014 | 0.16563 | 0.16613 | 0.18389 | 21.811 |
| 76 2-Methylpentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 77 3-Methylpentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 78 1-Chloropropane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

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| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 79 Ethyl-tert-butyl ether | +++++ | +++++ | 2.75531 | 2.65379 | 2.48569 | 2.51261 | 2.53286 | 2.50305 | 2.57389 | 4.168 |
| 80 2-Methyl-1-pentene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 81 2,4-Dimethylpentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 82 2,3-Dimethylpentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 83 tert-Butyl chloride | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 84 2,2-Dichloropropane | +++++ | 1.31945 | 1.29341 | 1.26298 | 1.17426 | 1.17411 | 1.18343 | 1.19351 | 1.22874 | 5.020 |
| 85 cis-1,2-Dichloroethene | 0.46125 | 0.47677 | 0.47182 | 0.47609 | 0.36451 | 0.42051 | 0.44224 | 0.45504 | 0.44603 | 8.532 |
| 86 2-Butanone | +++++ | +++++ | 0.34177 | 0.34187 | 0.28276 | 0.30720 | 0.32374 | 0.33076 | 0.32135 | 7.126 |
| 87 Ethyl Acetate | +++++ | +++++ | 0.38512 | 0.37168 | 0.27937 | 0.28477 | 0.29875 | 0.30863 | 0.32139 | 14.172 |

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| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 88 Methyl Acrylate | +++++ | +++++ | 1.60607 | 1.64484 | 1.39944 | 1.45742 | 1.52750 | 1.54470 | 1.53000 | 5.955 |
| 89 Tetrahydrofuran | 1.28654 | 1.07693 | 1.08622 | 0.98581 | 0.79039 | 0.83986 | 0.88563 | 0.90886 | 0.98253 | 16.509 |
| 91 trans-2-Hexene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 92 Chloroform | 1.35563 | 1.33982 | 1.45390 | 1.42088 | 1.15708 | 1.25447 | 1.33475 | 1.37612 | 1.33658 | 7.028 |
| 93 cis-2-Hexene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 94 Cyclohexane | 0.99540 | 0.93743 | 0.92644 | 0.89452 | 0.85339 | 0.83859 | 0.84916 | 0.85834 | 0.89416 | 6.158 |
| 95 Methylcyclopentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 96 1,1,1-Trichloroethane | 1.60340 | 1.53238 | 1.47206 | 1.46911 | 1.37215 | 1.39443 | 1.39735 | 1.42105 | 1.45774 | 5.405 |
| 97 Carbon Tetrachloride | 1.61055 | 1.58709 | 1.56807 | 1.56249 | 1.47251 | 1.49761 | 1.51807 | 1.54704 | 1.54543 | 3.009 |

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| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 98 sec-Butyl chloride | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | |
| 99 1,1-Dichloropropene | +++++ | 0.10001 | 0.10593 | 0.10864 | 0.08893 | 0.09693 | 0.10082 | 0.10366 | 0.10070 | 6.439 | |
| 100 2,3,4-Trimethylpentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | |
| 101 2,2,4-Trimethylpentane | 4.26844 | 4.27194 | 4.51433 | 4.12747 | 3.87811 | 4.11479 | 4.20640 | 4.16454 | 4.19325 | 4.283 | |
| 102 Benzene | 0.50968 | 0.52474 | 0.51595 | 0.52404 | 0.47043 | 0.48482 | 0.49512 | 0.50197 | 0.50334 | 3.816 | |
| 103 Isobutanol | +++++ | +++++ | 0.39361 | 0.28525 | 0.19888 | 0.19090 | 0.19163 | 0.19133 | 0.24193 | 34.299 | <- |
| 105 tert-Amyl methyl ether | +++++ | +++++ | 0.14228 | 0.13717 | 0.12791 | 0.13512 | 0.13480 | 0.13431 | 0.13527 | 3.436 | |
| 106 1,2-Dichloroethane | 0.25865 | 0.27354 | 0.27466 | 0.27214 | 0.23744 | 0.25358 | 0.26210 | 0.26839 | 0.26256 | 4.817 | |
| 107 Heptane | 0.25383 | 0.21439 | 0.19616 | 0.18555 | 0.18848 | 0.18567 | 0.18621 | 0.18482 | 0.19939 | 12.113 | |

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|---|---|---|---|---|---|---|---|---|---|---|
| 109 Butanal | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 110 n-Butanol | +++++ | +++++ | 0.13527 | 0.12388 | 0.09763 | 0.10499 | 0.11072 | 0.11416 | 0.11444 | 11.778 |
| 111 Trichloroethene | 0.23758 | 0.24994 | 0.25444 | 0.25396 | 0.22305 | 0.23406 | 0.24296 | 0.24553 | 0.24269 | 4.438 |
| 112 Isobutyl chloride | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 113 Ethyl acrylate | +++++ | +++++ | 0.04543 | 0.03459 | 0.03257 | 0.03005 | 0.03070 | 0.03102 | 0.03406 | 17.035 |
| 114 1,2-Dichloropropane | 0.28441 | 0.23995 | 0.24045 | 0.24053 | 0.21628 | 0.22308 | 0.22499 | 0.22513 | 0.23685 | 9.012 |
| 115 2-Pentanone | +++++ | +++++ | 0.70658 | 0.73057 | 0.69131 | 0.66454 | 0.65813 | 0.66307 | 0.68570 | 4.227 |
| 116 Methyl Methacrylate | +++++ | 0.24043 | 0.21136 | 0.20244 | 0.19208 | 0.19232 | 0.19438 | 0.19242 | 0.20363 | 8.710 |
| 117 1,4-Dioxane | +++++ | 0.12076 | 0.13725 | 0.12669 | 0.12361 | 0.12524 | 0.12445 | 0.12834 | 0.12662 | 4.155 |

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|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 118 Dibromomethane | 0.23316 | 0.24540 | 0.24152 | 0.24634 | 0.21249 | 0.22899 | | |
| | 0.23945 | 0.23974 | | | | | 0.23589 | 4.703 |
| 119 Methacrylonitrile | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 120 2-Chloropentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 121 2-Butanol | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 122 Bromodichloromethane | 0.41983 | 0.38665 | 0.39632 | 0.40576 | 0.36410 | 0.37925 | | |
| | 0.39259 | 0.39834 | | | | | 0.39286 | 4.288 |
| 123 1-Bromopropane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 124 Chloroacetonitrile | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 125 n-Butylchloride | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 126 cis-1,3-Dichloropropene | 0.34838 | 0.34464 | 0.31610 | 0.34757 | 0.31316 | 0.32974 | | |
| | 0.33797 | 0.34281 | | | | | 0.33505 | 4.162 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 127 Methylcyclohexane | 0.39648 | 0.38057 | 0.33993 | 0.33497 | 0.32409 | 0.33010 | 0.32904 | 0.32274 | 0.34474 | 8.095 |
| 128 Thiophene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 129 2-Methylhexane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 130 3-Methylhexane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 131 4-Methyl-2-pentanone | 0.29812 | 0.26405 | 0.22395 | 0.22071 | 0.21330 | 0.20882 | 0.20899 | 0.20581 | 0.23047 | 14.367 |
| 132 Cyclohexene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 135 1-Methoxy-2-propanol | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 136 Octane | 0.32287 | 0.27822 | 0.25531 | 0.23909 | 0.24015 | 0.23445 | 0.23310 | 0.22766 | 0.25386 | 12.684 |
| 137 Toluene | 0.78471 | 0.74154 | 0.68333 | 0.68293 | 0.67720 | 0.66782 | 0.66839 | 0.66840 | 0.69679 | 6.170 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 138 1-Heptene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 139 trans-1,3-Dichloropropene | 0.28676 | 0.27970 | 0.27634 | 0.27601 | 0.26307 | 0.27338 | 0.27798 | 0.27673 | 0.27625 | 2.399 |
| 140 2,3-Dichloro-1-propene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 141 1,1,2-Trichloroethane | 0.25345 | 0.25739 | 0.24496 | 0.22993 | 0.22045 | 0.21941 | 0.22369 | 0.22203 | 0.23391 | 6.678 |
| 142 Tetrachloroethene | 0.33635 | 0.36992 | 0.36041 | 0.35454 | 0.34844 | 0.34547 | 0.34740 | 0.34728 | 0.35123 | 2.922 |
| 143 2-Hexanone | +++++ | +++++ | 0.30106 | 0.29413 | 0.29864 | 0.29197 | 0.29159 | 0.28336 | 0.29346 | 2.116 |
| 144 1,3-Dichloropropane | 0.37820 | 0.34167 | 0.32451 | 0.32788 | 0.30706 | 0.30655 | 0.31305 | 0.31442 | 0.32667 | 7.329 |
| 145 Butyl Acetate | +++++ | +++++ | 0.34232 | 0.32050 | 0.31137 | 0.29172 | 0.28889 | 0.28849 | 0.30722 | 7.061 |
| 146 Dibromochloromethane | 0.44178 | 0.46173 | 0.47130 | 0.45502 | 0.45829 | 0.46166 | 0.47412 | 0.47444 | 0.46229 | 2.396 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 147 Bromodichloroethene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 148 1,2-Dibromoethane (EDB) | 0.41661 | 0.40683 | 0.39382 | 0.36945 | 0.36433 | 0.36919 | 0.37445 | 0.37227 | 0.38337 | 5.147 |
| 149 2-Methylheptane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 150 3-Methylheptane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 151 1-Bromo-2-Chloroethane | +++++ | +++++ | 0.42547 | 0.44098 | 0.39135 | 0.40974 | 0.41924 | 0.42059 | 0.41790 | 3.962 |
| 152 Diethyl Ketone | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 154 Chlorobenzene | 0.64590 | 0.61258 | 0.56831 | 0.56934 | 0.57208 | 0.56119 | 0.55922 | 0.54524 | 0.57923 | 5.728 |
| 155 Ethyl Benzene | 0.34499 | 0.28334 | 0.29447 | 0.27993 | 0.29172 | 0.28288 | 0.27884 | 0.27466 | 0.29135 | 7.771 |
| 156 Nonane | +++++ | 0.74003 | 0.70447 | 0.66323 | 0.67965 | 0.66256 | 0.65147 | 0.63540 | 0.67669 | 5.230 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 157 1,1,1,2-Tetrachloroethane | 0.35563 | 0.32382 | 0.32969 | 0.31387 | 0.32511 | 0.32948 | 0.33367 | 0.32859 | 0.32998 | 3.613 |
| 158 m,p-Xylene | 0.38806 | 0.37196 | 0.37479 | 0.34696 | 0.36238 | 0.35333 | 0.35311 | 0.35457 | 0.36315 | 3.849 |
| 159 2-Nitropropane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 160 bis(chloromethyl) Ether | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 161 1-Octene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 162 Epichlorohydrin | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 163 2-Chloroethyl Vinyl Ether | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 164 o-Xylene | 0.40209 | 0.34964 | 0.34797 | 0.32588 | 0.34054 | 0.33242 | 0.33325 | 0.32310 | 0.34436 | 7.320 |
| 165 Styrene | 0.64339 | 0.60920 | 0.60187 | 0.56893 | 0.59025 | 0.57007 | 0.56553 | 0.55555 | 0.58810 | 4.961 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 166 2-Heptanone | +++++ | +++++ | 2.26292 | 2.29755 | 1.83581 | 1.69779 | 1.71158 | 1.67700 | 1.91377 | 15.124 |
| 167 Bromoform | 0.47985 | 0.44432 | 0.46220 | 0.45018 | 0.47109 | 0.47294 | 0.47940 | 0.47764 | 0.46720 | 2.921 |
| 168 Cumene | 1.08781 | 1.08680 | 1.06370 | 0.99495 | 1.05629 | 1.02865 | 1.01865 | 0.99104 | 1.04099 | 3.686 |
| 169 Cyclohexanone | +++++ | 0.54850 | 0.46370 | 0.40669 | 0.38129 | 0.36645 | 0.35965 | 0.35664 | 0.41185 | 17.214 |
| 171 Vinyl Cyclohexene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 172 D-Limonene | +++++ | +++++ | 0.42776 | 0.42305 | 0.43916 | 0.40816 | 0.39433 | 0.38844 | 0.41348 | 4.809 |
| 173 Ethyl Methacrylate | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 174 1-Chloro-2-Bromopropane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 175 1,1,2,2-Tetrachloroethane | 0.60370 | 0.57369 | 0.54421 | 0.52923 | 0.53384 | 0.51460 | 0.51060 | 0.50957 | 0.53993 | 6.182 |

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| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 176 1-Nitropropane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 177 Bromobenzene | +++++ | 0.38420 | 0.37407 | 0.36341 | 0.36785 | 0.35242 | 0.35057 | 0.34627 | 0.36268 | 3.803 |
| 178 Propylbenzene | 0.32257 | 0.31541 | 0.31928 | 0.29710 | 0.31386 | 0.30018 | 0.29865 | 0.29546 | 0.30782 | 3.586 |
| 179 1,2,3-Trichloropropane | 0.19923 | 0.17769 | 0.16355 | 0.15525 | 0.15811 | 0.15273 | 0.15189 | 0.15248 | 0.16387 | 10.175 |
| 180 Bromodichloroethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 181 trans-1,4-Dichloro-2-butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 182 Decane | +++++ | 1.11371 | 0.90143 | 0.73985 | 0.74979 | 0.71130 | 0.70358 | 0.65697 | 0.79666 | 20.004 |
| 183 4-Ethyltoluene | 0.35363 | 0.37151 | 0.32716 | 0.32450 | 0.33904 | 0.32680 | 0.32627 | 0.31513 | 0.33550 | 5.524 |
| 184 2-Chlorotoluene | 0.32107 | 0.29194 | 0.28243 | 0.27891 | 0.28190 | 0.27360 | 0.27431 | 0.26677 | 0.28387 | 5.908 |

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 18-APR-2024 09:31
End Cal Date : 24-APR-2024 01:06
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | 0.46745 | 0.46422 | 0.46533 | 0.43457 | 0.45121 | 0.44279 | 0.45269 | 0.44143 | 0.45246 | 2.727 |
| 186 4-Chlorotoluene | +++++ | +++++ | 0.28404 | 0.28217 | 0.29891 | 0.27670 | 0.26718 | 0.26221 | 0.27853 | 4.702 |
| 187 Diisobutyl Ketone | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 188 alpha Methyl Styrene | 0.53107 | 0.51235 | 0.47664 | 0.45796 | 0.47466 | 0.46749 | 0.46099 | 0.45313 | 0.47929 | 5.804 |
| 189 tert-Butylbenzene | +++++ | 0.92359 | 0.89137 | 0.84643 | 0.84541 | 0.84302 | 0.85144 | 0.82020 | 0.86021 | 4.074 |
| 190 1,2,4-Trimethylbenzene | 1.01543 | 0.97599 | 0.92965 | 0.90214 | 0.92668 | 0.89012 | 0.88834 | 0.87232 | 0.92509 | 5.274 |
| 191 Pentachloroethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 192 sec-Butylbenzene | 0.30354 | 0.28276 | 0.29262 | 0.27716 | 0.27875 | 0.27454 | 0.27371 | 0.26951 | 0.28157 | 4.005 |
| 193 bis(2-Chloroethyl) Ether | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

US32TAR1

INITIAL CALIBRATION DATA

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Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 194 p-Cymene | 1.19625 | 1.20042 | 1.18168 | 1.13009 | 1.16132 | 1.12736 | 1.12277 | 1.09226 | 1.15152 | 3.408 |
| 195 1,3-Dichlorobenzene | 0.78164 | 0.73321 | 0.68866 | 0.65917 | 0.68218 | 0.65105 | 0.64870 | 0.63947 | 0.68551 | 7.166 |
| 196 1,4-Dichlorobenzene | 0.75334 | 0.74271 | 0.69941 | 0.67618 | 0.69122 | 0.66662 | 0.66257 | 0.66294 | 0.69437 | 5.149 |
| 197 1,2,3-Trimethylbenzene | +++++ | +++++ | 0.40193 | 0.38449 | 0.41004 | 0.37408 | 0.36355 | 0.35834 | 0.38207 | 5.430 |
| 198 1-Nonene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 199 alpha-Chlorotoluene | 0.98062 | 0.89585 | 0.84943 | 0.84438 | 0.87686 | 0.86218 | 0.86691 | 0.85822 | 0.87930 | 5.003 |
| 200 1-Chlorohexane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 201 Undecane | +++++ | 1.32781 | 1.06101 | 0.91543 | 0.88800 | 0.83829 | 0.81732 | 0.78285 | 0.94724 | 20.126 |
| 202 Butylbenzene | 0.34962 | 0.33683 | 0.31362 | 0.31022 | 0.32073 | 0.30935 | 0.30296 | 0.29552 | 0.31736 | 5.642 |

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Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 203 Butyl Ether | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 204 1,2-Dichlorobenzene | 0.74094 | 0.71274 | 0.66907 | 0.64219 | 0.65422 | 0.63868 | 0.63421 | 0.63019 | 0.66528 | 6.106 |
| 205 Hexachloroethane | +++++ | +++++ | 0.22170 | 0.22256 | 0.23463 | 0.23203 | 0.23447 | 0.23954 | 0.23082 | 3.105 |
| 206 1,2-Dibromo-3-chloropropane | +++++ | +++++ | 0.40926 | 0.40209 | 0.39946 | 0.39306 | 0.38422 | 0.37285 | 0.39349 | 3.353 |
| 207 Dodecane | +++++ | 1.00928 | 0.98725 | 0.96385 | 0.96445 | 0.94356 | 0.92759 | 0.88318 | 0.95417 | 4.319 |
| 208 1,3,5-Trichlorobenzene | +++++ | +++++ | 0.52381 | 0.53118 | 0.56713 | 0.53420 | 0.51853 | 0.51621 | 0.53184 | 3.505 |
| 209 1-Decene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 210 alpha-Pinene | +++++ | +++++ | 0.69171 | 0.67534 | 0.63894 | 0.63762 | 0.64453 | 0.64806 | 0.65603 | 3.390 |
| 211 1,4-Dichloro-2-Butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

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Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 212 3-Ethyltoluene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 213 1,2,4-Trichlorobenzene | +++++ | +++++ | 0.71469 | 0.68493 | 0.66886 | 0.64552 | 0.63062 | 0.61116 | 0.65930 | 5.735 |
| 214 beta-Pinene | +++++ | +++++ | 0.53224 | 0.53323 | 0.50244 | 0.49877 | 0.50176 | 0.49675 | 0.51087 | 3.341 |
| 215 Hexachlorobutadiene | +++++ | +++++ | 0.50511 | 0.48799 | 0.47763 | 0.47421 | 0.47908 | 0.46151 | 0.48092 | 3.044 |
| 216 Naphthalene | +++++ | 1.63680 | 1.46081 | 1.39424 | 1.32515 | 1.28774 | 1.28318 | 1.24446 | 1.37605 | 9.922 |
| 217 Limonene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 218 Benzaldehyde | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 219 Indan | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 220 Indene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

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Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 221 Isobutylbenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 222 1,2,3-Trichlorobenzene | +++++ | +++++ | 0.71060 | 0.67759 | 0.64378 | 0.62766 | 0.61624 | 0.60041 | 0.64605 | 6.373 |
| 223 2-Ethyltoluene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 224 1-Undecene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 225 4-Ethyl-1,2-dimethylbenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 226 1,3-Diethylbenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 227 1,4-Diethylbenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 228 1,2,4,5-tetramethylbenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 229 1-Dodecene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

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Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 230 Nitrobenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 231 Tridecane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 232 2-Methylnaphthalene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 233 1,3,5-Triethylbenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| M 234 1,2-Dichloroethene (Total) | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| M 235 Chlorobutane (Total) | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| M 236 Total Xylene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| M 237 3 and 4-Ethyltoluene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 238 Total Volatile Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

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Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 239 TPH reference to Hexane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 240 TPH reference to Heptane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 241 TPH reference to Gasoline | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 242 TPH reference MineralSpirits | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 243 TPH reference to Stoddard | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 244 TVOC reference to Hexane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 245 TVOC reference to Heptane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 246 TVOC reference to Toluene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 247 TVOC reference to Toluene-d8 | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

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Start Cal Date : 18-APR-2024 09:31
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Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 248 NMOC reference to Hexane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 249 NMOC reference to Heptane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 250 NMOC reference to Toluene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 251 C3 - C4 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 252 C4 - C5 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 253 C5 - C6 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 254 C6 - C7 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 255 C7 - C8 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 256 C8 - C9 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |

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| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 257 C9 - C10 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 258 C10+ Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 259 C5 - C6 Aliphatic ref C5 + C6 | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 260 C6-C8 Aliphatic ref Heptane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 261 C8-C10 Aliphatic ref Decane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 262 C10-C12 Aliphatic ref Dodecan | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 263 C8-C10 Aromatic | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 264 C8-C10 Aromatic ref 1,2,3-TMB | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 265 C10-C12 Aromatic | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

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Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 266 C10-C12 Aromatic 1,2,4,5-TMB | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 267 C10-C12 Aromatic Naphthalene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| $ 104 1,2-Dichloroethane-d4 | 1.27432 | 1.28441 | 1.29311 | 1.29692 | 1.26692 | 1.28758 | | |
| | 1.31044 | 1.40349 | | | | | 1.30215 | 3.308 |
| $ 133 Benzene-d6 | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| $ 134 Toluene-d8 | 0.98330 | 0.98577 | 0.97060 | 0.96491 | 0.96648 | 0.96328 | | |
| | 0.97076 | 0.96989 | | | | | 0.97187 | 0.854 |
| $ 170 4-Bromofluorobenzene | 0.74001 | 0.74557 | 0.73268 | 0.73541 | 0.74519 | 0.73880 | | |
| | 0.74494 | 0.76109 | | | | | 0.74296 | 1.175 |

Report Date: 25-Apr-2024 11:52

Calibration History

Method : /chem/msd3.i/23APR24.b/324q0423a.m
Start Cal Date: 18-APR-2024 09:31
End Cal Date : 24-APR-2024 01:06

Initial Calibration

| Injection Date | Sublist | Calibration File |
|---|---|---|
| Cal Level: 2 , Cal Amount: 0.50000 | | |
| 23-APR-2024 21:18 | AT23_Level2 | /chem/msd3.i/23APR24.b/3042307.d |
| Cal Level: 3 , Cal Amount: 1.00000 | | |
| 23-APR-2024 21:50 | AT23_Level3 | /chem/msd3.i/23APR24.b/3042308.d |
| Cal Level: 4 , Cal Amount: 2.00000 | | |
| 23-APR-2024 22:22 | AT23ICAL | /chem/msd3.i/23APR24.b/3042309.d |
| 18-APR-2024 09:31 | AT21spICAL | /chem/msd3.i/23APR24.b/3041803.d |
| Cal Level: 5 , Cal Amount: 5.00000 | | |
| 23-APR-2024 22:57 | AT23ICAL | /chem/msd3.i/23APR24.b/3042310.d |
| 18-APR-2024 10:06 | AT21spICAL | /chem/msd3.i/23APR24.b/3041804.d |
| Cal Level: 6 , Cal Amount: 20.00000 | | |
| 23-APR-2024 23:27 | AT23ICAL | /chem/msd3.i/23APR24.b/3042311.d |
| 18-APR-2024 10:37 | AT21spICAL | /chem/msd3.i/23APR24.b/3041805.d |
| Cal Level: 7 , Cal Amount: 50.00000 | | |
| 23-APR-2024 23:59 | AT23ICAL | /chem/msd3.i/23APR24.b/3042312.d |
| 18-APR-2024 11:08 | AT21spICAL | /chem/msd3.i/23APR24.b/3041806.d |
| Cal Level: 8 , Cal Amount: 100.00000 | | |
| 24-APR-2024 00:31 | AT23ICAL | /chem/msd3.i/23APR24.b/3042313.d |
| 18-APR-2024 11:41 | AT21spICAL | /chem/msd3.i/23APR24.b/3041807.d |

| Cal Level: 9 , Cal Amount: 200.00000 |
|---|
| 24-APR-2024 01:06 \| AT23ICAL \| /chem/msd3.i/23APR24.b/3042314.d |
| 18-APR-2024 12:16 \| AT21spICAL \| /chem/msd3.i/23APR24.b/3041808.d |

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 7

| Ccal Level: 7 , Ccal Amount: 50.000 |
|---|
| 23-APR-2024 23:59 \| AT23ICAL \| /chem/msd3.i/23APR24.b/3042312a.d |
| Ccal Level: 7 , Ccal Amount: 50.000 |
| 23-APR-2024 23:59 \| AT23ICAL \| /chem/msd3.i/23APR24.b/3042312.d |
| Ccal Level: 7 , Ccal Amount: 50.000 |
| 18-APR-2024 11:08 \| AT21spCCV \| /chem/msd3.i/23APR24.b/3041806a.d |
| Ccal Level: 7 , Ccal Amount: 50.000 |
| 18-APR-2024 11:08 \| AT21spICAL \| /chem/msd3.i/23APR24.b/3041806.d |

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Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

Calibration File Names:
Level 2: /chem/msd3.i/23APR24.b/3042307.d
Level 3: /chem/msd3.i/23APR24.b/3042308.d
Level 4: /chem/msd3.i/23APR24.b/3042309.d
Level 5: /chem/msd3.i/23APR24.b/3042310.d
Level 6: /chem/msd3.i/23APR24.b/3042311.d
Level 7: /chem/msd3.i/23APR24.b/3042312.d
Level 8: /chem/msd3.i/23APR24.b/3042313.d
Level 9: /chem/msd3.i/23APR24.b/3042314.d

jrf 4/26/24

Please see Calibration History page(s) for all the calibration files.

LD 4/26/24

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 1 Dimethyl Ether | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 2 1,1-Dichloro-1-Fluoroethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 3 Freon 143a | +++++ | +++++ | +++++ | 0.30523 | 0.37100 | 0.37702 | | |
| | 0.36181 | 0.27107 | | | | | 0.33723 | 13.852 |
| 4 Freon 134a | +++++ | 0.72119 | 0.70420 | 0.52336 | 0.52292 | 0.55741 | | |
| | 0.55245 | 0.46348 | | | | | 0.57786 | 16.814 |
| 5 Propylene | +++++ | +++++ | 0.77776 | 0.68917 | 0.55183 | 0.61351 | | |
| | 0.64995 | 0.64651 | | | | | 0.65479 | 11.571 |
| 6 Propane | +++++ | +++++ | 0.22880 | 0.25542 | 0.21349 | 0.22284 | | |
| | 0.23289 | 0.23470 | | | | | 0.23136 | 6.085 |

# Initial Calibration Narrative
# 324Q0423A.m

A multi-point **AT-23** initial calibration was analyzed on MSD-3 on 04/23/24 and 4/24/24.

**ICAL: 0 out.**
Naphthalene @ 9.922%RSD.

The low point spike verification file is 3042307x.d for BTEXS.

**ICV: 2 out.** Vinyl Acetate @ 154% recovery and n-Butanol @ 167% recovery. File: 3042404.d
Naphthalene Recovery: @ 112%
**DOD QSM: 2 out.** Vinyl Acetate @ 154% recovery and n-Butanol @ 167% recovery. See File: 3042404a.d
**RCP: 0 out RCP.** See File: 3042404c.d

Naphthalene and Acrolein were adjusted in the ICV due to the certified concentration exceeding more than 15% of the nominal concentration

The concentrations for Acetonitrile, Ethanol, Acrolein, Tert-Butanol, and Naphthalene were adjusted in the calibration due to the certified concentration exceeding more than 15% of the nominal concentration.

-Ethanol was curved at 1.232ppbv→246.4ppbv
-Acrolein was curved at 1.165ppbv→233ppbv
-Acetonitrile was curved at 1.176ppbv→235.2ppbv
-Tert-Butanol was curved at 1.152ppbv →230.4ppbv
-Naphthalene calibrated 0.116ppbv→23.2ppbv

A multi-point **AT-21 Supplemental** initial calibration was analyzed on MSD-3 on 4/18/24.

-Freon 143a was curved at 5.0ppbv→200ppbv **(Raised RL)**

No ICV.

BFB tune files: 3042306, and 3042402.

The AT23MDL Expires 8/29/24.

z

# MSD3

| BFB Tune Verification: (176/174): (193,856/199,488) * 100 = 97.18% | | | |
|---|---|---|---|
| | 3329-901 | Exp. Date: | 4/4/2025 |
| BCM | 119983 | | |
| 1,4-DFB | 454158 | | |
| CB-d5 | 459698 | | |

| Verified CCV vs. ICAL midpoint (-40%): | jrf |
|---|---|
| Method: | 324Q0423a.m |

| | | Method TO-15/TO-14 | | | | |
|---|---|---|---|---|---|---|
| | | SOP# 6 | | | | |
| | | Vacuum: | NA | | | |
| Surrogate # 3329-901 | | Exp Date: | 4/4/2025 | | | |
| CCV | 3018-4439 | Exp Date: | 7/15/2024 | LCS | 3018-4441 | Exp Date 7/15/2024 |
| CCV SP 1 # | 3018-4328 | Exp Date: | 5/21/2024 | LCS Sp #1 | | Exp Date |
| CCV SP 2 # | 3018-4329 | Exp Date: | 5/21/2024 | LCS Sp #2 | | Exp Date |
| CCV SP 3# | | Exp Date: | | LCS Sp #3 | | Exp Date |
| CCV SP 4# | | Exp Date: | | | | |

| Use | File # | Enter/Scan Sample IDs | Canister# | Cart Pos. | Pressure | Amount | DF | Verify Load | Loaded Init. | Date Analyzed | Time | Review Init | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| √ | 3041801 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | DF | mjs | 04/18/24 | 0824 | DF | |
| √ | 3041802 | BFB Tune Check | 3329-901 | 12 | 36ng | 50mL | 1.00 | DF | mjs | 04/18/24 | 0859 | DF | |
| √ | 3041803 | ICAL Level #4 | 3018-4329 | 1 | 2.0ppbv (5.0ppbv) | 80ml | 1.00 | DF | mjs | 04/18/24 | 0931 | mjb | Exp. 5/21/24 |
| √ | 3041804 | ICAL Level #5 | 3018-4329 | 1 | 5.0ppbv (5.0ppbv) | 200ml | 1.00 | DF | mjs | 04/18/24 | 1006 | mjb | |
| √ | 3041805 | ICAL Level #6 | 3018-4328 | 2 | 20ppbv (200ppbv) | 20ml | 1.00 | DF | mjs | 04/18/24 | 1037 | mjb | Exp. 5/21/24 |
| √ | 3041806 | ICAL Level #7 | 3018-4328 | 2 | 50ppbv (200ppbv) | 50ml | 1.00 | DF | mjs | 04/18/24 | 1108 | mjb | |
| √ | 3041807 | ICAL Level #8 | 3018-4328 | 2 | 100ppbv (200ppbv) | 100ml | 1.00 | DF | mjs | 04/18/24 | 1141 | mjb | |
| √ | 3041808 | ICAL Level #9 | 3018-4328 | 2 | 200ppbv (200ppbv) | 200ml | 1.00 | DF | mjs | 04/18/24 | 1216 | mjb | |
| √ | 3041809 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | DF | mjs | 04/18/24 | 1251 | mjb | |
| X | 3041810 | ICAL Level #2 | 3018-4458 | 3 | 0.5ppbv (5.0ppbv) | 20ml | 1.00 | DF | mjs | 04/18/24 | 1321 | mjb | exp. 7/15/24 |
| X | 3041811 | ICAL Level #3 | 3018-4458 | 3 | 1.0ppbv (5.0ppbv) | 40ml | 1.00 | DF | mjs | 04/18/24 | 1352 | mjb | |
| X | 3041812 | ICAL Level #4 | 3018-4458 | 3 | 2.0ppbv (5.0ppbv) | 80ml | 1.00 | DF | mjs | 04/18/24 | 1425 | mjb | |
| X | 3041813 | ICAL Level #5 | 3018-4458 | 3 | 5.0ppbv (5.0ppbv) | 200ml | 1.00 | DF | mjs | 04/18/24 | 1500 | mjb | |
| X | 3041814 | ICAL Level #6 | 3018-4439 | 13 | 20ppbv (200ppbv) | 20ml | 1.00 | DF | mjs | 04/18/24 | 1530 | mjb | exp. 7/15/24 |
| X | 3041815 | ICAL Level #7 | 3018-4439 | 13 | 50ppbv (200ppbv) | 50ml | 1.00 | DF | mjs | 04/18/24 | 1601 | mjb | |
| X | 3041816 | ICAL Level #8 | 3018-4439 | 13 | 100ppbv (200ppbv) | 100ml | 1.00 | DF | mjs | 04/18/24 | 1634 | mjb | |
| X | 3041817 | ICAL Level #9 | 3018-4439 | 13 | 200ppbv (200ppbv) | 200ml | 1.00 | DF | mjs | 04/18/24 | 1709 | mjb | |
| X | 3041818 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | DF | mjs | 04/18/24 | 1744 | mjb | |
| √ | 3041819 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | DF | mjs | 04/18/24 | 1819 | mjb | |
| √ | 3041820 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | jrf | mjs | 04/19/24 | 0706 | mjb | instrument idle |
| X | 3041821 | ICV | 3018-4441 | 14 | 50ppbv (200ppbv) | 50ml | 1.00 | jrf | mjs | 04/19/24 | 0738 | mjb | |
| √ | 3041822 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | jrf | jrf | 04/19/24 | 1336 | mjb | |
| T | 3041823 | CCV | 3018-4439 | 13 | 200ppbv (200ppbv) | 200mL | 1.00 | jrf | jrf | 04/19/24 | 1411 | mjb | Test Standard |
| √ | 3041824 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | jrf | jrf | 04/19/24 | 1445 | mjb | |

4/26/24

z

# MSD3

| BFB Tune Verification: (176/174): (164,032/169,344) * 100 = 96.86% | | | |
|---|---|---|---|
| | 3169-901 | Exp. Date: | 4/4/2025 |
| BCM | 106185 | | |
| 1,4-DFB | 390964 | | |
| CB-d5 | 392003 | | |

| Verified CCV vs. ICAL midpoint (-40%): | jrf |
|---|---|
| Method: | 324Q0423a.m |

| | | | | | |
|---|---|---|---|---|---|
| Surrogate # 3169-901 | | Method TO-15/TO-14 | | | |
| CCV | 3018-4439 | SOP# 6 | | | |
| CCV SP 1 # | 3018-4466 | Vacuum: | NA | | |
| CCV SP 2 # | | Exp Date: | 4/4/2025 | | |
| CCV SP 3# | | Exp Date: | 7/15/2024 | LCS | 3018-4441 |
| CCV SP 4# | | Exp Date: | 7/22/2024 | LCS Sp #1 | |
| | | Exp Date: | | LCS Sp #2 | |
| | | Exp Date: | | LCS Sp #3 | |
| | | Exp Date: | | | |

| Use | File # | Enter/Scan Sample IDs | Canister# | Cart Pos. | Pressure | Amount | DF | Verify Load | Loaded Init. | Date Analyzed | Time | Review Init | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| √ | 3042305 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | DF | DF | 04/23/24 | 1959 | DF | |
| √ | 3042306 | BFB Tune Check | 3169-901 | 12 | 36ng | 50mL | 1.00 | DF | DF | 04/23/24 | 2030 | DF | dynamic ramp ion 219 14.56->15.06 volts |
| √ | 3042307 | ICAL Level #2 | 3018-4466 | 3 | 0.5ppbv (5.0ppbv) | 20ml | 1.00 | DF | DF | 04/23/24 | 2118 | jrf | exp. 7/22/24 |
| √ | 3042308 | ICAL Level #3 | 3018-4466 | 3 | 1.0ppbv (5.0ppbv) | 40ml | 1.00 | DF | DF | 04/23/24 | 2150 | jrf | |
| √ | 3042309 | ICAL Level #4 | 3018-4466 | 3 | 2.0ppbv (5.0ppbv) | 80ml | 1.00 | jrf | DF | 04/23/24 | 2222 | jrf | |
| √ | 3042310 | ICAL Level #5 | 3018-4466 | 3 | 5.0ppbv (5.0ppbv) | 200ml | 1.00 | jrf | DF | 04/23/24 | 2257 | jrf | |
| √ | 3042311 | ICAL Level #6 | 3018-4439 | 13 | 20ppbv (200ppbv) | 20ml | 1.00 | jrf | DF | 04/23/24 | 2327 | jrf | exp. 7/15/24 |
| √ | 3042312 | ICAL Level #7 | 3018-4439 | 13 | 50ppbv (200ppbv) | 50ml | 1.00 | jrf | DF | 04/23/24 | 2359 | jrf | |
| √ | 3042313 | ICAL Level #8 | 3018-4439 | 13 | 100ppbv (200ppbv) | 100ml | 1.00 | jrf | DF | 04/24/24 | 0031 | jrf | |
| √ | 3042314 | ICAL Level #9 | 3018-4439 | 13 | 200ppbv (200ppbv) | 200ml | 1.00 | jrf | DF | 04/24/24 | 0106 | jrf | |
| √ | 3042315 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | jrf | DF | 04/24/24 | 0141 | jrf | |
| √ | 3042316 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | jrf | DF | 04/24/24 | 0216 | jrf | |

√04/26/24

z

# MSD3

| BFB Tune Verification: (176/174): (153216/157696) * 100 = 97.16% | | | |
|---|---|---|---|
| | 3169-901 | Exp. Date: | 4/4/2025 |
| BCM | 99858 | | |
| 1,4-DFB | 376895 | | |
| CB-d5 | 365862 | | |

| Verified CCV vs. ICAL midpoint (-40%): | jrf |
|---|---|
| Method: | 324Q0423a.m |

| | | | | | |
|---|---|---|---|---|---|
| Surrogate # 3169-901 | | Method TO-15/TO-14 | | | |
| CCV | 3018-4439 | SOP# 6 | | | |
| CCV SP 1 # | | Vacuum: | NA | | |
| CCV SP 2 # | | Exp Date: | 4/4/2025 | | |
| CCV SP 3# | | Exp Date: | 7/15/2024 | LCS | 3018-4441 |
| CCV SP 4# | | Exp Date: | | LCS Sp #1 | |
| | | Exp Date: | | LCS Sp #2 | |
| | | Exp Date: | | LCS Sp #3 | |
| | | Exp Date: | | | |

| Use | File # | Enter/Scan Sample IDs | Canister# | Cart Pos. | Pressure | Amount | DF | Verify Load | Loaded Init. | Date Analyzed | Time | Review Init | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Exp Date | 7/15/2024 |
| √ | 3042401 | System Blank | N1876 | 2 | Humid | 200mL | 1.00 | jrf | jrf | 04/24/24 | 1026 | jrf | leg validation 1+2 |
| √ | 3042402 | BFB Tune Check | 3169-901 | 2 | 36ng | 50mL | 1.00 | jrf | jrf | 04/24/24 | 1057 | jrf | Exp. 4/4/25. |
| √ | 3042403 | CCV | 3018-4439 | 13 | 50ppbv (200ppbv) | 50mL | 1.00 | jrf | jrf | 04/24/24 | 1128 | jrf | Exp. 7/15/24. |
| √ | 3042404 | ICV | 3018-4441 | 14 | 50ppbv (200ppbv) | 50mL | 1.00 | jrf | jrf | 04/24/24 | 1200 | jrf | Exp. 7/15/24. AT23: 2 out. |
| √ | 3042405 | LCSD | 3018-4441 | 14 | 50ppbv (200ppbv) | 50mL | 1.00 | jrf | jrf | 04/24/24 | 1231 | jrf | Exp. 7/15/24. AT23: 2 out. RPD ok. |
| √ | 3042406 | Lab Blank | N1876 | 4 | Humid | 200mL | 1.00 | jrf | jrf | 04/24/24 | 1321 | jrf | leg validation 3+4+5 |
| √ | 3042407 | 2404535-01A | N8309 | 1 | 4.5 Hg->9.9 psi | 200mL | 1.97 | DF | jrf | 04/24/24 | 1518 | DF | |
| √ | 3042408 | 2404535-02A | N7521 | 2 | 6.5 Hg->10.1 psi | 200mL | 2.15 | DF | jrf | 04/24/24 | 1553 | DF | |
| √ | 3042409 | 2404535-03A | N6689 | 3 | 4.1 Hg->10.2 psi | 200mL | 1.96 | DF | jrf | 04/24/24 | 1628 | DF | |
| √ | 3042410 | 2404537-01A | LC709 | 4 | 5.3 Hg->10 psi | 100mL | 4.08 | DF | jrf | 04/24/24 | 1700 | DF | dil TC |
| √ | 3042411 | 2404537-02A | 1039 | 5 | 11.4 Hg->10 psi | 40mL | 13.6 | DF | jrf | 04/24/24 | 1731 | DF | dil TC |
| √ | 3042412 | 2404537-06A | B2091 | 6 | 9.8 Hg->9.9 psi | 30mL | 16.6 | DF | jrf | 04/24/24 | 1802 | DF | dil TC |
| √ | 3042413 | 2404537-07A | 1L1517 | 7 | 5.9 Hg->9.9 psi | 45mL | 9.26 | DF | jrf | 04/24/24 | 1833 | DF | dil TC |
| √ | 3042414 | 2404537-08A | 34002006 | 8 | 5.9 Hg->9.8 psi | 30mL | 13.8 | DF | jrf | 04/24/24 | 1904 | DF | dil TC |
| √ | 3042415 | 2404537-09A | N5570 | 9 | 5.1 Hg->9.9 psi | 200mL | 2.02 | DF | jrf | 04/24/24 | 1939 | DF | "E" flag 1,1 DFA,> 400 |
| √ | 3042416 | System Blank | N1876 | 9 | Humid | 200mL | 1.00 | jrf | DF | 04/24/24 | 2201 | jrf | 1,1-DFA>RL. Ok for TO15. |
| √ | 3042417 | 2404535-04A | N3415 | 1 | 6.1 Hg->9.9 psi | 200mL | 2.10 | jrf | DF | 04/24/24 | 2237 | jrf | |
| √ | 3042418 | 2404535-05A | N6704 | 2 | 5.1 Hg->10 psi | 200mL | 2.02 | jrf | DF | 04/24/24 | 2312 | jrf | |
| √ | 3042419 | 2404535-06A | N6693 | 3 | 6.1 Hg->9.8 psi | 200mL | 2.09 | jrf | DF | 04/24/24 | 2347 | jrf | |
| √ | 3042420 | 2404535-07A | N2024 | 4 | 5.5 Hg->9.8 psi | 200mL | 2.04 | jrf | DF | 04/25/24 | 0022 | jrf | |
| √ | 3042421 | 2404535-08A | 1L4672 | 5 | 5.9 Hg->10 psi | 200mL | 2.09 | jrf | DF | 04/26/24 | 0057 | jrf | |
| √ | 3042422 | 2404535-09A | O0833 | 6 | 8.4 Hg->10 psi | 200mL | 2.33 | jrf | DF | 04/27/24 | 0132 | jrf | |
| √ | 3042423 | 2404535-10A | N6733 | 7 | 8.2 Hg->9.9 psi | 200mL | 2.30 | jrf | DF | 04/28/24 | 0207 | jrf | |
| √ | 3042424 | 2404535-11A | 1L4706 | 8 | 8.2 Hg->9.8 psi | 200mL | 2.29 | jrf | DF | 04/29/24 | 0242 | jrf | |

4/26/24

# IS and Associated Target Compounds and Surr.
# Instruction #: I1.20

Modified EPA Methods TO-14A/TO-15
Internal Standard and Associated Target Compounds and Surrogates

| Bromochloromethane* |
|---|
| **Target Compounds:** |
| Freon 12 |
| Freon 114 |
| Chloromethane |
| Vinyl Chloride |
| 1,3-Butadiene |
| Bromomethane |
| Chloroethane |
| Freon 11 |
| Ethanol |
| Freon 113 |
| 1,1-Dichloroethene |
| Acetone |
| 2-Propanol |
| Carbon Disulfide |
| 3-Chloropropene |
| Methylene Chloride |
| Methyl tert-butyl ether |
| trans-1,2-Dichloroethene |
| Hexane |
| 1,1-Dichloroethane |
| 2-Butanone (Methyl Ethyl Ketone) |
| cis-1,2-Dichloroethene |
| Tetrahydrofuran |
| Chloroform |
| 1,1,1-Trichloroethane |
| Cyclohexane |
| Carbon Tetrachloride |
| 2,2,4-Trimethylpentane |
| **Surrogates:** |
| 1,2-Dichloroethane-d4 |

| 1,4-Difluorobenzene |
|---|
| **Target Compounds:** |
| Benzene |
| 1,2-Dichloroethane |
| Heptane |
| Trichloroethene |
| 1,2-Dichloropropane |
| 1,4-Dioxane |
| Bromodichloromethane |
| cis-1,3-Dichloropropene |
| 4-Methyl-2-pentanone |
| Toluene |
| **Surrogates:** |
| Toluene-d8 |

| Chlorobenzene-d5 |
|---|
| **Target Compounds:** |
| trans-1,3-Dichloropropene |
| 1,1,2-Trichloroethane |
| Tetrachloroethene |
| 2-Hexanone |
| Dibromochloromethane |
| 1,2-Dibromoethane (EDB) |
| Chlorobenzene |
| Ethyl Benzene |
| m,p-Xylene |
| o-Xylene |
| Styrene |
| Bromoform |
| Cumene |
| 1,1,2,2-Tetrachloroethane |
| Propylbenzene |
| 4-Ethyltoluene |
| 1,3,5-Trimethylbenzene |
| 1,2,4-Trimethylbenzene |
| 1,3-Dichlorobenzene |
| 1,4-Dichlorobenzene |
| alpha-Chlorotoluene |
| 1,2-Dichlorobenzene |
| 1,2,4-Trichlorobenzene |
| Hexachlorobutadiene |
| **Surrogates:** |
| Bromofluorobenzene |

*Note: If Bromochloromethane (BCM) is required as a target compound, the internal standard mix is blended without BCM. Compounds and surrogates assigned to BCM are re-assigned to 1,4-Difluorobenzene for calibration and subsequent quantitation.

THE LINDE GROUP

Linde

# ISO/IEC 17025

ANAB

ACCREDITED

# Analysis Report

IS/Surr.

Std. ID: 3169-901
Rec'd: 4/14/23
By: MJB

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 1 of 2
Report ID: 37530
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117466144 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1581959 | **Cylinder # :** | CC-17972 |
| **Report Date:** | Apr-04-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75404616 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24100578 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Apr-04-2025 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

1st Review: All w/in ±15%, MJB 4/14/23
2nd Review: All w/in ±5% JL 4/14/23

Primary Reference Material intended for the calibration of gas analyzers or instrumentation. General instructions for proper use of gas mixtures are found in "ISO 16664: Gas analysis – handling of calibration gases and gas mixtures".

Contents under pressure, store in secure area and do not expose to temperatures greater than 150 °F.

Recommended Operating temperature within 32°F (0°C) and 125°F (52°C).

Recommended minimum sample size 10 mL.

Except where noted, results are reported in mole/mole ppm as determined by Gas Chromatography using qualified reference standards under ANA-50-741-ALP and ANA-50-742-ALP and meets ISO/IEC 17025 requirements. Every cylinder is analyzed and represents one unique lot.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor providing a level of confidence of 95% and has been carried out in accordance with ISO/IEC 17025 requirements.

This report is issued in accordance with the laboratory accreditation requirements of ANAB. It provides traceability of measurement to recognized national standards, and to units of measurement realized by the National Institute of Standards and Technology (NIST).

**Linde Spectra Environmental Gases**

**Linde North America, Inc.**

80 Industrial Drive, Alpha, NJ 08865
Phone: +1.908.329-9700 FAX: +1.908.329-9740
www.lideus.com

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ISO/IEC 17025

# Analysis Report

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 2 of 2
Report ID: 37530
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117466144 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1581959 | **Cylinder # :** | CC-17972 |
| **Report Date:** | Apr-04-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75404616 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24100578 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Apr-04-2025 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Reported Conc | Uncertainty |
|---|---|---|---|---|---|
| Bromochloromethane | 74-97-5 | 5.000 ppm | 2.571 | 5.271 ppm | ± 0.33 ppm |
| 1,2-Dichloroethane-d4 | 17060-07-0 | 5.000 ppm | 2.571 | 5.445 ppm | ± 0.32 ppm |
| 1,4-Difluorobenzene | 540-36-3 | 5.000 ppm | 2.571 | 5.331 ppm | ± 0.33 ppm |
| Toluene-d8 | 2037-26-5 | 5.000 ppm | 2.571 | 5.487 ppm | ± 0.35 ppm |
| Chlorobenzene-d5 | 3114-55-4 | 5.000 ppm | 2.571 | 5.230 ppm | ± 0.33 ppm |
| 4-Bromofluorobenzene | 460-00-4 | 5.000 ppm | 2.571 | 5.185 ppm | ± 0.33 ppm |
| Nitrogen | 7727-37-9 | Balance | | Balance | |

**ANALYST:** Lou Lorenzetti

**DATE:** Apr-04-2023

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**Linde North America, Inc.**
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Phone: +1.908.329-9700 FAX: +1.908.329-9740

# 4700 Precision Diluter Standards Preparation Report

**Dilution ID:** 4944

**Canister Size:** 6000cc **Canister ID:** 0254 **Target Final Psia:** 29.4

**Comment:** AT23 CCV 5.0ppbv, 100uL H2O, exp. 7/22/2024

**Date:** 4/22/2024 9:05:18 AM

**Report ID:** 3018-4466

**Prepared By:** mjs

## Channel Methods

| Ch. | Title | Init. Conc. | Target Conc. | Dilution Factor | Init. Psia | Target Psid | Final Psid | Target Psia | Final Psia | Duration | Final Conc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 100 percent | 1 | -0.05 | 11.93 | 11.93 | 11.88 | 11.88 | 00:06:46 | N/A |
| 6 | 3018-4465 | 200 ppb | 5 ppb | 40 | 11.88 | 0.74 | 0.74 | 12.62 | 12.62 | 00:02:50 | 5.03 ppb |
| 1 | Diluent | 100 percent | 100 percent | 1 | 12.62 | 16.78 | 16.77 | 29.40 | 29.40 | 00:10:48 | N/A |

**Total Duration: 00:20:31**

## Channel Configuration and Standards Inventory

| Ch. | Source | Init. Conc. | Cylinder ID | Expiration Date | Notes |
|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 488009Y | 9/9/9999 | E70263095101, Zero Air. No exp. date. |
| 6 | 3018-4465 | 200 ppb | 24889 | 7/22/2024 | AT23 CCV |

MJS 4/22/24

Verify Lot# of CCV/CAL (primary) is different than ICV/LCS (secondary)

initial/date MJS 4/22/24

Verify Concentration and Expiration date from COA

initial/date MJS 4/22/24

# 4700 Precision Diluter Standards Preparation Report

**Dilution ID:** 4943

**Canister Size:** 6000cc **Canister ID:** 24889 **Target Final Psia:** 29.7

**Comment:** AT23 CCV 200ppbv, 100uL H2O, exp. 7/22/2024

**Date:** 4/22/2024 8:15:29 AM

**Report ID:** 3018-4465

**Prepared By:** mjs

## Channel Methods

| Ch. | Title | Init. Conc. | Target Conc. | Dilution Factor | Init. Psia | Target Psid | Final Psid | Target Psia | Final Psia | Duration | Final Conc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 100 percent | 1 | 0.10 | 11.77 | 11.77 | 11.87 | 11.87 | 00:06:31 | N/A |
| 2 | AT23 CCV Part A 3169-799 | 1000 ppb | 200 ppb | 5 | 11.87 | 5.92 | 5.92 | 17.79 | 17.79 | 00:05:48 | 199.99 ppb |
| 3 | AT23 CCV Part B 3169-800 | 1000 ppb | 200 ppb | 5 | 17.79 | 5.92 | 5.92 | 23.71 | 23.71 | 00:05:56 | 199.99 ppb |
| 1 | Diluent | 100 percent | 100 percent | 1 | 23.71 | 5.99 | 5.99 | 29.70 | 29.70 | 00:04:30 | N/A |

**Total Duration: 00:22:53**

## Channel Configuration and Standards Inventory

| Ch. | Source | Init. Conc. | Cylinder ID | Expiration Date | Notes |
|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 488009Y | 9/9/9999 | Zero Air. E701263095101. Exp. 9/9/9999 = No Exp. Date. |
| 2 | AT23 CCV Part A 3169-799 | 1000 ppb | EB-0140173 | 7/25/2024 | Production #1571522 |
| 3 | AT23 CCV Part B 3169-800 | 1000 ppb | EB-0140118 | 7/30/2024 | Production #1571521 |

4/22/24

Verify Lot# of CCV/ECAL (primary) is different than ICV/LCS (secondary)

initial/date MJS 4/22/24

Verify Concentration and Expiration date from COA

initial/date MJS 4/22/24

# 4700 Precision Diluter Standards Preparation Report

**Dilution ID:** 4914

**Canister Size:** 6000cc **Canister ID:** N1856 **Target Final Psia:** 29.7

**Comment:** 200ppbv AT23 CCV, 100uL H2O. Exp. 7/15/24.

**Date:** 4/15/2024 10:22:53 AM

**Report ID:** 3018-4439

**Prepared By:** ef

## Channel Methods

| Ch. | Title | Init. Conc. | Target Conc. | Dilution Factor | Init. Psia | Target Psid | Final Psid | Target Psia | Final Psia | Duration | Final Conc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 100 percent | 1 | -0.02 | 11.93 | 11.93 | 11.91 | 11.91 | 00:06:58 | N/A |
| 2 | AT23 CCV Part A 3169-799 | 1000 ppb | 200 ppb | 5 | 11.91 | 5.94 | 5.94 | 17.85 | 17.85 | 00:06:08 | 199.89 ppb |
| 3 | AT23 CCV Part B 3169-800 | 1000 ppb | 200 ppb | 5 | 17.85 | 5.94 | 5.94 | 23.79 | 23.79 | 00:06:58 | 199.89 ppb |
| 1 | Diluent | 100 percent | 100 percent | 1 | 23.79 | 5.91 | 5.91 | 29.70 | 29.70 | 00:04:31 | N/A |

**Total Duration: 00:24:44**

## Channel Configuration and Standards Inventory

| Ch. | Source | Init. Conc. | Cylinder ID | Expiration Date | Notes |
|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 488009Y | 9/9/9999 | Zero Air. E701263095101. Exp. 9/9/9999 = No Exp. Date. |
| 2 | AT23 CCV Part A 3169-799 | 1000 ppb | EB-0140173 | 7/25/2024 | Production #1571522 |
| 3 | AT23 CCV Part B 3169-800 | 1000 ppb | EB-0140118 | 7/30/2024 | Production #1571521 |

MB 4/15/24

Verify Lot# of CCV/RCAL (primary) is different than ICV/LCS (secondary)

initial/date 4/15/24

Verify Concentration and Expiration date from COA

initial/date 4/15/24

# ISO 17034 Certificate

# Certified Reference Material

AT-23 1° Source
Part A

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 1 of 3
Report ID: 37130
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571522 | **Cylinder # :** | EB0140173 |
| **Report Date:** | Jan-25-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17034 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24108088 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-25-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig 3 on 3/16/23 | **Method of Analysis:** | GC-FID |

Std. ID: 3169-799
Rec'd: 2/8/23
By: MGJ

1st Review: 2 > ±15%.
MGJ 2/13/23

2ND REVIEW: 3 OUT > ±15%
2/13/23

Primary Reference Material intended for the calibration of gas analyzers or instrumentation. General instructions for proper use of gas mixtures are found in "ISO 16664: Gas analysis – handling of calibration gases and gas mixtures".

Contents under pressure, store in secure area and do not expose to temperatures greater than 150 °F.

Recommended Operating temperature within 32°F (0°C) and 125°F (52°C).

Recommended minimum sample size 10 mL.

Except where noted, results are reported in mole/mole ppm as determined by Gas Chromatography using qualified reference standards under ANA-50-741-ALP and ANA-50-742-ALP and meets ISO 17025 requirements. Every cylinder is analyzed and represents one unique lot.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor providing a level of confidence of 95% and has been carried out in accordance with ISO 17025 requirements.

This certificate is issued in accordance with the laboratory accreditation requirements of ANAB. It provides traceability of measurement to recognized national standards, and to units of measurement realized by the National Institute of Standards and Technology (NIST).

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# ISO 17034 Certificate

# Certified Reference Material

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630


Report ID: 37130
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571522 | **Cylinder # :** | EB0140173 |
| **Report Date:** | Jan-25-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17034 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24108088 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-25-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Certified Conc | Uncertainty |
|---|---|---|---|---|---|
| Acetonitrile | 75-05-8 | 1.000 ppm | 2.571 | 1.176 ppm | ± 0.059 ppm * |
| Acetone | 67-64-1 | 1.000 ppm | 2.571 | 1.046 ppm | ± 0.043 ppm |
| Isopropyl Alcohol | 67-63-0 | 1.000 ppm | 2.571 | 1.145 ppm | ± 0.045 ppm |
| Iodomethane | 74-88-4 | 1.000 ppm | 2.571 | 1.047 ppm | ± 0.042 ppm |
| Methylene Chloride | 75-09-2 | 1.000 ppm | 2.571 | 1.040 ppm | ± 0.039 ppm |
| Tert-Butanol | 75-65-0 | 1.000 ppm | 2.571 | 1.152 ppm * | ± 0.044 ppm * |
| Methyl Tert Butyl Ether | 1634-04-4 | 1.000 ppm | 2.571 | 1.037 ppm | ± 0.039 ppm |
| Vinyl Acetate | 108-05-4 | 1.000 ppm | 2.571 | 1.107 ppm | ± 0.044 ppm |
| Methyl Ethyl Ketone | 78-93-3 | 1.000 ppm | 2.571 | 1.052 ppm | ± 0.040 ppm |
| n-Hexane | 110-54-3 | 1.000 ppm | 2.571 | 1.041 ppm | ± 0.045 ppm |
| Chloroform | 67-66-3 | 1.000 ppm | 2.571 | 1.036 ppm | ± 0.036 ppm |
| Ethyl Acetate | 141-78-6 | 1.000 ppm | 2.571 | 1.036 ppm | ± 0.036 ppm |
| Diisopropyl Ether | 108-20-3 | 1.000 ppm | 2.571 | 1.035 ppm | ± 0.037 ppm |
| Tetrahydrofuran | 109-99-9 | 1.000 ppm | 2.571 | 1.033 ppm | ± 0.040 ppm |
| 1,2-Dichloroethane | 107-06-2 | 1.000 ppm | 2.571 | 1.045 ppm | ± 0.040 ppm |
| Benzene | 71-43-2 | 1.000 ppm | 2.571 | 1.045 ppm | ± 0.044 ppm |
| 1-Butanol | 71-36-3 | 1.000 ppm | 2.571 | 0.970 ppm | ± 0.044 ppm |
| Cyclohexane | 110-82-7 | 1.000 ppm | 2.571 | 1.038 ppm | ± 0.038 ppm |
| 1,2-Dichloropropane | 78-87-5 | 1.000 ppm | 2.571 | 1.038 ppm | ± 0.039 ppm |
| Trichloroethylene | 79-01-6 | 1.000 ppm | 2.571 | 1.041 ppm | ± 0.038 ppm |
| 1,4-Dioxane | 123-91-1 | 1.000 ppm | 2.571 | 1.043 ppm | ± 0.038 ppm |
| 2,2,4-Trimethylpentane | 540-84-1 | 1.000 ppm | 2.571 | 1.036 ppm | ± 0.038 ppm |
| n-Heptane | 142-82-5 | 1.000 ppm | 2.571 | 1.036 ppm | ± 0.039 ppm |
| Methyl Isobutyl Ketone | 108-10-1 | 1.000 ppm | 2.571 | 1.038 ppm | ± 0.038 ppm |
| Toluene | 108-88-3 | 1.000 ppm | 2.571 | 1.045 ppm | ± 0.046 ppm |
| Methyl Butyl Ketone | 591-78-6 | 1.000 ppm | 2.571 | 1.050 ppm | ± 0.039 ppm |
| Tetrachloroethylene | 127-18-4 | 1.000 ppm | 2.571 | 1.043 ppm | ± 0.038 ppm |

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# ISO 17034 Certificate

# Certified Reference Material

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630


Report ID: 37130
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571522 | **Cylinder # :** | EB0140173 |
| **Report Date:** | Jan-25-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17034 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24108088 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-25-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Certified Conc | Uncertainty |
|---|---|---|---|---|---|
| Chlorobenzene | 108-90-7 | 1.000 ppm | 2.571 | 1.042 ppm | ± 0.036 ppm |
| Ethylbenzene | 100-41-4 | 1.000 ppm | 2.571 | 1.042 ppm | ± 0.036 ppm |
| p-Xylene | 106-42-3 | 0.500 ppm | 2.571 | 0.525 ppm | ± 0.018 ppm |
| m-Xylene | 108-38-3 | 0.500 ppm | 2.571 | 0.524 ppm | ± 0.018 ppm |
| o-Xylene | 95-47-6 | 1.000 ppm | 2.571 | 1.045 ppm | ± 0.035 ppm |
| Cumene | 98-82-8 | 1.000 ppm | 2.571 | 1.038 ppm | ± 0.035 ppm |
| Naphthalene | 91-20-3 | 0.100 ppm | 2.571 | 0.116 ppm | ± 0.007 ppm |
| Nitrogen | 7727-37-9 | Balance | | Balance | |

**ANALYST:** Lou Lorenzetti

**DATE:** Jan-25-2023

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ISO/IEC 17025

# Analysis Report

AT-23 1° source Part B

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 1 of 5
Report ID: 37157
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571521 | **Cylinder # :** | EB0140118 |
| **Report Date:** | Jan-30-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24099162 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-30-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

Std. ID: 3169-800
Rec'd: 2/8/23
By: MJS

1st Review: 27±15%
MJS 2/13/23.

2ND REVIEW: 27 ±15%
& 2/13/23

Primary Reference Material intended for the calibration of gas analyzers or instrumentation. General instructions for proper use of gas mixtures are found in "ISO 16664: Gas analysis – handling of calibration gases and gas mixtures".

Contents under pressure, store in secure area and do not expose to temperatures greater than 150 °F.

Recommended Operating temperature within 32°F (0°C) and 125°F (52°C).

Recommended minimum sample size 10 mL.

Except where noted, results are reported in mole/mole ppm as determined by Gas Chromatography using qualified reference standards under ANA-50-741-ALP and ANA-50-742-ALP and meets ISO/IEC 17025 requirements. Every cylinder is analyzed and represents one unique lot.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor providing a level of confidence of 95% and has been carried out in accordance with ISO/IEC 17025 requirements.

This report is issued in accordance with the laboratory accreditation requirements of ANAB. It provides traceability of measurement to recognized national standards, and to units of measurement realized by the National Institute of Standards and Technology (NIST).

**Linde Spectra Environmental Gases**

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ISO/IEC 17025

# Analysis Report

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 2 of 5
Report ID: 37157
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571521 | **Cylinder # :** | EB0140118 |
| **Report Date:** | Jan-30-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24099162 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-30-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Reported Conc | Uncertainty |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrafluoroethane | 811-97-2 | 1.000 ppm | 2.571 | 1.054 ppm | ± 0.035 ppm |
| 1,1-Difluoroethane | 75-37-6 | 1.000 ppm | 2.571 | 1.063 ppm | ± 0.033 ppm |
| Propylene | 115-07-1 | 1.000 ppm | 2.571 | 1.059 ppm | ± 0.033 ppm |
| Chlorodifluoromethane | 75-45-6 | 1.000 ppm | 2.571 | 1.055 ppm | ± 0.032 ppm |
| Freon-12 | 75-71-8 | 1.000 ppm | 2.571 | 1.067 ppm | ± 0.029 ppm |
| Chloromethane | 74-87-3 | 1.000 ppm | 2.571 | 1.057 ppm | ± 0.030 ppm |
| Isobutane | 75-28-5 | 1.000 ppm | 2.571 | 1.071 ppm | ± 0.032 ppm |
| Freon-114 | 76-14-2 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.028 ppm |
| Vinyl Chloride | 75-01-4 | 1.000 ppm | 2.571 | 1.063 ppm | ± 0.032 ppm |
| 1,3-Butadiene | 106-99-0 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.036 ppm |
| n-Butane | 106-97-8 | 1.000 ppm | 2.571 | 1.056 ppm | ± 0.035 ppm |
| Bromomethane | 74-83-9 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.034 ppm |
| Chloroethane | 75-00-3 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.037 ppm |
| Dichlorofluoromethane | 75-43-4 | 1.000 ppm | 2.571 | 1.068 ppm | ± 0.037 ppm |
| Vinyl Bromide | 593-60-2 | 1.000 ppm | 2.571 | 1.065 ppm | ± 0.037 ppm |
| Ethanol (No Stability Guarantee) | 64-17-5 | 1.000 ppm | 2.571 | 1.232 ppm | ± 0.11 ppm |
| Acrolein | 107-02-8 | 1.000 ppm | 2.571 | 1.165 ppm | ± 0.074 ppm |
| Isopentane | 78-78-4 | 1.000 ppm | 2.571 | 1.070 ppm | ± 0.030 ppm |
| Freon-11 | 75-69-4 | 1.000 ppm | 2.571 | 1.068 ppm | ± 0.032 ppm |
| n-Pentane | 109-66-0 | 1.000 ppm | 2.571 | 1.071 ppm | ± 0.037 ppm |
| Acrylonitrile | 107-13-1 | 1.000 ppm | 2.571 | 1.064 ppm | ± 0.037 ppm |
| 1,1-Dichloroethene | 75-35-4 | 1.000 ppm | 2.571 | 1.068 ppm | ± 0.036 ppm |
| Carbon Disulfide | 75-15-0 | 1.000 ppm | 2.571 | 1.067 ppm | ± 0.036 ppm |
| 3-Chloropropene | 107-05-1 | 1.000 ppm | 2.571 | 1.057 ppm | ± 0.038 ppm |
| Freon-113 | 76-13-1 | 1.000 ppm | 2.571 | 1.050 ppm | ± 0.031 ppm |
| Trans-1,2-Dichloroethene | 156-60-5 | 1.000 ppm | 2.571 | 1.092 ppm | ± 0.038 ppm |
| 1,1-Dichloroethane | 75-34-3 | 1.000 ppm | 2.571 | 1.056 ppm | ± 0.039 ppm |

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ISO/IEC 17025

# Analysis Report

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630


**Report ID:** 37157
**Revision:** 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571521 | **Cylinder # :** | EB0140118 |
| **Report Date:** | Jan-30-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24099162 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-30-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Reported Conc | Uncertainty |
|---|---|---|---|---|---|
| Cis-1,2-Dichloroethene | 156-59-2 | 1.000 ppm | 2.571 | 1.055 ppm | ± 0.036 ppm |
| 2,2-Dichloropropane | 594-20-7 | 1.000 ppm | 2.571 | 1.064 ppm | ± 0.041 ppm |
| Ethyl Tert Butyl Ether | 637-92-3 | 1.000 ppm | 2.571 | 1.066 ppm | ± 0.038 ppm |
| 1,1,1-Trichloroethane | 71-55-6 | 1.000 ppm | 2.571 | 1.059 ppm | ± 0.038 ppm |
| 1,1-Dichloropropene | 563-58-6 | 1.000 ppm | 2.571 | 1.067 ppm | ± 0.037 ppm |
| Carbon Tetrachloride | 56-23-5 | 1.000 ppm | 2.571 | 1.067 ppm | ± 0.042 ppm |
| Tert Amyl Methyl Ether | 994-05-8 | 1.000 ppm | 2.571 | 1.065 ppm | ± 0.039 ppm |
| Dibromomethane | 74-95-3 | 1.000 ppm | 2.571 | 1.063 ppm | ± 0.037 ppm |
| Bromodichloromethane | 75-27-4 | 1.000 ppm | 2.571 | 1.084 ppm | ± 0.075 ppm |
| Methyl Methacrylate | 80-62-6 | 1.000 ppm | 2.571 | 1.057 ppm | ± 0.036 ppm |
| 1-Bromo-2-Chloroethane | 107-04-0 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.043 ppm |
| Cis-1,3-Dichloropropene | 10061-01-5 | 1.000 ppm | 2.571 | 1.059 ppm | ± 0.038 ppm |
| Methylcyclohexane | 108-87-2 | 1.000 ppm | 2.571 | 1.079 ppm | ± 0.039 ppm |
| Trans-1,3-Dichloropropene | 10061-02-6 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.038 ppm |
| 1,1,2-Trichloroethane | 79-00-5 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.036 ppm |
| 1,3-Dichloropropane | 142-28-9 | 1.000 ppm | 2.571 | 1.064 ppm | ± 0.038 ppm |
| Dibromochloromethane | 124-48-1 | 1.000 ppm | 2.571 | 1.069 ppm | ± 0.036 ppm |
| 1,2-Dibromoethane | 106-93-4 | 1.000 ppm | 2.571 | 1.056 ppm | ± 0.037 ppm |
| n-Octane | 111-65-9 | 1.000 ppm | 2.571 | 1.068 ppm | ± 0.036 ppm |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.036 ppm |
| Bromoform | 75-25-2 | 1.000 ppm | 2.571 | 1.070 ppm | ± 0.038 ppm |
| Cyclohexanone | 108-94-1 | 1.000 ppm | 2.571 | 1.073 ppm | ± 0.029 ppm |
| Styrene | 100-42-5 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.031 ppm |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1.000 ppm | 2.571 | 1.052 ppm | ± 0.031 ppm |
| 1,2,3-Trichloropropane | 96-18-4 | 1.000 ppm | 2.571 | 1.053 ppm | ± 0.029 ppm |
| Trans-1,4-Dichloro-2-Butene | 110-57-6 | 1.000 ppm | 2.571 | 1.044 ppm | ± 0.029 ppm |
| Nonane | 111-84-2 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.033 ppm |

**Linde Spectra Environmental Gases**

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**Linde North America, Inc.**

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ISO/IEC 17025

# Analysis Report

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 4 of 5
Report ID: 37157
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571521 | **Cylinder # :** | EB0140118 |
| **Report Date:** | Jan-30-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24099162 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-30-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Reported Conc | Uncertainty |
|---|---|---|---|---|---|
| Bromobenzene | 108-86-1 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.035 ppm |
| 2-Chlorotoluene | 95-49-8 | 1.000 ppm | 2.571 | 1.055 ppm | ± 0.028 ppm |
| n-Propylbenzene | 103-65-1 | 1.000 ppm | 2.571 | 1.063 ppm | ± 0.029 ppm |
| 4-Ethyltoluene | 622-96-8 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.026 ppm |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1.000 ppm | 2.571 | 1.050 ppm | ± 0.028 ppm |
| alpha-Methyl Styrene (No Stability Gu | 98-83-9 | 1.000 ppm | 2.571 | 1.042 ppm | ± 0.025 ppm |
| Tert-Butyl Benzene | 98-06-6 | 1.000 ppm | 2.571 | 1.054 ppm | ± 0.027 ppm |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.027 ppm |
| 1,3-Dichlorobenzene | 541-73-1 | 1.000 ppm | 2.571 | 1.061 ppm | ± 0.024 ppm |
| Benzyl Chloride | 100-44-7 | 1.000 ppm | 2.571 | 1.064 ppm | ± 0.024 ppm |
| n-Decane | 124-18-5 | 1.000 ppm | 2.571 | 1.052 ppm | ± 0.024 ppm |
| 1,4-Dichlorobenzene | 106-46-7 | 1.000 ppm | 2.571 | 1.052 ppm | ± 0.023 ppm |
| sec-Butylbenzene | 135-98-8 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.027 ppm |
| 4-Isopropyltoluene | 99-87-6 | 1.000 ppm | 2.571 | 1.048 ppm | ± 0.023 ppm |
| 1,2-Dichlorobenzene | 95-50-1 | 1.000 ppm | 2.571 | 1.052 ppm | ± 0.023 ppm |
| n-Butylbenzene | 104-51-8 | 1.000 ppm | 2.571 | 1.050 ppm | ± 0.022 ppm |
| 1,2-Dibromo-3-Chloropropane | 96-12-8 | 1.000 ppm | 2.571 | 1.031 ppm | ± 0.034 ppm |
| n-Undecane | 1120-21-4 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.027 ppm |
| 1,2,4-Trichlorobenzene | 120-82-1 | 1.000 ppm | 2.571 | 1.089 ppm | ± 0.071 ppm |
| n-Dodecane | 112-40-3 | 1.000 ppm | 2.571 | 1.059 ppm | ± 0.051 ppm |

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ISO/IEC 17025

# Analysis Report

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 5 of 5
Report ID: 37157
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571521 | **Cylinder # :** | EB0140118 |
| **Report Date:** | Jan-30-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24099162 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-30-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Reported Conc | Uncertainty |
|---|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 87-61-6 | 1.000 ppm | 2.571 | 1.082 ppm | ± 0.10 ppm |
| Hexachloro-1,3-Butadiene | 87-68-3 | 1.000 ppm | 2.571 | 1.085 ppm | ± 0.052 ppm |
| Nitrogen | 7727-37-9 | Balance | | Balance | |

**ANALYST:** Lou Lorenzetti

**DATE:** Jan-30-2023

**Linde Spectra Environmental Gases**

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# 4700 Precision Diluter Standards Preparation Report

**Dilution ID:** 4916

**Canister Size:** 6000cc **Canister ID:** 0916 **Target Final Psia:** 29.7

**Comment:** 200ppbv AT23 LCS, 100uL H2O. Exp. 7/15/24.

**Date:** 4/15/2024 12:01:16 PM

**Report ID:** 3018-4441

**Prepared By:** ef

## Channel Methods

| Ch. | Title | Init. Conc. | Target Conc. | Dilution Factor | Init. Psia | Target Psid | Final Psid | Target Psia | Final Psia | Duration | Final Conc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 100 percent | 1 | 0.21 | 11.67 | 11.67 | 11.88 | 11.88 | 00:06:44 | N/A |
| 2 | AT23 LCS 3169-801 | 1000 ppb | 200 ppb | 5 | 11.88 | 5.90 | 5.90 | 17.78 | 17.78 | 00:06:22 | 200.09 ppb |
| 1 | Diluent | 100 percent | 100 percent | 1 | 17.78 | 11.92 | 11.92 | 29.70 | 29.70 | 00:07:59 | N/A |

**Total Duration: 00:21:12**

## Channel Configuration and Standards Inventory

| Ch. | Source | Init. Conc. | Cylinder ID | Expiration Date | Notes |
|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 488009Y | 9/9/9999 | Zero Air. N701263095101. 9/9/9999 = no exp. |
| 2 | AT23 LCS 3169-801 | 1000 ppb | EB0139594 | 7/31/2024 | Production #1575260 |

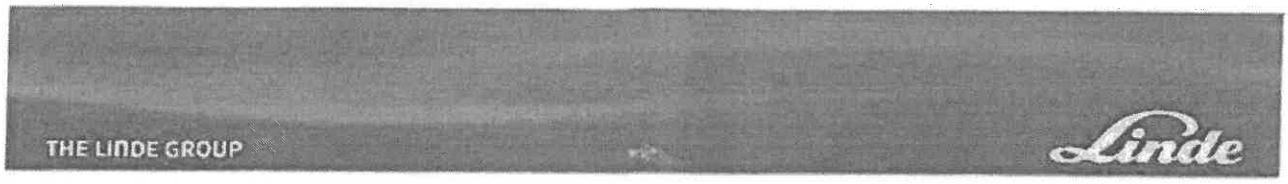
mjb 04/15/24

Verify Lot# of OCV/ICAL (primary) is different than ICV/LCS (secondary)

Initial/date ef 4/15/24

Verify Concentration and Expiration date from COA

Initial/date ef 4/15/24




**SHIPPED TO:** AT-23 2° Source

Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630



Std. ID: 3169-801
Recd: 2/9/23
BY: MJB

## ANALYSIS REPORT

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1575260 | **Cylinder # :** | EB0139594 |
| **Report Date:** | Jan-31-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.# :** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | QUALIFIED | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24086943 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-31-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |

1st Review: All w/in ±15%
2nd Review: All w/in +/-15%

| COMPONENT | CAS NUMBER | REQUESTED CONC | QUALIFIED CONC |
|---|---|---|---|
| 1,1,1,2-Tetrafluoroethane | 811-97-2 | 1.00 ppm | 1.03 ppm |
| 1,1-Difluoroethane | 75-37-6 | 1.00 ppm | 1.04 ppm |
| Propylene | 115-07-1 | 1.00 ppm | 1.04 ppm |
| Chlorodifluoromethane | 75-45-6 | 1.00 ppm | 1.03 ppm |
| Freon-12 | 75-71-8 | 1.00 ppm | 1.05 ppm |
| Chloromethane | 74-87-3 | 1.00 ppm | 1.04 ppm |
| Isobutane | 75-28-5 | 1.00 ppm | 1.05 ppm |
| Freon-114 | 76-14-2 | 1.00 ppm | 1.04 ppm |
| Vinyl Chloride | 75-01-4 | 1.00 ppm | 1.05 ppm |
| 1,3-Butadiene | 106-99-0 | 1.00 ppm | 1.04 ppm |
| n-Butane | 106-97-8 | 1.00 ppm | 1.04 ppm |
| Bromomethane | 74-83-9 | 1.00 ppm | 1.05 ppm |
| Chloroethane | 75-00-3 | 1.00 ppm | 1.05 ppm |
| Dichlorofluoromethane | 75-43-4 | 1.00 ppm | 1.04 ppm |
| Vinyl Bromide | 593-60-2 | 1.00 ppm | 1.04 ppm |
| Ethanol (Analytical Accuracy ± 10%) | 64-17-5 | 1.00 ppm | 1.14 ppm |
| Acetonitrile (Analytical Accuracy ± 10%) | 75-05-8 | 1.00 ppm | 1.05 ppm |
| Acrolein (Analytical Accuracy ± 10%) | 107-02-8 | 1.00 ppm | 1.14 ppm |
| Isopentane | 78-78-4 | 1.00 ppm | 1.05 ppm |
| Acetone | 67-64-1 | 1.00 ppm | 1.06 ppm |
| Freon-11 | 75-69-4 | 1.00 ppm | 1.04 ppm |
| Isopropyl Alcohol | 67-63-0 | 1.00 ppm | 1.06 ppm |
| n-Pentane | 109-66-0 | 1.00 ppm | 1.08 ppm |
| Acrylonitrile | 107-13-1 | 1.00 ppm | 1.07 ppm |
| Iodomethane | 74-88-4 | 1.00 ppm | 1.07 ppm |
| 1,1-Dichloroethene | 75-35-4 | 1.00 ppm | 1.01 ppm |
| Carbon Disulfide (Analytical Accuracy ± 10%) | 75-15-0 | 1.00 ppm | 1.01 ppm |
| Methylene Chloride | 75-09-2 | 1.00 ppm | 1.03 ppm |
| Tert-Butanol (Analytical Accuracy ± 10%) | 75-65-0 | 1.00 ppm | 1.08 ppm |
| 3-Chloropropene | 107-05-1 | 1.00 ppm | 1.03 ppm |

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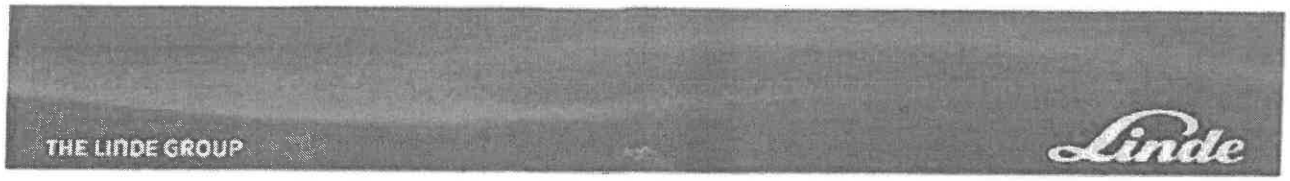


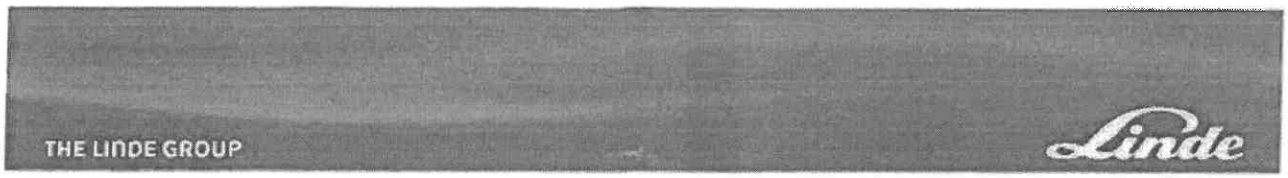

**SHIPPED TO:** Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630



## ANALYSIS REPORT

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1575260 | **Cylinder # :** | EB0139594 |
| **Report Date:** | Jan-31-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.# :** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | QUALIFIED | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24086943 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-31-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |

| COMPONENT | CAS NUMBER | REQUESTED CONC | QUALIFIED CONC |
|---|---|---|---|
| Freon-113 | 76-13-1 | 1.00 ppm | 1.00 ppm |
| Trans-1,2-Dichloroethene | 156-60-5 | 1.00 ppm | 1.07 ppm |
| 1,1-Dichloroethane | 75-34-3 | 1.00 ppm | 1.04 ppm |
| Methyl Tert Butyl Ether | 1634-04-4 | 1.00 ppm | 1.03 ppm |
| Vinyl Acetate | 108-05-4 | 1.00 ppm | 1.10 ppm |
| Methyl Ethyl Ketone | 78-93-3 | 1.00 ppm | 1.05 ppm |
| Cis-1,2-Dichloroethene | 156-59-2 | 1.00 ppm | 1.04 ppm |
| n-Hexane | 110-54-3 | 1.00 ppm | 1.02 ppm |
| Chloroform | 67-66-3 | 1.00 ppm | 1.05 ppm |
| Ethyl Acetate | 141-78-6 | 1.00 ppm | 1.05 ppm |
| Diisopropyl Ether | 108-20-3 | 1.00 ppm | 1.05 ppm |
| 2,2-Dichloropropane | 594-20-7 | 1.00 ppm | 1.05 ppm |
| Tetrahydrofuran | 109-99-9 | 1.00 ppm | 1.06 ppm |
| Ethyl Tert Butyl Ether | 637-92-3 | 1.00 ppm | 1.08 ppm |
| 1,2-Dichloroethane | 107-06-2 | 1.00 ppm | 1.06 ppm |
| 1,1,1-Trichloroethane | 71-55-6 | 1.00 ppm | 1.04 ppm |
| 1,1-Dichloropropene | 563-58-6 | 1.00 ppm | 1.04 ppm |
| Benzene | 71-43-2 | 1.00 ppm | 1.05 ppm |
| 1-Butanol (Analytical Accuracy ± 10%) | 71-36-3 | 1.00 ppm | 1.10 ppm |
| Carbon Tetrachloride | 56-23-5 | 1.00 ppm | 1.04 ppm |
| Cyclohexane | 110-82-7 | 1.00 ppm | 1.04 ppm |
| Tert Amyl Methyl Ether | 994-05-8 | 1.00 ppm | 1.06 ppm |
| Dibromomethane | 74-95-3 | 1.00 ppm | 1.03 ppm |
| 1,2-Dichloropropane | 78-87-5 | 1.00 ppm | 1.03 ppm |
| Trichloroethylene | 79-01-6 | 1.00 ppm | 1.05 ppm |
| 1,4-Dioxane | 123-91-1 | 1.00 ppm | 1.05 ppm |
| Bromodichloromethane | 75-27-4 | 1.00 ppm | 1.05 ppm |
| 2,2,4-Trimethylpentane | 540-84-1 | 1.00 ppm | 1.03 ppm |
| Methyl Methacrylate | 80-62-6 | 1.00 ppm | 1.04 ppm |
| Heptane | 142-82-5 | 1.00 ppm | 1.05 ppm |

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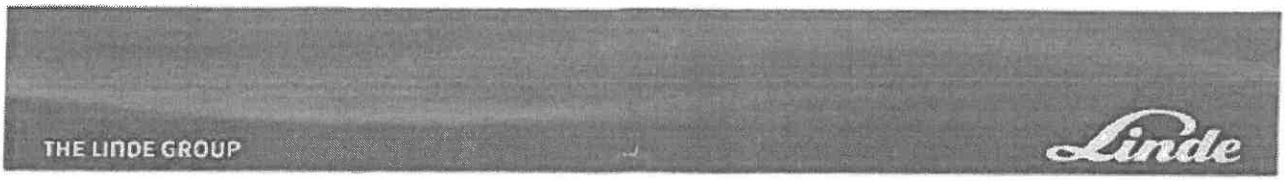
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630



## ANALYSIS REPORT

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1575260 | **Cylinder # :** | EB0139594 |
| **Report Date:** | Jan-31-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.# :** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | QUALIFIED | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24086943 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-31-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |

| COMPONENT | CAS NUMBER | REQUESTED CONC | QUALIFIED CONC |
|---|---|---|---|
| 1-Bromo-2-Chloroethane | 107-04-0 | 1.00 ppm | 1.05 ppm |
| Cis-1,3-Dichloropropene | 10061-01-5 | 1.00 ppm | 1.03 ppm |
| Methyl Isobutyl Ketone | 108-10-1 | 1.00 ppm | 1.02 ppm |
| Methylcyclohexane | 108-87-2 | 1.00 ppm | 1.03 ppm |
| Trans-1,3-Dichloropropene | 10061-02-6 | 1.00 ppm | 1.05 ppm |
| 1,1,2-Trichloroethane | 79-00-5 | 1.00 ppm | 1.05 ppm |
| Toluene | 108-88-3 | 1.00 ppm | 1.04 ppm |
| 1,3-Dichloropropane | 142-28-9 | 1.00 ppm | 1.04 ppm |
| Methyl Butyl Ketone | 591-78-6 | 1.00 ppm | 1.06 ppm |
| Dibromochloromethane | 124-48-1 | 1.00 ppm | 1.05 ppm |
| 1,2-Dibromoethane | 106-93-4 | 1.00 ppm | 1.05 ppm |
| n-Octane | 111-65-9 | 1.00 ppm | 1.06 ppm |
| Tetrachloroethylene | 127-18-4 | 1.00 ppm | 1.05 ppm |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 1.00 ppm | 1.04 ppm |
| Chlorobenzene | 108-90-7 | 1.00 ppm | 1.04 ppm |
| Ethylbenzene | 100-41-4 | 1.00 ppm | 1.05 ppm |
| p-xylene | 106-42-3 | 0.500 ppm | 0.513 ppm |
| m-xylene | 108-38-3 | 0.500 ppm | 0.511 ppm |
| Bromoform | 75-25-2 | 1.00 ppm | 1.03 ppm |
| Cyclohexanone | 108-94-1 | 1.00 ppm | 1.07 ppm |
| Styrene | 100-42-5 | 1.00 ppm | 1.06 ppm |
| o-xylene | 95-47-6 | 1.00 ppm | 1.04 ppm |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1.00 ppm | 1.04 ppm |
| 1,2,3-Trichloropropane | 96-18-4 | 1.00 ppm | 1.07 ppm |
| Trans-1,4-Dichloro-2-Butene | 110-57-6 | 1.00 ppm | 1.04 ppm |
| Nonane | 111-84-2 | 1.00 ppm | 1.07 ppm |
| Cumene | 98-82-8 | 1.00 ppm | 1.02 ppm |
| Bromobenzene | 108-86-1 | 1.00 ppm | 1.04 ppm |

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180 Blue Ravine Rd. Ste. B
Folsom, CA 95630



## ANALYSIS REPORT

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1575260 | **Cylinder # :** | EB0139594 |
| **Report Date:** | Jan-31-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.# :** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | QUALIFIED | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24086943 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-31-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |

| COMPONENT | CAS NUMBER | REQUESTED CONC | QUALIFIED CONC |
|---|---|---|---|
| 2-Chlorotoluene | 95-49-8 | 1.00 ppm | 1.06 ppm |
| n-Propylbenzene | 103-65-1 | 1.00 ppm | 1.05 ppm |
| 4-Ethyltoluene | 622-96-8 | 1.00 ppm | 1.05 ppm |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1.00 ppm | 1.05 ppm |
| alpha-Methyl Styrene (Analytical Accuracy ± 10%) | 98-83-9 | 1.00 ppm | 1.04 ppm |
| Tert-Butyl Benzene | 98-06-6 | 1.00 ppm | 1.06 ppm |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1.00 ppm | 1.06 ppm |
| 1,3-Dichlorobenzene | 541-73-1 | 1.00 ppm | 1.06 ppm |
| Benzyl Chloride (Analytical Accuracy ± 10%) | 100-44-7 | 1.00 ppm | 1.06 ppm |
| n-Decane | 124-18-5 | 1.00 ppm | 1.05 ppm |
| 1,4-Dichlorobenzene | 106-46-7 | 1.00 ppm | 1.04 ppm |
| sec-Butylbenzene | 135-98-8 | 1.00 ppm | 1.05 ppm |
| 4-Isopropyltoluene | 99-87-6 | 1.00 ppm | 1.06 ppm |
| 1,2-Dichlorobenzene | 95-50-1 | 1.00 ppm | 1.06 ppm |
| n-Butylbenzene | 104-51-8 | 1.00 ppm | 1.05 ppm |
| 1,2-Dibromo-3-Chloropropane | 96-12-8 | 1.00 ppm | 1.05 ppm |
| n-Undecane | 1120-21-4 | 1.00 ppm | 1.05 ppm |
| 1,2,4-Trichlorobenzene | 120-82-1 | 1.00 ppm | 1.10 ppm |
| Naphthalene (Analytical Accuracy ± 10%) | 91-20-3 | 0.100 ppm | 0.114 ppm |
| n-Dodecane | 112-40-3 | 1.00 ppm | 1.06 ppm |
| 1,2,3-Trichlorobenzene | 87-61-6 | 1.00 ppm | 1.10 ppm |
| Hexachloro-1,3-Butadiene | 87-68-3 | 1.00 ppm | 1.10 ppm |
| Nitrogen | 7727-37-9 | Balance | Balance |

**ANALYST:** Lou Lorenzetti **DATE:** Jan-31-2023

Linde Gas North America LLC
(908) 329-9700 Main (908) 329-9740 Fax
www.Lindeus.com

# 4700 Precision Diluter Standards Preparation Report

**Dilution ID:** 4777

**Canister Size:** 6000cc **Canister ID:** N0076 **Target Final Psia:** 29.7

**Comment:** 5.0ppbv AT23 Supplemental CCV, 100uL H2O. Exp. 5/21/24.

**Date:** 2/22/2024 7:35:42 AM

**Report ID:** 3018-4329

**Prepared By:** ef

## Channel Methods

| Ch. | Title | Init. Conc. | Target Conc. | Dilution Factor | Init. Psia | Target Psid | Final Psid | Target Psia | Final Psia | Duration | Final Conc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 100 percent | 1 | 0.09 | 11.86 | 11.86 | 11.94 | 11.94 | 00:10:07 | N/A |
| 6 | 3018-4328 | 200 ppb | 5 ppb | 40 | 11.94 | 0.74 | 0.74 | 12.68 | 12.68 | 00:03:15 | 5 ppb |
| 1 | Diluent | 100 percent | 100 percent | 1 | 12.68 | 17.02 | 17.02 | 29.70 | 29.70 | 00:17:45 | N/A |

**Total Duration: 00:31:14**

## Channel Configuration and Standards Inventory

| Ch. | Source | Init. Conc. | Cylinder ID | Expiration Date | Notes |
|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 488009Y | 9/9/9999 | N701263095101, Zero Air. No exp. date. |
| 6 | 3018-4328 | 200 ppb | N1781 | 5/21/2024 | AT23 Supplemental CCV. |

Verify Lot# of CCV/ICAL (primary) is different than ICV/LCS (secondary)

initial/date ef 2/22/24

Verify Concentration and Expiration date from COA

initial/date ef 2/22/24

2/22/24

# 4700 Precision Diluter Standards Preparation Report

**Dilution ID:** 4776

**Canister Size:** 6000cc **Canister ID:** N1781 **Target Final Psia:** 29.7

**Comment:** 200ppbv AT21 Supplemental CCV, 100uL H2O. Exp. 5/21/24.

**Date:** 2/21/2024 3:22:06 PM

**Report ID:** 3018-4328

**Prepared By:** ef

## Channel Methods

| Ch. | Title | Init. Conc. | Target Conc. | Dilution Factor | Init. Psia | Target Psid | Final Psid | Target Psia | Final Psia | Duration | Final Conc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 100 percent | 1 | 0.10 | 11.83 | 11.83 | 11.93 | 11.93 | 00:10:07 | N/A |
| 2 | 3169-159c | 1000 ppb | 200 ppb | 5 | 11.93 | 5.92 | 5.92 | 17.85 | 17.85 | 00:09:50 | 199.92 ppb |
| 1 | Diluent | 100 percent | 100 percent | 1 | 17.85 | 11.85 | 11.86 | 29.70 | 29.71 | 00:13:44 | N/A |

**Total Duration: 00:33:48**

## Channel Configuration and Standards Inventory

| Ch. | Source | Init. Conc. | Cylinder ID | Expiration Date | Notes |
|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 488009Y | 9/9/9999 | Zero Air lot # N701263095101. |
| 2 | 3169-159c | 1000 ppb | CC-748779 | 2/1/2025 | TO-15 Supplemental CCV. Original production #1540452. Current # 1603451. |

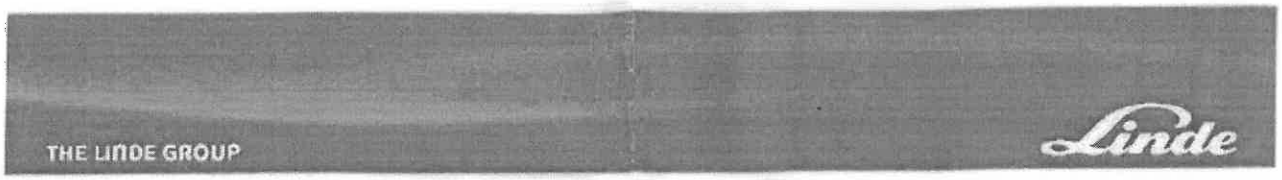
AM 2/22/24

Verify Lot# of CCV/ICAL (primary) is different than ICV/LCS (secondary)

initial/date ef 2/21/24

Verify Concentration and Expiration date from COA

initial/date ef 2/21/24




Recert

**SHIPPED TO:** Eurofins Air Toxics
AT-21 Supplemental CCV 180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 1 of 1

Original Production#:
1540452

Std. ID: 3169-159C
Recd: 2/12/24
BY: MJB

## ANALYSIS REPORT

| | | | |
|---|---|---|---|
| **Sales#:** | 117492265 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1603451 | **Cylinder # :** | CC-748779 |
| **Report Date:** | Feb-01-2024 | **Cylinder Pressure:** | 1800 psig |
| **P.O.# :** | 75696909 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | QUALIFIED | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24106776 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 3600 Liters |
| **Expiration Date:** | Feb-01-2025 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |

| COMPONENT | CAS NUMBER | REQUESTED CONC | QUALIFIED CONC |
|---|---|---|---|
| 1,1,1-Trifluoroethane | 420-46-2 | 1.00 ppm | 1.01 ppm |
| Propane | 74-98-6 | 1.00 ppm | 1.04 ppm |
| 1-Chloro-1,1-Difluoroethane | 75-68-3 | 1.00 ppm | 1.01 ppm |
| 2,2-Dichloro-1,1,1-Trifluoroethane | 306-83-2 | 1.00 ppm | 1.03 ppm |
| 1,2-Dichloro-1,1,2-Trifluoroethane | 354-23-4 | 1.00 ppm | 1.02 ppm |
| 1-Pentene | 109-67-1 | 1.00 ppm | 1.04 ppm |
| Ethyl Ether | 60-29-7 | 1.00 ppm | 1.04 ppm |
| Methyl Acetate | 79-20-9 | 1.00 ppm | 1.06 ppm |
| Cyclopentene | 142-29-0 | 1.00 ppm | 1.04 ppm |
| 1-Propanol | 71-23-8 | 1.00 ppm | 1.08 ppm |
| 2-Chloroprene | 126-99-8 | 1.00 ppm | 1.05 ppm |
| Methyl Acrylate | 96-33-3 | 1.00 ppm | 1.05 ppm |
| Isobutanol | 78-83-1 | 1.00 ppm | 1.09 ppm |
| 2-Pentanone | 107-87-9 | 1.00 ppm | 1.05 ppm |
| Ethyl Acrylate | 140-88-5 | 1.00 ppm | 1.05 ppm |
| n-Butyl Acetate | 123-86-4 | 1.00 ppm | 1.04 ppm |
| 2-Heptanone | 110-43-0 | 1.00 ppm | 1.07 ppm |
| alpha-Pinene (No Stability Guarantee) | 80-56-8 | 1.00 ppm | 1.11 ppm |
| 4-Chlorotoluene | 106-43-4 | 1.00 ppm | 1.04 ppm |
| beta-Pinene (No Stability Guarantee) | 127-91-3 | 1.00 ppm | 1.08 ppm |
| 1,2,3-Trimethylbenzene | 526-73-8 | 1.00 ppm | 1.05 ppm |
| d-Limonene (No Stability Guarantee) | 5989-27-5 | 1.00 ppm | 1.11 ppm |
| Hexachloroethane | 67-72-1 | 1.00 ppm | 1.03 ppm |
| 1,3,5-Trichlorobenzene | 108-70-3 | 1.00 ppm | 1.04 ppm |
| Nitrogen | 7727-37-9 | Balance | Balance |

**ANALYST:** Lou Lorenzetti **DATE:** Feb-01-2024

1st Review: All w/in ±15%. MJB 2/12/24
2nd Review: All w/in ±15%. 2/12/24

Linde Gas North America LLC
(908) 329-9700 Main (908) 329-9740 Fax
www.Lindeus.com

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042307.d
Lab Smp Id: ICAL Level #2 Client Smp ID: ICAL Levl #2
Inj Date : 23-APR-2024 21:18
Operator : DF Inst ID: msd3.i
Smp Info : 20ml 3018-4466
Misc Info : 0.5ppbv (5.0ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 21:18 Cal File: 3042307.d
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23_Level2.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.439 (1.000) | 130 | 104933 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.439 (1.000) | 128 | 82973 | | | 47.79- 107.79 | 79.07 |
| 5.432 | 5.439 (1.000) | 49 | 175240 | | | 131.33- 191.33 | 167.00 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 393969 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 60984 | | | 0.00- 45.65 | 15.48 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 399290 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 213137 | | | 22.92- 82.92 | 53.38 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.109) | 65 | 133718 | 25.0000 | 24.466 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.109) | 67 | 69390 | | | 23.17- 83.17 | 51.89 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 387391 | 25.0000 | 25.294 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 42857 | | | 0.00- 41.42 | 11.06 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | AMOUNTS ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.767 | 7.767 (1.208) | 100 | 257316 | | | 37.54- 97.54 | 66.42 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 295479 | 25.0000 | 24.901 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 353190 | | | 88.49- 148.49 | 119.53 |
| 10.295 | 10.295 (1.124) | 176 | 281619 | | | 66.73- 126.73 | 95.31 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.270) | 85 | 3237 | 0.50000 | 0.5209 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 712 | | | 2.88- 62.88 | 22.00 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 2955 | 0.50000 | 0.5409 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 660 | | | 2.10- 62.10 | 22.34 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.759 (0.324) | 62 | 1461 | 0.50000 | 0.5040 | 80.00- 120.00 | 100.00 |
| 1.744 | 1.759 (0.321) | 64 | 355 | | | 3.10- 63.10 | 24.30 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 1707 | 0.50000 | 0.6268 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 3090 | | | 78.74- 138.74 | 181.02 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 3854 | 0.50000 | 0.5383 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 2736 | | | 34.93- 94.93 | 70.99 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.068 | 3.061 (0.565) | 151 | 3916 | 0.50000 | 0.6189 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 1952 | | | 35.07- 95.07 | 49.85 |
| 3.075 | 3.061 (0.566) | 101 | 1436 | | | 87.45- 147.45 | 36.67 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.082 | 3.097 (0.567) | 96 | 1270 | 0.50000 | 0.4718 | 80.00- 120.00 | 100.00(a) |
| 3.096 | 3.097 (0.570) | 98 | 806 | | | 33.27- 93.27 | 63.46 |
| 3.089 | 3.097 (0.569) | 61 | 2660 | | | 159.05- 219.05 | 209.45 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 992 | 0.50000 | 0.5487 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.742) | 61 | 2225 | | | 232.13- 292.13 | 224.29 |
| 4.021 | 4.028 (0.740) | 96 | 949 | | | 127.26- 187.26 | 95.67 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.142 | 4.142 (0.763) | 52 | 1352 | 0.50000 | 0.5783 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.142 (0.761) | 53 | 1661 | | | 86.45- 146.45 | 122.86 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.784) | 57 | 3473 | 0.50000 | 0.6165 | 80.00- 120.00 | 100.00(T) |
| 4.264 | 4.257 (0.785) | 43 | 3291 | | | 40.97- 100.97 | 94.76 |
| 0.000 | 4.257 (0.000) | 86 | 0 | | | 0.00- 42.68 | 0.00 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.558 (0.838) | 63 | 2612 | 0.50000 | 0.5000 | 80.00- 120.00 | 100.00 |
| 4.543 | 4.558 (0.836) | 65 | 1039 | | | 0.47- 60.47 | 39.78 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.188 | 5.188 (0.955) | 98 | 968 | 0.50000 | 0.5171 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.955) | 96 | 1386 | | | 125.53- 185.53 | 143.18 |
| 5.188 | 5.188 (0.955) | 61 | 2121 | | | 219.86- 279.86 | 219.11 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.432 | 5.425 (1.000) | 42 | 2700 | 0.50000 | 0.6547 | 80.00- 120.00 | 100.00 |
| 5.439 | 5.425 (1.001) | 71 | 621 | | | 0.00- 58.54 | 23.00 |
| 5.439 | 5.425 (1.001) | 72 | 602 | | | 0.00- 59.59 | 22.30 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.503 | 5.518 (1.013) | 83 | 2845 | 0.50000 | 0.5071 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.518 (1.014) | 85 | 1685 | | | 35.77- 95.77 | 59.23 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.033) | 84 | 2089 | 0.50000 | 0.5566 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.033) | 56 | 3770 | | | 125.79- 185.79 | 180.47 |
| 5.611 | 5.611 (1.033) | 41 | 1631 | | | 61.55- 121.55 | 78.08 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.639 | 5.639 (1.038) | 97 | 3365 | 0.50000 | 0.5500 | 80.00- 120.00 | 100.00 |
| 5.639 | 5.639 (1.038) | 99 | 1917 | | | 32.84- 92.84 | 56.97 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.061) | 119 | 3380 | 0.50000 | 0.5211 | 80.00- 120.00 | 100.00 |
| 5.761 | 5.761 (1.061) | 117 | 3334 | | | 75.19- 135.19 | 98.64 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.998 | 5.998 (1.104) | 57 | 8958 | 0.50000 | 0.5090 | 80.00- 120.00 | 100.00 |
| 6.005 | 5.998 (1.105) | 56 | 3599 | | | 3.09- 63.09 | 40.18 |
| 5.998 | 5.998 (1.104) | 41 | 2569 | | | 0.00- 57.28 | 28.68 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.998 | 5.998 (0.933) | 78 | 4016 | 0.50000 | 0.5063 | 80.00- 120.00 | 100.00 |
| 6.005 | 5.998 (0.934) | 77 | 1017 | | | 0.00- 53.69 | 25.32 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.105 (0.949) | 62 | 2038 | 0.50000 | 0.4925 | 80.00- 120.00 | 100.00(a) |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 106 1,2-Dichloroethane (continued) | | | | | | | |
| 6.098 | 6.105 (0.949) | 64 | 1037 | | | 1.80- 61.80 | 50.88 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 2000 | 0.50000 | 0.6365 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.184 (0.961) | 43 | 5172 | | | 207.73- 267.73 | 258.60 |
| 6.184 | 6.184 (0.962) | 57 | 2330 | | | 84.83- 144.83 | 116.50 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 1872 | 0.50000 | 0.4895 | 80.00- 120.00 | 100.00(a) |
| 6.635 | 6.635 (1.032) | 130 | 1937 | | | 80.23- 140.23 | 103.47 |
| 6.635 | 6.635 (1.032) | 97 | 1340 | | | 34.78- 94.78 | 71.58 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.742 | 6.735 (1.049) | 83 | 3124 | 0.50000 | 0.5750 | 80.00- 120.00 | 100.00(a) |
| 6.735 | 6.735 (1.048) | 98 | 1345 | | | 14.83- 74.83 | 43.05 |
| 6.735 | 6.735 (1.048) | 55 | 3478 | | | 71.50- 131.50 | 111.33 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 2241 | 0.50000 | 0.6004 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.893 (1.071) | 62 | 1559 | | | 40.39- 100.39 | 69.57 |
| 6.886 | 6.893 (1.071) | 41 | 1140 | | | 31.86- 91.86 | 50.87 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.008 | 7.008 (0.765) | 174 | 1862 | 0.50000 | 0.4942 | 80.00- 120.00 | 100.00(a) |
| 7.008 | 7.008 (0.765) | 93 | 1957 | | | 62.68- 122.68 | 105.10 |
| 7.008 | 7.008 (0.765) | 95 | 1522 | | | 47.70- 107.70 | 81.74 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 3308 | 0.50000 | 0.5343 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 2089 | | | 34.96- 94.96 | 63.15 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.574 (1.178) | 75 | 2745 | 0.50000 | 0.5199 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.574 (1.177) | 77 | 1127 | | | 1.26- 61.26 | 41.06 |
| 7.566 | 7.574 (1.177) | 39 | 2308 | | | 35.06- 95.06 | 84.08 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.710 | 7.710 (1.199) | 58 | 2349 | 0.50000 | 0.6468 | 80.00- 120.00 | 100.00 |
| 7.710 | 7.710 (1.199) | 43 | 5903 | | | 259.88- 319.88 | 251.30 |
| 7.710 | 7.710 (1.199) | 85 | 946 | | | 7.58- 67.58 | 40.27 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 6183 | 0.50000 | 0.5631 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 3264 | | | 27.89- 87.89 | 52.79 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 2544 | 0.50000 | 0.6359 | 80.00- 120.00 | 100.00 |
| 7.867 | 7.860 (1.224) | 85 | 1960 | | | 63.53- 123.53 | 77.04 |
| 7.860 | 7.860 (1.223) | 43 | 5250 | | | 246.00- 306.00 | 206.37 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 2290 | 0.50000 | 0.5190 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 1656 | | | 1.83- 61.83 | 72.31 |
| 8.118 | 8.118 (0.887) | 39 | 2509 | | | 31.97- 91.97 | 109.56 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.283 | 8.290 (0.905) | 97 | 2024 | 0.50000 | 0.5418 | 80.00- 120.00 | 100.00 |
| 8.283 | 8.290 (0.905) | 99 | 1386 | | | 32.52- 92.52 | 68.48 |
| 8.290 | 8.290 (0.905) | 83 | 1854 | | | 58.90- 118.90 | 91.60 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 2686 | 0.50000 | 0.4788 | 80.00- 120.00 | 100.00(a) |
| 8.318 | 8.318 (0.908) | 129 | 2374 | | | 45.32- 105.32 | 88.38 |
| 8.318 | 8.318 (0.908) | 131 | 2207 | | | 44.17- 104.17 | 82.17 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 2980 | 0.50000 | 0.5789 | 80.00- 120.00 | 100.00(a) |
| 8.447 | 8.447 (1.314) | 41 | 2449 | | | 59.72- 119.72 | 82.18 |
| 8.447 | 8.447 (1.314) | 78 | 913 | | | 3.08- 63.08 | 30.64 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 3528 | 0.50000 | 0.4778 | 80.00- 120.00 | 100.00(a) |
| 8.626 | 8.626 (0.942) | 127 | 2957 | | | 47.27- 107.27 | 83.82 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 3327 | 0.50000 | 0.5434 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 3078 | | | 64.18- 124.18 | 92.52 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.185 (1.002) | 112 | 5158 | 0.50000 | 0.5575 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.185 (1.002) | 114 | 1764 | | | 1.91- 61.91 | 34.20 |
| 9.171 | 9.185 (1.002) | 77 | 3672 | | | 22.97- 82.97 | 71.19 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.250 | 9.250 (1.010) | 106 | 2755 | 0.50000 | 0.5920 | 80.00- 120.00 | 100.00 |
| 9.250 | 9.250 (1.010) | 91 | 7999 | | | 281.09- 341.09 | 290.34 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.013) | 131 | 2840 | 0.50000 | 0.5389 | 80.00- 120.00 | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 3170 | | | 37.10- 97.10 | 111.62 |
| 9.264 | 9.271 (1.012) | 95 | 999 | | | 4.93- 64.93 | 35.18 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | | ======= | ======= | ========== | ===== |
| 158 m,p-Xylene | | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 3099 | 0.50000 | 0.5343 | 80.00- 120.00 | | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 6271 | | | 170.33- 230.33 | | 202.36 |
| 164 o-Xylene | | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 3211 | 0.50000 | 0.5838 | 80.00- 120.00 | | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 6633 | | | 181.23- 241.23 | | 206.57 |
| 165 Styrene | | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 5138 | 0.50000 | 0.5470 | 80.00- 120.00 | | 100.00 |
| 9.780 | 9.780 (1.068) | 78 | 2757 | | | 17.26- 77.26 | | 53.66 |
| 167 Bromoform | | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 3832 | 0.50000 | 0.5135 | 80.00- 120.00 | | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 1961 | | | 21.45- 81.45 | | 51.17 |
| 168 Cumene | | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 8687 | 0.50000 | 0.5225 | 80.00- 120.00 | | 100.00 |
| 10.088 | 10.095 (1.102) | 120 | 2646 | | | 0.00- 56.93 | | 30.46 |
| 10.095 | 10.095 (1.102) | 51 | 1622 | | | 0.00- 42.24 | | 18.67 |
| 175 1,1,2,2-Tetrachloroethane | | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.475 (1.143) | 83 | 4821 | 0.50000 | 0.5590 | 80.00- 120.00 | | 100.00 |
| 10.474 | 10.475 (1.144) | 85 | 3068 | | | 34.97- 94.97 | | 63.64 |
| 178 Propylbenzene | | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 2576 | 0.50000 | 0.5240 | 80.00- 120.00 | | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 11934 | | | 383.60- 443.60 | | 463.28 |
| 10.496 | 10.496 (1.146) | 105 | 455 | | | 0.00- 46.14 | | 17.66 |
| 179 1,2,3-Trichloropropane | | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.525 (1.149) | 110 | 1591 | 0.50000 | 0.6079 | 80.00- 120.00 | | 100.00 |
| 10.525 | 10.525 (1.149) | 75 | 5059 | | | 324.28- 384.28 | | 317.98 |
| 10.517 | 10.518 (1.149) | 61 | 1438 | | | 57.24- 117.24 | | 90.38 |
| 184 2-Chlorotoluene | | | | | | CAS #: 95-49-8 | | |
| 10.611 | 10.611 (1.159) | 126 | 2564 | 0.50000 | 0.5655 | 80.00- 120.00 | | 100.00(a) |
| 10.603 | 10.611 (1.158) | 91 | 7999 | | | 282.78- 342.78 | | 311.97 |
| 10.603 | 10.603 (1.158) | 65 | 1532 | | | 17.33- 77.33 | | 59.75 |
| 183 4-Ethyltoluene | | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.611 (1.158) | 120 | 2824 | 0.50000 | 0.5270 | 80.00- 120.00 | | 100.00 |
| 10.611 | 10.611 (1.159) | 105 | 9689 | | | 298.94- 358.94 | | 343.09 |
| 185 1,3,5-Trimethylbenzene | | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 3733 | 0.50000 | 0.5166 | 80.00- 120.00 | | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 185 1,3,5-Trimethylbenzene (continued) | | | | | | | |
| 10.675 | 10.675 (1.166) | 105 | 7916 | | | 172.08- 232.08 | 212.05 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 4241 | 0.50000 | 0.5540 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 2465 | | | 25.64- 85.64 | 58.12 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 8109 | 0.50000 | 0.5488 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.206) | 120 | 3515 | | | 16.63- 76.63 | 43.35 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 2424 | 0.50000 | 0.5390 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 11674 | | | 436.99- 496.99 | 481.60 |
| 11.191 | 11.198 (1.222) | 91 | 2208 | | | 41.69- 101.69 | 91.09 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 9553 | 0.50000 | 0.5194 | 80.00- 120.00 | 100.00(a) |
| 11.341 | 11.341 (1.239) | 134 | 2589 | | | 0.00- 57.62 | 27.10 |
| 11.334 | 11.341 (1.238) | 91 | 2713 | | | 0.00- 53.03 | 28.40 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 6242 | 0.50000 | 0.5701 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 3843 | | | 34.18- 94.18 | 61.57 |
| 11.348 | 11.348 (1.239) | 111 | 2474 | | | 10.06- 70.06 | 39.63 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.449 (1.250) | 146 | 6016 | 0.50000 | 0.5424 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.250) | 148 | 3705 | | | 33.55- 93.55 | 61.59 |
| 11.441 | 11.449 (1.250) | 111 | 2400 | | | 7.98- 67.98 | 39.89 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 7831 | 0.50000 | 0.5576 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 1681 | | | 0.00- 52.77 | 21.47 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.749 | 11.750 (1.283) | 134 | 2792 | 0.50000 | 0.5508 | 80.00- 120.00 | 100.00 |
| 11.742 | 11.742 (1.282) | 91 | 9786 | | | 310.82- 370.82 | 350.50 |
| 11.742 | 11.742 (1.282) | 92 | 5003 | | | 151.53- 211.53 | 179.19 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 5917 | 0.50000 | 0.5569 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 3762 | | | 33.00- 93.00 | 63.58 |
| 11.821 | 11.821 (1.291) | 111 | 2659 | | | 10.87- 70.87 | 44.94 |

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042307.d
Lab Smp Id: ICAL Level #2
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 0.5ppbv (5.0ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Levl #2
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 104933 | -1.18 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 393969 | 0.77 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 399290 | 1.86 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.43 | -0.13 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042307.d

Page 1

Date : 23-APR-2024 21:18

Client ID: ICAL Levl #2

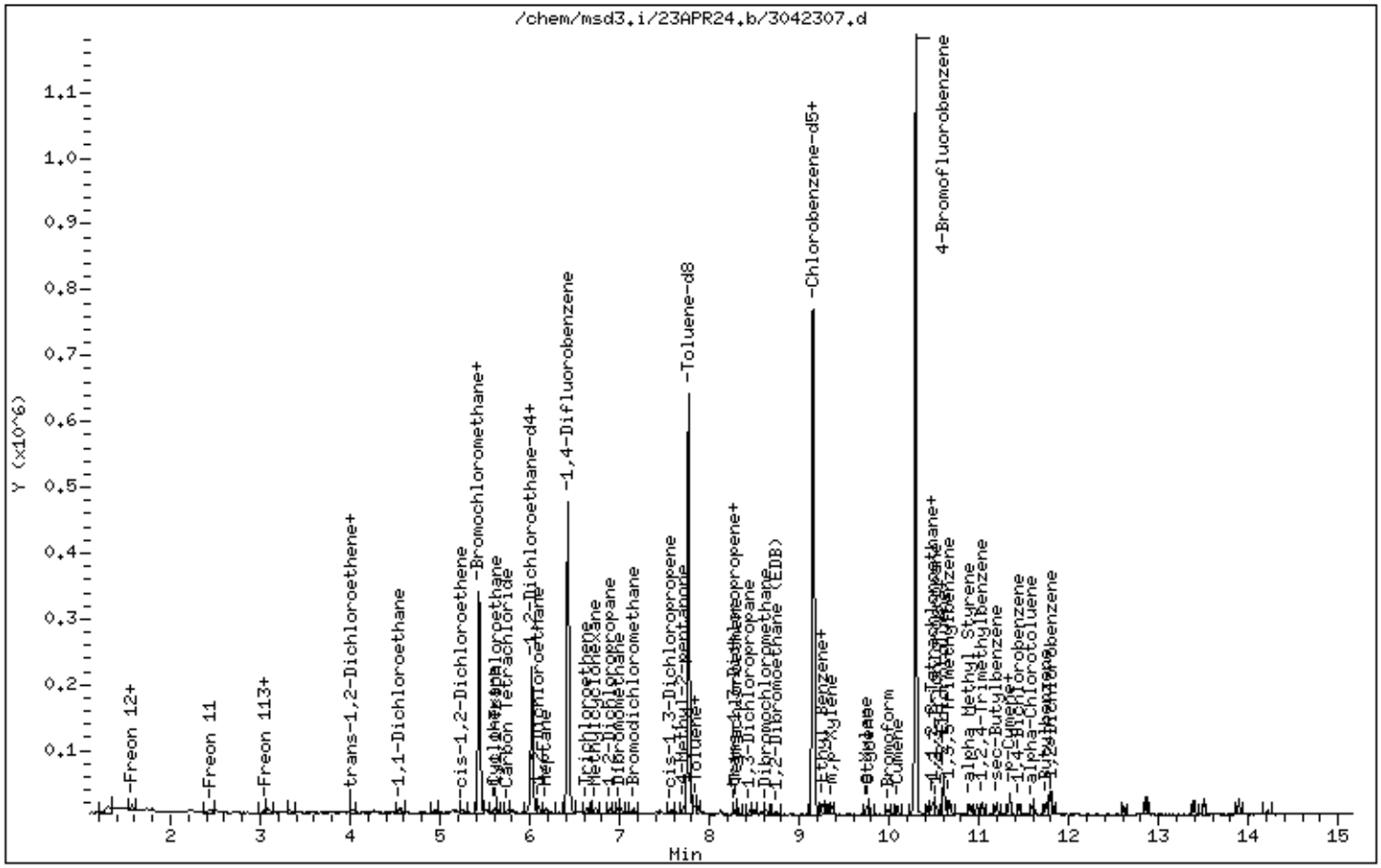
Instrument: msd3.i

Sample Info: 20ml 3018-4466

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042308.d
Lab Smp Id: ICAL Level #3 Client Smp ID: ICAL Level #3
Inj Date : 23-APR-2024 21:50
Operator : DF Inst ID: msd3.i
Smp Info : 40ml 3018-4466
Misc Info : 1.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 21:50 Cal File: 3042308.d
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23_Level3.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ======= | ========== | ===== |
| 4 Freon 134a | | | | | | CAS #: 811-97-2 | | |
| 1.423 | 1.409 (0.262) | 83 | 3045 | 1.00000 | 1.248 | 80.00- 120.00 | 100.00(a) | |
| 1.381 | 1.409 (0.254) | 69 | 2917 | | | 64.17- 124.17 | 95.80 | |
| 1.479 | 1.493 (0.272) | 51 | 11034 | | | 365.46- 425.46 | 362.36 | |
| 8 Freon 12 | | | | | | CAS #: 75-71-8 | | |
| 1.451 | 1.465 (0.267) | 85 | 6615 | 1.00000 | 1.058 | 80.00- 120.00 | 100.00 | |
| 1.465 | 1.465 (0.270) | 87 | 2169 | | | 2.88- 62.88 | 32.79 | |
| 9 Chlorodifluoromethane | | | | | | CAS #: 75-45-6 | | |
| 1.479 | 1.493 (0.272) | 67 | 799 | 1.00000 | 1.021 | 80.00- 120.00 | 100.00 | |
| 1.479 | 1.493 (0.272) | 51 | 11034 | | | 1257.55-1317.55 | 1380.98 | |
| 10 Freon 114 | | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 5701 | 1.00000 | 1.037 | 80.00- 120.00 | 100.00 | |
| 1.577 | 1.577 (0.290) | 137 | 1791 | | | 2.10- 62.10 | 31.42 | |
| 12 Isobutane | | | | | | CAS #: 75-28-5 | | |
| 1.577 | 1.591 (0.290) | 43 | 6291 | 1.00000 | 1.076 | 80.00- 120.00 | 100.00(Ta) | |
| 1.577 | 1.591 (0.290) | 42 | 3194 | | | 1.69- 61.69 | 50.77 | |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 12 Isobutane (continued) | | | | | | | |
| 0.000 | 1.577 (0.000) | 58 | 0 | | | 0.00- 33.32 | 0.00 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.759 (0.324) | 62 | 3401 | 1.00000 | 1.166 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.759 (0.324) | 64 | 2582 | | | 3.10- 63.10 | 75.92 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 3354 | 1.00000 | 1.224 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 3084 | | | 78.74- 138.74 | 91.95 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.416 (0.442) | 106 | 2210 | 1.00000 | 0.9118 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.416 (0.442) | 108 | 2232 | | | 64.21- 124.21 | 101.00 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 7612 | 1.00000 | 1.057 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 4986 | | | 34.93- 94.93 | 65.50 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.472 (0.453) | 67 | 6472 | 1.00000 | 1.127 | 80.00- 120.00 | 100.00(a) |
| 2.458 | 2.472 (0.453) | 69 | 2513 | | | 1.95- 61.95 | 38.83 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 6111 | 1.00000 | 1.006 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 1388 | | | 0.00- 44.64 | 22.71 |
| 2.514 | 2.514 (0.463) | 72 | 388 | | | 0.00- 37.90 | 6.35 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 959 | 1.23200 | 1.678 | 80.00- 120.00 | 100.00(a) |
| 2.766 | 2.752 (0.509) | 45 | 2139 | | | 224.40- 284.40 | 223.04 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.046 | 3.061 (0.561) | 55 | 2232 | 1.16500 | 1.815 | 80.00- 120.00 | 100.00(a) |
| 3.046 | 3.061 (0.561) | 56 | 3014 | | | 108.02- 168.02 | 135.04 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 6869 | 1.00000 | 1.079 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 4670 | | | 35.07- 95.07 | 67.99 |
| 3.061 | 3.061 (0.563) | 101 | 8304 | | | 87.45- 147.45 | 120.89 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.097 (0.569) | 96 | 2718 | 1.00000 | 1.004 | 80.00- 120.00 | 100.00 |
| 3.097 | 3.097 (0.570) | 98 | 1879 | | | 33.27- 93.27 | 69.13 |
| 3.089 | 3.097 (0.569) | 61 | 4975 | | | 159.05- 219.05 | 183.04 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.631) | 45 | 6741 | 1.00000 | 1.052 | 80.00- 120.00 | 100.00(a) |
| 3.440 | 3.426 (0.633) | 43 | 2549 | | | 0.00- 48.18 | 37.81 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.584 | 3.584 (0.660) | 76 | 1387 | 1.00000 | 1.115 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.584 (0.658) | 41 | 4693 | | | 366.80- 426.80 | 338.36 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.691 | 3.684 (0.680) | 41 | 3272 | 1.17600 | 1.157 | 80.00- 120.00 | 100.00(a) |
| 3.677 | 3.684 (0.677) | 40 | 2304 | | | 22.74- 82.74 | 70.42 |
| 3.677 | 3.684 (0.677) | 38 | 755 | | | 0.00- 42.52 | 23.07 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.906 | 3.913 (0.719) | 59 | 7622 | 1.15200 | 1.166 | 80.00- 120.00 | 100.00(a) |
| 3.913 | 3.913 (0.720) | 41 | 1398 | | | 0.00- 51.85 | 18.34 |
| 3.906 | 3.913 (0.719) | 57 | 1456 | | | 0.00- 40.17 | 19.10 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.738) | 73 | 8109 | 1.00000 | 1.049 | 80.00- 120.00 | 100.00 |
| 3.999 | 4.006 (0.736) | 57 | 2900 | | | 0.00- 58.72 | 35.76 |
| 4.006 | 4.006 (0.738) | 41 | 3388 | | | 0.00- 59.38 | 41.78 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.021 | 4.028 (0.740) | 98 | 1846 | 1.00000 | 1.015 | 80.00- 120.00 | 100.00 |
| 4.021 | 4.028 (0.740) | 61 | 4841 | | | 232.13- 292.13 | 262.24 |
| 4.028 | 4.028 (0.742) | 96 | 3011 | | | 127.26- 187.26 | 163.11 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.142 (0.761) | 52 | 2449 | 1.00000 | 1.041 | 80.00- 120.00 | 100.00 |
| 4.142 | 4.142 (0.763) | 53 | 2906 | | | 86.45- 146.45 | 118.66 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.264 | 4.257 (0.785) | 57 | 6458 | 1.00000 | 1.140 | 80.00- 120.00 | 100.00 |
| 4.250 | 4.257 (0.782) | 43 | 6027 | | | 40.97- 100.97 | 93.33 |
| 4.250 | 4.257 (0.782) | 86 | 494 | | | 0.00- 42.68 | 7.65 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.839) | 63 | 5325 | 1.00000 | 1.013 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.558 (0.838) | 65 | 1937 | | | 0.47- 60.47 | 36.38 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.145 | 5.145 (0.947) | 77 | 5571 | 1.00000 | 1.074 | 80.00- 120.00 | 100.00(a) |
| 5.138 | 5.145 (0.946) | 79 | 2032 | | | 2.39- 62.39 | 36.47 |
| 5.145 | 5.145 (0.947) | 97 | 1440 | | | 0.00- 53.57 | 25.85 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 85 cis-1,2-Dichloroethene | | | | | | CAS #: 156-59-2 | |
| 5.188 | 5.188 (0.955) | 98 | 2013 | 1.00000 | 1.069 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.955) | 96 | 2852 | | | 125.53- 185.53 | 141.68 |
| 5.188 | 5.188 (0.955) | 61 | 5409 | | | 219.86- 279.86 | 268.70 |
| 89 Tetrahydrofuran | | | | | | CAS #: 109-99-9 | |
| 5.432 | 5.425 (1.000) | 42 | 4547 | 1.00000 | 1.096 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.425 (1.000) | 71 | 1354 | | | 0.00- 58.54 | 29.78 |
| 5.446 | 5.425 (1.003) | 72 | 1094 | | | 0.00- 59.59 | 24.06 |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.432 | 5.439 (1.000) | 130 | 105555 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.439 (1.000) | 128 | 82343 | | | 47.79- 107.79 | 78.01 |
| 5.432 | 5.439 (1.000) | 49 | 174252 | | | 131.33- 191.33 | 165.08 |
| 92 Chloroform | | | | | | CAS #: 67-66-3 | |
| 5.510 | 5.518 (1.014) | 83 | 5657 | 1.00000 | 1.002 | 80.00- 120.00 | 100.00 |
| 5.518 | 5.518 (1.016) | 85 | 3832 | | | 35.77- 95.77 | 67.74 |
| 94 Cyclohexane | | | | | | CAS #: 110-82-7 | |
| 5.611 | 5.611 (1.033) | 84 | 3958 | 1.00000 | 1.048 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.033) | 56 | 6255 | | | 125.79- 185.79 | 158.03 |
| 5.604 | 5.611 (1.032) | 41 | 3602 | | | 61.55- 121.55 | 91.01 |
| 96 1,1,1-Trichloroethane | | | | | | CAS #: 71-55-6 | |
| 5.632 | 5.639 (1.037) | 97 | 6470 | 1.00000 | 1.051 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.639 (1.037) | 99 | 3984 | | | 32.84- 92.84 | 61.58 |
| 97 Carbon Tetrachloride | | | | | | CAS #: 56-23-5 | |
| 5.754 | 5.761 (1.059) | 119 | 6701 | 1.00000 | 1.027 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.761 (1.059) | 117 | 7143 | | | 75.19- 135.19 | 106.60 |
| 99 1,1-Dichloropropene | | | | | | CAS #: 563-58-6 | |
| 5.804 | 5.804 (0.903) | 110 | 1581 | 1.00000 | 0.9932 | 80.00- 120.00 | 100.00(a) |
| 5.804 | 5.804 (0.903) | 75 | 4402 | | | 234.16- 294.16 | 278.43 |
| 102 Benzene | | | | | | CAS #: 71-43-2 | |
| 5.998 | 5.998 (0.933) | 78 | 8295 | 1.00000 | 1.042 | 80.00- 120.00 | 100.00 |
| 5.998 | 5.998 (0.933) | 77 | 2221 | | | 0.00- 53.69 | 26.78 |
| 101 2,2,4-Trimethylpentane | | | | | | CAS #: 540-84-1 | |
| 5.998 | 5.998 (1.104) | 57 | 18037 | 1.00000 | 1.019 | 80.00- 120.00 | 100.00 |
| 6.005 | 5.998 (1.105) | 56 | 6830 | | | 3.09- 63.09 | 37.87 |
| 5.990 | 5.998 (1.103) | 41 | 6382 | | | 0.00- 57.28 | 35.38 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | |
| 6.026 | 6.026 (1.109) | 65 | 135576 | 25.0000 | 24.659 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 104 1,2-Dichloroethane-d4 (continued) | | | | | | | |
| 6.026 | 6.026 (1.109) | 67 | 71106 | | | 23.17- 83.17 | 52.45 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.105 (0.949) | 62 | 4324 | 1.00000 | 1.042 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.105 (0.949) | 64 | 1800 | | | 1.80- 61.80 | 41.63 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 3389 | 1.00000 | 1.075 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.184 (0.961) | 43 | 7153 | | | 207.73- 267.73 | 211.07 |
| 6.177 | 6.184 (0.961) | 57 | 4659 | | | 84.83- 144.83 | 137.47 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 395193 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 61604 | | | 0.00- 45.65 | 15.59 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 3951 | 1.00000 | 1.030 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.635 (1.032) | 130 | 4307 | | | 80.23- 140.23 | 109.01 |
| 6.628 | 6.635 (1.031) | 97 | 2589 | | | 34.78- 94.78 | 65.53 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.743 | 6.735 (1.049) | 83 | 6016 | 1.00000 | 1.104 | 80.00- 120.00 | 100.00(a) |
| 6.735 | 6.735 (1.048) | 98 | 2515 | | | 14.83- 74.83 | 41.81 |
| 6.735 | 6.735 (1.048) | 55 | 6399 | | | 71.50- 131.50 | 106.37 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.893 (1.071) | 63 | 3793 | 1.00000 | 1.013 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.893 (1.071) | 62 | 2986 | | | 40.39- 100.39 | 78.72 |
| 6.893 | 6.893 (1.072) | 41 | 2456 | | | 31.86- 91.86 | 64.75 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.986 | 6.979 (0.763) | 69 | 3771 | 1.00000 | 1.181 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 5654 | | | 145.81- 205.81 | 149.93 |
| 6.986 | 6.979 (0.763) | 100 | 1420 | | | 10.05- 70.05 | 37.66 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 7.000 | 6.993 (1.089) | 88 | 1909 | 1.00000 | 0.9538 | 80.00- 120.00 | 100.00 |
| 7.000 | 6.993 (1.089) | 58 | 1983 | | | 56.33- 116.33 | 103.88 |
| 7.000 | 6.993 (1.089) | 57 | 663 | | | 2.08- 62.08 | 34.73 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.008 | 7.008 (0.765) | 174 | 3849 | 1.00000 | 1.040 | 80.00- 120.00 | 100.00 |
| 7.015 | 7.008 (0.766) | 93 | 3544 | | | 62.68- 122.68 | 92.08 |
| 7.008 | 7.008 (0.765) | 95 | 2997 | | | 47.70- 107.70 | 77.86 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 6112 | 1.00000 | 0.9842 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 3930 | | | 34.96- 94.96 | 64.30 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.574 (1.178) | 75 | 5448 | 1.00000 | 1.029 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.574 (1.177) | 77 | 1757 | | | 1.26- 61.26 | 32.25 |
| 7.573 | 7.574 (1.178) | 39 | 4900 | | | 35.06- 95.06 | 89.94 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.710 | 7.710 (1.199) | 58 | 4174 | 1.00000 | 1.146 | 80.00- 120.00 | 100.00 |
| 7.710 | 7.710 (1.199) | 43 | 12185 | | | 259.88- 319.88 | 291.93 |
| 7.710 | 7.710 (1.199) | 85 | 1445 | | | 7.58- 67.58 | 34.62 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 389568 | 25.0000 | 25.357 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 42634 | | | 0.00- 41.42 | 10.94 |
| 7.767 | 7.767 (1.208) | 100 | 257041 | | | 37.54- 97.54 | 65.98 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.831 (1.217) | 91 | 11722 | 1.00000 | 1.064 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 6660 | | | 27.89- 87.89 | 56.82 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 4398 | 1.00000 | 1.096 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 4011 | | | 63.53- 123.53 | 91.20 |
| 7.860 | 7.860 (1.223) | 43 | 10565 | | | 246.00- 306.00 | 240.22 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 4387 | 1.00000 | 1.012 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 2198 | | | 1.83- 61.83 | 50.10 |
| 8.118 | 8.118 (0.887) | 39 | 3661 | | | 31.97- 91.97 | 83.45 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.290 | 8.290 (0.905) | 97 | 4037 | 1.00000 | 1.100 | 80.00- 120.00 | 100.00 |
| 8.283 | 8.290 (0.905) | 99 | 2376 | | | 32.52- 92.52 | 58.86 |
| 8.283 | 8.290 (0.905) | 83 | 3423 | | | 58.90- 118.90 | 84.79 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 5802 | 1.00000 | 1.053 | 80.00- 120.00 | 100.00 |
| 8.318 | 8.318 (0.908) | 129 | 4585 | | | 45.32- 105.32 | 79.02 |
| 8.318 | 8.318 (0.908) | 131 | 4419 | | | 44.17- 104.17 | 76.16 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 5401 | 1.00000 | 1.046 | 80.00- 120.00 | 100.00(a) |
| 8.447 | 8.447 (1.314) | 41 | 4507 | | | 59.72- 119.72 | 83.45 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 144 1,3-Dichloropropane (continued) | | | | | | | |
| 8.447 | 8.447 (1.314) | 78 | 1853 | | | 3.08- 63.08 | 34.31 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 7242 | 1.00000 | 0.9988 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.942) | 127 | 5844 | | | 47.27- 107.27 | 80.70 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.748 | 8.741 (0.955) | 107 | 6381 | 1.00000 | 1.061 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 5819 | | | 64.18- 124.18 | 91.19 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 392113 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 212516 | | | 22.92- 82.92 | 54.20 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.185 (1.002) | 112 | 9608 | 1.00000 | 1.058 | 80.00- 120.00 | 100.00 |
| 9.185 | 9.185 (1.003) | 114 | 3456 | | | 1.91- 61.91 | 35.97 |
| 9.178 | 9.185 (1.002) | 77 | 5923 | | | 22.97- 82.97 | 61.65 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.250 | 9.250 (1.010) | 106 | 4444 | 1.00000 | 0.9725 | 80.00- 120.00 | 100.00 |
| 9.250 | 9.250 (1.010) | 91 | 14977 | | | 281.09- 341.09 | 337.02 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.012) | 131 | 5079 | 1.00000 | 0.9813 | 80.00- 120.00 | 100.00(a) |
| 9.271 | 9.271 (1.012) | 117 | 4831 | | | 37.10- 97.10 | 95.12 |
| 9.271 | 9.271 (1.012) | 95 | 1921 | | | 4.93- 64.93 | 37.82 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.017) | 43 | 11607 | 1.00000 | 1.094 | 80.00- 120.00 | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 9566 | | | 50.62- 110.62 | 82.42 |
| 9.314 | 9.314 (1.017) | 85 | 2930 | | | 0.00- 55.65 | 25.24 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 5834 | 1.00000 | 1.024 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 12882 | | | 170.33- 230.33 | 220.81 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 5484 | 1.00000 | 1.015 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 11995 | | | 181.23- 241.23 | 218.73 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 9555 | 1.00000 | 1.036 | 80.00- 120.00 | 100.00 |
| 9.780 | 9.780 (1.068) | 78 | 4796 | | | 17.26- 77.26 | 50.19 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 6969 | 1.00000 | 0.9510 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 3968 | | | 21.45- 81.45 | 56.94 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 17046 | 1.00000 | 1.044 | 80.00- 120.00 | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 4573 | | | 0.00- 56.93 | 26.83 |
| 10.095 | 10.095 (1.102) | 51 | 2487 | | | 0.00- 42.24 | 14.59 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.260 | 10.260 (1.120) | 55 | 8603 | 1.00000 | 1.332 | 80.00- 120.00 | 100.00(a) |
| 10.260 | 10.260 (1.120) | 98 | 2587 | | | 5.15- 65.15 | 30.07 |
| 10.260 | 10.260 (1.120) | 42 | 5789 | | | 41.99- 101.99 | 67.29 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 292348 | 25.0000 | 25.088 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 346945 | | | 88.49- 148.49 | 118.68 |
| 10.295 | 10.295 (1.124) | 176 | 281580 | | | 66.73- 126.73 | 96.32 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.432 (1.139) | 156 | 6026 | 1.00000 | 1.059 | 80.00- 120.00 | 100.00(a) |
| 10.431 | 10.432 (1.139) | 158 | 5821 | | | 67.47- 127.47 | 96.60 |
| 10.431 | 10.432 (1.139) | 77 | 8791 | | | 108.68- 168.68 | 145.88 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.475 (1.143) | 83 | 8998 | 1.00000 | 1.062 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.475 (1.143) | 85 | 5767 | | | 34.97- 94.97 | 64.09 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 4947 | 1.00000 | 1.025 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 21927 | | | 383.60- 443.60 | 443.24 |
| 10.496 | 10.496 (1.146) | 105 | 778 | | | 0.00- 46.14 | 15.73 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.525 (1.149) | 110 | 2787 | 1.00000 | 1.084 | 80.00- 120.00 | 100.00 |
| 10.525 | 10.525 (1.149) | 75 | 9673 | | | 324.28- 384.28 | 347.08 |
| 10.517 | 10.518 (1.149) | 61 | 2787 | | | 57.24- 117.24 | 100.00 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.611 | 10.611 (1.159) | 126 | 4579 | 1.00000 | 1.028 | 80.00- 120.00 | 100.00(a) |
| 10.603 | 10.611 (1.158) | 91 | 15266 | | | 282.78- 342.78 | 333.39 |
| 10.603 | 10.603 (1.158) | 65 | 2503 | | | 17.33- 77.33 | 54.66 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.611 (1.158) | 120 | 5827 | 1.00000 | 1.107 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 105 | 18601 | | | 298.94- 358.94 | 319.22 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.611 (1.158) | 57 | 17468 | 1.00000 | 1.398 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 71 | 5419 | | | 1.11- 61.11 | 31.02 |
| 10.611 | 10.611 (1.159) | 142 | 600 | | | 0.00- 34.44 | 3.43 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 7281 | 1.00000 | 1.026 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 15245 | | | 172.08- 232.08 | 209.38 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 8036 | 1.00000 | 1.069 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 4215 | | | 25.64- 85.64 | 52.45 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.983 (1.199) | 119 | 14486 | 1.00000 | 1.074 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.983 (1.199) | 134 | 3244 | | | 0.00- 55.10 | 22.39 |
| 10.976 | 10.976 (1.199) | 91 | 9878 | | | 34.53- 94.53 | 68.19 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 15308 | 1.00000 | 1.055 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.206) | 120 | 7141 | | | 16.63- 76.63 | 46.65 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 4435 | 1.00000 | 1.004 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 21189 | | | 436.99- 496.99 | 477.77 |
| 11.191 | 11.198 (1.222) | 91 | 3795 | | | 41.69- 101.69 | 85.57 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 18828 | 1.00000 | 1.042 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 5172 | | | 0.00- 57.62 | 27.47 |
| 11.341 | 11.341 (1.239) | 91 | 4671 | | | 0.00- 53.03 | 24.81 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 11500 | 1.00000 | 1.070 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 7232 | | | 34.18- 94.18 | 62.89 |
| 11.348 | 11.348 (1.239) | 111 | 4561 | | | 10.06- 70.06 | 39.66 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.449 | 11.449 (1.250) | 146 | 11649 | 1.00000 | 1.070 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.250) | 148 | 7223 | | | 33.55- 93.55 | 62.01 |
| 11.449 | 11.449 (1.250) | 111 | 4635 | | | 7.98- 67.98 | 39.79 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 14051 | 1.00000 | 1.019 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 3017 | | | 0.00- 52.77 | 21.47 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.750 (1.282) | 134 | 5283 | 1.00000 | 1.061 | 80.00- 120.00 | 100.00(a) |
| 11.742 | 11.742 (1.282) | 91 | 18507 | | | 310.82- 370.82 | 350.31 |
| 11.742 | 11.742 (1.282) | 92 | 9789 | | | 151.53- 211.53 | 185.29 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 20826 | 1.00000 | 1.402 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.287) | 43 | 20809 | | | 63.59- 123.59 | 99.92 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 11179 | 1.00000 | 1.071 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 6969 | | | 33.00- 93.00 | 62.34 |
| 11.814 | 11.821 (1.290) | 111 | 4628 | | | 10.87- 70.87 | 41.40 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.853 | 12.860 (1.404) | 57 | 15830 | 1.00000 | 1.058 | 80.00- 120.00 | 100.00 |
| 12.853 | 12.860 (1.404) | 43 | 15626 | | | 58.52- 118.52 | 98.71 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.641 | 13.648 (1.490) | 128 | 2978 | 0.11600 | 0.1380 | 80.00- 120.00 | 100.00(a) |
| 13.641 | 13.648 (1.490) | 127 | 331 | | | 0.00- 42.72 | 11.11 |

## QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042308.d
Lab Smp Id: ICAL Level #3
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 1.0ppbv (5.0ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #3
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 105555 | -0.59 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 395193 | 1.08 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 392113 | 0.03 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.43 | -0.13 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042308.d

Page 1

Date : 23-APR-2024 21:50

Client ID: ICAL Level #3

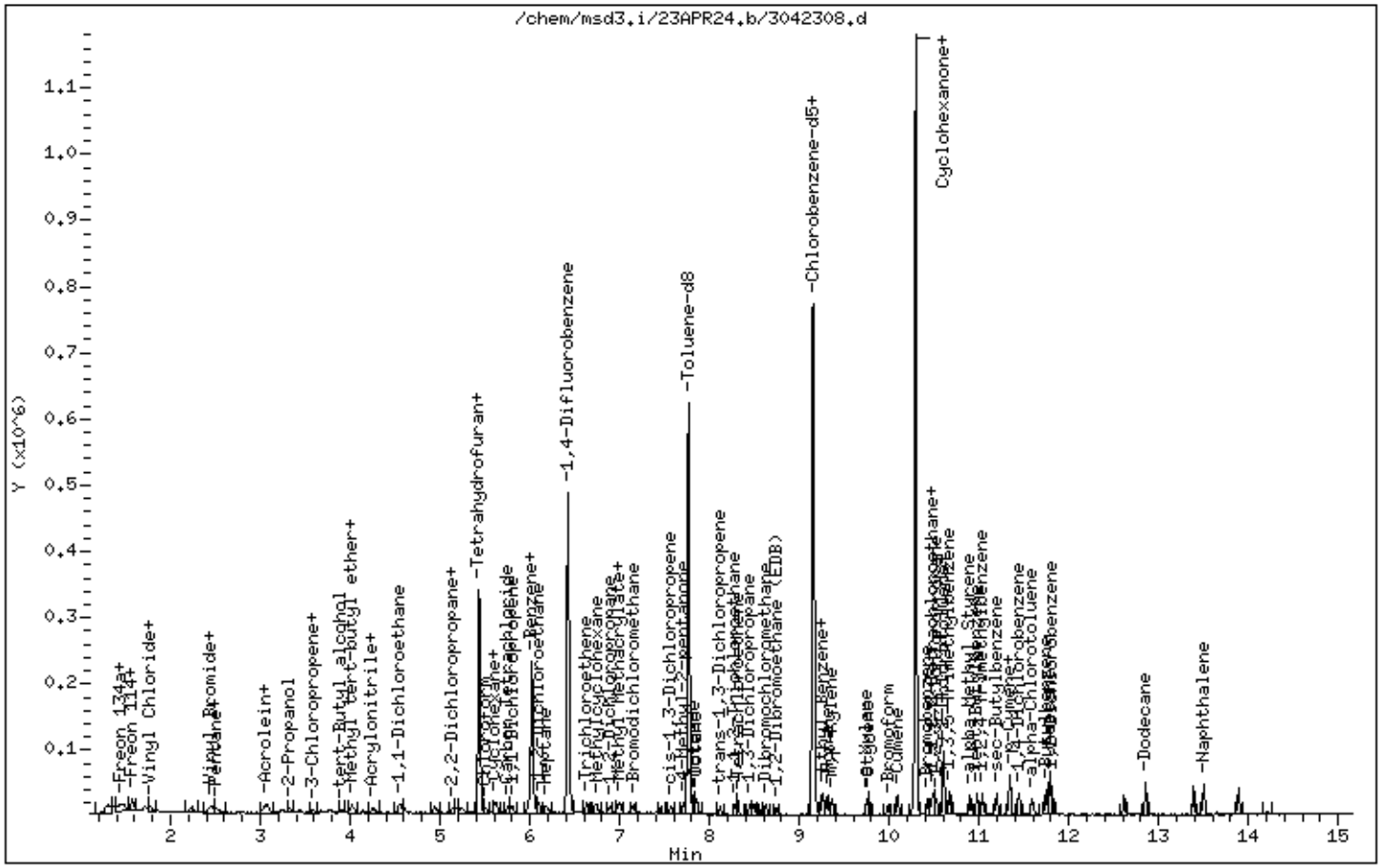
Instrument: msd3.i

Sample Info: 40ml 3018-4466

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3041803.d
Lab Smp Id: ICAL Level #4 Client Smp ID: ICAL Level #4
Inj Date : 18-APR-2024 09:31
Operator : mjs Inst ID: msd3.i
Smp Info : 80ml 3018-4329
Misc Info : 2.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 22:22 Cal File: 3042309.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT21spICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 120138 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 94112 | | | 47.79- 107.79 | 78.34 |
| 5.432 | 5.439 (1.000) | 49 | 197929 | | | 131.33- 191.33 | 164.75 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 463814 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 72133 | | | 0.00- 45.65 | 15.55 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 464193 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 248970 | | | 22.92- 82.92 | 53.64 |
| 6 Propane | | | | | CAS #: 74-98-6 | | |
| 1.437 | 1.423 (0.264) | 43 | 2199 | 2.00000 | 1.978 | 80.00- 120.00 | 100.00(a) |
| 1.437 | 1.437 (0.264) | 39 | 1839 | | | 37.94- 97.94 | 83.63 |
| 1.437 | 1.423 (0.264) | 41 | 2298 | | | 21.79- 81.79 | 104.50 |
| 13 Freon 142b | | | | | CAS #: 75-68-3 | | |
| 1.605 | 1.604 (0.295) | 65 | 13828 | 2.00000 | 2.342 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 13 Freon 142b (continued) | | | | | | | |
| 1.605 | 1.604 (0.295) | 45 | 4425 | | | 0.00- 58.87 | 32.00 |
| 36 1-Pentene | | | | | CAS #: 109-67-1 | | |
| 2.458 | 2.458 (0.452) | 55 | 8072 | 2.00000 | 2.202 | 80.00- 120.00 | 100.00(a) |
| 2.458 | 2.458 (0.452) | 42 | 11065 | | | 114.47- 174.47 | 137.08 |
| 38 Ethyl Ether | | | | | CAS #: 60-29-7 | | |
| 2.808 | 2.794 (0.516) | 74 | 3628 | 2.00000 | 2.393 | 80.00- 120.00 | 100.00 |
| 2.808 | 2.794 (0.516) | 59 | 6132 | | | 138.79- 198.79 | 169.02 |
| 2.808 | 2.794 (0.516) | 45 | 4292 | | | 114.58- 174.58 | 118.30 |
| 40 Freon 123a | | | | | CAS #: 354-23-4 | | |
| 2.892 | 2.906 (0.532) | 117 | 10619 | 2.00000 | 2.223 | 80.00- 120.00 | 100.00(a) |
| 2.906 | 2.892 (0.534) | 67 | 12422 | | | 102.78- 162.78 | 116.98 |
| 41 Freon 123 | | | | | CAS #: 306-83-2 | | |
| 2.990 | 2.990 (0.550) | 83 | 9129 | 2.00000 | 2.064 | 80.00- 120.00 | 100.00 |
| 2.990 | 2.990 (0.550) | 133 | 3180 | | | 0.00- 53.60 | 34.83 |
| 2.990 | 2.990 (0.550) | 85 | 7579 | | | 36.72- 96.72 | 83.02 |
| 55 Cyclopentene | | | | | CAS #: 142-29-0 | | |
| 3.598 | 3.591 (0.662) | 67 | 13867 | 2.00000 | 2.059 | 80.00- 120.00 | 100.00 |
| 3.591 | 3.591 (0.660) | 68 | 6700 | | | 8.38- 68.38 | 48.32 |
| 3.598 | 3.591 (0.662) | 53 | 3442 | | | 0.00- 54.97 | 24.82 |
| 56 Methyl Acetate | | | | | CAS #: 79-20-9 | | |
| 3.627 | 3.619 (0.667) | 43 | 15328 | 2.00000 | 2.048 | 80.00- 120.00 | 100.00(a) |
| 3.619 | 3.619 (0.665) | 74 | 3100 | | | 0.00- 45.84 | 20.22 |
| 74 Chloroprene | | | | | CAS #: 126-99-8 | | |
| 4.608 | 4.608 (0.847) | 53 | 12151 | 2.00000 | 2.076 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 88 | 5571 | | | 14.44- 74.44 | 45.85 |
| 4.608 | 4.608 (0.847) | 50 | 4172 | | | 0.00- 56.76 | 34.33 |
| 75 1-Propanol | | | | | CAS #: 71-23-8 | | |
| 4.723 | 4.715 (0.868) | 59 | 2471 | 2.00000 | 2.796 | 80.00- 120.00 | 100.00 |
| 4.723 | 4.715 (0.868) | 42 | 2071 | | | 63.00- 123.00 | 83.81 |
| 4.701 | 4.715 (0.864) | 41 | 570 | | | 28.69- 88.69 | 23.07 |
| 88 Methyl Acrylate | | | | | CAS #: 96-33-3 | | |
| 5.296 | 5.288 (0.974) | 55 | 15436 | 2.00000 | 2.099 | 80.00- 120.00 | 100.00(a) |
| 5.303 | 5.288 (0.975) | 85 | 2706 | | | 0.00- 43.17 | 17.53 |
| 5.296 | 5.288 (0.974) | 58 | 1878 | | | 0.00- 38.59 | 12.17 |
| 103 Isobutanol | | | | | CAS #: 78-83-1 | | |
| 5.998 | 5.990 (1.103) | 39 | 3783 | 2.00000 | 3.254 | 80.00- 120.00 | 100.00(a) |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 103 Isobutanol (continued) | | | | | | | |
| 5.998 | 5.990 (1.103) | 43 | 9246 | | | 402.02- 462.02 | 244.41 |
| 5.998 | 5.990 (1.103) | 41 | 7110 | | | 275.29- 335.29 | 187.95 |
| 113 Ethyl acrylate | | | | | CAS #: 140-88-5 | | |
| 6.764 | 6.764 (0.739) | 99 | 1687 | 2.00000 | 2.668 | 80.00- 120.00 | 100.00 |
| 6.764 | 6.764 (0.739) | 45 | 2466 | | | 144.38- 204.38 | 146.18 |
| 6.764 | 6.764 (0.739) | 55 | 21134 | | | 1723.57-1783.57 | 1252.76 |
| 115 2-Pentanone | | | | | CAS #: 107-87-9 | | |
| 6.864 | 6.857 (0.750) | 43 | 26239 | 2.00000 | 2.061 | 80.00- 120.00 | 100.00 |
| 6.857 | 6.857 (0.749) | 58 | 2558 | | | 0.00- 37.02 | 9.75 |
| 6.864 | 6.857 (0.750) | 86 | 3819 | | | 0.00- 43.48 | 14.55 |
| 145 Butyl Acetate | | | | | CAS #: 123-86-4 | | |
| 8.576 | 8.576 (1.334) | 56 | 12702 | 2.00000 | 2.228 | 80.00- 120.00 | 100.00(a) |
| 8.583 | 8.576 (1.335) | 73 | 4522 | | | 2.83- 62.83 | 35.60 |
| 8.576 | 8.576 (1.334) | 43 | 33172 | | | 240.40- 300.40 | 261.16 |
| 166 2-Heptanone | | | | | CAS #: 110-43-0 | | |
| 9.901 | 9.901 (1.821) | 58 | 21749 | 2.00000 | 2.365 | 80.00- 120.00 | 100.00 |
| 9.901 | 9.901 (1.821) | 43 | 38769 | | | 146.16- 206.16 | 178.26 |
| 210 alpha-Pinene | | | | | CAS #: 80-56-8 | | |
| 10.037 | 10.037 (1.096) | 93 | 25687 | 2.00000 | 2.109 | 80.00- 120.00 | 100.00 |
| 10.030 | 10.037 (1.095) | 77 | 7202 | | | 0.00- 59.07 | 28.04 |
| 214 beta-Pinene | | | | | CAS #: 127-91-3 | | |
| 10.697 | 10.696 (1.168) | 93 | 19765 | 2.00000 | 2.084 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 35220 | | | 151.21- 211.21 | 178.19 |
| 186 4-Chlorotoluene | | | | | CAS #: 106-43-4 | | |
| 10.725 | 10.725 (1.171) | 126 | 10548 | 2.00000 | 2.040 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 35220 | | | 296.65- 356.65 | 333.90 |
| 10.725 | 10.725 (1.171) | 63 | 4731 | | | 10.84- 70.84 | 44.85 |
| 172 D-Limonene | | | | | CAS #: 5989-27-5 | | |
| 11.277 | 11.277 (1.232) | 68 | 15885 | 2.00000 | 2.069 | 80.00- 120.00 | 100.00 |
| 11.277 | 11.277 (1.232) | 93 | 11230 | | | 41.19- 101.19 | 70.70 |
| 197 1,2,3-Trimethylbenzene | | | | | CAS #: 526-73-8 | | |
| 11.463 | 11.463 (1.252) | 120 | 14926 | 2.00000 | 2.104 | 80.00- 120.00 | 100.00(a) |
| 11.463 | 11.463 (1.252) | 105 | 33561 | | | 201.76- 261.76 | 224.85 |
| 11.463 | 11.463 (1.252) | 77 | 4736 | | | 0.00- 57.12 | 31.73 |
| 205 Hexachloroethane | | | | | CAS #: 67-72-1 | | |
| 12.022 | 12.014 (1.313) | 201 | 8233 | 2.00000 | 1.921 | 80.00- 120.00 | 100.00(a) |

| | | | | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | | | |
| 205 Hexachloroethane (continued) | | | | | | | |
| 12.014 | 12.014 (1.312) | 117 | 12206 | | | 114.78- 174.78 | 148.26 |
| 208 1,3,5-Trichlorobenzene | | | | | CAS #: 108-70-3 | | |
| 12.752 | 12.752 (1.393) | 180 | 19452 | 2.00000 | 1.970 | 80.00- 120.00 | 100.00(a) |
| 12.752 | 12.752 (1.393) | 182 | 17981 | | | 64.68- 124.68 | 92.44 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3041803.d
Lab Smp Id: ICAL Level #4
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 2.0ppbv (5.0ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #4
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 120138 | 13.14 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 463814 | 18.63 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 464193 | 18.42 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3041803.d



Date : 18-APR-2024 09:31

Client ID: ICAL Level #4

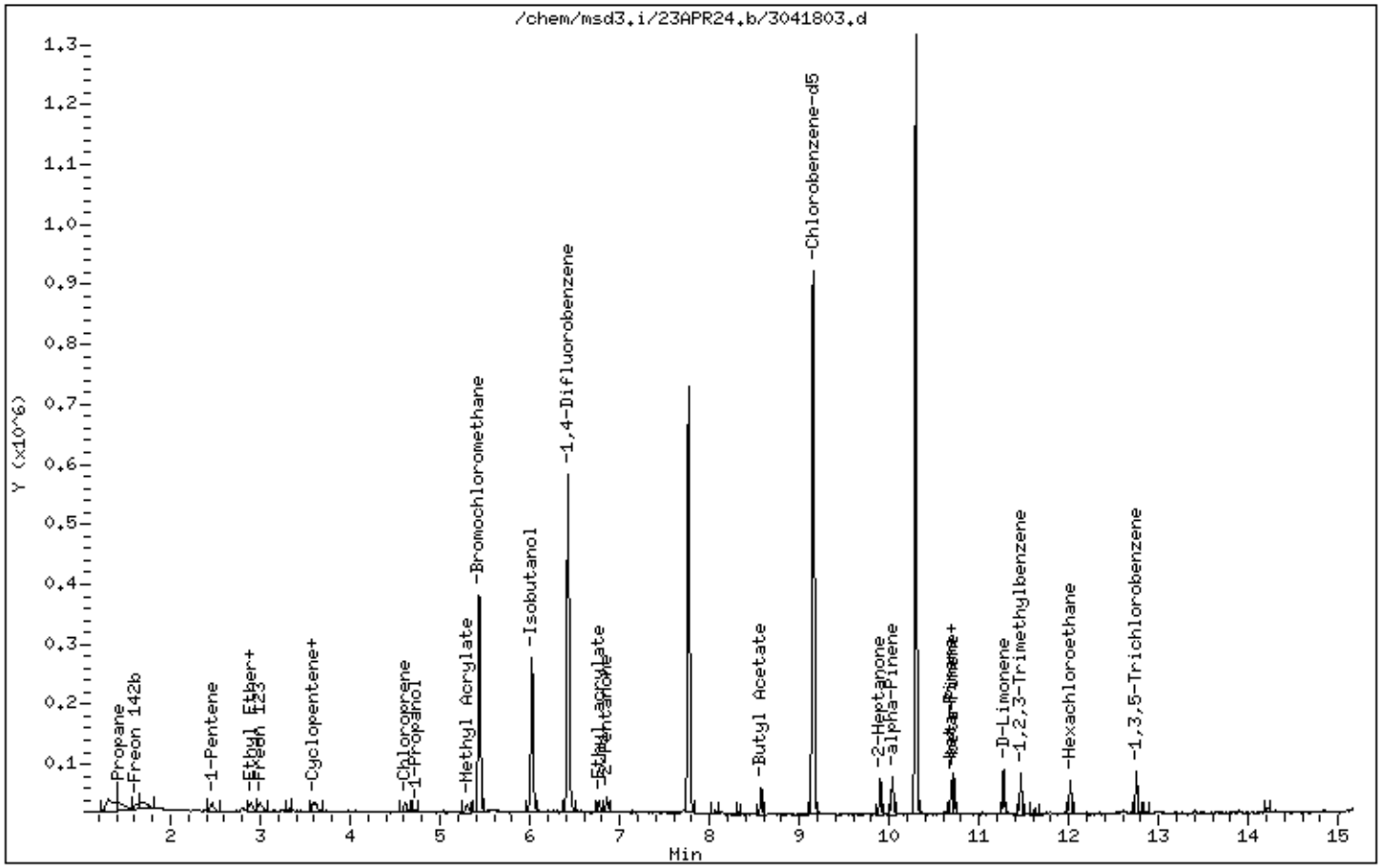
Instrument: msd3.i

Sample Info: 80ml 3018-4329

Operator: mjs

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042309.d
Lab Smp Id: ICAL Level #4 Client Smp ID: ICAL Level #4
Inj Date : 23-APR-2024 22:22
Operator : DF Inst ID: msd3.i
Smp Info : 80ml 3018-4466
Misc Info : 2.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 22:22 Cal File: 3042309.d
Als bottle: 3 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23ICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.423 | 1.409 (0.262) | 83 | 5897 | 2.00000 | 2.437 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 5510 | | | 64.17- 124.17 | 93.44 |
| 1.493 | 1.493 (0.274) | 51 | 21754 | | | 365.46- 425.46 | 368.90 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 6513 | 2.00000 | 2.376 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 4167 | | | 35.86- 95.86 | 63.98 |
| 1.437 | 1.437 (0.264) | 39 | 4456 | | | 41.66- 101.66 | 68.42 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.269) | 65 | 3759 | 2.00000 | 2.378 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.274) | 51 | 21754 | | | 568.10- 628.10 | 578.72 |
| 1.577 | 1.577 (0.290) | 47 | 1180 | | | 0.00- 50.57 | 31.39 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.269) | 85 | 13574 | 2.00000 | 2.190 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.269) | 87 | 4729 | | | 2.88- 62.88 | 34.84 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.493 (0.274) | 67 | 2049 | 2.00000 | 2.641 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 9 Chlorodifluoromethane (continued) | | | | | | | |
| 1.493 | 1.493 (0.274) | 51 | 21754 | | | 1257.55-1317.55 | 1061.69 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 10854 | 2.00000 | 1.992 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 3795 | | | 2.10- 62.10 | 34.96 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.577 | 1.591 (0.290) | 43 | 12066 | 2.00000 | 2.081 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.591 (0.290) | 42 | 3407 | | | 1.69- 61.69 | 28.24 |
| 1.591 | 1.577 (0.292) | 58 | 471 | | | 0.00- 33.32 | 3.90 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.675 (0.308) | 50 | 7257 | 2.00000 | 2.428 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.675 (0.308) | 52 | 2862 | | | 1.38- 61.38 | 39.44 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.731 (0.316) | 58 | 1517 | 2.00000 | 2.532 | 80.00- 120.00 | 100.00 |
| 1.716 | 1.731 (0.316) | 43 | 11141 | | | 866.38- 926.38 | 734.41 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.759 (0.323) | 62 | 6865 | 2.00000 | 2.374 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.759 (0.323) | 64 | 2833 | | | 3.10- 63.10 | 41.27 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 5535 | 2.00000 | 2.037 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 6354 | | | 78.74- 138.74 | 114.80 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 3393 | 2.00000 | 1.642 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 3140 | | | 64.19- 124.19 | 92.54 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.408) | 64 | 3227 | 2.00000 | 2.327 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.408) | 66 | 1150 | | | 2.32- 62.32 | 35.64 |
| 2.206 | 2.220 (0.406) | 49 | 1850 | | | 6.33- 66.33 | 57.33 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 8715 | 2.00000 | 2.202 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 5665 | | | 31.77- 91.77 | 65.00 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.416 (0.442) | 106 | 5134 | 2.00000 | 2.136 | 80.00- 120.00 | 100.00 |
| 2.416 | 2.416 (0.444) | 108 | 4900 | | | 64.21- 124.21 | 95.44 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.449) | 101 | 14478 | 2.00000 | 2.027 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 33 Freon 11 (continued) | | | | | | | |
| 2.444 | 2.444 (0.449) | 103 | 9770 | | | 34.93- 94.93 | 67.48 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.472 (0.452) | 67 | 12755 | 2.00000 | 2.240 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.472 (0.452) | 69 | 4599 | | | 1.95- 61.95 | 36.06 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.462) | 43 | 12681 | 2.00000 | 2.106 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.462) | 57 | 2708 | | | 0.00- 44.64 | 21.35 |
| 2.514 | 2.514 (0.462) | 72 | 1182 | | | 0.00- 37.90 | 9.32 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.766 | 2.752 (0.509) | 46 | 1575 | 2.46400 | 2.780 | 80.00- 120.00 | 100.00 |
| 2.766 | 2.752 (0.509) | 45 | 3644 | | | 224.40- 284.40 | 231.37 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.046 | 3.061 (0.560) | 55 | 3005 | 2.33000 | 2.464 | 80.00- 120.00 | 100.00 |
| 3.046 | 3.061 (0.560) | 56 | 4910 | | | 108.02- 168.02 | 163.39 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 13525 | 2.00000 | 2.143 | 80.00- 120.00 | 100.00 |
| 3.068 | 3.061 (0.564) | 153 | 8605 | | | 35.07- 95.07 | 63.62 |
| 3.061 | 3.061 (0.563) | 101 | 15440 | | | 87.45- 147.45 | 114.16 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.096 | 3.097 (0.569) | 96 | 5903 | 2.00000 | 2.198 | 80.00- 120.00 | 100.00 |
| 3.089 | 3.097 (0.568) | 98 | 3613 | | | 33.27- 93.27 | 61.21 |
| 3.089 | 3.097 (0.568) | 61 | 11064 | | | 159.05- 219.05 | 187.43 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.597) | 58 | 3574 | 2.00000 | 2.339 | 80.00- 120.00 | 100.00 |
| 3.247 | 3.247 (0.597) | 43 | 11985 | | | 329.45- 389.45 | 335.34 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.333 | 3.333 (0.613) | 76 | 17678 | 2.00000 | 2.414 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.433 | 3.426 (0.631) | 45 | 13251 | 2.00000 | 2.086 | 80.00- 120.00 | 100.00 |
| 3.433 | 3.426 (0.631) | 43 | 2934 | | | 0.00- 48.18 | 22.14 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.584 | 3.584 (0.659) | 76 | 2682 | 2.00000 | 2.174 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.584 (0.658) | 41 | 9250 | | | 366.80- 426.80 | 344.89 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.691 | 3.684 (0.679) | 41 | 7272 | 2.35200 | 2.593 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 57 Acetonitrile (continued) | | | | | | | |
| 3.691 | 3.684 (0.679) | 40 | 4117 | | | 22.74- 82.74 | 56.61 |
| 3.691 | 3.684 (0.679) | 38 | 1529 | | | 0.00- 42.52 | 21.03 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.784 | 3.784 (0.696) | 49 | 9606 | 2.00000 | 2.288 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.784 (0.694) | 84 | 5293 | | | 24.90- 84.90 | 55.10 |
| 3.777 | 3.784 (0.694) | 51 | 3159 | | | 0.00- 59.67 | 32.89 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.913 | 3.913 (0.719) | 59 | 15162 | 2.30400 | 2.339 | 80.00- 120.00 | 100.00 |
| 3.913 | 3.913 (0.719) | 41 | 3105 | | | 0.00- 51.85 | 20.48 |
| 3.906 | 3.913 (0.718) | 57 | 1989 | | | 0.00- 40.17 | 13.12 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.737) | 73 | 16332 | 2.00000 | 2.131 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.737) | 57 | 5857 | | | 0.00- 58.72 | 35.86 |
| 4.006 | 4.006 (0.737) | 41 | 4635 | | | 0.00- 59.38 | 28.38 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.035 | 4.028 (0.742) | 98 | 4086 | 2.00000 | 2.266 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.741) | 61 | 9876 | | | 232.13- 292.13 | 241.70 |
| 4.028 | 4.028 (0.741) | 96 | 5890 | | | 127.26- 187.26 | 144.15 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.142 | 4.142 (0.762) | 52 | 4913 | 2.00000 | 2.106 | 80.00- 120.00 | 100.00 |
| 4.142 | 4.142 (0.762) | 53 | 5946 | | | 86.45- 146.45 | 121.03 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.783) | 57 | 11457 | 2.00000 | 2.039 | 80.00- 120.00 | 100.00 |
| 4.264 | 4.257 (0.784) | 43 | 9671 | | | 40.97- 100.97 | 84.41 |
| 4.264 | 4.257 (0.784) | 86 | 1521 | | | 0.00- 42.68 | 13.28 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.838) | 63 | 11018 | 2.00000 | 2.114 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 65 | 3860 | | | 0.47- 60.47 | 35.03 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.558 | 4.558 (0.838) | 45 | 27186 | 2.00000 | 2.175 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 87 | 5261 | | | 0.00- 49.55 | 19.35 |
| 4.558 | 4.558 (0.838) | 59 | 3158 | | | 0.00- 40.42 | 11.62 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.615 | 4.608 (0.849) | 86 | 955 | 2.00000 | 2.081 | 80.00- 120.00 | 100.00 |
| 4.615 | 4.608 (0.849) | 43 | 15173 | | | 1727.95-1787.95 | 1588.80 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 79 Ethyl-tert-butyl ether | | | | | | CAS #: 637-92-3 | |
| 4.945 | 4.945 (0.909) | 59 | 23073 | 2.00000 | 2.141 | 80.00- 120.00 | 100.00 |
| 4.945 | 4.945 (0.909) | 87 | 7530 | | | 3.90- 63.90 | 32.64 |
| 4.945 | 4.945 (0.909) | 41 | 4934 | | | 0.00- 49.72 | 21.38 |
| 84 2,2-Dichloropropane | | | | | | CAS #: 594-20-7 | |
| 5.138 | 5.145 (0.945) | 77 | 10831 | 2.00000 | 2.105 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.145 (0.945) | 79 | 3451 | | | 2.39- 62.39 | 31.86 |
| 5.145 | 5.145 (0.946) | 97 | 2782 | | | 0.00- 53.57 | 25.69 |
| 85 cis-1,2-Dichloroethene | | | | | | CAS #: 156-59-2 | |
| 5.188 | 5.188 (0.954) | 98 | 3951 | 2.00000 | 2.116 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 96 | 6179 | | | 125.53- 185.53 | 156.39 |
| 5.188 | 5.188 (0.954) | 61 | 9696 | | | 219.86- 279.86 | 245.41 |
| 86 2-Butanone | | | | | | CAS #: 78-93-3 | |
| 5.224 | 5.217 (0.960) | 72 | 2862 | 2.00000 | 2.127 | 80.00- 120.00 | 100.00 |
| 5.245 | 5.217 (0.964) | 43 | 32757 | | | 1138.34-1198.34 | 1144.55 |
| 5.224 | 5.217 (0.960) | 57 | 1871 | | | 10.83- 70.83 | 65.37 |
| 87 Ethyl Acetate | | | | | | CAS #: 141-78-6 | |
| 5.260 | 5.245 (0.967) | 45 | 3225 | 2.00000 | 2.397 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 61 | 9696 | | | 338.96- 398.96 | 300.65 |
| 5.245 | 5.245 (0.964) | 70 | 1539 | | | 24.53- 84.53 | 47.72 |
| 89 Tetrahydrofuran | | | | | | CAS #: 109-99-9 | |
| 5.439 | 5.425 (1.000) | 42 | 9096 | 2.00000 | 2.211 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.425 (0.999) | 71 | 2352 | | | 0.00- 58.54 | 25.86 |
| 5.439 | 5.425 (1.000) | 72 | 2558 | | | 0.00- 59.59 | 28.12 |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.439 | 5.439 (1.000) | 130 | 104675 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 81068 | | | 47.79- 107.79 | 77.45 |
| 5.432 | 5.439 (1.000) | 49 | 173402 | | | 131.33- 191.33 | 165.66 |
| 92 Chloroform | | | | | | CAS #: 67-66-3 | |
| 5.518 | 5.518 (1.014) | 83 | 12175 | 2.00000 | 2.176 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.518 (1.013) | 85 | 7815 | | | 35.77- 95.77 | 64.19 |
| 94 Cyclohexane | | | | | | CAS #: 110-82-7 | |
| 5.611 | 5.611 (1.032) | 84 | 7758 | 2.00000 | 2.072 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.032) | 56 | 12287 | | | 125.79- 185.79 | 158.38 |
| 5.611 | 5.611 (1.032) | 41 | 8272 | | | 61.55- 121.55 | 106.63 |
| 96 1,1,1-Trichloroethane | | | | | | CAS #: 71-55-6 | |
| 5.639 | 5.639 (1.037) | 97 | 12327 | 2.00000 | 2.020 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 96 1,1,1-Trichloroethane (continued) | | | | | | | |
| 5.639 | 5.639 (1.037) | 99 | 7781 | | | 32.84- 92.84 | 63.12 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.059) | 119 | 13131 | 2.00000 | 2.029 | 80.00- 120.00 | 100.00 |
| 5.761 | 5.761 (1.059) | 117 | 13615 | | | 75.19- 135.19 | 103.69 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.804 | 5.804 (0.903) | 110 | 3415 | 2.00000 | 2.104 | 80.00- 120.00 | 100.00 |
| 5.804 | 5.804 (0.903) | 75 | 8896 | | | 234.16- 294.16 | 260.50 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.998 | 5.998 (0.933) | 78 | 16634 | 2.00000 | 2.050 | 80.00- 120.00 | 100.00 |
| 5.998 | 5.998 (0.933) | 77 | 4094 | | | 0.00- 53.69 | 24.61 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 6.005 | 5.998 (1.104) | 57 | 37803 | 2.00000 | 2.153 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.998 (1.101) | 56 | 13706 | | | 3.09- 63.09 | 36.26 |
| 6.005 | 5.998 (1.104) | 41 | 10984 | | | 0.00- 57.28 | 29.06 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.108) | 65 | 135356 | 25.0000 | 24.826 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.108) | 67 | 69905 | | | 23.17- 83.17 | 51.65 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.091 | 6.091 (0.948) | 87 | 4587 | 2.00000 | 2.104 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.091 (0.949) | 73 | 17779 | | | 365.76- 425.76 | 387.60 |
| 6.098 | 6.091 (0.949) | 55 | 6634 | | | 92.58- 152.58 | 144.63 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 8855 | 2.00000 | 2.092 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.105 (0.949) | 64 | 3296 | | | 1.80- 61.80 | 37.22 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 6324 | 2.00000 | 1.968 | 80.00- 120.00 | 100.00 |
| 6.184 | 6.184 (0.962) | 43 | 14662 | | | 207.73- 267.73 | 231.85 |
| 6.184 | 6.184 (0.962) | 57 | 7644 | | | 84.83- 144.83 | 120.87 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 402992 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 61782 | | | 0.00- 45.65 | 15.33 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.635 | 6.628 (1.032) | 56 | 4361 | 2.00000 | 2.364 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.628 (1.032) | 41 | 2697 | | | 47.73- 107.73 | 61.84 |
| 6.642 | 6.628 (1.033) | 43 | 2440 | | | 31.60- 91.60 | 55.95 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 8203 | 2.00000 | 2.097 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.635 (1.032) | 130 | 8805 | | | 80.23- 140.23 | 107.34 |
| 6.628 | 6.635 (1.031) | 97 | 5628 | | | 34.78- 94.78 | 68.61 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.742 | 6.735 (1.049) | 83 | 10959 | 2.00000 | 1.972 | 80.00- 120.00 | 100.00(a) |
| 6.742 | 6.735 (1.049) | 98 | 4864 | | | 14.83- 74.83 | 44.38 |
| 6.735 | 6.735 (1.048) | 55 | 12780 | | | 71.50- 131.50 | 116.62 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 7752 | 2.00000 | 2.030 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 5684 | | | 40.39- 100.39 | 73.32 |
| 6.893 | 6.893 (1.072) | 41 | 4710 | | | 31.86- 91.86 | 60.76 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.979 | 6.979 (0.762) | 69 | 6763 | 2.00000 | 2.076 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 11614 | | | 145.81- 205.81 | 171.73 |
| 6.986 | 6.979 (0.763) | 100 | 2712 | | | 10.05- 70.05 | 40.10 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 7.000 | 6.993 (1.089) | 88 | 4425 | 2.00000 | 2.168 | 80.00- 120.00 | 100.00 |
| 7.000 | 6.993 (1.089) | 58 | 3471 | | | 56.33- 116.33 | 78.44 |
| 7.000 | 6.993 (1.089) | 57 | 1731 | | | 2.08- 62.08 | 39.12 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.008 | 7.008 (0.765) | 174 | 7728 | 2.00000 | 2.048 | 80.00- 120.00 | 100.00 |
| 7.008 | 7.008 (0.765) | 93 | 7446 | | | 62.68- 122.68 | 96.35 |
| 7.008 | 7.008 (0.765) | 95 | 6421 | | | 47.70- 107.70 | 83.09 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 12777 | 2.00000 | 2.018 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 8281 | | | 34.96- 94.96 | 64.81 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.459 | 7.459 (1.160) | 63 | 13717 | 2.00000 | 2.036 | 80.00- 120.00 | 100.00 |
| 7.459 | 7.459 (1.160) | 65 | 4627 | | | 0.43- 60.43 | 33.73 |
| 7.459 | 7.459 (1.160) | 144 | 1571 | | | 0.00- 40.48 | 11.45 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.574 (1.178) | 75 | 10191 | 2.00000 | 1.887 | 80.00- 120.00 | 100.00 |
| 7.573 | 7.574 (1.178) | 77 | 3513 | | | 1.26- 61.26 | 34.47 |
| 7.573 | 7.574 (1.178) | 39 | 8021 | | | 35.06- 95.06 | 78.71 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.710 | 7.710 (1.199) | 58 | 7220 | 2.00000 | 1.943 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 131 4-Methyl-2-pentanone (continued) | | | | | | | |
| 7.710 | 7.710 (1.199) | 43 | 19705 | | | 259.88- 319.88 | 272.92 |
| 7.710 | 7.710 (1.199) | 85 | 2922 | | | 7.58- 67.58 | 40.47 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | |
| 7.767 | 7.767 (1.208) | 98 | 391144 | 25.0000 | 24.967 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 43548 | | | 0.00- 41.42 | 11.13 |
| 7.767 | 7.767 (1.208) | 100 | 261861 | | | 37.54- 97.54 | 66.95 |
| 137 Toluene | | | | | | CAS #: 108-88-3 | |
| 7.831 | 7.831 (1.218) | 91 | 22030 | 2.00000 | 1.961 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 12881 | | | 27.89- 87.89 | 58.47 |
| 136 Octane | | | | | | CAS #: 111-65-9 | |
| 7.860 | 7.860 (1.223) | 57 | 8231 | 2.00000 | 2.011 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 7430 | | | 63.53- 123.53 | 90.27 |
| 7.860 | 7.860 (1.223) | 43 | 22328 | | | 246.00- 306.00 | 271.27 |
| 139 trans-1,3-Dichloropropene | | | | | | CAS #: 10061-02-6 | |
| 8.118 | 8.118 (0.887) | 75 | 8842 | 2.00000 | 2.001 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 4399 | | | 1.83- 61.83 | 49.75 |
| 8.118 | 8.118 (0.887) | 39 | 6542 | | | 31.97- 91.97 | 73.99 |
| 141 1,1,2-Trichloroethane | | | | | | CAS #: 79-00-5 | |
| 8.283 | 8.290 (0.905) | 97 | 7838 | 2.00000 | 2.094 | 80.00- 120.00 | 100.00 |
| 8.290 | 8.290 (0.905) | 99 | 4440 | | | 32.52- 92.52 | 56.65 |
| 8.283 | 8.290 (0.905) | 83 | 6480 | | | 58.90- 118.90 | 82.67 |
| 142 Tetrachloroethene | | | | | | CAS #: 127-18-4 | |
| 8.318 | 8.318 (0.908) | 166 | 11532 | 2.00000 | 2.052 | 80.00- 120.00 | 100.00 |
| 8.318 | 8.318 (0.908) | 129 | 8623 | | | 45.32- 105.32 | 74.77 |
| 8.318 | 8.318 (0.908) | 131 | 8697 | | | 44.17- 104.17 | 75.42 |
| 144 1,3-Dichloropropane | | | | | | CAS #: 142-28-9 | |
| 8.447 | 8.447 (1.314) | 76 | 10462 | 2.00000 | 1.987 | 80.00- 120.00 | 100.00(a) |
| 8.447 | 8.447 (1.314) | 41 | 8805 | | | 59.72- 119.72 | 84.16 |
| 8.447 | 8.447 (1.314) | 78 | 3364 | | | 3.08- 63.08 | 32.15 |
| 143 2-Hexanone | | | | | | CAS #: 591-78-6 | |
| 8.497 | 8.490 (0.928) | 58 | 9633 | 2.00000 | 2.052 | 80.00- 120.00 | 100.00 |
| 8.490 | 8.490 (0.927) | 43 | 20274 | | | 177.32- 237.32 | 210.46 |
| 8.490 | 8.490 (0.927) | 100 | 1732 | | | 0.00- 47.18 | 17.98 |
| 146 Dibromochloromethane | | | | | | CAS #: 124-48-1 | |
| 8.626 | 8.626 (0.942) | 129 | 15080 | 2.00000 | 2.039 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.942) | 127 | 11601 | | | 47.27- 107.27 | 76.93 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 148 1,2-Dibromoethane (EDB) | | | | | | CAS #: 106-93-4 | |
| 8.741 | 8.741 (0.955) | 107 | 12601 | 2.00000 | 2.054 | 80.00- 120.00 | 100.00 |
| 8.748 | 8.741 (0.955) | 109 | 11635 | | | 64.18- 124.18 | 92.33 |
| * 153 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | |
| 9.156 | 9.157 (1.000) | 117 | 399961 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 213575 | | | 22.92- 82.92 | 53.40 |
| 154 Chlorobenzene | | | | | | CAS #: 108-90-7 | |
| 9.178 | 9.185 (1.002) | 112 | 18184 | 2.00000 | 1.962 | 80.00- 120.00 | 100.00 |
| 9.185 | 9.185 (1.003) | 114 | 6150 | | | 1.91- 61.91 | 33.82 |
| 9.178 | 9.185 (1.002) | 77 | 12124 | | | 22.97- 82.97 | 66.67 |
| 155 Ethyl Benzene | | | | | | CAS #: 100-41-4 | |
| 9.250 | 9.250 (1.010) | 106 | 9422 | 2.00000 | 2.021 | 80.00- 120.00 | 100.00 |
| 9.250 | 9.250 (1.010) | 91 | 29862 | | | 281.09- 341.09 | 316.94 |
| 157 1,1,1,2-Tetrachloroethane | | | | | | CAS #: 630-20-6 | |
| 9.271 | 9.271 (1.012) | 131 | 10549 | 2.00000 | 1.998 | 80.00- 120.00 | 100.00 |
| 9.271 | 9.271 (1.012) | 117 | 8100 | | | 37.10- 97.10 | 76.78 |
| 9.271 | 9.271 (1.012) | 95 | 3829 | | | 4.93- 64.93 | 36.30 |
| 156 Nonane | | | | | | CAS #: 111-84-2 | |
| 9.314 | 9.314 (1.017) | 43 | 22541 | 2.00000 | 2.082 | 80.00- 120.00 | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 17914 | | | 50.62- 110.62 | 79.47 |
| 9.314 | 9.314 (1.017) | 85 | 5625 | | | 0.00- 55.65 | 24.95 |
| 158 m,p-Xylene | | | | | | CAS #: 108-38-3 | |
| 9.364 | 9.364 (1.023) | 106 | 11992 | 2.00000 | 2.064 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 23754 | | | 170.33- 230.33 | 198.08 |
| 164 o-Xylene | | | | | | CAS #: 95-47-6 | |
| 9.751 | 9.751 (1.065) | 106 | 11134 | 2.00000 | 2.021 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 23722 | | | 181.23- 241.23 | 213.06 |
| 165 Styrene | | | | | | CAS #: 100-42-5 | |
| 9.780 | 9.780 (1.068) | 104 | 19258 | 2.00000 | 2.047 | 80.00- 120.00 | 100.00 |
| 9.780 | 9.780 (1.068) | 78 | 9514 | | | 17.26- 77.26 | 49.40 |
| 167 Bromoform | | | | | | CAS #: 75-25-2 | |
| 9.987 | 9.987 (1.091) | 173 | 14789 | 2.00000 | 1.978 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 7634 | | | 21.45- 81.45 | 51.62 |
| 168 Cumene | | | | | | CAS #: 98-82-8 | |
| 10.095 | 10.095 (1.102) | 105 | 34035 | 2.00000 | 2.044 | 80.00- 120.00 | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 9118 | | | 0.00- 56.93 | 26.79 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 168 Cumene (continued) | | | | | | | |
| 10.095 | 10.095 (1.102) | 51 | 4751 | | | 0.00- 42.24 | 13.96 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.260 | 10.260 (1.120) | 55 | 14837 | 2.00000 | 2.252 | 80.00- 120.00 | 100.00(a) |
| 10.267 | 10.260 (1.121) | 98 | 4451 | | | 5.15- 65.15 | 30.00 |
| 10.260 | 10.260 (1.120) | 42 | 10067 | | | 41.99- 101.99 | 67.85 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 293042 | 25.0000 | 24.654 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 349289 | | | 88.49- 148.49 | 119.19 |
| 10.295 | 10.295 (1.124) | 176 | 283911 | | | 66.73- 126.73 | 96.88 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.432 (1.139) | 156 | 11969 | 2.00000 | 2.063 | 80.00- 120.00 | 100.00 |
| 10.431 | 10.432 (1.139) | 158 | 11350 | | | 67.47- 127.47 | 94.83 |
| 10.431 | 10.432 (1.139) | 77 | 17083 | | | 108.68- 168.68 | 142.73 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.474 | 10.475 (1.144) | 83 | 17413 | 2.00000 | 2.016 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.475 (1.143) | 85 | 11391 | | | 34.97- 94.97 | 65.42 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 10216 | 2.00000 | 2.074 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 42042 | | | 383.60- 443.60 | 411.53 |
| 10.496 | 10.496 (1.146) | 105 | 1730 | | | 0.00- 46.14 | 16.93 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.525 (1.149) | 110 | 5233 | 2.00000 | 1.996 | 80.00- 120.00 | 100.00 |
| 10.525 | 10.525 (1.149) | 75 | 18275 | | | 324.28- 384.28 | 349.23 |
| 10.525 | 10.518 (1.149) | 61 | 4727 | | | 57.24- 117.24 | 90.33 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.611 | 10.611 (1.159) | 57 | 28843 | 2.00000 | 2.263 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 71 | 8930 | | | 1.11- 61.11 | 30.96 |
| 10.611 | 10.611 (1.159) | 142 | 1328 | | | 0.00- 34.44 | 4.60 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.611 | 10.611 (1.159) | 120 | 10468 | 2.00000 | 1.950 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 105 | 35698 | | | 298.94- 358.94 | 341.02 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.611 | 10.611 (1.159) | 126 | 9037 | 2.00000 | 1.990 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 91 | 27713 | | | 282.78- 342.78 | 306.66 |
| 10.611 | 10.603 (1.159) | 65 | 4642 | | | 17.33- 77.33 | 51.37 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 14889 | 2.00000 | 2.057 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 29605 | | | 172.08- 232.08 | 198.84 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 15251 | 2.00000 | 1.989 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 8574 | | | 25.64- 85.64 | 56.22 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.983 (1.199) | 119 | 28521 | 2.00000 | 2.072 | 80.00- 120.00 | 100.00 |
| 10.983 | 10.983 (1.199) | 134 | 7363 | | | 0.00- 55.10 | 25.82 |
| 10.976 | 10.976 (1.199) | 91 | 19058 | | | 34.53- 94.53 | 66.82 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 29746 | 2.00000 | 2.010 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.206) | 120 | 13927 | | | 16.63- 76.63 | 46.82 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 9363 | 2.00000 | 2.078 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 43333 | | | 436.99- 496.99 | 462.81 |
| 11.198 | 11.198 (1.223) | 91 | 7530 | | | 41.69- 101.69 | 80.42 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 37810 | 2.00000 | 2.052 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 10117 | | | 0.00- 57.62 | 26.76 |
| 11.341 | 11.341 (1.239) | 91 | 9260 | | | 0.00- 53.03 | 24.49 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 22035 | 2.00000 | 2.009 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 13740 | | | 34.18- 94.18 | 62.36 |
| 11.348 | 11.348 (1.239) | 111 | 8969 | | | 10.06- 70.06 | 40.70 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.449 | 11.449 (1.250) | 146 | 22379 | 2.00000 | 2.014 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.250) | 148 | 14223 | | | 33.55- 93.55 | 63.56 |
| 11.449 | 11.449 (1.250) | 111 | 8858 | | | 7.98- 67.98 | 39.58 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 27179 | 2.00000 | 1.932 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 6214 | | | 0.00- 52.77 | 22.86 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.750 (1.282) | 134 | 10035 | 2.00000 | 1.976 | 80.00- 120.00 | 100.00 |
| 11.742 | 11.742 (1.282) | 91 | 37009 | | | 310.82- 370.82 | 368.80 |
| 11.749 | 11.742 (1.283) | 92 | 19169 | | | 151.53- 211.53 | 191.02 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 33949 | 2.00000 | 2.240 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.287) | 43 | 33248 | | | 63.59- 123.59 | 97.94 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 21408 | 2.00000 | 2.011 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 13878 | | | 33.00- 93.00 | 64.83 |
| 11.821 | 11.821 (1.291) | 111 | 9018 | | | 10.87- 70.87 | 42.12 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.378) | 157 | 13095 | 2.00000 | 2.080 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.378) | 75 | 10947 | | | 48.09- 108.09 | 83.60 |
| 12.616 | 12.616 (1.378) | 155 | 9937 | | | 47.89- 107.89 | 75.88 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.404) | 57 | 31589 | 2.00000 | 2.069 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.404) | 43 | 29002 | | | 58.52- 118.52 | 91.81 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.463) | 180 | 22868 | 2.00000 | 2.168 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.463) | 182 | 21388 | | | 64.84- 124.84 | 93.53 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.504 | 13.512 (1.475) | 225 | 16162 | 2.00000 | 2.100 | 80.00- 120.00 | 100.00 |
| 13.504 | 13.512 (1.475) | 223 | 10274 | | | 32.80- 92.80 | 63.57 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.490) | 128 | 5422 | 0.23200 | 0.2463 | 80.00- 120.00 | 100.00(a) |
| 13.640 | 13.648 (1.490) | 127 | 867 | | | 0.00- 42.72 | 15.99 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.517) | 180 | 22737 | 2.00000 | 2.200 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.517) | 182 | 21439 | | | 65.07- 125.07 | 94.29 |
| 13.891 | 13.891 (1.517) | 145 | 7506 | | | 4.48- 64.48 | 33.01 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042309.d
Lab Smp Id: ICAL Level #4
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 2.0ppbv (5.0ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #4
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 104675 | -1.42 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 402992 | 3.08 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 399961 | 2.03 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042309.d

Page 1

Date : 23-APR-2024 22:22

Client ID: ICAL Level #4

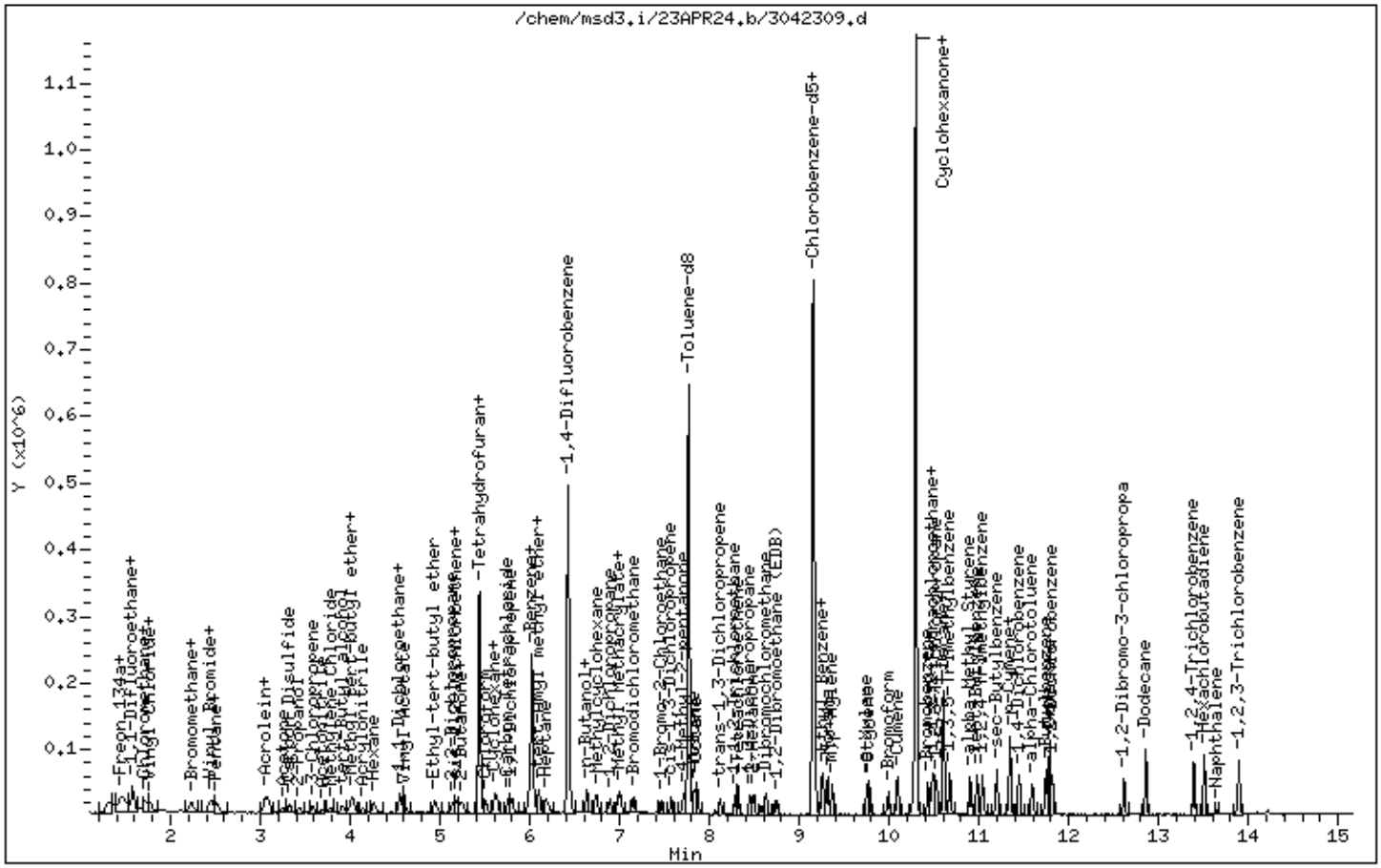
Instrument: msd3.i

Sample Info: 80ml 3018-4466

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3041804.d
Lab Smp Id: ICAL Level #5 Client Smp ID: ICAL Level #5
Inj Date : 18-APR-2024 10:06
Operator : mjs Inst ID: msd3.i
Smp Info : 200ml 3018-4329
Misc Info : 5.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 22:57 Cal File: 3042310.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT21spICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 126067 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 99297 | | | 47.79- 107.79 | 78.77 |
| 5.432 | 5.439 (1.000) | 49 | 208135 | | | 131.33- 191.33 | 165.10 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 490360 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 75735 | | | 0.00- 45.65 | 15.44 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 496101 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.157 (1.000) | 82 | 267400 | | | 22.92- 82.92 | 53.90 |
| 3 Freon 143a | | | | | CAS #: 420-46-2 | | |
| 1.367 | 1.395 (0.251) | 65 | 7696 | 5.00000 | 4.526 | 80.00- 120.00 | 100.00 |
| 1.381 | 1.395 (0.254) | 69 | 14051 | | | 237.43- 297.43 | 182.58 |
| 1.367 | 1.395 (0.251) | 64 | 1813 | | | 0.00- 57.02 | 23.56 |
| 6 Propane | | | | | CAS #: 74-98-6 | | |
| 1.437 | 1.423 (0.264) | 43 | 6440 | 5.00000 | 5.520 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 6 Propane (continued) | | | | | | | |
| 1.437 | 1.437 (0.264) | 39 | 4465 | | | 37.94- 97.94 | 69.33 |
| 1.423 | 1.423 (0.262) | 41 | 3895 | | | 21.79- 81.79 | 60.48 |
| 13 Freon 142b | | | | | CAS #: 75-68-3 | | |
| 1.604 | 1.604 (0.295) | 65 | 34203 | 5.00000 | 5.521 | 80.00- 120.00 | 100.00 |
| 1.618 | 1.604 (0.298) | 45 | 11065 | | | 0.00- 58.87 | 32.35 |
| 36 1-Pentene | | | | | CAS #: 109-67-1 | | |
| 2.444 | 2.458 (0.449) | 55 | 19790 | 5.00000 | 5.146 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.458 (0.449) | 42 | 27275 | | | 114.47- 174.47 | 137.82 |
| 38 Ethyl Ether | | | | | CAS #: 60-29-7 | | |
| 2.808 | 2.794 (0.516) | 74 | 8707 | 5.00000 | 5.474 | 80.00- 120.00 | 100.00 |
| 2.808 | 2.794 (0.516) | 59 | 14625 | | | 138.79- 198.79 | 167.97 |
| 2.808 | 2.794 (0.516) | 45 | 12313 | | | 114.58- 174.58 | 141.41 |
| 40 Freon 123a | | | | | CAS #: 354-23-4 | | |
| 2.892 | 2.906 (0.532) | 117 | 26025 | 5.00000 | 5.192 | 80.00- 120.00 | 100.00(a) |
| 2.892 | 2.892 (0.532) | 67 | 32898 | | | 102.78- 162.78 | 126.41 |
| 41 Freon 123 | | | | | CAS #: 306-83-2 | | |
| 2.990 | 2.990 (0.550) | 83 | 27268 | 5.00000 | 5.874 | 80.00- 120.00 | 100.00 |
| 2.990 | 2.990 (0.550) | 133 | 6683 | | | 0.00- 53.60 | 24.51 |
| 2.990 | 2.990 (0.550) | 85 | 16019 | | | 36.72- 96.72 | 58.75 |
| 55 Cyclopentene | | | | | CAS #: 142-29-0 | | |
| 3.583 | 3.591 (0.659) | 67 | 37434 | 5.00000 | 5.296 | 80.00- 120.00 | 100.00 |
| 3.583 | 3.591 (0.659) | 68 | 15715 | | | 8.38- 68.38 | 41.98 |
| 3.583 | 3.591 (0.659) | 53 | 9501 | | | 0.00- 54.97 | 25.38 |
| 56 Methyl Acetate | | | | | CAS #: 79-20-9 | | |
| 3.634 | 3.619 (0.668) | 43 | 42729 | 5.00000 | 5.441 | 80.00- 120.00 | 100.00 |
| 3.634 | 3.619 (0.668) | 74 | 7001 | | | 0.00- 45.84 | 16.38 |
| 74 Chloroprene | | | | | CAS #: 126-99-8 | | |
| 4.608 | 4.608 (0.847) | 53 | 33127 | 5.00000 | 5.394 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 88 | 14365 | | | 14.44- 74.44 | 43.36 |
| 4.608 | 4.608 (0.847) | 50 | 9775 | | | 0.00- 56.76 | 29.51 |
| 75 1-Propanol | | | | | CAS #: 71-23-8 | | |
| 4.744 | 4.715 (0.872) | 59 | 5130 | 5.00000 | 5.532 | 80.00- 120.00 | 100.00 |
| 4.701 | 4.715 (0.864) | 42 | 134 | | | 63.00- 123.00 | 2.61 |
| 4.744 | 4.715 (0.872) | 41 | 3169 | | | 28.69- 88.69 | 61.77 |
| 88 Methyl Acrylate | | | | | CAS #: 96-33-3 | | |
| 5.295 | 5.288 (0.974) | 55 | 41472 | 5.00000 | 5.375 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 88 Methyl Acrylate (continued) | | | | | | | |
| 5.295 | 5.288 (0.974) | 85 | 6368 | | | 0.00- 43.17 | 15.35 |
| 5.295 | 5.288 (0.974) | 58 | 4572 | | | 0.00- 38.59 | 11.02 |
| 103 Isobutanol | | | | | CAS #: 78-83-1 | | |
| 6.012 | 5.990 (1.105) | 39 | 7192 | 5.00000 | 5.895 | 80.00- 120.00 | 100.00 |
| 5.969 | 5.990 (1.097) | 43 | 496 | | | 402.02- 462.02 | 6.90 |
| 6.012 | 5.990 (1.105) | 41 | 17388 | | | 275.29- 335.29 | 241.77 |
| 113 Ethyl acrylate | | | | | CAS #: 140-88-5 | | |
| 6.764 | 6.764 (0.739) | 99 | 3432 | 5.00000 | 5.078 | 80.00- 120.00 | 100.00 |
| 6.771 | 6.764 (0.739) | 45 | 6099 | | | 144.38- 204.38 | 177.71 |
| 6.771 | 6.764 (0.739) | 55 | 56924 | | | 1723.57-1783.57 | 1658.62 |
| 115 2-Pentanone | | | | | CAS #: 107-87-9 | | |
| 6.864 | 6.857 (0.750) | 43 | 72487 | 5.00000 | 5.327 | 80.00- 120.00 | 100.00 |
| 6.864 | 6.857 (0.750) | 58 | 5135 | | | 0.00- 37.02 | 7.08 |
| 6.864 | 6.857 (0.750) | 86 | 10337 | | | 0.00- 43.48 | 14.26 |
| 145 Butyl Acetate | | | | | CAS #: 123-86-4 | | |
| 8.576 | 8.576 (1.334) | 56 | 31432 | 5.00000 | 5.216 | 80.00- 120.00 | 100.00 |
| 8.576 | 8.576 (1.334) | 73 | 11274 | | | 2.83- 62.83 | 35.87 |
| 8.576 | 8.576 (1.334) | 43 | 88940 | | | 240.40- 300.40 | 282.96 |
| 166 2-Heptanone | | | | | CAS #: 110-43-0 | | |
| 9.901 | 9.901 (1.821) | 58 | 57929 | 5.00000 | 6.003 | 80.00- 120.00 | 100.00 |
| 9.901 | 9.901 (1.821) | 43 | 101541 | | | 146.16- 206.16 | 175.29 |
| 210 alpha-Pinene | | | | | CAS #: 80-56-8 | | |
| 10.037 | 10.037 (1.096) | 93 | 67007 | 5.00000 | 5.147 | 80.00- 120.00 | 100.00 |
| 10.037 | 10.037 (1.096) | 77 | 20176 | | | 0.00- 59.07 | 30.11 |
| 214 beta-Pinene | | | | | CAS #: 127-91-3 | | |
| 10.696 | 10.696 (1.168) | 93 | 52907 | 5.00000 | 5.219 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 90054 | | | 151.21- 211.21 | 170.21 |
| 186 4-Chlorotoluene | | | | | CAS #: 106-43-4 | | |
| 10.725 | 10.725 (1.171) | 126 | 27997 | 5.00000 | 5.065 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 90054 | | | 296.65- 356.65 | 321.66 |
| 10.718 | 10.725 (1.171) | 63 | 12105 | | | 10.84- 70.84 | 43.24 |
| 172 D-Limonene | | | | | CAS #: 5989-27-5 | | |
| 11.277 | 11.277 (1.232) | 68 | 41975 | 5.00000 | 5.116 | 80.00- 120.00 | 100.00 |
| 11.277 | 11.277 (1.232) | 93 | 30322 | | | 41.19- 101.19 | 72.24 |
| 197 1,2,3-Trimethylbenzene | | | | | CAS #: 526-73-8 | | |
| 11.463 | 11.463 (1.252) | 120 | 38149 | 5.00000 | 5.032 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 197 1,2,3-Trimethylbenzene (continued) | | | | | | | |
| 11.463 | 11.463 (1.252) | 105 | 87829 | | | 201.76- 261.76 | 230.23 |
| 11.463 | 11.463 (1.252) | 77 | 10805 | | | 0.00- 57.12 | 28.32 |
| 205 Hexachloroethane | | | | | CAS #: 67-72-1 | | |
| 12.014 | 12.014 (1.312) | 201 | 22082 | 5.00000 | 4.821 | 80.00- 120.00 | 100.00 |
| 12.014 | 12.014 (1.312) | 117 | 31891 | | | 114.78- 174.78 | 144.42 |
| 208 1,3,5-Trichlorobenzene | | | | | CAS #: 108-70-3 | | |
| 12.759 | 12.752 (1.393) | 180 | 52704 | 5.00000 | 4.994 | 80.00- 120.00 | 100.00 |
| 12.766 | 12.752 (1.394) | 182 | 49468 | | | 64.68- 124.68 | 93.86 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3041804.d
Lab Smp Id: ICAL Level #5
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 5.0ppbv (5.0ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #5
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 126067 | 18.72 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 490360 | 25.42 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 496101 | 26.56 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3041804.d

Page 1

Date : 18-APR-2024 10:06

Client ID: ICAL Level #5

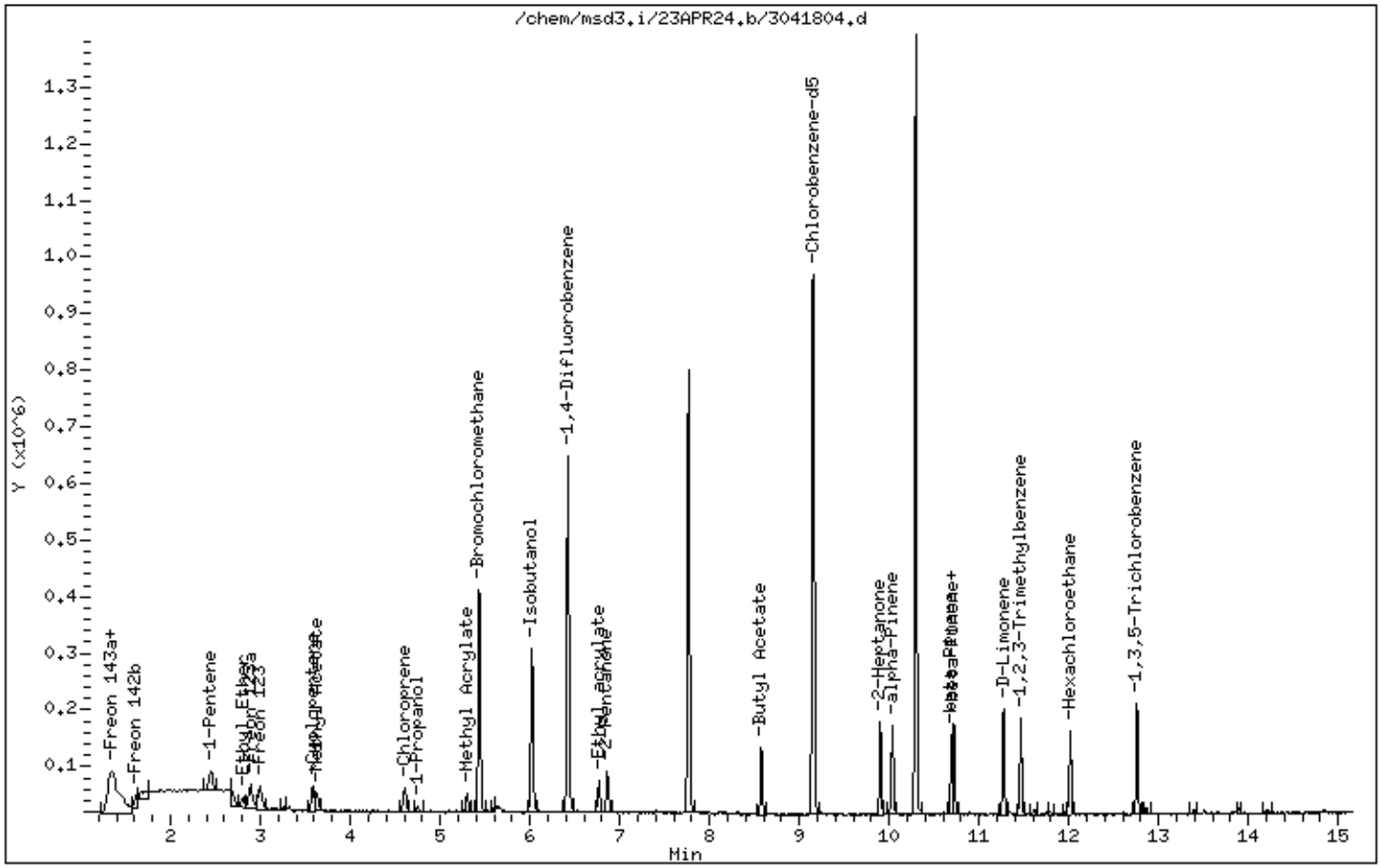
Instrument: msd3.i

Sample Info: 200ml 3018-4329

Operator: mjs

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042310.d
Lab Smp Id: ICAL Level #5 Client Smp ID: ICAL Level #5
Inj Date : 23-APR-2024 22:57
Operator : DF Inst ID: msd3.i
Smp Info : 200ml 3018-4466
Misc Info : 5.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 22:57 Cal File: 3042310.d
Als bottle: 3 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23ICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 12045 | 5.00000 | 4.528 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 8302 | | | 64.17- 124.17 | 68.92 |
| 1.493 | 1.493 (0.275) | 51 | 54371 | | | 365.46- 425.46 | 451.40 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 15861 | 5.00000 | 5.262 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 10736 | | | 35.86- 95.86 | 67.69 |
| 1.437 | 1.437 (0.264) | 39 | 11600 | | | 41.66- 101.66 | 73.14 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.270) | 65 | 8495 | 5.00000 | 4.889 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.275) | 51 | 54371 | | | 568.10- 628.10 | 640.04 |
| 1.562 | 1.577 (0.288) | 47 | 2288 | | | 0.00- 50.57 | 26.93 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.270) | 85 | 36879 | 5.00000 | 5.412 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 12423 | | | 2.88- 62.88 | 33.69 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.493 (0.275) | 67 | 4592 | 5.00000 | 5.385 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 9 Chlorodifluoromethane (continued) | | | | | | | |
| 1.493 | 1.493 (0.275) | 51 | 54371 | | | 1257.55-1317.55 | 1184.04 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.577 (0.290) | 135 | 31364 | 5.00000 | 5.235 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.577 (0.290) | 137 | 10227 | | | 2.10- 62.10 | 32.61 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.576 | 1.591 (0.290) | 43 | 33332 | 5.00000 | 5.230 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.591 (0.290) | 42 | 11165 | | | 1.69- 61.69 | 33.50 |
| 1.576 | 1.577 (0.290) | 58 | 1319 | | | 0.00- 33.32 | 3.96 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.660 | 1.675 (0.306) | 50 | 15587 | 5.00000 | 4.744 | 80.00- 120.00 | 100.00 |
| 1.660 | 1.675 (0.306) | 52 | 5953 | | | 1.38- 61.38 | 38.19 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.731 (0.316) | 58 | 3490 | 5.00000 | 5.298 | 80.00- 120.00 | 100.00 |
| 1.716 | 1.731 (0.316) | 43 | 27663 | | | 866.38- 926.38 | 792.64 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.744 | 1.759 (0.321) | 62 | 15202 | 5.00000 | 4.782 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.759 (0.324) | 64 | 5758 | | | 3.10- 63.10 | 37.88 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 15296 | 5.00000 | 5.122 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 14930 | | | 78.74- 138.74 | 97.61 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.094 | 2.108 (0.386) | 94 | 10936 | 5.00000 | 4.814 | 80.00- 120.00 | 100.00 |
| 2.094 | 2.108 (0.386) | 96 | 10181 | | | 64.19- 124.19 | 93.10 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.206 | 2.220 (0.406) | 64 | 7214 | 5.00000 | 4.732 | 80.00- 120.00 | 100.00 |
| 2.206 | 2.220 (0.406) | 66 | 3137 | | | 2.32- 62.32 | 43.48 |
| 2.206 | 2.220 (0.406) | 49 | 3642 | | | 6.33- 66.33 | 50.49 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.220 | 2.234 (0.409) | 43 | 19688 | 5.00000 | 4.525 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.234 (0.409) | 57 | 12514 | | | 31.77- 91.77 | 63.56 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.416 (0.442) | 106 | 12730 | 5.00000 | 4.818 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.416 (0.442) | 108 | 12007 | | | 64.21- 124.21 | 94.32 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.430 | 2.444 (0.447) | 101 | 35626 | 5.00000 | 4.538 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | | ======= | ======= | ========== | ===== |
| 33 Freon 11 (continued) | | | | | | | | |
| 2.430 | 2.444 (0.447) | 103 | 23729 | | | | 34.93- 94.93 | 66.61 |
| 34 Dichlorofluoromethane | | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.472 (0.453) | 67 | 28519 | 5.00000 | | 4.556 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.472 (0.453) | 69 | 9453 | | | | 1.95- 61.95 | 33.15 |
| 35 Pentane | | | | | | CAS #: 109-66-0 | | |
| 2.500 | 2.514 (0.460) | 43 | 32644 | 5.00000 | | 4.931 | 80.00- 120.00 | 100.00 |
| 2.500 | 2.514 (0.460) | 57 | 4865 | | | | 0.00- 44.64 | 14.90 |
| 2.500 | 2.514 (0.460) | 72 | 2705 | | | | 0.00- 37.90 | 8.29 |
| 39 Ethanol | | | | | | CAS #: 64-17-5 | | |
| 2.808 | 2.752 (0.517) | 46 | 5178 | 6.16000 | | 8.313 | 80.00- 120.00 | 100.00 |
| 2.808 | 2.752 (0.517) | 45 | 7274 | | | | 224.40- 284.40 | 140.48 |
| 42 Acrolein | | | | | | CAS #: 107-02-8 | | |
| 3.061 | 3.061 (0.563) | 55 | 8619 | 5.82500 | | 6.429 | 80.00- 120.00 | 100.00 |
| 3.068 | 3.061 (0.565) | 56 | 10283 | | | | 108.02- 168.02 | 119.31 |
| 43 Freon 113 | | | | | | CAS #: 76-13-1 | | |
| 3.046 | 3.061 (0.561) | 151 | 28638 | 5.00000 | | 4.128 | 80.00- 120.00 | 100.00 |
| 3.046 | 3.061 (0.561) | 153 | 18570 | | | | 35.07- 95.07 | 64.84 |
| 3.046 | 3.061 (0.561) | 101 | 33225 | | | | 87.45- 147.45 | 116.02 |
| 44 1,1-Dichloroethene | | | | | | CAS #: 75-35-4 | | |
| 3.075 | 3.097 (0.566) | 96 | 13582 | 5.00000 | | 4.601 | 80.00- 120.00 | 100.00 |
| 3.075 | 3.097 (0.566) | 98 | 8644 | | | | 33.27- 93.27 | 63.64 |
| 3.075 | 3.097 (0.566) | 61 | 31509 | | | | 159.05- 219.05 | 231.99 |
| 47 Acetone | | | | | | CAS #: 67-64-1 | | |
| 3.268 | 3.247 (0.602) | 58 | 9661 | 5.00000 | | 5.751 | 80.00- 120.00 | 100.00 |
| 3.268 | 3.247 (0.602) | 43 | 33888 | | | | 329.45- 389.45 | 350.77 |
| 48 Carbon Disulfide | | | | | | CAS #: 75-15-0 | | |
| 3.311 | 3.333 (0.610) | 76 | 45059 | 5.00000 | | 5.597 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | | CAS #: 67-63-0 | | |
| 3.483 | 3.426 (0.641) | 45 | 37340 | 5.00000 | | 5.346 | 80.00- 120.00 | 100.00 |
| 3.490 | 3.426 (0.643) | 43 | 6824 | | | | 0.00- 48.18 | 18.28 |
| 54 3-Chloropropene | | | | | | CAS #: 107-05-1 | | |
| 3.576 | 3.584 (0.658) | 76 | 7307 | 5.00000 | | 5.388 | 80.00- 120.00 | 100.00 |
| 3.569 | 3.584 (0.657) | 41 | 27335 | | | | 366.80- 426.80 | 374.09 |
| 57 Acetonitrile | | | | | | CAS #: 75-05-8 | | |
| 3.705 | 3.684 (0.682) | 41 | 20254 | 5.88000 | | 6.570 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 57 Acetonitrile (continued) | | | | | | | |
| 3.705 | 3.684 (0.682) | 40 | 10443 | | | 22.74- 82.74 | 51.56 |
| 3.662 | 3.684 (0.674) | 38 | 104 | | | 0.00- 42.52 | 0.51 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.784 (0.695) | 49 | 24845 | 5.00000 | 5.384 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.784 (0.695) | 84 | 14006 | | | 24.90- 84.90 | 56.37 |
| 3.770 | 3.784 (0.694) | 51 | 8345 | | | 0.00- 59.67 | 33.59 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.963 | 3.913 (0.730) | 59 | 42486 | 5.76000 | 5.963 | 80.00- 120.00 | 100.00 |
| 3.963 | 3.913 (0.730) | 41 | 9211 | | | 0.00- 51.85 | 21.68 |
| 3.963 | 3.913 (0.730) | 57 | 4226 | | | 0.00- 40.17 | 9.95 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.020 | 4.006 (0.740) | 73 | 43149 | 5.00000 | 5.122 | 80.00- 120.00 | 100.00 |
| 4.013 | 4.006 (0.739) | 57 | 14491 | | | 0.00- 58.72 | 33.58 |
| 4.013 | 4.006 (0.739) | 41 | 13768 | | | 0.00- 59.38 | 31.91 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.020 | 4.028 (0.740) | 98 | 10199 | 5.00000 | 5.144 | 80.00- 120.00 | 100.00 |
| 4.020 | 4.028 (0.740) | 61 | 27200 | | | 232.13- 292.13 | 266.69 |
| 4.020 | 4.028 (0.740) | 96 | 16522 | | | 127.26- 187.26 | 162.00 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.149 | 4.142 (0.764) | 52 | 13726 | 5.00000 | 5.353 | 80.00- 120.00 | 100.00 |
| 4.149 | 4.142 (0.764) | 53 | 16536 | | | 86.45- 146.45 | 120.47 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.250 | 4.257 (0.782) | 57 | 30865 | 5.00000 | 4.996 | 80.00- 120.00 | 100.00 |
| 4.242 | 4.257 (0.781) | 43 | 21968 | | | 40.97- 100.97 | 71.17 |
| 4.250 | 4.257 (0.782) | 86 | 3886 | | | 0.00- 42.68 | 12.59 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.558 (0.838) | 63 | 30564 | 5.00000 | 5.335 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.558 (0.838) | 65 | 9852 | | | 0.47- 60.47 | 32.23 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.565 | 4.558 (0.840) | 45 | 72205 | 5.00000 | 5.256 | 80.00- 120.00 | 100.00 |
| 4.565 | 4.558 (0.840) | 87 | 13883 | | | 0.00- 49.55 | 19.23 |
| 4.572 | 4.558 (0.842) | 59 | 7604 | | | 0.00- 40.42 | 10.53 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.615 | 4.608 (0.850) | 86 | 2765 | 5.00000 | 5.481 | 80.00- 120.00 | 100.00 |
| 4.615 | 4.608 (0.850) | 43 | 43995 | | | 1727.95-1787.95 | 1591.14 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 79 Ethyl-tert-butyl ether | | | | | | CAS #: 637-92-3 | |
| 4.952 | 4.945 (0.912) | 59 | 61076 | 5.00000 | 5.155 | 80.00- 120.00 | 100.00 |
| 4.952 | 4.945 (0.912) | 87 | 20989 | | | 3.90- 63.90 | 34.37 |
| 4.944 | 4.945 (0.910) | 41 | 12315 | | | 0.00- 49.72 | 20.16 |
| 84 2,2-Dichloropropane | | | | | | CAS #: 594-20-7 | |
| 5.138 | 5.145 (0.946) | 77 | 29067 | 5.00000 | 5.139 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.145 (0.946) | 79 | 9741 | | | 2.39- 62.39 | 33.51 |
| 5.138 | 5.145 (0.946) | 97 | 7646 | | | 0.00- 53.57 | 26.30 |
| 85 cis-1,2-Dichloroethene | | | | | | CAS #: 156-59-2 | |
| 5.181 | 5.188 (0.954) | 98 | 10957 | 5.00000 | 5.337 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.188 (0.954) | 96 | 17033 | | | 125.53- 185.53 | 155.45 |
| 5.181 | 5.188 (0.954) | 61 | 26295 | | | 219.86- 279.86 | 239.98 |
| 86 2-Butanone | | | | | | CAS #: 78-93-3 | |
| 5.231 | 5.217 (0.963) | 72 | 7868 | 5.00000 | 5.319 | 80.00- 120.00 | 100.00 |
| 5.253 | 5.217 (0.967) | 43 | 93302 | | | 1138.34-1198.34 | 1185.84 |
| 5.231 | 5.217 (0.963) | 57 | 4050 | | | 10.83- 70.83 | 51.47 |
| 87 Ethyl Acetate | | | | | | CAS #: 141-78-6 | |
| 5.253 | 5.245 (0.967) | 45 | 8554 | 5.00000 | 5.782 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.188 (0.954) | 61 | 26295 | | | 338.96- 398.96 | 307.40 |
| 5.260 | 5.245 (0.968) | 70 | 4295 | | | 24.53- 84.53 | 50.21 |
| 89 Tetrahydrofuran | | | | | | CAS #: 109-99-9 | |
| 5.439 | 5.425 (1.001) | 42 | 22688 | 5.00000 | 5.017 | 80.00- 120.00 | 100.00 |
| 5.439 | 5.425 (1.001) | 71 | 6413 | | | 0.00- 58.54 | 28.27 |
| 5.439 | 5.425 (1.001) | 72 | 6417 | | | 0.00- 59.59 | 28.28 |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.432 | 5.439 (1.000) | 130 | 115073 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.439 (1.000) | 128 | 91680 | | | 47.79- 107.79 | 79.67 |
| 5.432 | 5.439 (1.000) | 49 | 191536 | | | 131.33- 191.33 | 166.45 |
| 92 Chloroform | | | | | | CAS #: 67-66-3 | |
| 5.510 | 5.518 (1.014) | 83 | 32701 | 5.00000 | 5.315 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.518 (1.014) | 85 | 21652 | | | 35.77- 95.77 | 66.21 |
| 94 Cyclohexane | | | | | | CAS #: 110-82-7 | |
| 5.603 | 5.611 (1.032) | 84 | 20587 | 5.00000 | 5.002 | 80.00- 120.00 | 100.00 |
| 5.603 | 5.611 (1.032) | 56 | 32656 | | | 125.79- 185.79 | 158.62 |
| 5.603 | 5.611 (1.032) | 41 | 18678 | | | 61.55- 121.55 | 90.73 |
| 96 1,1,1-Trichloroethane | | | | | | CAS #: 71-55-6 | |
| 5.632 | 5.639 (1.037) | 97 | 33811 | 5.00000 | 5.039 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 96 1,1,1-Trichloroethane (continued) | | | | | | | |
| 5.632 | 5.639 (1.037) | 99 | 21498 | | | 32.84- 92.84 | 63.58 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.761 (1.059) | 119 | 35960 | 5.00000 | 5.055 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.761 (1.059) | 117 | 38234 | | | 75.19- 135.19 | 106.32 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.804 (0.902) | 110 | 9481 | 5.00000 | 5.394 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.804 (0.902) | 75 | 24476 | | | 234.16- 294.16 | 258.16 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.998 (0.933) | 78 | 45735 | 5.00000 | 5.206 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.998 (0.933) | 77 | 11347 | | | 0.00- 53.69 | 24.81 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.983 | 5.998 (1.102) | 57 | 94992 | 5.00000 | 4.922 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.998 (1.103) | 56 | 31376 | | | 3.09- 63.09 | 33.03 |
| 5.983 | 5.998 (1.102) | 41 | 28004 | | | 0.00- 57.28 | 29.48 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.109) | 65 | 149241 | 25.0000 | 24.900 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.109) | 67 | 77331 | | | 23.17- 83.17 | 51.82 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.091 | 6.091 (0.948) | 87 | 11971 | 5.00000 | 5.070 | 80.00- 120.00 | 100.00 |
| 6.091 | 6.091 (0.948) | 73 | 47052 | | | 365.76- 425.76 | 393.05 |
| 6.091 | 6.091 (0.948) | 55 | 14233 | | | 92.58- 152.58 | 118.90 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 23751 | 5.00000 | 5.182 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.105 (0.949) | 64 | 8897 | | | 1.80- 61.80 | 37.46 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.177 | 6.184 (0.961) | 71 | 16194 | 5.00000 | 4.653 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.184 (0.961) | 43 | 40834 | | | 207.73- 267.73 | 252.16 |
| 6.177 | 6.184 (0.961) | 57 | 19832 | | | 84.83- 144.83 | 122.47 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 436367 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.427 (1.000) | 88 | 66912 | | | 0.00- 45.65 | 15.33 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.649 | 6.628 (1.035) | 56 | 10811 | 5.00000 | 5.412 | 80.00- 120.00 | 100.00 |
| 6.649 | 6.628 (1.035) | 41 | 7342 | | | 47.73- 107.73 | 67.91 |
| 6.649 | 6.628 (1.035) | 43 | 6475 | | | 31.60- 91.60 | 59.89 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 111 Trichloroethene | | | | | | CAS #: 79-01-6 | |
| 6.628 | 6.635 (1.031) | 95 | 22164 | 5.00000 | 5.232 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.635 (1.031) | 130 | 23903 | | | 80.23- 140.23 | 107.85 |
| 6.628 | 6.635 (1.031) | 97 | 14984 | | | 34.78- 94.78 | 67.61 |
| 127 Methylcyclohexane | | | | | | CAS #: 108-87-2 | |
| 6.728 | 6.735 (1.047) | 83 | 29234 | 5.00000 | 4.858 | 80.00- 120.00 | 100.00 |
| 6.728 | 6.735 (1.047) | 98 | 13458 | | | 14.83- 74.83 | 46.04 |
| 6.728 | 6.735 (1.047) | 55 | 31447 | | | 71.50- 131.50 | 107.57 |
| 114 1,2-Dichloropropane | | | | | | CAS #: 78-87-5 | |
| 6.893 | 6.893 (1.072) | 63 | 20992 | 5.00000 | 5.078 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 15006 | | | 40.39- 100.39 | 71.48 |
| 6.886 | 6.893 (1.071) | 41 | 12920 | | | 31.86- 91.86 | 61.55 |
| 116 Methyl Methacrylate | | | | | | CAS #: 80-62-6 | |
| 6.979 | 6.979 (0.763) | 69 | 18093 | 5.00000 | 4.970 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.763) | 41 | 30893 | | | 145.81- 205.81 | 170.75 |
| 6.986 | 6.979 (0.764) | 100 | 7329 | | | 10.05- 70.05 | 40.51 |
| 117 1,4-Dioxane | | | | | | CAS #: 123-91-1 | |
| 7.007 | 6.993 (1.090) | 88 | 11057 | 5.00000 | 5.003 | 80.00- 120.00 | 100.00 |
| 7.000 | 6.993 (1.089) | 58 | 10009 | | | 56.33- 116.33 | 90.52 |
| 7.000 | 6.993 (1.089) | 57 | 4556 | | | 2.08- 62.08 | 41.20 |
| 118 Dibromomethane | | | | | | CAS #: 74-95-3 | |
| 7.007 | 7.008 (0.766) | 174 | 22017 | 5.00000 | 5.222 | 80.00- 120.00 | 100.00 |
| 7.007 | 7.008 (0.766) | 93 | 20262 | | | 62.68- 122.68 | 92.03 |
| 7.007 | 7.008 (0.766) | 95 | 16864 | | | 47.70- 107.70 | 76.60 |
| 122 Bromodichloromethane | | | | | | CAS #: 75-27-4 | |
| 7.151 | 7.151 (1.113) | 83 | 35412 | 5.00000 | 5.164 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 23047 | | | 34.96- 94.96 | 65.08 |
| 151 1-Bromo-2-Chloroethane | | | | | | CAS #: 107-04-0 | |
| 7.452 | 7.459 (1.159) | 63 | 38486 | 5.00000 | 5.276 | 80.00- 120.00 | 100.00 |
| 7.459 | 7.459 (1.160) | 65 | 11935 | | | 0.43- 60.43 | 31.01 |
| 7.459 | 7.459 (1.160) | 144 | 4284 | | | 0.00- 40.48 | 11.13 |
| 126 cis-1,3-Dichloropropene | | | | | | CAS #: 10061-01-5 | |
| 7.573 | 7.574 (1.178) | 75 | 30334 | 5.00000 | 5.187 | 80.00- 120.00 | 100.00 |
| 7.573 | 7.574 (1.178) | 77 | 10100 | | | 1.26- 61.26 | 33.30 |
| 7.566 | 7.574 (1.177) | 39 | 20351 | | | 35.06- 95.06 | 67.09 |
| 131 4-Methyl-2-pentanone | | | | | | CAS #: 108-10-1 | |
| 7.709 | 7.710 (1.199) | 58 | 19262 | 5.00000 | 4.788 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 131 4-Methyl-2-pentanone (continued) | | | | | | | |
| 7.709 | 7.710 (1.199) | 43 | 54486 | | | 259.88- 319.88 | 282.87 |
| 7.709 | 7.710 (1.199) | 85 | 7043 | | | 7.58- 67.58 | 36.56 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 421056 | 25.0000 | 24.821 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 46966 | | | 0.00- 41.42 | 11.15 |
| 7.767 | 7.767 (1.208) | 100 | 281063 | | | 37.54- 97.54 | 66.75 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.831 (1.217) | 91 | 59602 | 5.00000 | 4.900 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.831 (1.217) | 92 | 34878 | | | 27.89- 87.89 | 58.52 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 20866 | 5.00000 | 4.709 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 19494 | | | 63.53- 123.53 | 93.42 |
| 7.860 | 7.860 (1.223) | 43 | 55025 | | | 246.00- 306.00 | 263.71 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 24669 | 5.00000 | 4.996 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 8239 | | | 1.83- 61.83 | 33.40 |
| 8.118 | 8.118 (0.887) | 39 | 15878 | | | 31.97- 91.97 | 64.36 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.282 | 8.290 (0.905) | 97 | 20550 | 5.00000 | 4.915 | 80.00- 120.00 | 100.00 |
| 8.282 | 8.290 (0.905) | 99 | 12876 | | | 32.52- 92.52 | 62.66 |
| 8.282 | 8.290 (0.905) | 83 | 17892 | | | 58.90- 118.90 | 87.07 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.318 (0.908) | 166 | 31688 | 5.00000 | 5.047 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.318 (0.908) | 129 | 23187 | | | 45.32- 105.32 | 73.17 |
| 8.311 | 8.318 (0.908) | 131 | 23579 | | | 44.17- 104.17 | 74.41 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 28615 | 5.00000 | 5.018 | 80.00- 120.00 | 100.00 |
| 8.447 | 8.447 (1.314) | 41 | 26087 | | | 59.72- 119.72 | 91.17 |
| 8.447 | 8.447 (1.314) | 78 | 9192 | | | 3.08- 63.08 | 32.12 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.497 | 8.490 (0.929) | 58 | 26288 | 5.00000 | 5.011 | 80.00- 120.00 | 100.00 |
| 8.497 | 8.490 (0.929) | 43 | 55403 | | | 177.32- 237.32 | 210.75 |
| 8.497 | 8.490 (0.929) | 100 | 4741 | | | 0.00- 47.18 | 18.03 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 40668 | 5.00000 | 4.921 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 31926 | | | 47.27- 107.27 | 78.50 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 33020 | 5.00000 | 4.818 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 31725 | | | 64.18- 124.18 | 96.08 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.157 (1.000) | 117 | 446883 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.157 (1.000) | 82 | 237443 | | | 22.92- 82.92 | 53.13 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.185 (1.003) | 112 | 50886 | 5.00000 | 4.915 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.185 (1.003) | 114 | 16282 | | | 1.91- 61.91 | 32.00 |
| 9.178 | 9.185 (1.003) | 77 | 31112 | | | 22.97- 82.97 | 61.14 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.249 | 9.250 (1.011) | 106 | 25019 | 5.00000 | 4.804 | 80.00- 120.00 | 100.00 |
| 9.249 | 9.250 (1.011) | 91 | 78223 | | | 281.09- 341.09 | 312.65 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.013) | 131 | 28053 | 5.00000 | 4.756 | 80.00- 120.00 | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 22204 | | | 37.10- 97.10 | 79.15 |
| 9.271 | 9.271 (1.013) | 95 | 10330 | | | 4.93- 64.93 | 36.82 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.018) | 43 | 59277 | 5.00000 | 4.900 | 80.00- 120.00 | 100.00 |
| 9.314 | 9.314 (1.018) | 57 | 46936 | | | 50.62- 110.62 | 79.18 |
| 9.314 | 9.314 (1.018) | 85 | 15060 | | | 0.00- 55.65 | 25.41 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 31010 | 5.00000 | 4.777 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 63013 | | | 170.33- 230.33 | 203.20 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.066) | 106 | 29126 | 5.00000 | 4.732 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.066) | 91 | 61652 | | | 181.23- 241.23 | 211.67 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.069) | 104 | 50849 | 5.00000 | 4.837 | 80.00- 120.00 | 100.00 |
| 9.780 | 9.780 (1.069) | 78 | 25060 | | | 17.26- 77.26 | 49.28 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.092) | 173 | 40236 | 5.00000 | 4.818 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.092) | 171 | 20951 | | | 21.45- 81.45 | 52.07 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.103) | 105 | 88925 | 5.00000 | 4.779 | 80.00- 120.00 | 100.00 |
| 10.095 | 10.095 (1.103) | 120 | 24787 | | | 0.00- 56.93 | 27.87 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 168 Cumene (continued) | | | | | | | |
| 10.088 | 10.095 (1.103) | 51 | 11553 | | | 0.00- 42.24 | 12.99 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.259 | 10.260 (1.121) | 55 | 36349 | 5.00000 | 4.937 | 80.00- 120.00 | 100.00(a) |
| 10.267 | 10.260 (1.122) | 98 | 12224 | | | 5.15- 65.15 | 33.63 |
| 10.259 | 10.260 (1.121) | 42 | 25657 | | | 41.99- 101.99 | 70.59 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.125) | 174 | 328640 | 25.0000 | 24.746 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.125) | 95 | 390974 | | | 88.49- 148.49 | 118.97 |
| 10.295 | 10.295 (1.125) | 176 | 316981 | | | 66.73- 126.73 | 96.45 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.432 (1.140) | 156 | 32480 | 5.00000 | 5.010 | 80.00- 120.00 | 100.00 |
| 10.431 | 10.432 (1.140) | 158 | 30981 | | | 67.47- 127.47 | 95.38 |
| 10.431 | 10.432 (1.140) | 77 | 44459 | | | 108.68- 168.68 | 136.88 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.475 (1.144) | 83 | 47301 | 5.00000 | 4.901 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.475 (1.144) | 85 | 30625 | | | 34.97- 94.97 | 64.74 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.147) | 120 | 26554 | 5.00000 | 4.826 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.147) | 91 | 110753 | | | 383.60- 443.60 | 417.09 |
| 10.496 | 10.496 (1.147) | 105 | 4547 | | | 0.00- 46.14 | 17.12 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.525 (1.150) | 110 | 13876 | 5.00000 | 4.737 | 80.00- 120.00 | 100.00 |
| 10.524 | 10.525 (1.150) | 75 | 48974 | | | 324.28- 384.28 | 352.94 |
| 10.517 | 10.518 (1.150) | 61 | 12910 | | | 57.24- 117.24 | 93.04 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.611 (1.159) | 57 | 66125 | 5.00000 | 4.643 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.160) | 71 | 20761 | | | 1.11- 61.11 | 31.40 |
| 10.610 | 10.611 (1.160) | 142 | 2874 | | | 0.00- 34.44 | 4.35 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.611 (1.159) | 120 | 29003 | 5.00000 | 4.836 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.611 (1.159) | 105 | 94876 | | | 298.94- 358.94 | 327.12 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.611 (1.159) | 126 | 24928 | 5.00000 | 4.913 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.611 (1.159) | 91 | 77188 | | | 282.78- 342.78 | 309.64 |
| 10.603 | 10.603 (1.159) | 65 | 12088 | | | 17.33- 77.33 | 48.49 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.167) | 120 | 38840 | 5.00000 | 4.802 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.167) | 105 | 79192 | | | 172.08- 232.08 | 203.89 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.192) | 118 | 40931 | 5.00000 | 4.778 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.192) | 103 | 23190 | | | 25.64- 85.64 | 56.66 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.983 (1.200) | 119 | 75651 | 5.00000 | 4.920 | 80.00- 120.00 | 100.00 |
| 10.983 | 10.983 (1.200) | 134 | 18730 | | | 0.00- 55.10 | 24.76 |
| 10.976 | 10.976 (1.200) | 91 | 49041 | | | 34.53- 94.53 | 64.83 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.207) | 105 | 80630 | 5.00000 | 4.876 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.207) | 120 | 37019 | | | 16.63- 76.63 | 45.91 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.224) | 134 | 24772 | 5.00000 | 4.922 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.224) | 105 | 115657 | | | 436.99- 496.99 | 466.89 |
| 11.191 | 11.198 (1.223) | 91 | 18608 | | | 41.69- 101.69 | 75.12 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.240) | 119 | 101004 | 5.00000 | 4.907 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 134 | 28012 | | | 0.00- 57.62 | 27.73 |
| 11.341 | 11.341 (1.240) | 91 | 23280 | | | 0.00- 53.03 | 23.05 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.240) | 146 | 58914 | 5.00000 | 4.808 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.240) | 148 | 38396 | | | 34.18- 94.18 | 65.17 |
| 11.348 | 11.348 (1.240) | 111 | 23260 | | | 10.06- 70.06 | 39.48 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.449 | 11.449 (1.251) | 146 | 60435 | 5.00000 | 4.869 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.251) | 148 | 38720 | | | 33.55- 93.55 | 64.07 |
| 11.449 | 11.449 (1.251) | 111 | 23179 | | | 7.98- 67.98 | 38.35 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.267) | 91 | 75468 | 5.00000 | 4.801 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.267) | 126 | 16647 | | | 0.00- 52.77 | 22.06 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.749 | 11.750 (1.284) | 134 | 27726 | 5.00000 | 4.887 | 80.00- 120.00 | 100.00 |
| 11.742 | 11.742 (1.283) | 91 | 97568 | | | 310.82- 370.82 | 351.90 |
| 11.742 | 11.742 (1.283) | 92 | 50942 | | | 151.53- 211.53 | 183.73 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | AMOUNTS ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.288) | 57 | 81818 | 5.00000 | 4.832 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.288) | 43 | 77006 | | | 63.59- 123.59 | 94.12 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.821 (1.291) | 146 | 57397 | 5.00000 | 4.826 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.292) | 148 | 36810 | | | 33.00- 93.00 | 64.13 |
| 11.814 | 11.821 (1.291) | 111 | 23674 | | | 10.87- 70.87 | 41.25 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.379) | 157 | 35937 | 5.00000 | 5.109 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.379) | 75 | 28356 | | | 48.09- 108.09 | 78.90 |
| 12.616 | 12.616 (1.379) | 155 | 28052 | | | 47.89- 107.89 | 78.06 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.406) | 57 | 86146 | 5.00000 | 5.051 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.406) | 43 | 76798 | | | 58.52- 118.52 | 89.15 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.464) | 180 | 61217 | 5.00000 | 5.194 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.464) | 182 | 59446 | | | 64.84- 124.84 | 97.11 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.504 | 13.512 (1.476) | 225 | 43615 | 5.00000 | 5.074 | 80.00- 120.00 | 100.00 |
| 13.504 | 13.512 (1.476) | 223 | 28353 | | | 32.80- 92.80 | 65.01 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.492) | 128 | 14455 | 0.58000 | 0.5877 | 80.00- 120.00 | 100.00 |
| 13.640 | 13.648 (1.491) | 127 | 2034 | | | 0.00- 42.72 | 14.07 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.518) | 180 | 60561 | 5.00000 | 5.244 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.518) | 182 | 57783 | | | 65.07- 125.07 | 95.41 |
| 13.891 | 13.891 (1.518) | 145 | 20574 | | | 4.48- 64.48 | 33.97 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042310.d
Lab Smp Id: ICAL Level #5
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 5.0ppbv (5.0ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #5
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 115073 | 8.37 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 436367 | 11.61 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 446883 | 14.00 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.43 | -0.13 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.15 | -0.08 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042310.d

Page 1

Date : 23-APR-2024 22:57

Client ID: ICAL Level #5

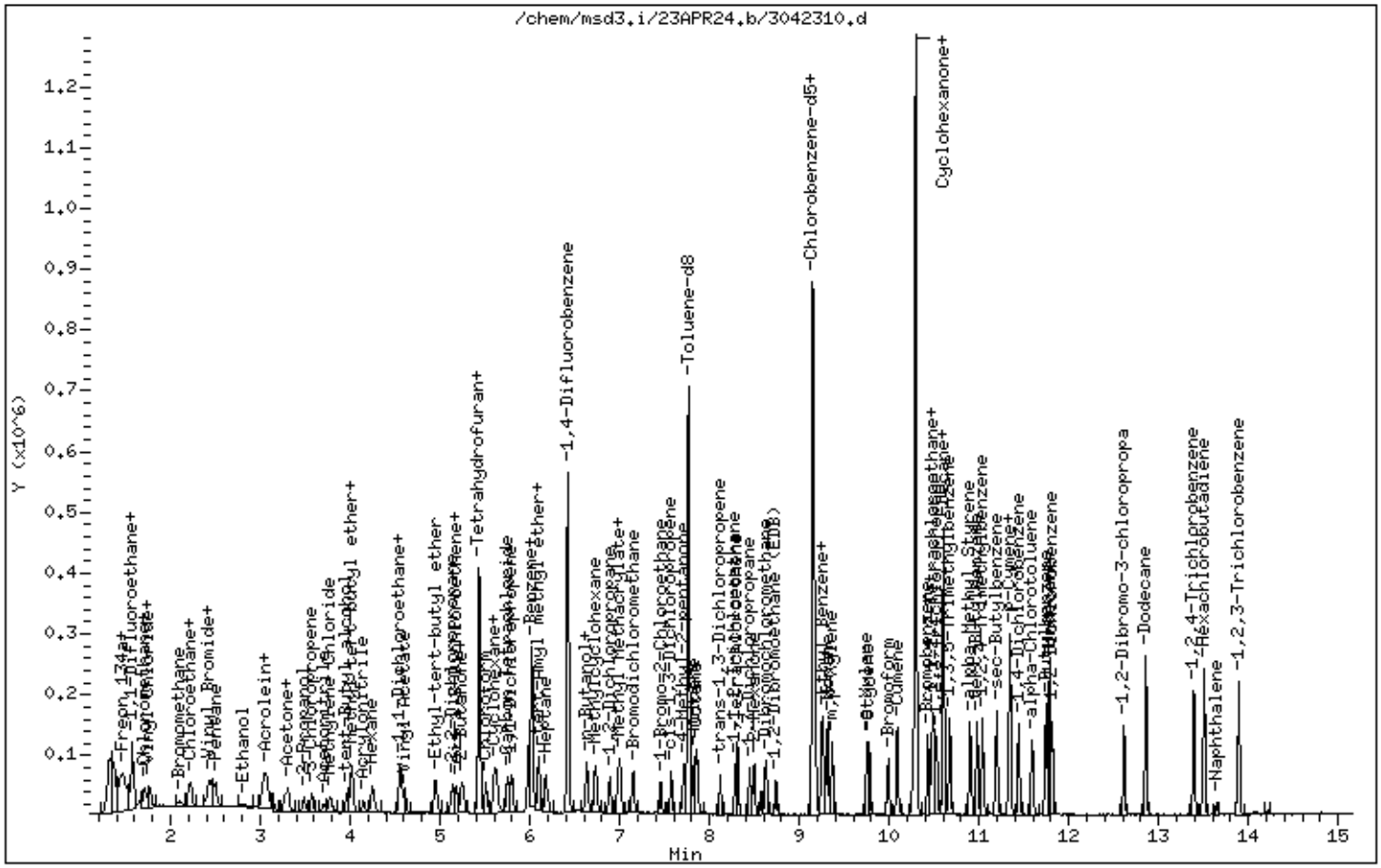
Instrument: msd3.i

Sample Info: 200ml 3018-4466

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3041805.d
Lab Smp Id: ICAL Level #6 Client Smp ID: ICAL Level #6
Inj Date : 18-APR-2024 10:37
Operator : mjs Inst ID: msd3.i
Smp Info : 20ml 3018-4328
Misc Info : 20ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 23:27 Cal File: 3042311.d
Als bottle: 2 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT21spICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.439 (1.000) | 130 | 118794 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 93112 | | | 47.79- 107.79 | 78.38 |
| 5.432 | 5.439 (1.000) | 49 | 196256 | | | 131.33- 191.33 | 165.21 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 449529 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 70071 | | | 0.00- 45.65 | 15.59 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 451897 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 243010 | | | 22.92- 82.92 | 53.78 |
| 3 Freon 143a | | | | | CAS #: 420-46-2 | | |
| 1.395 | 1.395 (0.257) | 65 | 35258 | 20.0000 | 22.003 | 80.00- 120.00 | 100.00 |
| 1.395 | 1.395 (0.257) | 69 | 94335 | | | 237.43- 297.43 | 267.56 |
| 1.367 | 1.395 (0.252) | 64 | 10052 | | | 0.00- 57.02 | 28.51 |
| 6 Propane | | | | | CAS #: 74-98-6 | | |
| 1.423 | 1.423 (0.262) | 43 | 20289 | 20.0000 | 18.455 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 6 Propane (continued) | | | | | | | |
| 1.423 | 1.437 (0.262) | 39 | 14159 | | | 37.94- 97.94 | 69.79 |
| 1.437 | 1.423 (0.264) | 41 | 10072 | | | 21.79- 81.79 | 49.64 |
| 13 Freon 142b | | | | | CAS #: 75-68-3 | | |
| 1.604 | 1.604 (0.295) | 65 | 102367 | 20.0000 | 17.535 | 80.00- 120.00 | 100.00 |
| 1.604 | 1.604 (0.295) | 45 | 29390 | | | 0.00- 58.87 | 28.71 |
| 36 1-Pentene | | | | | CAS #: 109-67-1 | | |
| 2.458 | 2.458 (0.453) | 55 | 66440 | 20.0000 | 18.333 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 42 | 98045 | | | 114.47- 174.47 | 147.57 |
| 38 Ethyl Ether | | | | | CAS #: 60-29-7 | | |
| 2.794 | 2.794 (0.514) | 74 | 26133 | 20.0000 | 17.435 | 80.00- 120.00 | 100.00 |
| 2.794 | 2.794 (0.514) | 59 | 42791 | | | 138.79- 198.79 | 163.74 |
| 2.794 | 2.794 (0.514) | 45 | 36951 | | | 114.58- 174.58 | 141.40 |
| 40 Freon 123a | | | | | CAS #: 354-23-4 | | |
| 2.892 | 2.906 (0.532) | 117 | 93190 | 20.0000 | 19.730 | 80.00- 120.00 | 100.00 |
| 2.892 | 2.892 (0.532) | 67 | 121608 | | | 102.78- 162.78 | 130.49 |
| 41 Freon 123 | | | | | CAS #: 306-83-2 | | |
| 2.990 | 2.990 (0.550) | 83 | 87365 | 20.0000 | 19.972 | 80.00- 120.00 | 100.00 |
| 2.990 | 2.990 (0.550) | 133 | 21898 | | | 0.00- 53.60 | 25.06 |
| 2.990 | 2.990 (0.550) | 85 | 57237 | | | 36.72- 96.72 | 65.51 |
| 55 Cyclopentene | | | | | CAS #: 142-29-0 | | |
| 3.591 | 3.591 (0.661) | 67 | 123748 | 20.0000 | 18.581 | 80.00- 120.00 | 100.00 |
| 3.591 | 3.591 (0.661) | 68 | 47470 | | | 8.38- 68.38 | 38.36 |
| 3.591 | 3.591 (0.661) | 53 | 30591 | | | 0.00- 54.97 | 24.72 |
| 56 Methyl Acetate | | | | | CAS #: 79-20-9 | | |
| 3.619 | 3.619 (0.666) | 43 | 132004 | 20.0000 | 17.838 | 80.00- 120.00 | 100.00 |
| 3.619 | 3.619 (0.666) | 74 | 21278 | | | 0.00- 45.84 | 16.12 |
| 74 Chloroprene | | | | | CAS #: 126-99-8 | | |
| 4.608 | 4.608 (0.848) | 53 | 106009 | 20.0000 | 18.316 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.848) | 88 | 46823 | | | 14.44- 74.44 | 44.17 |
| 4.608 | 4.608 (0.848) | 50 | 28587 | | | 0.00- 56.76 | 26.97 |
| 75 1-Propanol | | | | | CAS #: 71-23-8 | | |
| 4.715 | 4.715 (0.868) | 59 | 14341 | 20.0000 | 16.412 | 80.00- 120.00 | 100.00 |
| 4.715 | 4.715 (0.868) | 42 | 13304 | | | 63.00- 123.00 | 92.77 |
| 4.715 | 4.715 (0.868) | 41 | 8666 | | | 28.69- 88.69 | 60.43 |
| 88 Methyl Acrylate | | | | | CAS #: 96-33-3 | | |
| 5.288 | 5.288 (0.974) | 55 | 132996 | 20.0000 | 18.293 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 88 Methyl Acrylate (continued) | | | | | | | |
| 5.288 | 5.288 (0.974) | 85 | 18154 | | | 0.00- 43.17 | 13.65 |
| 5.288 | 5.288 (0.974) | 58 | 12404 | | | 0.00- 38.59 | 9.33 |
| 103 Isobutanol | | | | | CAS #: 78-83-1 | | |
| 5.997 | 5.990 (1.104) | 39 | 18901 | 20.0000 | 16.441 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (1.103) | 43 | 79450 | | | 402.02- 462.02 | 420.35 |
| 5.990 | 5.990 (1.103) | 41 | 56593 | | | 275.29- 335.29 | 299.42 |
| 113 Ethyl acrylate | | | | | CAS #: 140-88-5 | | |
| 6.764 | 6.764 (0.739) | 99 | 11774 | 20.0000 | 19.124 | 80.00- 120.00 | 100.00 |
| 6.764 | 6.764 (0.739) | 45 | 20473 | | | 144.38- 204.38 | 173.88 |
| 6.764 | 6.764 (0.739) | 55 | 198211 | | | 1723.57-1783.57 | 1683.46 |
| 115 2-Pentanone | | | | | CAS #: 107-87-9 | | |
| 6.857 | 6.857 (0.749) | 43 | 249920 | 20.0000 | 20.164 | 80.00- 120.00 | 100.00 |
| 6.857 | 6.857 (0.749) | 58 | 17533 | | | 0.00- 37.02 | 7.02 |
| 6.857 | 6.857 (0.749) | 86 | 33047 | | | 0.00- 43.48 | 13.22 |
| 145 Butyl Acetate | | | | | CAS #: 123-86-4 | | |
| 8.576 | 8.576 (1.334) | 56 | 111977 | 20.0000 | 20.271 | 80.00- 120.00 | 100.00 |
| 8.576 | 8.576 (1.334) | 73 | 37262 | | | 2.83- 62.83 | 33.28 |
| 8.576 | 8.576 (1.334) | 43 | 306735 | | | 240.40- 300.40 | 273.93 |
| 166 2-Heptanone | | | | | CAS #: 110-43-0 | | |
| 9.901 | 9.901 (1.823) | 58 | 174467 | 20.0000 | 19.185 | 80.00- 120.00 | 100.00 |
| 9.901 | 9.901 (1.823) | 43 | 308567 | | | 146.16- 206.16 | 176.86 |
| 210 alpha-Pinene | | | | | CAS #: 80-56-8 | | |
| 10.037 | 10.037 (1.096) | 93 | 230988 | 20.0000 | 19.479 | 80.00- 120.00 | 100.00 |
| 10.037 | 10.037 (1.096) | 77 | 68427 | | | 0.00- 59.07 | 29.62 |
| 214 beta-Pinene | | | | | CAS #: 127-91-3 | | |
| 10.696 | 10.696 (1.168) | 93 | 181641 | 20.0000 | 19.670 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 352734 | | | 151.21- 211.21 | 194.19 |
| 186 4-Chlorotoluene | | | | | CAS #: 106-43-4 | | |
| 10.725 | 10.725 (1.171) | 126 | 108061 | 20.0000 | 21.463 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 352734 | | | 296.65- 356.65 | 326.42 |
| 10.725 | 10.725 (1.171) | 63 | 44976 | | | 10.84- 70.84 | 41.62 |
| 172 D-Limonene | | | | | CAS #: 5989-27-5 | | |
| 11.277 | 11.277 (1.232) | 68 | 158763 | 20.0000 | 21.242 | 80.00- 120.00 | 100.00 |
| 11.277 | 11.277 (1.232) | 93 | 113646 | | | 41.19- 101.19 | 71.58 |
| 197 1,2,3-Trimethylbenzene | | | | | CAS #: 526-73-8 | | |
| 11.463 | 11.463 (1.252) | 120 | 148235 | 20.0000 | 21.464 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 197 1,2,3-Trimethylbenzene (continued) | | | | | | | |
| 11.463 | 11.463 (1.252) | 105 | 342312 | | | 201.76- 261.76 | 230.93 |
| 11.463 | 11.463 (1.252) | 77 | 39370 | | | 0.00- 57.12 | 26.56 |
| 205 Hexachloroethane | | | | | CAS #: 67-72-1 | | |
| 12.014 | 12.014 (1.312) | 201 | 84823 | 20.0000 | 20.330 | 80.00- 120.00 | 100.00 |
| 12.014 | 12.014 (1.312) | 117 | 123616 | | | 114.78- 174.78 | 145.73 |
| 208 1,3,5-Trichlorobenzene | | | | | CAS #: 108-70-3 | | |
| 12.752 | 12.752 (1.393) | 180 | 205026 | 20.0000 | 21.327 | 80.00- 120.00 | 100.00 |
| 12.759 | 12.752 (1.393) | 182 | 194831 | | | 64.68- 124.68 | 95.03 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3041805.d
Lab Smp Id: ICAL Level #6
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 20ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #6
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 118794 | 11.87 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 449529 | 14.98 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 451897 | 15.28 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.43 | -0.13 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3041805.d



Date : 18-APR-2024 10:37

Client ID: ICAL Level #6

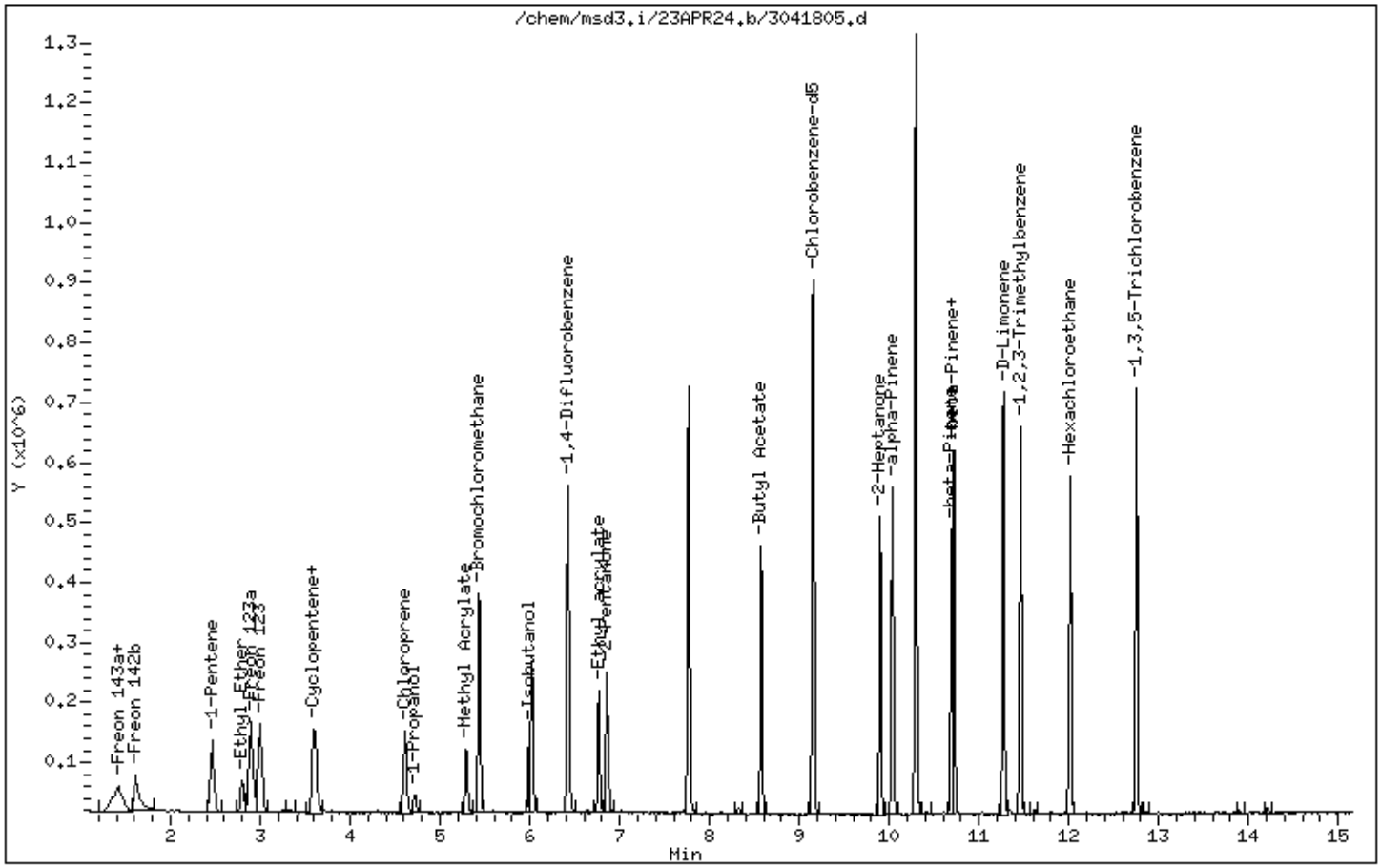
Instrument: msd3.i

Sample Info: 20ml 3018-4328

Operator: mjs

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042311.d
Lab Smp Id: ICAL Level #6 Client Smp ID: ICAL Level #6
Inj Date : 23-APR-2024 23:27
Operator : DF Inst ID: msd3.i
Smp Info : 20ml 3018-4439
Misc Info : 20ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 23:27 Cal File: 3042311.d
Als bottle: 13 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23ICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.395 | 1.409 (0.256) | 83 | 44081 | 20.0000 | 18.098 | 80.00- 120.00 | 100.00 |
| 1.395 | 1.409 (0.256) | 69 | 42264 | | | 64.17- 124.17 | 95.88 |
| 1.478 | 1.493 (0.272) | 51 | 176627 | | | 365.46- 425.46 | 400.69 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.423 | 1.437 (0.262) | 41 | 46518 | 20.0000 | 16.855 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 32824 | | | 35.86- 95.86 | 70.56 |
| 1.423 | 1.437 (0.262) | 39 | 33275 | | | 41.66- 101.66 | 71.53 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.464 | 1.465 (0.269) | 65 | 29325 | 20.0000 | 18.432 | 80.00- 120.00 | 100.00 |
| 1.478 | 1.493 (0.272) | 51 | 176627 | | | 568.10- 628.10 | 602.31 |
| 1.562 | 1.577 (0.287) | 47 | 6094 | | | 0.00- 50.57 | 20.78 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.464 | 1.465 (0.269) | 85 | 106014 | 20.0000 | 16.988 | 80.00- 120.00 | 100.00 |
| 1.464 | 1.465 (0.269) | 87 | 34415 | | | 2.88- 62.88 | 32.46 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.492 | 1.493 (0.274) | 67 | 13080 | 20.0000 | 16.750 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 9 Chlorodifluoromethane (continued) | | | | | | | |
| 1.478 | 1.493 (0.272) | 51 | 176627 | | | 1257.55-1317.55 | 1350.36 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.577 (0.290) | 135 | 98795 | 20.0000 | 18.009 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.577 (0.290) | 137 | 31606 | | | 2.10- 62.10 | 31.99 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.576 | 1.591 (0.290) | 43 | 105552 | 20.0000 | 18.087 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.591 (0.290) | 42 | 33758 | | | 1.69- 61.69 | 31.98 |
| 1.576 | 1.577 (0.290) | 58 | 3723 | | | 0.00- 33.32 | 3.53 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.675 (0.308) | 50 | 56663 | 20.0000 | 18.833 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.675 (0.308) | 52 | 18491 | | | 1.38- 61.38 | 32.63 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.731 (0.316) | 58 | 11177 | 20.0000 | 18.528 | 80.00- 120.00 | 100.00 |
| 1.716 | 1.731 (0.316) | 43 | 96162 | | | 866.38- 926.38 | 860.36 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.759 (0.323) | 62 | 50019 | 20.0000 | 17.182 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.759 (0.323) | 64 | 17989 | | | 3.10- 63.10 | 35.96 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 46188 | 20.0000 | 16.889 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 50872 | | | 78.74- 138.74 | 110.14 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 37771 | 20.0000 | 18.157 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 35857 | | | 64.19- 124.19 | 94.93 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.408) | 64 | 24490 | 20.0000 | 17.542 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.408) | 66 | 8171 | | | 2.32- 62.32 | 33.36 |
| 2.220 | 2.220 (0.408) | 49 | 9554 | | | 6.33- 66.33 | 39.01 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 81089 | 20.0000 | 20.354 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 49827 | | | 31.77- 91.77 | 61.45 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.416 (0.442) | 106 | 44767 | 20.0000 | 18.503 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.416 (0.442) | 108 | 41514 | | | 64.21- 124.21 | 92.73 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.449) | 101 | 138152 | 20.0000 | 19.217 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ======= | ========== | ===== |
| 33 Freon 11 (continued) | | | | | | | | |
| 2.444 | 2.444 (0.449) | 103 | 89978 | | | | 34.93- 94.93 | 65.13 |
| 34 Dichlorofluoromethane | | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.472 (0.452) | 67 | 98876 | 20.0000 | 17.248 | | 80.00- 120.00 | 100.00 |
| 2.472 | 2.472 (0.455) | 69 | 33145 | | | | 1.95- 61.95 | 33.52 |
| 35 Pentane | | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.462) | 43 | 113970 | 20.0000 | 18.802 | | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.462) | 57 | 17233 | | | | 0.00- 44.64 | 15.12 |
| 2.514 | 2.514 (0.462) | 72 | 8871 | | | | 0.00- 37.90 | 7.78 |
| 39 Ethanol | | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.506) | 46 | 10443 | 24.6400 | 18.309 | | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.506) | 45 | 27008 | | | | 224.40- 284.40 | 258.62 |
| 42 Acrolein | | | | | | CAS #: 107-02-8 | | |
| 3.061 | 3.061 (0.563) | 55 | 23907 | 23.3000 | 19.475 | | 80.00- 120.00 | 100.00 |
| 3.053 | 3.061 (0.561) | 56 | 31091 | | | | 108.02- 168.02 | 130.05 |
| 43 Freon 113 | | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 126248 | 20.0000 | 19.871 | | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 80808 | | | | 35.07- 95.07 | 64.01 |
| 3.061 | 3.061 (0.563) | 101 | 143360 | | | | 87.45- 147.45 | 113.55 |
| 44 1,1-Dichloroethene | | | | | | CAS #: 75-35-4 | | |
| 3.096 | 3.097 (0.569) | 96 | 45623 | 20.0000 | 16.877 | | 80.00- 120.00 | 100.00 |
| 3.089 | 3.097 (0.568) | 98 | 28751 | | | | 33.27- 93.27 | 63.02 |
| 3.089 | 3.097 (0.568) | 61 | 86074 | | | | 159.05- 219.05 | 188.66 |
| 47 Acetone | | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.597) | 58 | 25543 | 20.0000 | 16.605 | | 80.00- 120.00 | 100.00 |
| 3.247 | 3.247 (0.597) | 43 | 93038 | | | | 329.45- 389.45 | 364.24 |
| 48 Carbon Disulfide | | | | | | CAS #: 75-15-0 | | |
| 3.333 | 3.333 (0.613) | 76 | 121557 | 20.0000 | 16.491 | | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.630) | 45 | 110971 | 20.0000 | 17.351 | | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.630) | 43 | 20349 | | | | 0.00- 48.18 | 18.34 |
| 54 3-Chloropropene | | | | | | CAS #: 107-05-1 | | |
| 3.583 | 3.584 (0.659) | 76 | 20566 | 20.0000 | 16.561 | | 80.00- 120.00 | 100.00 |
| 3.583 | 3.584 (0.659) | 41 | 79666 | | | | 366.80- 426.80 | 387.37 |
| 57 Acetonitrile | | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.677) | 41 | 55087 | 23.5200 | 19.515 | | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 57 Acetonitrile (continued) | | | | | | | |
| 3.684 | 3.684 (0.677) | 40 | 29640 | | | 22.74- 82.74 | 53.81 |
| 3.684 | 3.684 (0.677) | 38 | 7948 | | | 0.00- 42.52 | 14.43 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.784 (0.694) | 49 | 72562 | 20.0000 | 17.173 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.784 (0.694) | 84 | 39611 | | | 24.90- 84.90 | 54.59 |
| 3.777 | 3.784 (0.694) | 51 | 19920 | | | 0.00- 59.67 | 27.45 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.913 | 3.913 (0.719) | 59 | 145183 | 23.0400 | 22.252 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.913 (0.718) | 41 | 32139 | | | 0.00- 51.85 | 22.14 |
| 3.906 | 3.913 (0.718) | 57 | 15832 | | | 0.00- 40.17 | 10.90 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.737) | 73 | 151228 | 20.0000 | 19.606 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.737) | 57 | 43407 | | | 0.00- 58.72 | 28.70 |
| 4.006 | 4.006 (0.737) | 41 | 44964 | | | 0.00- 59.38 | 29.73 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.741) | 98 | 30162 | 20.0000 | 16.614 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.741) | 61 | 78140 | | | 232.13- 292.13 | 259.07 |
| 4.028 | 4.028 (0.741) | 96 | 46386 | | | 127.26- 187.26 | 153.79 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.142 | 4.142 (0.762) | 52 | 37768 | 20.0000 | 16.086 | 80.00- 120.00 | 100.00 |
| 4.142 | 4.142 (0.762) | 53 | 44522 | | | 86.45- 146.45 | 117.88 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.783) | 57 | 100869 | 20.0000 | 17.832 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.257 (0.783) | 43 | 70980 | | | 40.97- 100.97 | 70.37 |
| 4.257 | 4.257 (0.783) | 86 | 12635 | | | 0.00- 42.68 | 12.53 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.838) | 63 | 94280 | 20.0000 | 17.971 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 65 | 28557 | | | 0.47- 60.47 | 30.29 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.550 | 4.558 (0.837) | 45 | 242372 | 20.0000 | 19.266 | 80.00- 120.00 | 100.00 |
| 4.550 | 4.558 (0.837) | 87 | 46404 | | | 0.00- 49.55 | 19.15 |
| 4.550 | 4.558 (0.837) | 59 | 25195 | | | 0.00- 40.42 | 10.40 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.615 | 4.608 (0.849) | 86 | 8130 | 20.0000 | 17.599 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 43 | 138704 | | | 1727.95-1787.95 | 1706.08 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.945 (0.908) | 59 | 209538 | 20.0000 | 19.315 | 80.00- 120.00 | 100.00 |
| 4.944 | 4.945 (0.909) | 87 | 70355 | | | 3.90- 63.90 | 33.58 |
| 4.944 | 4.945 (0.909) | 41 | 40958 | | | 0.00- 49.72 | 19.55 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.145 | 5.145 (0.946) | 77 | 98987 | 20.0000 | 19.113 | 80.00- 120.00 | 100.00 |
| 5.145 | 5.145 (0.946) | 79 | 31838 | | | 2.39- 62.39 | 32.16 |
| 5.145 | 5.145 (0.946) | 97 | 23422 | | | 0.00- 53.57 | 23.66 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.188 | 5.188 (0.954) | 98 | 30727 | 20.0000 | 16.344 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 96 | 49856 | | | 125.53- 185.53 | 162.25 |
| 5.188 | 5.188 (0.954) | 61 | 79780 | | | 219.86- 279.86 | 259.64 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.959) | 72 | 23836 | 20.0000 | 17.598 | 80.00- 120.00 | 100.00 |
| 5.238 | 5.217 (0.963) | 43 | 280867 | | | 1138.34-1198.34 | 1178.33 |
| 5.217 | 5.217 (0.959) | 57 | 10427 | | | 10.83- 70.83 | 43.74 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.245 | 5.245 (0.964) | 45 | 23550 | 20.0000 | 17.385 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 61 | 79780 | | | 338.96- 398.96 | 338.77 |
| 5.245 | 5.245 (0.964) | 70 | 12523 | | | 24.53- 84.53 | 53.18 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.432 | 5.425 (0.999) | 42 | 66628 | 20.0000 | 16.089 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.425 (0.999) | 71 | 19191 | | | 0.00- 58.54 | 28.80 |
| 5.432 | 5.425 (0.999) | 72 | 20468 | | | 0.00- 59.59 | 30.72 |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 105372 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 82575 | | | 47.79- 107.79 | 78.37 |
| 5.432 | 5.439 (1.000) | 49 | 172332 | | | 131.33- 191.33 | 163.55 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.510 | 5.518 (1.013) | 83 | 97539 | 20.0000 | 17.314 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.518 (1.013) | 85 | 63480 | | | 35.77- 95.77 | 65.08 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.032) | 84 | 71939 | 20.0000 | 19.088 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.032) | 56 | 111037 | | | 125.79- 185.79 | 154.35 |
| 5.611 | 5.611 (1.032) | 41 | 65845 | | | 61.55- 121.55 | 91.53 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.639 | 5.639 (1.037) | 97 | 115669 | 20.0000 | 18.826 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 96 1,1,1-Trichloroethane (continued) | | | | | | | |
| 5.639 | 5.639 (1.037) | 99 | 73673 | | | 32.84- 92.84 | 63.69 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.059) | 119 | 124129 | 20.0000 | 19.056 | 80.00- 120.00 | 100.00 |
| 5.761 | 5.761 (1.059) | 117 | 129978 | | | 75.19- 135.19 | 104.71 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.804 | 5.804 (0.903) | 110 | 27557 | 20.0000 | 17.662 | 80.00- 120.00 | 100.00 |
| 5.804 | 5.804 (0.903) | 75 | 74120 | | | 234.16- 294.16 | 268.97 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.998 (0.933) | 78 | 145772 | 20.0000 | 18.692 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.998 (0.933) | 77 | 34402 | | | 0.00- 53.69 | 23.60 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.997 | 5.998 (1.103) | 57 | 326915 | 20.0000 | 18.497 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.998 (1.101) | 56 | 106606 | | | 3.09- 63.09 | 32.61 |
| 5.997 | 5.998 (1.103) | 41 | 88748 | | | 0.00- 57.28 | 27.15 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.108) | 65 | 133498 | 25.0000 | 24.324 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.108) | 67 | 72096 | | | 23.17- 83.17 | 54.01 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.091 | 6.091 (0.948) | 87 | 39637 | 20.0000 | 18.913 | 80.00- 120.00 | 100.00 |
| 6.091 | 6.091 (0.948) | 73 | 159227 | | | 365.76- 425.76 | 401.71 |
| 6.091 | 6.091 (0.948) | 55 | 48863 | | | 92.58- 152.58 | 123.28 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 73577 | 20.0000 | 18.086 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.105 (0.949) | 64 | 23399 | | | 1.80- 61.80 | 31.80 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 58406 | 20.0000 | 18.906 | 80.00- 120.00 | 100.00 |
| 6.176 | 6.184 (0.961) | 43 | 138592 | | | 207.73- 267.73 | 237.29 |
| 6.184 | 6.184 (0.962) | 57 | 66511 | | | 84.83- 144.83 | 113.88 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 387341 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 59602 | | | 0.00- 45.65 | 15.39 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.031) | 56 | 30254 | 20.0000 | 17.062 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.031) | 41 | 23143 | | | 47.73- 107.73 | 76.50 |
| 6.635 | 6.628 (1.032) | 43 | 18672 | | | 31.60- 91.60 | 61.72 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 69118 | 20.0000 | 18.382 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.635 (1.032) | 130 | 74876 | | | 80.23- 140.23 | 108.33 |
| 6.635 | 6.635 (1.032) | 97 | 43215 | | | 34.78- 94.78 | 62.52 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.735 | 6.735 (1.048) | 83 | 100426 | 20.0000 | 18.802 | 80.00- 120.00 | 100.00 |
| 6.735 | 6.735 (1.048) | 98 | 44794 | | | 14.83- 74.83 | 44.60 |
| 6.735 | 6.735 (1.048) | 55 | 100797 | | | 71.50- 131.50 | 100.37 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 67019 | 20.0000 | 18.263 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 48513 | | | 40.39- 100.39 | 72.39 |
| 6.893 | 6.893 (1.072) | 41 | 42594 | | | 31.86- 91.86 | 63.56 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.979 | 6.979 (0.762) | 69 | 59621 | 20.0000 | 18.865 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 105602 | | | 145.81- 205.81 | 177.12 |
| 6.979 | 6.979 (0.762) | 100 | 23677 | | | 10.05- 70.05 | 39.71 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.088) | 88 | 38302 | 20.0000 | 19.524 | 80.00- 120.00 | 100.00 |
| 6.993 | 6.993 (1.088) | 58 | 33441 | | | 56.33- 116.33 | 87.31 |
| 6.993 | 6.993 (1.088) | 57 | 12928 | | | 2.08- 62.08 | 33.75 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.008 (0.765) | 174 | 65955 | 20.0000 | 18.016 | 80.00- 120.00 | 100.00 |
| 7.007 | 7.008 (0.765) | 93 | 61285 | | | 62.68- 122.68 | 92.92 |
| 7.007 | 7.008 (0.765) | 95 | 50251 | | | 47.70- 107.70 | 76.19 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 112826 | 20.0000 | 18.536 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 71711 | | | 34.96- 94.96 | 63.56 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.459 | 7.459 (1.160) | 63 | 121270 | 20.0000 | 18.730 | 80.00- 120.00 | 100.00 |
| 7.459 | 7.459 (1.160) | 65 | 36871 | | | 0.43- 60.43 | 30.40 |
| 7.459 | 7.459 (1.160) | 144 | 13106 | | | 0.00- 40.48 | 10.81 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.574 (1.178) | 75 | 97041 | 20.0000 | 18.694 | 80.00- 120.00 | 100.00 |
| 7.573 | 7.574 (1.178) | 77 | 30879 | | | 1.26- 61.26 | 31.82 |
| 7.573 | 7.574 (1.178) | 39 | 64383 | | | 35.06- 95.06 | 66.35 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.709 | 7.710 (1.199) | 58 | 66096 | 20.0000 | 18.510 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 131 4-Methyl-2-pentanone (continued) | | | | | | | |
| 7.709 | 7.710 (1.199) | 43 | 193625 | | | 259.88- 319.88 | 292.95 |
| 7.709 | 7.710 (1.199) | 85 | 24352 | | | 7.58- 67.58 | 36.84 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 374356 | 25.0000 | 24.861 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 41512 | | | 0.00- 41.42 | 11.09 |
| 7.767 | 7.767 (1.208) | 100 | 249906 | | | 37.54- 97.54 | 66.76 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 209847 | 20.0000 | 19.438 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 122262 | | | 27.89- 87.89 | 58.26 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 74417 | 20.0000 | 18.920 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 69540 | | | 63.53- 123.53 | 93.45 |
| 7.860 | 7.860 (1.223) | 43 | 201715 | | | 246.00- 306.00 | 271.06 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 81656 | 20.0000 | 19.046 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 27268 | | | 1.83- 61.83 | 33.39 |
| 8.118 | 8.118 (0.887) | 39 | 50910 | | | 31.97- 91.97 | 62.35 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.290 | 8.290 (0.905) | 97 | 68426 | 20.0000 | 18.849 | 80.00- 120.00 | 100.00 |
| 8.290 | 8.290 (0.905) | 99 | 42821 | | | 32.52- 92.52 | 62.58 |
| 8.290 | 8.290 (0.905) | 83 | 60821 | | | 58.90- 118.90 | 88.89 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 108155 | 20.0000 | 19.841 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.318 (0.908) | 129 | 83105 | | | 45.32- 105.32 | 76.84 |
| 8.318 | 8.318 (0.908) | 131 | 80958 | | | 44.17- 104.17 | 74.85 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 95148 | 20.0000 | 18.799 | 80.00- 120.00 | 100.00 |
| 8.447 | 8.447 (1.314) | 41 | 82825 | | | 59.72- 119.72 | 87.05 |
| 8.447 | 8.447 (1.314) | 78 | 30636 | | | 3.08- 63.08 | 32.20 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.490 | 8.490 (0.927) | 58 | 92695 | 20.0000 | 20.353 | 80.00- 120.00 | 100.00 |
| 8.490 | 8.490 (0.927) | 43 | 193573 | | | 177.32- 237.32 | 208.83 |
| 8.497 | 8.490 (0.928) | 100 | 16113 | | | 0.00- 47.18 | 17.38 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 142251 | 20.0000 | 19.827 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.942) | 127 | 110476 | | | 47.27- 107.27 | 77.66 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.748 | 8.741 (0.955) | 107 | 113086 | 20.0000 | 19.007 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 107760 | | | 64.18- 124.18 | 95.29 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 387994 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 206315 | | | 22.92- 82.92 | 53.17 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.185 (1.002) | 112 | 177570 | 20.0000 | 19.753 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.185 (1.002) | 114 | 56779 | | | 1.91- 61.91 | 31.98 |
| 9.178 | 9.185 (1.002) | 77 | 97465 | | | 22.97- 82.97 | 54.89 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.249 | 9.250 (1.010) | 106 | 90547 | 20.0000 | 20.025 | 80.00- 120.00 | 100.00 |
| 9.249 | 9.250 (1.010) | 91 | 279450 | | | 281.09- 341.09 | 308.62 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.013) | 131 | 100913 | 20.0000 | 19.705 | 80.00- 120.00 | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 68921 | | | 37.10- 97.10 | 68.30 |
| 9.271 | 9.271 (1.013) | 95 | 35004 | | | 4.93- 64.93 | 34.69 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.017) | 43 | 210960 | 20.0000 | 20.088 | 80.00- 120.00 | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 170121 | | | 50.62- 110.62 | 80.64 |
| 9.314 | 9.314 (1.017) | 85 | 52826 | | | 0.00- 55.65 | 25.04 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 112481 | 20.0000 | 19.958 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 226409 | | | 170.33- 230.33 | 201.29 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 105703 | 20.0000 | 19.778 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 224067 | | | 181.23- 241.23 | 211.98 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 183210 | 20.0000 | 20.073 | 80.00- 120.00 | 100.00 |
| 9.780 | 9.780 (1.068) | 78 | 87478 | | | 17.26- 77.26 | 47.75 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 146225 | 20.0000 | 20.166 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 75636 | | | 21.45- 81.45 | 51.73 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 327866 | 20.0000 | 20.294 | 80.00- 120.00 | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 89042 | | | 0.00- 56.93 | 27.16 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 168 Cumene (continued) | | | | | | | |
| 10.095 | 10.095 (1.102) | 51 | 41048 | | | 0.00- 42.24 | 12.52 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.259 | 10.260 (1.120) | 55 | 118351 | 20.0000 | 18.516 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.260 (1.120) | 98 | 41307 | | | 5.15- 65.15 | 34.90 |
| 10.259 | 10.260 (1.120) | 42 | 85210 | | | 41.99- 101.99 | 72.00 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 289128 | 25.0000 | 25.075 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 339599 | | | 88.49- 148.49 | 117.46 |
| 10.295 | 10.295 (1.124) | 176 | 279985 | | | 66.73- 126.73 | 96.84 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.432 (1.139) | 156 | 114180 | 20.0000 | 20.285 | 80.00- 120.00 | 100.00 |
| 10.431 | 10.432 (1.139) | 158 | 109697 | | | 67.47- 127.47 | 96.07 |
| 10.431 | 10.432 (1.139) | 77 | 157973 | | | 108.68- 168.68 | 138.35 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.474 | 10.475 (1.144) | 83 | 165702 | 20.0000 | 19.774 | 80.00- 120.00 | 100.00 |
| 10.474 | 10.475 (1.144) | 85 | 106548 | | | 34.97- 94.97 | 64.30 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 97421 | 20.0000 | 20.393 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 400299 | | | 383.60- 443.60 | 410.90 |
| 10.496 | 10.496 (1.146) | 105 | 15304 | | | 0.00- 46.14 | 15.71 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.524 | 10.525 (1.149) | 110 | 49077 | 20.0000 | 19.298 | 80.00- 120.00 | 100.00 |
| 10.524 | 10.525 (1.149) | 75 | 172840 | | | 324.28- 384.28 | 352.18 |
| 10.517 | 10.518 (1.149) | 61 | 43229 | | | 57.24- 117.24 | 88.08 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.610 | 10.611 (1.159) | 57 | 232731 | 20.0000 | 18.823 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 71 | 71877 | | | 1.11- 61.11 | 30.88 |
| 10.610 | 10.611 (1.159) | 142 | 9888 | | | 0.00- 34.44 | 4.25 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.610 | 10.611 (1.159) | 120 | 105236 | 20.0000 | 20.211 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 105 | 346471 | | | 298.94- 358.94 | 329.23 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.610 | 10.611 (1.159) | 126 | 87501 | 20.0000 | 19.862 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 91 | 274344 | | | 282.78- 342.78 | 313.53 |
| 10.603 | 10.603 (1.158) | 65 | 41861 | | | 17.33- 77.33 | 47.84 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 140052 | 20.0000 | 19.944 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 282348 | | | 172.08- 232.08 | 201.60 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 147331 | 20.0000 | 19.807 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 83181 | | | 25.64- 85.64 | 56.46 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.983 (1.199) | 119 | 262412 | 20.0000 | 19.656 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.983 (1.199) | 134 | 64297 | | | 0.00- 55.10 | 24.50 |
| 10.976 | 10.976 (1.199) | 91 | 169745 | | | 34.53- 94.53 | 64.69 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 287638 | 20.0000 | 20.034 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.206) | 120 | 133705 | | | 16.63- 76.63 | 46.48 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 86522 | 20.0000 | 19.799 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 406796 | | | 436.99- 496.99 | 470.16 |
| 11.198 | 11.198 (1.223) | 91 | 64787 | | | 41.69- 101.69 | 74.88 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 360469 | 20.0000 | 20.170 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 99481 | | | 0.00- 57.62 | 27.60 |
| 11.341 | 11.341 (1.239) | 91 | 84078 | | | 0.00- 53.03 | 23.32 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 211744 | 20.0000 | 19.903 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 133553 | | | 34.18- 94.18 | 63.07 |
| 11.348 | 11.348 (1.239) | 111 | 84074 | | | 10.06- 70.06 | 39.71 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.448 | 11.449 (1.250) | 146 | 214552 | 20.0000 | 19.909 | 80.00- 120.00 | 100.00 |
| 11.448 | 11.449 (1.250) | 148 | 136091 | | | 33.55- 93.55 | 63.43 |
| 11.448 | 11.449 (1.250) | 111 | 82582 | | | 7.98- 67.98 | 38.49 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 272172 | 20.0000 | 19.944 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 61779 | | | 0.00- 52.77 | 22.70 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.749 | 11.750 (1.283) | 134 | 99554 | 20.0000 | 20.213 | 80.00- 120.00 | 100.00 |
| 11.742 | 11.742 (1.282) | 91 | 341058 | | | 310.82- 370.82 | 342.59 |
| 11.742 | 11.742 (1.282) | 92 | 180947 | | | 151.53- 211.53 | 181.76 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 275631 | 20.0000 | 18.749 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.287) | 43 | 258766 | | | 63.59- 123.59 | 93.88 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 203068 | 20.0000 | 19.668 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 128940 | | | 33.00- 93.00 | 63.50 |
| 11.814 | 11.821 (1.290) | 111 | 84248 | | | 10.87- 70.87 | 41.49 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.378) | 157 | 123991 | 20.0000 | 20.304 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.378) | 75 | 98849 | | | 48.09- 108.09 | 79.72 |
| 12.616 | 12.616 (1.378) | 155 | 95311 | | | 47.89- 107.89 | 76.87 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.852 | 12.860 (1.404) | 57 | 299361 | 20.0000 | 20.216 | 80.00- 120.00 | 100.00 |
| 12.852 | 12.860 (1.404) | 43 | 262573 | | | 58.52- 118.52 | 87.71 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.390 | 13.397 (1.462) | 180 | 207611 | 20.0000 | 20.290 | 80.00- 120.00 | 100.00 |
| 13.390 | 13.397 (1.462) | 182 | 198397 | | | 64.84- 124.84 | 95.56 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.504 | 13.512 (1.475) | 225 | 148253 | 20.0000 | 19.863 | 80.00- 120.00 | 100.00 |
| 13.504 | 13.512 (1.475) | 223 | 95299 | | | 32.80- 92.80 | 64.28 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.640 | 13.648 (1.490) | 128 | 47713 | 2.32000 | 2.234 | 80.00- 120.00 | 100.00 |
| 13.640 | 13.648 (1.490) | 127 | 6433 | | | 0.00- 42.72 | 13.48 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.517) | 180 | 199826 | 20.0000 | 19.930 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.517) | 182 | 190105 | | | 65.07- 125.07 | 95.14 |
| 13.891 | 13.891 (1.517) | 145 | 68227 | | | 4.48- 64.48 | 34.14 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042311.d
Lab Smp Id: ICAL Level #6
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 20ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #6
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 105372 | -0.77 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 387341 | -0.93 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 387994 | -1.02 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042311.d

Page 1

Date : 23-APR-2024 23:27

Client ID: ICAL Level #6

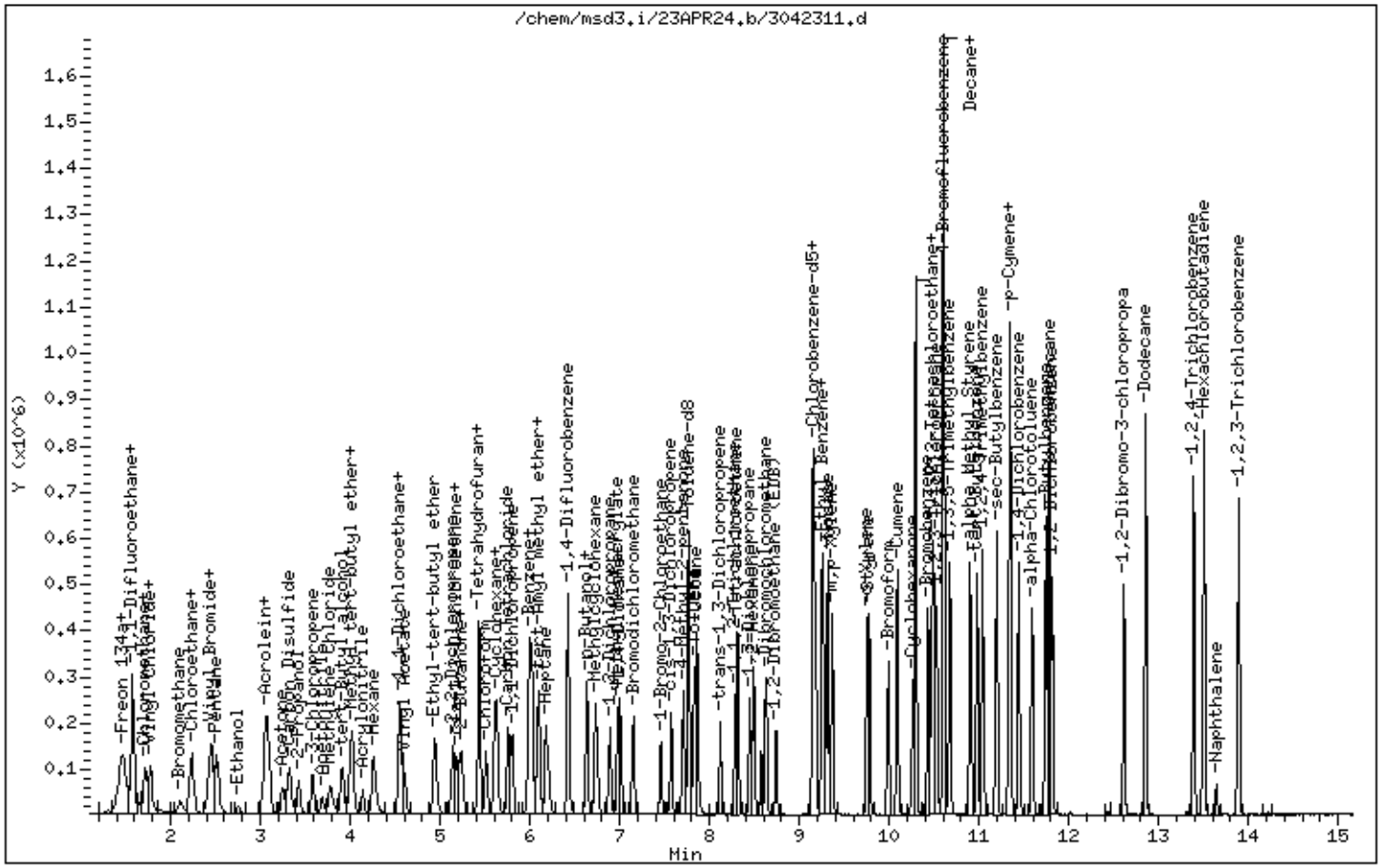
Instrument: msd3.i

Sample Info: 20ml 3018-4439

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3041806.d
Lab Smp Id: ICAL Level #7 Client Smp ID: ICAL Level #7
Inj Date : 18-APR-2024 11:08
Operator : mjs Inst ID: msd3.i
Smp Info : 50ml 3018-4328
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 25-Apr-2024 09:22 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 23:59 Cal File: 3042312.d
Als bottle: 2 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT21spICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 119983 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 92951 | | | 47.79- 107.79 | 77.47 |
| 5.432 | 5.432 (1.000) | 49 | 196196 | | | 131.33- 191.33 | 163.52 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 454158 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 70795 | | | 0.00- 45.65 | 15.59 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.156 (1.000) | 117 | 459698 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.156 (1.000) | 82 | 247843 | | | 22.92- 82.92 | 53.91 |
| 3 Freon 143a | | | | | CAS #: 420-46-2 | | |
| 1.395 | 1.395 (0.256) | 65 | 90473 | 50.0000 | 53.226 | 80.00- 120.00 | 100.00 |
| 1.395 | 1.395 (0.256) | 69 | 241950 | | | 237.43- 297.43 | 267.43 |
| 1.395 | 1.395 (0.256) | 64 | 24445 | | | 0.00- 57.02 | 27.02 |
| 6 Propane | | | | | CAS #: 74-98-6 | | |
| 1.423 | 1.423 (0.262) | 43 | 53475 | 50.0000 | 48.160 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 6 Propane (continued) | | | | | | | |
| 1.437 | 1.437 (0.264) | 39 | 36329 | | | 37.94- 97.94 | 67.94 |
| 1.423 | 1.423 (0.262) | 41 | 27695 | | | 21.79- 81.79 | 51.79 |
| 13 Freon 142b | | | | | CAS #: 75-68-3 | | |
| 1.604 | 1.604 (0.295) | 65 | 272054 | 50.0000 | 46.140 | 80.00- 120.00 | 100.00 |
| 1.604 | 1.604 (0.295) | 45 | 78547 | | | 0.00- 58.87 | 28.87 |
| 36 1-Pentene | | | | | CAS #: 109-67-1 | | |
| 2.458 | 2.458 (0.452) | 55 | 175188 | 50.0000 | 47.860 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.452) | 42 | 253096 | | | 114.47- 174.47 | 144.47 |
| 38 Ethyl Ether | | | | | CAS #: 60-29-7 | | |
| 2.794 | 2.794 (0.514) | 74 | 69640 | 50.0000 | 46.002 | 80.00- 120.00 | 100.00 |
| 2.794 | 2.794 (0.514) | 59 | 117545 | | | 138.79- 198.79 | 168.79 |
| 2.794 | 2.794 (0.514) | 45 | 100686 | | | 114.58- 174.58 | 144.58 |
| 40 Freon 123a | | | | | CAS #: 354-23-4 | | |
| 2.906 | 2.906 (0.534) | 117 | 223749 | 50.0000 | 46.903 | 80.00- 120.00 | 100.00 |
| 2.892 | 2.892 (0.532) | 67 | 297098 | | | 102.78- 162.78 | 132.78 |
| 41 Freon 123 | | | | | CAS #: 306-83-2 | | |
| 2.990 | 2.990 (0.550) | 83 | 206632 | 50.0000 | 46.768 | 80.00- 120.00 | 100.00 |
| 2.990 | 2.990 (0.550) | 133 | 48769 | | | 0.00- 53.60 | 23.60 |
| 2.990 | 2.990 (0.550) | 85 | 137860 | | | 36.72- 96.72 | 66.72 |
| 55 Cyclopentene | | | | | CAS #: 142-29-0 | | |
| 3.591 | 3.591 (0.660) | 67 | 321593 | 50.0000 | 47.810 | 80.00- 120.00 | 100.00 |
| 3.591 | 3.591 (0.660) | 68 | 123415 | | | 8.38- 68.38 | 38.38 |
| 3.591 | 3.591 (0.660) | 53 | 80292 | | | 0.00- 54.97 | 24.97 |
| 56 Methyl Acetate | | | | | CAS #: 79-20-9 | | |
| 3.619 | 3.619 (0.665) | 43 | 359604 | 50.0000 | 48.112 | 80.00- 120.00 | 100.00 |
| 3.626 | 3.626 (0.667) | 74 | 56973 | | | 0.00- 45.84 | 15.84 |
| 74 Chloroprene | | | | | CAS #: 126-99-8 | | |
| 4.608 | 4.608 (0.847) | 53 | 280533 | 50.0000 | 47.991 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 88 | 124670 | | | 14.44- 74.44 | 44.44 |
| 4.608 | 4.608 (0.847) | 50 | 75081 | | | 0.00- 56.76 | 26.76 |
| 75 1-Propanol | | | | | CAS #: 71-23-8 | | |
| 4.715 | 4.715 (0.867) | 59 | 38427 | 50.0000 | 43.540 | 80.00- 120.00 | 100.00 |
| 4.715 | 4.715 (0.867) | 42 | 35739 | | | 63.00- 123.00 | 93.00 |
| 4.715 | 4.715 (0.867) | 41 | 22553 | | | 28.69- 88.69 | 58.69 |
| 88 Methyl Acrylate | | | | | CAS #: 96-33-3 | | |
| 5.288 | 5.288 (0.972) | 55 | 349732 | 50.0000 | 47.628 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 88 Methyl Acrylate (continued) | | | | | | | |
| 5.288 | 5.288 (0.972) | 85 | 46068 | | | 0.00- 43.17 | 13.17 |
| 5.288 | 5.288 (0.972) | 58 | 30031 | | | 0.00- 38.59 | 8.59 |
| 103 Isobutanol | | | | | CAS #: 78-83-1 | | |
| 5.990 | 5.990 (1.101) | 39 | 45810 | 50.0000 | 39.453 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (1.101) | 43 | 197908 | | | 402.02- 462.02 | 432.02 |
| 5.990 | 5.990 (1.101) | 41 | 139855 | | | 275.29- 335.29 | 305.29 |
| 113 Ethyl acrylate | | | | | CAS #: 140-88-5 | | |
| 6.764 | 6.764 (0.739) | 99 | 27632 | 50.0000 | 44.120 | 80.00- 120.00 | 100.00 |
| 6.764 | 6.764 (0.739) | 45 | 48186 | | | 144.38- 204.38 | 174.38 |
| 6.764 | 6.764 (0.739) | 55 | 484546 | | | 1723.57-1783.57 | 1753.57 |
| 115 2-Pentanone | | | | | CAS #: 107-87-9 | | |
| 6.857 | 6.857 (0.749) | 43 | 610975 | 50.0000 | 48.457 | 80.00- 120.00 | 100.00 |
| 6.857 | 6.857 (0.749) | 58 | 42905 | | | 0.00- 37.02 | 7.02 |
| 6.857 | 6.857 (0.749) | 86 | 82371 | | | 0.00- 43.48 | 13.48 |
| 145 Butyl Acetate | | | | | CAS #: 123-86-4 | | |
| 8.576 | 8.576 (1.334) | 56 | 264971 | 50.0000 | 47.478 | 80.00- 120.00 | 100.00 |
| 8.576 | 8.576 (1.334) | 73 | 86980 | | | 2.83- 62.83 | 32.83 |
| 8.576 | 8.576 (1.334) | 43 | 716480 | | | 240.40- 300.40 | 270.40 |
| 166 2-Heptanone | | | | | CAS #: 110-43-0 | | |
| 9.901 | 9.901 (1.821) | 58 | 407413 | 50.0000 | 44.357 | 80.00- 120.00 | 100.00 |
| 9.901 | 9.901 (1.821) | 43 | 717695 | | | 146.16- 206.16 | 176.16 |
| 210 alpha-Pinene | | | | | CAS #: 80-56-8 | | |
| 10.037 | 10.037 (1.096) | 93 | 586228 | 50.0000 | 48.597 | 80.00- 120.00 | 100.00 |
| 10.037 | 10.037 (1.096) | 77 | 170412 | | | 0.00- 59.07 | 29.07 |
| 214 beta-Pinene | | | | | CAS #: 127-91-3 | | |
| 10.696 | 10.696 (1.168) | 93 | 458570 | 50.0000 | 48.816 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 830974 | | | 151.21- 211.21 | 181.21 |
| 186 4-Chlorotoluene | | | | | CAS #: 106-43-4 | | |
| 10.725 | 10.725 (1.171) | 126 | 254394 | 50.0000 | 49.670 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 830974 | | | 296.65- 356.65 | 326.65 |
| 10.725 | 10.725 (1.171) | 63 | 103898 | | | 10.84- 70.84 | 40.84 |
| 172 D-Limonene | | | | | CAS #: 5989-27-5 | | |
| 11.277 | 11.277 (1.232) | 68 | 375261 | 50.0000 | 49.356 | 80.00- 120.00 | 100.00 |
| 11.277 | 11.277 (1.232) | 93 | 267137 | | | 41.19- 101.19 | 71.19 |
| 197 1,2,3-Trimethylbenzene | | | | | CAS #: 526-73-8 | | |
| 11.463 | 11.463 (1.252) | 120 | 343932 | 50.0000 | 48.955 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 197 1,2,3-Trimethylbenzene (continued) | | | | | | | |
| 11.463 | 11.463 (1.252) | 105 | 797105 | | | 201.76- 261.76 | 231.76 |
| 11.463 | 11.463 (1.252) | 77 | 93261 | | | 0.00- 57.12 | 27.12 |
| 205 Hexachloroethane | | | | | CAS #: 67-72-1 | | |
| 12.014 | 12.014 (1.312) | 201 | 213327 | 50.0000 | 50.262 | 80.00- 120.00 | 100.00 |
| 12.014 | 12.014 (1.312) | 117 | 308856 | | | 114.78- 174.78 | 144.78 |
| 208 1,3,5-Trichlorobenzene | | | | | CAS #: 108-70-3 | | |
| 12.752 | 12.752 (1.393) | 180 | 491142 | 50.0000 | 50.222 | 80.00- 120.00 | 100.00 |
| 12.752 | 12.752 (1.393) | 182 | 465024 | | | 64.68- 124.68 | 94.68 |

Report Date: 25-Apr-2024 09:22

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3041806.d
Lab Smp Id: ICAL Level #7
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 18-APR-2024
Calibration Time: 11:08
Client Smp ID: ICAL Level #7
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 119983 | 71990 | 167976 | 119983 | 0.00 |
| 108 1,4-Difluorobenze | 454158 | 272495 | 635821 | 454158 | 0.00 |
| 153 Chlorobenzene-d5 | 459698 | 275819 | 643577 | 459698 | 0.00 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | 0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | 0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3041806.d



Date : 18-APR-2024 11:08

Client ID: ICAL Level #7

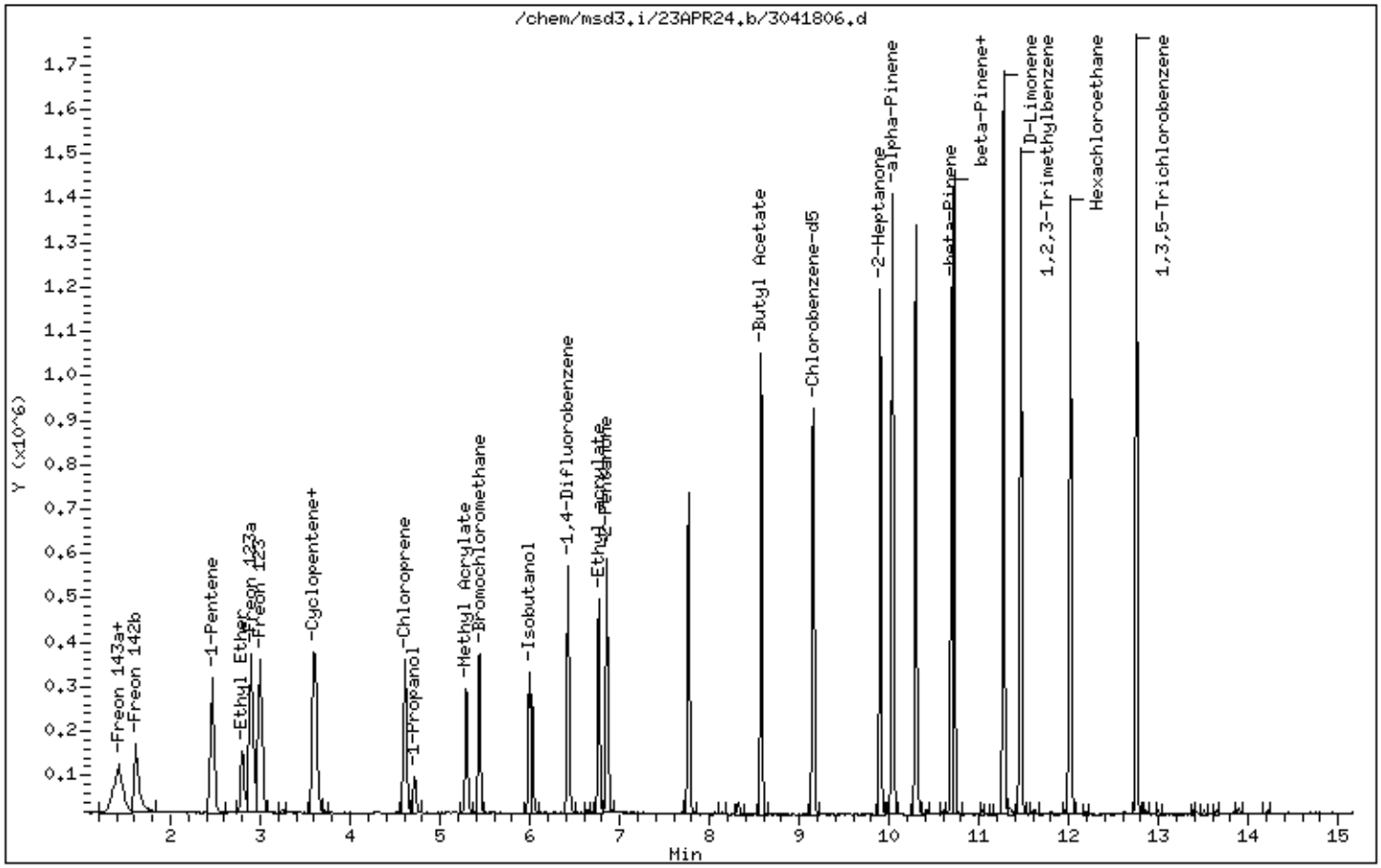
Instrument: msd3.i

Sample Info: 50ml 3018-4328

Operator: mjs

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042312.d
Lab Smp Id: ICAL Level #7 Client Smp ID: ICAL Level #7
Inj Date : 23-APR-2024 23:59
Operator : DF Inst ID: msd3.i
Smp Info : 50ml 3018-4439
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:44 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 23:59 Cal File: 3042312.d
Als bottle: 13 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23ICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 118377 | 50.0000 | 48.230 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 111479 | | | 64.17- 124.17 | 94.17 |
| 1.493 | 1.493 (0.274) | 51 | 468129 | | | 365.46- 425.46 | 395.46 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 130292 | 50.0000 | 46.848 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 85812 | | | 35.86- 95.86 | 65.86 |
| 1.437 | 1.437 (0.264) | 39 | 93364 | | | 41.66- 101.66 | 71.66 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.269) | 65 | 78270 | 50.0000 | 48.820 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.274) | 51 | 468129 | | | 568.10- 628.10 | 598.10 |
| 1.577 | 1.577 (0.290) | 47 | 16100 | | | 0.00- 50.57 | 20.57 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.269) | 85 | 292638 | 50.0000 | 46.536 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.269) | 87 | 96221 | | | 2.88- 62.88 | 32.88 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.493 (0.274) | 67 | 36358 | 50.0000 | 46.204 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 9 Chlorodifluoromethane (continued) | | | | | | | |
| 1.493 | 1.493 (0.274) | 51 | 468129 | | | 1257.55-1317.55 | 1287.55 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 259836 | 50.0000 | 47.003 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 83395 | | | 2.10- 62.10 | 32.10 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.591 | 1.591 (0.292) | 43 | 278870 | 50.0000 | 47.422 | 80.00- 120.00 | 100.00 |
| 1.591 | 1.591 (0.292) | 42 | 88374 | | | 1.69- 61.69 | 31.69 |
| 1.577 | 1.577 (0.290) | 58 | 9264 | | | 0.00- 33.32 | 3.32 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.675 | 1.675 (0.308) | 50 | 150415 | 50.0000 | 49.610 | 80.00- 120.00 | 100.00 |
| 1.689 | 1.689 (0.310) | 52 | 47202 | | | 1.38- 61.38 | 31.38 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.731 | 1.731 (0.318) | 58 | 28380 | 50.0000 | 46.686 | 80.00- 120.00 | 100.00 |
| 1.717 | 1.717 (0.316) | 43 | 254393 | | | 866.38- 926.38 | 896.38 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.759 | 1.759 (0.323) | 62 | 140689 | 50.0000 | 47.958 | 80.00- 120.00 | 100.00 |
| 1.759 | 1.759 (0.323) | 64 | 46571 | | | 3.10- 63.10 | 33.10 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.773 | 1.773 (0.326) | 54 | 124719 | 50.0000 | 45.256 | 80.00- 120.00 | 100.00 |
| 1.773 | 1.773 (0.326) | 39 | 135625 | | | 78.74- 138.74 | 108.74 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 110674 | 50.0000 | 52.795 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 104242 | | | 64.19- 124.19 | 94.19 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.408) | 64 | 67803 | 50.0000 | 48.196 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.408) | 66 | 21916 | | | 2.32- 62.32 | 32.32 |
| 2.220 | 2.220 (0.408) | 49 | 24636 | | | 6.33- 66.33 | 36.33 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 197832 | 50.0000 | 49.278 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 122197 | | | 31.77- 91.77 | 61.77 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.416 | 2.416 (0.444) | 106 | 123272 | 50.0000 | 50.560 | 80.00- 120.00 | 100.00 |
| 2.416 | 2.416 (0.444) | 108 | 116140 | | | 64.21- 124.21 | 94.21 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.449) | 101 | 350806 | 50.0000 | 48.423 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 33 Freon 11 (continued) | | | | | | | |
| 2.444 | 2.444 (0.449) | 103 | 227788 | | | 34.93- 94.93 | 64.93 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.472 | 2.472 (0.455) | 67 | 279368 | 50.0000 | 48.361 | 80.00- 120.00 | 100.00 |
| 2.472 | 2.472 (0.455) | 69 | 89253 | | | 1.95- 61.95 | 31.95 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.462) | 43 | 300300 | 50.0000 | 49.162 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.462) | 57 | 43974 | | | 0.00- 44.64 | 14.64 |
| 2.514 | 2.514 (0.462) | 72 | 23738 | | | 0.00- 37.90 | 7.90 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.506) | 46 | 27880 | 61.6000 | 48.507 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.506) | 45 | 70928 | | | 224.40- 284.40 | 254.40 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.061 | 3.061 (0.563) | 55 | 58292 | 58.2500 | 47.122 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 56 | 80457 | | | 108.02- 168.02 | 138.02 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 300923 | 50.0000 | 47.002 | 80.00- 120.00 | 100.00 |
| 3.068 | 3.068 (0.564) | 153 | 195800 | | | 35.07- 95.07 | 65.07 |
| 3.061 | 3.061 (0.563) | 101 | 353437 | | | 87.45- 147.45 | 117.45 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.097 | 3.097 (0.569) | 96 | 126978 | 50.0000 | 46.612 | 80.00- 120.00 | 100.00 |
| 3.097 | 3.097 (0.569) | 98 | 80334 | | | 33.27- 93.27 | 63.27 |
| 3.097 | 3.097 (0.569) | 61 | 240053 | | | 159.05- 219.05 | 189.05 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.597) | 58 | 71777 | 50.0000 | 46.303 | 80.00- 120.00 | 100.00 |
| 3.247 | 3.247 (0.597) | 43 | 257999 | | | 329.45- 389.45 | 359.45 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.333 | 3.333 (0.613) | 76 | 341151 | 50.0000 | 45.927 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.630) | 45 | 306959 | 50.0000 | 47.628 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.630) | 43 | 55811 | | | 0.00- 48.18 | 18.18 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.584 | 3.584 (0.659) | 76 | 57383 | 50.0000 | 45.854 | 80.00- 120.00 | 100.00 |
| 3.584 | 3.584 (0.659) | 41 | 227693 | | | 366.80- 426.80 | 396.80 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.677) | 41 | 159283 | 58.8000 | 55.996 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 57 Acetonitrile (continued) | | | | | | | |
| 3.684 | 3.684 (0.677) | 40 | 84004 | | | 22.74- 82.74 | 52.74 |
| 3.684 | 3.684 (0.677) | 38 | 19944 | | | 0.00- 42.52 | 12.52 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.784 | 3.784 (0.696) | 49 | 202170 | 50.0000 | 47.481 | 80.00- 120.00 | 100.00 |
| 3.784 | 3.784 (0.696) | 84 | 110985 | | | 24.90- 84.90 | 54.90 |
| 3.784 | 3.784 (0.696) | 51 | 59978 | | | 0.00- 59.67 | 29.67 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.913 | 3.913 (0.719) | 59 | 367280 | 57.6000 | 55.860 | 80.00- 120.00 | 100.00 |
| 3.913 | 3.913 (0.719) | 41 | 80258 | | | 0.00- 51.85 | 21.85 |
| 3.913 | 3.913 (0.719) | 57 | 37370 | | | 0.00- 40.17 | 10.17 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.737) | 73 | 375253 | 50.0000 | 48.277 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.737) | 57 | 107755 | | | 0.00- 58.72 | 28.72 |
| 4.006 | 4.006 (0.737) | 41 | 110264 | | | 0.00- 59.38 | 29.38 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.741) | 98 | 85073 | 50.0000 | 46.501 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.741) | 61 | 223006 | | | 232.13- 292.13 | 262.13 |
| 4.028 | 4.028 (0.741) | 96 | 133783 | | | 127.26- 187.26 | 157.26 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.142 | 4.142 (0.762) | 52 | 109554 | 50.0000 | 46.305 | 80.00- 120.00 | 100.00 |
| 4.142 | 4.142 (0.762) | 53 | 127571 | | | 86.45- 146.45 | 116.45 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.783) | 57 | 253698 | 50.0000 | 44.505 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.257 (0.783) | 43 | 180039 | | | 40.97- 100.97 | 70.97 |
| 4.257 | 4.257 (0.783) | 86 | 32163 | | | 0.00- 42.68 | 12.68 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.838) | 63 | 250004 | 50.0000 | 47.288 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 65 | 76182 | | | 0.47- 60.47 | 30.47 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.558 | 4.558 (0.838) | 45 | 614202 | 50.0000 | 48.450 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.837) | 87 | 120106 | | | 0.00- 49.55 | 19.55 |
| 4.551 | 4.551 (0.837) | 59 | 64002 | | | 0.00- 40.42 | 10.42 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.608 | 4.608 (0.847) | 86 | 21625 | 50.0000 | 46.454 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 43 | 380156 | | | 1727.95-1787.95 | 1757.95 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 79 Ethyl-tert-butyl ether | | | | | | CAS #: 637-92-3 | |
| 4.945 | 4.945 (0.909) | 59 | 533603 | 50.0000 | 48.810 | 80.00- 120.00 | 100.00 |
| 4.945 | 4.945 (0.909) | 87 | 180892 | | | 3.90- 63.90 | 33.90 |
| 4.945 | 4.945 (0.909) | 41 | 105236 | | | 0.00- 49.72 | 19.72 |
| 84 2,2-Dichloropropane | | | | | | CAS #: 594-20-7 | |
| 5.145 | 5.145 (0.946) | 77 | 249345 | 50.0000 | 47.777 | 80.00- 120.00 | 100.00 |
| 5.145 | 5.145 (0.946) | 79 | 80765 | | | 2.39- 62.39 | 32.39 |
| 5.145 | 5.145 (0.946) | 97 | 58766 | | | 0.00- 53.57 | 23.57 |
| 85 cis-1,2-Dichloroethene | | | | | | CAS #: 156-59-2 | |
| 5.188 | 5.188 (0.954) | 98 | 89304 | 50.0000 | 47.140 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 96 | 138898 | | | 125.53- 185.53 | 155.53 |
| 5.188 | 5.188 (0.954) | 61 | 223135 | | | 219.86- 279.86 | 249.86 |
| 86 2-Butanone | | | | | | CAS #: 78-93-3 | |
| 5.217 | 5.217 (0.959) | 72 | 65240 | 50.0000 | 47.798 | 80.00- 120.00 | 100.00 |
| 5.238 | 5.238 (0.963) | 43 | 762225 | | | 1138.34-1198.34 | 1168.34 |
| 5.217 | 5.217 (0.959) | 57 | 26636 | | | 10.83- 70.83 | 40.83 |
| 87 Ethyl Acetate | | | | | | CAS #: 141-78-6 | |
| 5.245 | 5.245 (0.964) | 45 | 60477 | 50.0000 | 44.304 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 61 | 223135 | | | 338.96- 398.96 | 368.96 |
| 5.245 | 5.245 (0.964) | 70 | 32976 | | | 24.53- 84.53 | 54.53 |
| 89 Tetrahydrofuran | | | | | | CAS #: 109-99-9 | |
| 5.425 | 5.425 (0.997) | 42 | 178361 | 50.0000 | 42.740 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (0.999) | 71 | 50912 | | | 0.00- 58.54 | 28.54 |
| 5.432 | 5.432 (0.999) | 72 | 52777 | | | 0.00- 59.59 | 29.59 |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.439 | 5.439 (1.000) | 130 | 106185 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 82598 | | | 47.79- 107.79 | 77.79 |
| 5.439 | 5.439 (1.000) | 49 | 171308 | | | 131.33- 191.33 | 161.33 |
| 92 Chloroform | | | | | | CAS #: 67-66-3 | |
| 5.518 | 5.518 (1.014) | 83 | 266411 | 50.0000 | 46.928 | 80.00- 120.00 | 100.00 |
| 5.518 | 5.518 (1.014) | 85 | 175219 | | | 35.77- 95.77 | 65.77 |
| 94 Cyclohexane | | | | | | CAS #: 110-82-7 | |
| 5.611 | 5.611 (1.032) | 84 | 178092 | 50.0000 | 46.893 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.032) | 56 | 277448 | | | 125.79- 185.79 | 155.79 |
| 5.611 | 5.611 (1.032) | 41 | 163035 | | | 61.55- 121.55 | 91.55 |
| 96 1,1,1-Trichloroethane | | | | | | CAS #: 71-55-6 | |
| 5.639 | 5.639 (1.037) | 97 | 296136 | 50.0000 | 47.828 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 96 1,1,1-Trichloroethane (continued) | | | | | | | |
| 5.639 | 5.639 (1.037) | 99 | 186099 | | | 32.84- 92.84 | 62.84 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.059) | 119 | 318047 | 50.0000 | 48.453 | 80.00- 120.00 | 100.00 |
| 5.761 | 5.761 (1.059) | 117 | 334551 | | | 75.19- 135.19 | 105.19 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.804 | 5.804 (0.903) | 110 | 75796 | 50.0000 | 48.129 | 80.00- 120.00 | 100.00 |
| 5.804 | 5.804 (0.903) | 75 | 200226 | | | 234.16- 294.16 | 264.16 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.998 | 5.998 (0.933) | 78 | 379091 | 50.0000 | 48.159 | 80.00- 120.00 | 100.00 |
| 5.998 | 5.998 (0.933) | 77 | 89789 | | | 0.00- 53.69 | 23.69 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.998 | 5.998 (1.103) | 57 | 873858 | 50.0000 | 49.064 | 80.00- 120.00 | 100.00 |
| 5.998 | 5.998 (1.103) | 56 | 289123 | | | 3.09- 63.09 | 33.09 |
| 5.998 | 5.998 (1.103) | 41 | 238381 | | | 0.00- 57.28 | 27.28 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.108) | 65 | 136722 | 25.0000 | 24.720 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.108) | 67 | 72691 | | | 23.17- 83.17 | 53.17 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.091 | 6.091 (0.948) | 87 | 105657 | 50.0000 | 49.947 | 80.00- 120.00 | 100.00 |
| 6.091 | 6.091 (0.948) | 73 | 418149 | | | 365.76- 425.76 | 395.76 |
| 6.091 | 6.091 (0.948) | 55 | 129517 | | | 92.58- 152.58 | 122.58 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 198281 | 50.0000 | 48.289 | 80.00- 120.00 | 100.00 |
| 6.105 | 6.105 (0.950) | 64 | 63059 | | | 1.80- 61.80 | 31.80 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 145181 | 50.0000 | 46.560 | 80.00- 120.00 | 100.00 |
| 6.184 | 6.184 (0.962) | 43 | 345142 | | | 207.73- 267.73 | 237.73 |
| 6.184 | 6.184 (0.962) | 57 | 166711 | | | 84.83- 144.83 | 114.83 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 390964 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 61173 | | | 0.00- 45.65 | 15.65 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.031) | 56 | 82098 | 50.0000 | 45.872 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.031) | 41 | 63814 | | | 47.73- 107.73 | 77.73 |
| 6.628 | 6.628 (1.031) | 43 | 50571 | | | 31.60- 91.60 | 61.60 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 183021 | 50.0000 | 48.222 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.635 (1.032) | 130 | 201749 | | | 80.23- 140.23 | 110.23 |
| 6.635 | 6.635 (1.032) | 97 | 118558 | | | 34.78- 94.78 | 64.78 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.735 | 6.735 (1.048) | 83 | 258114 | 50.0000 | 47.877 | 80.00- 120.00 | 100.00 |
| 6.735 | 6.735 (1.048) | 98 | 115701 | | | 14.83- 74.83 | 44.83 |
| 6.735 | 6.735 (1.048) | 55 | 261985 | | | 71.50- 131.50 | 101.50 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 174430 | 50.0000 | 47.092 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 122782 | | | 40.39- 100.39 | 70.39 |
| 6.893 | 6.893 (1.072) | 41 | 107902 | | | 31.86- 91.86 | 61.86 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.979 | 6.979 (0.762) | 69 | 150781 | 50.0000 | 47.222 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 265090 | | | 145.81- 205.81 | 175.81 |
| 6.979 | 6.979 (0.762) | 100 | 60383 | | | 10.05- 70.05 | 40.05 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.088) | 88 | 97926 | 50.0000 | 49.454 | 80.00- 120.00 | 100.00 |
| 6.993 | 6.993 (1.088) | 58 | 84537 | | | 56.33- 116.33 | 86.33 |
| 6.993 | 6.993 (1.088) | 57 | 31413 | | | 2.08- 62.08 | 32.08 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.008 | 7.008 (0.765) | 174 | 179531 | 50.0000 | 48.538 | 80.00- 120.00 | 100.00 |
| 7.008 | 7.008 (0.765) | 93 | 166388 | | | 62.68- 122.68 | 92.68 |
| 7.008 | 7.008 (0.765) | 95 | 139490 | | | 47.70- 107.70 | 77.70 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 296549 | 50.0000 | 48.269 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 192642 | | | 34.96- 94.96 | 64.96 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.459 | 7.459 (1.160) | 63 | 320384 | 50.0000 | 49.024 | 80.00- 120.00 | 100.00 |
| 7.459 | 7.459 (1.160) | 65 | 97487 | | | 0.43- 60.43 | 30.43 |
| 7.459 | 7.459 (1.160) | 144 | 33579 | | | 0.00- 40.48 | 10.48 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.574 | 7.574 (1.178) | 75 | 257832 | 50.0000 | 49.208 | 80.00- 120.00 | 100.00 |
| 7.574 | 7.574 (1.178) | 77 | 80600 | | | 1.26- 61.26 | 31.26 |
| 7.574 | 7.574 (1.178) | 39 | 167739 | | | 35.06- 95.06 | 65.06 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.710 | 7.710 (1.199) | 58 | 163280 | 50.0000 | 45.303 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 131 4-Methyl-2-pentanone (continued) | | | | | | | |
| 7.710 | 7.710 (1.199) | 43 | 473310 | | | 259.88- 319.88 | 289.88 |
| 7.710 | 7.710 (1.199) | 85 | 61360 | | | 7.58- 67.58 | 37.58 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 376606 | 25.0000 | 24.779 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 43024 | | | 0.00- 41.42 | 11.42 |
| 7.767 | 7.767 (1.208) | 100 | 254350 | | | 37.54- 97.54 | 67.54 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 522189 | 50.0000 | 47.921 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 302287 | | | 27.89- 87.89 | 57.89 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 183324 | 50.0000 | 46.178 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 171465 | | | 63.53- 123.53 | 93.53 |
| 7.860 | 7.860 (1.223) | 43 | 505975 | | | 246.00- 306.00 | 276.00 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 214335 | 50.0000 | 49.482 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 68227 | | | 1.83- 61.83 | 31.83 |
| 8.118 | 8.118 (0.887) | 39 | 132830 | | | 31.97- 91.97 | 61.97 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.290 | 8.290 (0.905) | 97 | 172017 | 50.0000 | 46.899 | 80.00- 120.00 | 100.00 |
| 8.290 | 8.290 (0.905) | 99 | 107541 | | | 32.52- 92.52 | 62.52 |
| 8.283 | 8.283 (0.905) | 83 | 152927 | | | 58.90- 118.90 | 88.90 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 270854 | 50.0000 | 49.181 | 80.00- 120.00 | 100.00 |
| 8.318 | 8.318 (0.908) | 129 | 204001 | | | 45.32- 105.32 | 75.32 |
| 8.318 | 8.318 (0.908) | 131 | 200899 | | | 44.17- 104.17 | 74.17 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 239701 | 50.0000 | 46.921 | 80.00- 120.00 | 100.00 |
| 8.447 | 8.447 (1.314) | 41 | 215057 | | | 59.72- 119.72 | 89.72 |
| 8.447 | 8.447 (1.314) | 78 | 79295 | | | 3.08- 63.08 | 33.08 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.490 | 8.490 (0.927) | 58 | 228908 | 50.0000 | 49.747 | 80.00- 120.00 | 100.00 |
| 8.490 | 8.490 (0.927) | 43 | 474575 | | | 177.32- 237.32 | 207.32 |
| 8.490 | 8.490 (0.927) | 100 | 39328 | | | 0.00- 47.18 | 17.18 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 361941 | 50.0000 | 49.931 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.942) | 127 | 279672 | | | 47.27- 107.27 | 77.27 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 289451 | 50.0000 | 48.151 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 272604 | | | 64.18- 124.18 | 94.18 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.157 | 9.157 (1.000) | 117 | 392003 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.157 | 9.157 (1.000) | 82 | 207446 | | | 22.92- 82.92 | 52.92 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.185 | 9.185 (1.003) | 112 | 439974 | 50.0000 | 48.442 | 80.00- 120.00 | 100.00 |
| 9.185 | 9.185 (1.003) | 114 | 140384 | | | 1.91- 61.91 | 31.91 |
| 9.178 | 9.178 (1.002) | 77 | 233044 | | | 22.97- 82.97 | 52.97 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.250 | 9.250 (1.010) | 106 | 221782 | 50.0000 | 48.547 | 80.00- 120.00 | 100.00 |
| 9.250 | 9.250 (1.010) | 91 | 689934 | | | 281.09- 341.09 | 311.09 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.013) | 131 | 258312 | 50.0000 | 49.923 | 80.00- 120.00 | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 173321 | | | 37.10- 97.10 | 67.10 |
| 9.271 | 9.271 (1.013) | 95 | 90231 | | | 4.93- 64.93 | 34.93 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.017) | 43 | 519451 | 50.0000 | 48.956 | 80.00- 120.00 | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 418804 | | | 50.62- 110.62 | 80.62 |
| 9.314 | 9.314 (1.017) | 85 | 133228 | | | 0.00- 55.65 | 25.65 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 277013 | 50.0000 | 48.649 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 554941 | | | 170.33- 230.33 | 200.33 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 260621 | 50.0000 | 48.266 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 550517 | | | 181.23- 241.23 | 211.23 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 446935 | 50.0000 | 48.467 | 80.00- 120.00 | 100.00 |
| 9.780 | 9.780 (1.068) | 78 | 211208 | | | 17.26- 77.26 | 47.26 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 370788 | 50.0000 | 50.614 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 190754 | | | 21.45- 81.45 | 51.45 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 806471 | 50.0000 | 49.408 | 80.00- 120.00 | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 217213 | | | 0.00- 56.93 | 26.93 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 168 Cumene (continued) | | | | | | | |
| 10.095 | 10.095 (1.102) | 51 | 98730 | | | 0.00- 42.24 | 12.24 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.260 | 10.260 (1.120) | 55 | 287299 | 50.0000 | 44.488 | 80.00- 120.00 | 100.00 |
| 10.260 | 10.260 (1.120) | 98 | 100976 | | | 5.15- 65.15 | 35.15 |
| 10.260 | 10.260 (1.120) | 42 | 206820 | | | 41.99- 101.99 | 71.99 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 289610 | 25.0000 | 24.860 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 343157 | | | 88.49- 148.49 | 118.49 |
| 10.295 | 10.295 (1.124) | 176 | 280149 | | | 66.73- 126.73 | 96.73 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.432 | 10.432 (1.139) | 156 | 276298 | 50.0000 | 48.585 | 80.00- 120.00 | 100.00 |
| 10.432 | 10.432 (1.139) | 158 | 269302 | | | 67.47- 127.47 | 97.47 |
| 10.432 | 10.432 (1.139) | 77 | 383158 | | | 108.68- 168.68 | 138.68 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.475 | 10.475 (1.144) | 83 | 403453 | 50.0000 | 47.655 | 80.00- 120.00 | 100.00 |
| 10.475 | 10.475 (1.144) | 85 | 262135 | | | 34.97- 94.97 | 64.97 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 235343 | 50.0000 | 48.760 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 973373 | | | 383.60- 443.60 | 413.60 |
| 10.496 | 10.496 (1.146) | 105 | 37993 | | | 0.00- 46.14 | 16.14 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.525 | 10.525 (1.149) | 110 | 119738 | 50.0000 | 46.601 | 80.00- 120.00 | 100.00 |
| 10.525 | 10.525 (1.149) | 75 | 424208 | | | 324.28- 384.28 | 354.28 |
| 10.518 | 10.518 (1.149) | 61 | 104455 | | | 57.24- 117.24 | 87.24 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.611 | 10.611 (1.159) | 57 | 557664 | 50.0000 | 44.643 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 71 | 173478 | | | 1.11- 61.11 | 31.11 |
| 10.611 | 10.611 (1.159) | 142 | 24768 | | | 0.00- 34.44 | 4.44 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.611 | 10.611 (1.159) | 120 | 256210 | 50.0000 | 48.702 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 105 | 842767 | | | 298.94- 358.94 | 328.94 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.611 | 10.611 (1.159) | 126 | 214507 | 50.0000 | 48.192 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 91 | 670938 | | | 282.78- 342.78 | 312.78 |
| 10.603 | 10.603 (1.158) | 65 | 101528 | | | 17.33- 77.33 | 47.33 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 347148 | 50.0000 | 48.931 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 701508 | | | 172.08- 232.08 | 202.08 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 366513 | 50.0000 | 48.769 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 203934 | | | 25.64- 85.64 | 55.64 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.983 | 10.983 (1.199) | 119 | 660932 | 50.0000 | 49.001 | 80.00- 120.00 | 100.00 |
| 10.983 | 10.983 (1.199) | 134 | 165884 | | | 0.00- 55.10 | 25.10 |
| 10.976 | 10.976 (1.199) | 91 | 426484 | | | 34.53- 94.53 | 64.53 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 697860 | 50.0000 | 48.110 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.206) | 120 | 325384 | | | 16.63- 76.63 | 46.63 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 215240 | 50.0000 | 48.750 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 1005150 | | | 436.99- 496.99 | 466.99 |
| 11.198 | 11.198 (1.223) | 91 | 154312 | | | 41.69- 101.69 | 71.69 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 883857 | 50.0000 | 48.951 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 244087 | | | 0.00- 57.62 | 27.62 |
| 11.341 | 11.341 (1.239) | 91 | 203563 | | | 0.00- 53.03 | 23.03 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 510428 | 50.0000 | 47.487 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 327614 | | | 34.18- 94.18 | 64.18 |
| 11.348 | 11.348 (1.239) | 111 | 204477 | | | 10.06- 70.06 | 40.06 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.449 | 11.449 (1.250) | 146 | 522636 | 50.0000 | 48.002 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.250) | 148 | 332150 | | | 33.55- 93.55 | 63.55 |
| 11.449 | 11.449 (1.250) | 111 | 198480 | | | 7.98- 67.98 | 37.98 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 675951 | 50.0000 | 49.026 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 153933 | | | 0.00- 52.77 | 22.77 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.750 | 11.750 (1.283) | 134 | 242530 | 50.0000 | 48.738 | 80.00- 120.00 | 100.00 |
| 11.742 | 11.742 (1.282) | 91 | 826602 | | | 310.82- 370.82 | 340.82 |
| 11.742 | 11.742 (1.282) | 92 | 440268 | | | 151.53- 211.53 | 181.53 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 657222 | 50.0000 | 44.249 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.287) | 43 | 615095 | | | 63.59- 123.59 | 93.59 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 500732 | 50.0000 | 48.001 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 315470 | | | 33.00- 93.00 | 63.00 |
| 11.814 | 11.814 (1.290) | 111 | 204643 | | | 10.87- 70.87 | 40.87 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.378) | 157 | 308162 | 50.0000 | 49.945 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.378) | 75 | 240658 | | | 48.09- 108.09 | 78.09 |
| 12.616 | 12.616 (1.378) | 155 | 240025 | | | 47.89- 107.89 | 77.89 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.404) | 57 | 739756 | 50.0000 | 49.444 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.404) | 43 | 654818 | | | 58.52- 118.52 | 88.52 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.463) | 180 | 506089 | 50.0000 | 48.955 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.463) | 182 | 479986 | | | 64.84- 124.84 | 94.84 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.512 | 13.512 (1.476) | 225 | 371784 | 50.0000 | 49.302 | 80.00- 120.00 | 100.00 |
| 13.512 | 13.512 (1.476) | 223 | 233497 | | | 32.80- 92.80 | 62.80 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.490) | 128 | 117113 | 5.80000 | 5.428 | 80.00- 120.00 | 100.00 |
| 13.648 | 13.648 (1.490) | 127 | 14900 | | | 0.00- 42.72 | 12.72 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.517) | 180 | 492088 | 50.0000 | 48.577 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.517) | 182 | 467815 | | | 65.07- 125.07 | 95.07 |
| 13.891 | 13.891 (1.517) | 145 | 169692 | | | 4.48- 64.48 | 34.48 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042312.d
Lab Smp Id: ICAL Level #7
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #7
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 106185 | 0.00 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 390964 | 0.00 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 392003 | 0.00 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | 0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | 0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042312.d

Page 1

Date : 23-APR-2024 23:59

Client ID: ICAL Level #7

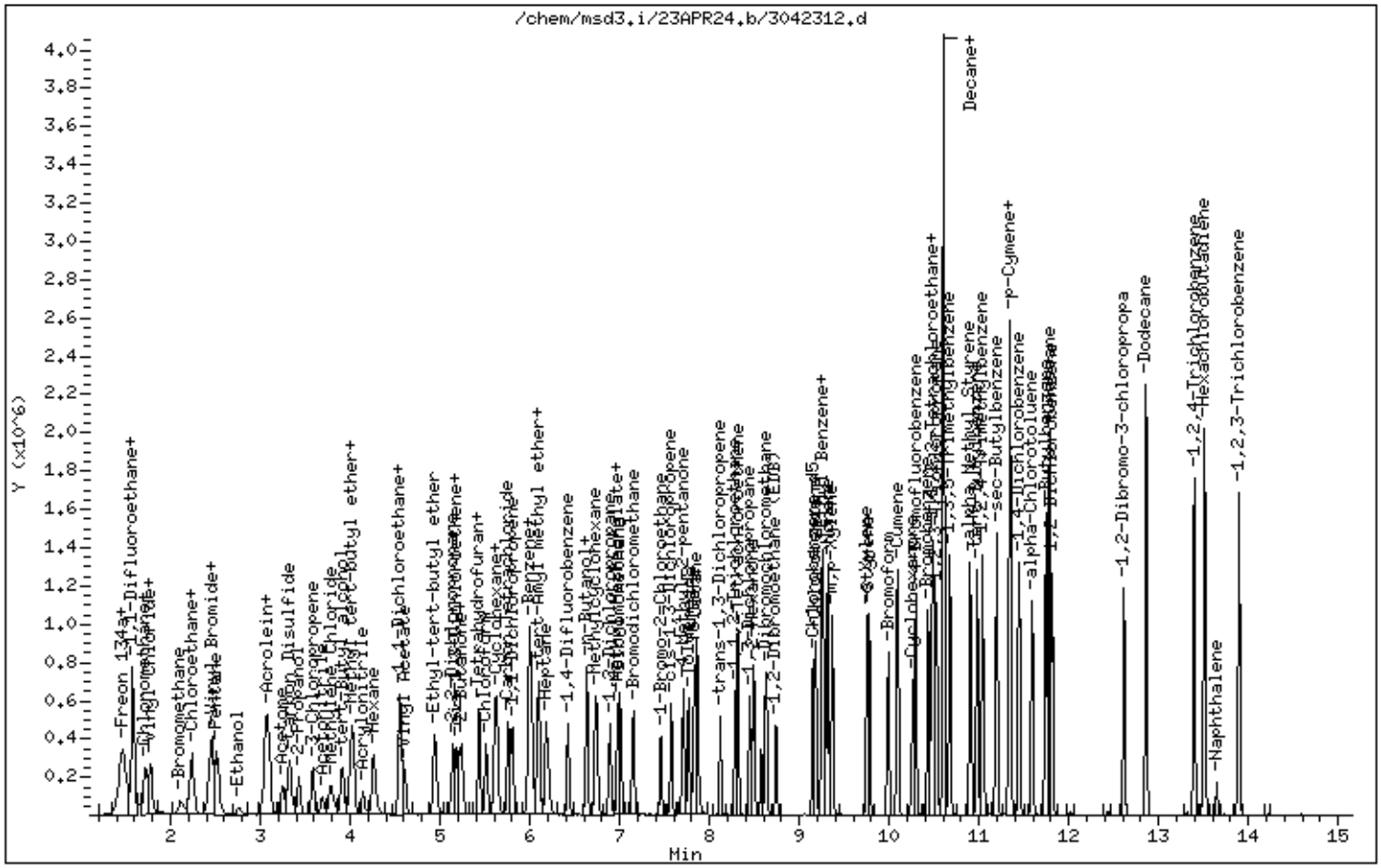
Instrument: msd3.i

Sample Info: 50ml 3018-4439

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3041807.d
Lab Smp Id: ICAL Level #8 Client Smp ID: ICAL Level #8
Inj Date : 18-APR-2024 11:41
Operator : mjs Inst ID: msd3.i
Smp Info : 100ml 3018-4328
Misc Info : 100ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 24-APR-2024 00:31 Cal File: 3042313.d
Als bottle: 2 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT21spICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 118285 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 92003 | | | 47.79- 107.79 | 77.78 |
| 5.439 | 5.439 (1.000) | 49 | 192470 | | | 131.33- 191.33 | 162.72 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 456464 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 71642 | | | 0.00- 45.65 | 15.69 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 465967 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 251207 | | | 22.92- 82.92 | 53.91 |
| 3 Freon 143a | | | | | CAS #: 420-46-2 | | |
| 1.409 | 1.395 (0.259) | 65 | 171189 | 100.000 | 107.29 | 80.00- 120.00 | 100.00 |
| 1.395 | 1.395 (0.256) | 69 | 462607 | | | 237.43- 297.43 | 270.23 |
| 1.395 | 1.395 (0.256) | 64 | 42504 | | | 0.00- 57.02 | 24.83 |
| 6 Propane | | | | | CAS #: 74-98-6 | | |
| 1.437 | 1.423 (0.264) | 43 | 110189 | 100.000 | 100.66 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 6 Propane (continued) | | | | | | | |
| 1.437 | 1.437 (0.264) | 39 | 72330 | | | 37.94- 97.94 | 65.64 |
| 1.437 | 1.423 (0.264) | 41 | 58496 | | | 21.79- 81.79 | 53.09 |
| 13 Freon 142b | | | | | CAS #: 75-68-3 | | |
| 1.618 | 1.604 (0.298) | 65 | 559739 | 100.000 | 96.293 | 80.00- 120.00 | 100.00 |
| 1.618 | 1.604 (0.298) | 45 | 162709 | | | 0.00- 58.87 | 29.07 |
| 36 1-Pentene | | | | | CAS #: 109-67-1 | | |
| 2.458 | 2.458 (0.452) | 55 | 358563 | 100.000 | 99.363 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.452) | 42 | 517690 | | | 114.47- 174.47 | 144.38 |
| 38 Ethyl Ether | | | | | CAS #: 60-29-7 | | |
| 2.808 | 2.794 (0.516) | 74 | 142427 | 100.000 | 95.433 | 80.00- 120.00 | 100.00 |
| 2.794 | 2.794 (0.514) | 59 | 235608 | | | 138.79- 198.79 | 165.42 |
| 2.794 | 2.794 (0.514) | 45 | 206733 | | | 114.58- 174.58 | 145.15 |
| 40 Freon 123a | | | | | CAS #: 354-23-4 | | |
| 2.906 | 2.906 (0.534) | 117 | 447270 | 100.000 | 95.105 | 80.00- 120.00 | 100.00 |
| 2.906 | 2.892 (0.534) | 67 | 589909 | | | 102.78- 162.78 | 131.89 |
| 41 Freon 123 | | | | | CAS #: 306-83-2 | | |
| 2.990 | 2.990 (0.550) | 83 | 410711 | 100.000 | 94.292 | 80.00- 120.00 | 100.00 |
| 2.990 | 2.990 (0.550) | 133 | 90197 | | | 0.00- 53.60 | 21.96 |
| 2.990 | 2.990 (0.550) | 85 | 272675 | | | 36.72- 96.72 | 66.39 |
| 55 Cyclopentene | | | | | CAS #: 142-29-0 | | |
| 3.591 | 3.591 (0.660) | 67 | 668026 | 100.000 | 100.74 | 80.00- 120.00 | 100.00 |
| 3.591 | 3.591 (0.660) | 68 | 253928 | | | 8.38- 68.38 | 38.01 |
| 3.591 | 3.591 (0.660) | 53 | 164167 | | | 0.00- 54.97 | 24.57 |
| 56 Methyl Acetate | | | | | CAS #: 79-20-9 | | |
| 3.626 | 3.619 (0.667) | 43 | 749002 | 100.000 | 101.65 | 80.00- 120.00 | 100.00 |
| 3.626 | 3.619 (0.667) | 74 | 115795 | | | 0.00- 45.84 | 15.46 |
| 74 Chloroprene | | | | | CAS #: 126-99-8 | | |
| 4.608 | 4.608 (0.847) | 53 | 574145 | 100.000 | 99.628 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 88 | 258258 | | | 14.44- 74.44 | 44.98 |
| 4.608 | 4.608 (0.847) | 50 | 153572 | | | 0.00- 56.76 | 26.75 |
| 75 1-Propanol | | | | | CAS #: 71-23-8 | | |
| 4.715 | 4.715 (0.867) | 59 | 78368 | 100.000 | 90.070 | 80.00- 120.00 | 100.00 |
| 4.715 | 4.715 (0.867) | 42 | 75931 | | | 63.00- 123.00 | 96.89 |
| 4.715 | 4.715 (0.867) | 41 | 47829 | | | 28.69- 88.69 | 61.03 |
| 88 Methyl Acrylate | | | | | CAS #: 96-33-3 | | |
| 5.288 | 5.288 (0.972) | 55 | 722722 | 100.000 | 99.837 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 88 Methyl Acrylate (continued) | | | | | | | |
| 5.295 | 5.288 (0.974) | 85 | 95993 | | | 0.00- 43.17 | 13.28 |
| 5.288 | 5.288 (0.972) | 58 | 61204 | | | 0.00- 38.59 | 8.47 |
| 103 Isobutanol | | | | | CAS #: 78-83-1 | | |
| 5.990 | 5.990 (1.101) | 39 | 90670 | 100.000 | 79.209 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (1.101) | 43 | 400031 | | | 402.02- 462.02 | 441.19 |
| 5.990 | 5.990 (1.101) | 41 | 281417 | | | 275.29- 335.29 | 310.37 |
| 113 Ethyl acrylate | | | | | CAS #: 140-88-5 | | |
| 6.764 | 6.764 (0.739) | 99 | 57225 | 100.000 | 90.142 | 80.00- 120.00 | 100.00 |
| 6.764 | 6.764 (0.739) | 45 | 98757 | | | 144.38- 204.38 | 172.58 |
| 6.764 | 6.764 (0.739) | 55 | 980424 | | | 1723.57-1783.57 | 1713.28 |
| 115 2-Pentanone | | | | | CAS #: 107-87-9 | | |
| 6.857 | 6.857 (0.749) | 43 | 1226660 | 100.000 | 95.979 | 80.00- 120.00 | 100.00 |
| 6.857 | 6.857 (0.749) | 58 | 87729 | | | 0.00- 37.02 | 7.15 |
| 6.857 | 6.857 (0.749) | 86 | 166870 | | | 0.00- 43.48 | 13.60 |
| 145 Butyl Acetate | | | | | CAS #: 123-86-4 | | |
| 8.576 | 8.576 (1.334) | 56 | 527472 | 100.000 | 94.035 | 80.00- 120.00 | 100.00 |
| 8.576 | 8.576 (1.334) | 73 | 172066 | | | 2.83- 62.83 | 32.62 |
| 8.576 | 8.576 (1.334) | 43 | 1431296 | | | 240.40- 300.40 | 271.35 |
| 166 2-Heptanone | | | | | CAS #: 110-43-0 | | |
| 9.901 | 9.901 (1.821) | 58 | 809815 | 100.000 | 89.434 | 80.00- 120.00 | 100.00 |
| 9.901 | 9.901 (1.821) | 43 | 1415889 | | | 146.16- 206.16 | 174.84 |
| 210 alpha-Pinene | | | | | CAS #: 80-56-8 | | |
| 10.037 | 10.037 (1.096) | 93 | 1201325 | 100.000 | 98.247 | 80.00- 120.00 | 100.00 |
| 10.037 | 10.037 (1.096) | 77 | 348279 | | | 0.00- 59.07 | 28.99 |
| 214 beta-Pinene | | | | | CAS #: 127-91-3 | | |
| 10.696 | 10.696 (1.168) | 93 | 935215 | 100.000 | 98.218 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 1630866 | | | 151.21- 211.21 | 174.38 |
| 186 4-Chlorotoluene | | | | | CAS #: 106-43-4 | | |
| 10.725 | 10.725 (1.171) | 126 | 497990 | 100.000 | 95.924 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 1630866 | | | 296.65- 356.65 | 327.49 |
| 10.725 | 10.725 (1.171) | 63 | 201355 | | | 10.84- 70.84 | 40.43 |
| 172 D-Limonene | | | | | CAS #: 5989-27-5 | | |
| 11.277 | 11.277 (1.232) | 68 | 734980 | 100.000 | 95.368 | 80.00- 120.00 | 100.00 |
| 11.277 | 11.277 (1.232) | 93 | 518516 | | | 41.19- 101.19 | 70.55 |
| 197 1,2,3-Trimethylbenzene | | | | | CAS #: 526-73-8 | | |
| 11.463 | 11.463 (1.252) | 120 | 677610 | 100.000 | 95.152 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 197 1,2,3-Trimethylbenzene (continued) | | | | | | | |
| 11.463 | 11.463 (1.252) | 105 | 1565838 | | | 201.76- 261.76 | 231.08 |
| 11.463 | 11.463 (1.252) | 77 | 180458 | | | 0.00- 57.12 | 26.63 |
| 205 Hexachloroethane | | | | | CAS #: 67-72-1 | | |
| 12.014 | 12.014 (1.312) | 201 | 437026 | 100.000 | 101.58 | 80.00- 120.00 | 100.00 |
| 12.014 | 12.014 (1.312) | 117 | 629191 | | | 114.78- 174.78 | 143.97 |
| 208 1,3,5-Trichlorobenzene | | | | | CAS #: 108-70-3 | | |
| 12.759 | 12.752 (1.393) | 180 | 966470 | 100.000 | 97.497 | 80.00- 120.00 | 100.00 |
| 12.759 | 12.752 (1.393) | 182 | 923585 | | | 64.68- 124.68 | 95.56 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3041807.d
Lab Smp Id: ICAL Level #8
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 100ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #8
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 118285 | 11.40 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 456464 | 16.75 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 465967 | 18.87 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3041807.d

Page 1

Date : 18-APR-2024 11:41

Client ID: ICAL Level #8

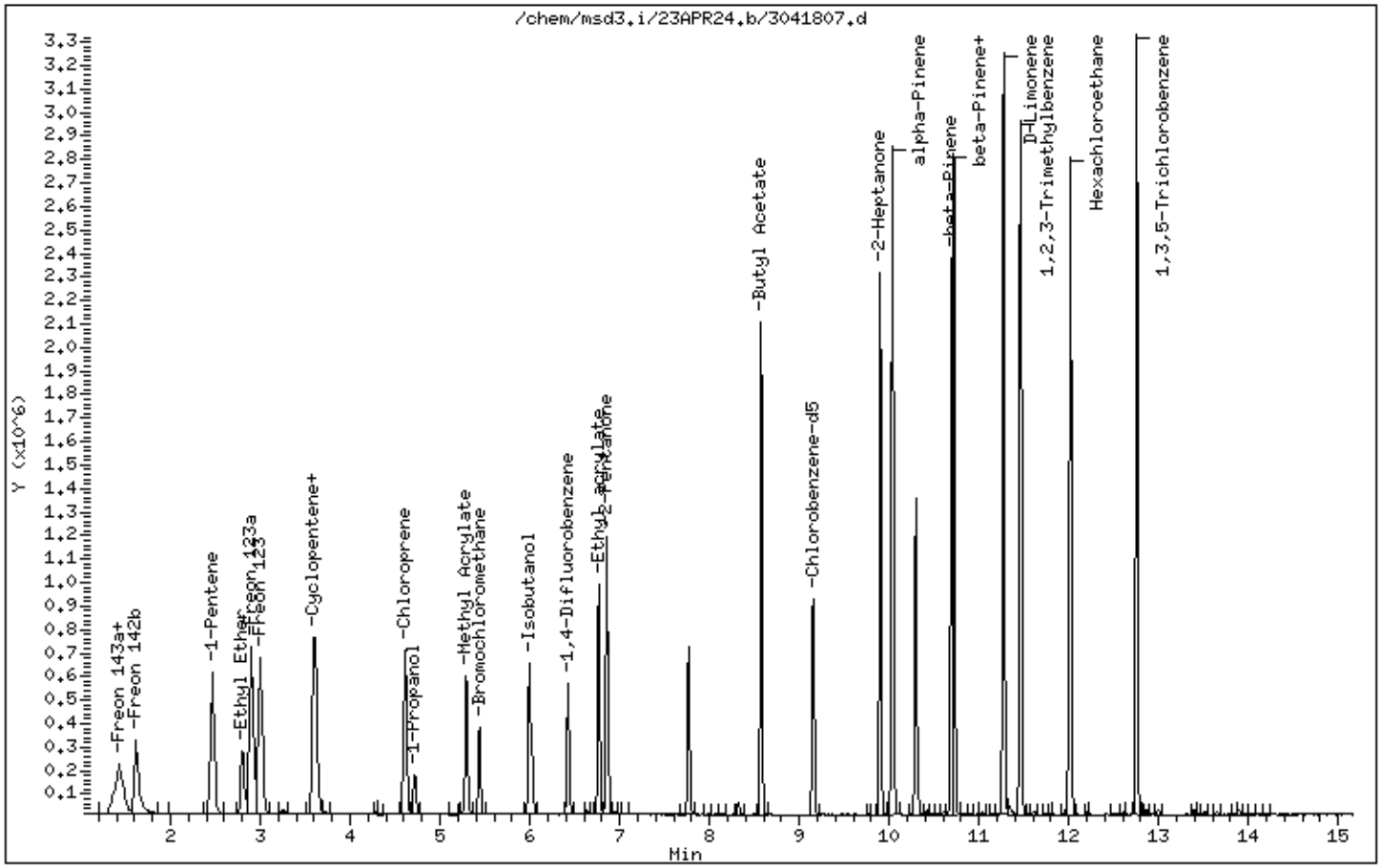
Instrument: msd3.i

Sample Info: 100ml 3018-4328

Operator: mjs

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042313.d
Lab Smp Id: ICAL Level #8 Client Smp ID: ICAL Level #8
Inj Date : 24-APR-2024 00:31
Operator : DF Inst ID: msd3.i
Smp Info : 100ml 3018-4439
Misc Info : 100ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 24-APR-2024 00:31 Cal File: 3042313.d
Als bottle: 13 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23ICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.423 | 1.409 (0.262) | 83 | 233889 | 100.000 | 95.603 | 80.00- 120.00 | 100.00 |
| 1.423 | 1.409 (0.262) | 69 | 218520 | | | 64.17- 124.17 | 93.43 |
| 1.492 | 1.493 (0.274) | 51 | 972848 | | | 365.46- 425.46 | 415.94 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.436 | 1.437 (0.264) | 41 | 275170 | 100.000 | 99.261 | 80.00- 120.00 | 100.00 |
| 1.436 | 1.437 (0.264) | 42 | 179505 | | | 35.86- 95.86 | 65.23 |
| 1.436 | 1.437 (0.264) | 39 | 193538 | | | 41.66- 101.66 | 70.33 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.478 | 1.465 (0.272) | 65 | 157731 | 100.000 | 98.702 | 80.00- 120.00 | 100.00 |
| 1.492 | 1.493 (0.274) | 51 | 972848 | | | 568.10- 628.10 | 616.78 |
| 1.576 | 1.577 (0.290) | 47 | 32982 | | | 0.00- 50.57 | 20.91 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.464 | 1.465 (0.269) | 85 | 606922 | 100.000 | 96.826 | 80.00- 120.00 | 100.00 |
| 1.464 | 1.465 (0.269) | 87 | 196368 | | | 2.88- 62.88 | 32.35 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.506 | 1.493 (0.277) | 67 | 72073 | 100.000 | 91.887 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 9 Chlorodifluoromethane (continued) | | | | | | | |
| 1.492 | 1.493 (0.274) | 51 | 972848 | | | 1257.55-1317.55 | 1349.81 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.577 (0.290) | 135 | 544220 | 100.000 | 98.766 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.577 (0.290) | 137 | 173490 | | | 2.10- 62.10 | 31.88 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.590 | 1.591 (0.292) | 43 | 577867 | 100.000 | 98.584 | 80.00- 120.00 | 100.00 |
| 1.590 | 1.591 (0.292) | 42 | 178573 | | | 1.69- 61.69 | 30.90 |
| 1.590 | 1.577 (0.292) | 58 | 18550 | | | 0.00- 33.32 | 3.21 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.688 | 1.675 (0.310) | 50 | 299977 | 100.000 | 99.260 | 80.00- 120.00 | 100.00 |
| 1.688 | 1.675 (0.310) | 52 | 90827 | | | 1.38- 61.38 | 30.28 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.730 | 1.731 (0.318) | 58 | 58329 | 100.000 | 96.264 | 80.00- 120.00 | 100.00 |
| 1.730 | 1.731 (0.318) | 43 | 529531 | | | 866.38- 926.38 | 907.83 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.759 (0.323) | 62 | 291774 | 100.000 | 99.782 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.759 (0.323) | 64 | 88995 | | | 3.10- 63.10 | 30.50 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.786 | 1.773 (0.328) | 54 | 251430 | 100.000 | 91.531 | 80.00- 120.00 | 100.00 |
| 1.786 | 1.773 (0.328) | 39 | 281058 | | | 78.74- 138.74 | 111.78 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.122 | 2.108 (0.390) | 94 | 233940 | 100.000 | 111.96 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 219932 | | | 64.19- 124.19 | 94.01 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.408) | 64 | 142706 | 100.000 | 101.77 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.408) | 66 | 43744 | | | 2.32- 62.32 | 30.65 |
| 2.220 | 2.220 (0.408) | 49 | 50917 | | | 6.33- 66.33 | 35.68 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 395624 | 100.000 | 98.866 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 246841 | | | 31.77- 91.77 | 62.39 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.416 | 2.416 (0.444) | 106 | 257498 | 100.000 | 105.96 | 80.00- 120.00 | 100.00 |
| 2.416 | 2.416 (0.444) | 108 | 239156 | | | 64.21- 124.21 | 92.88 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.458 | 2.444 (0.452) | 101 | 718554 | 100.000 | 99.507 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 33 Freon 11 (continued) | | | | | | | |
| 2.458 | 2.444 (0.452) | 103 | 471661 | | | 34.93- 94.93 | 65.64 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.472 | 2.472 (0.455) | 67 | 577688 | 100.000 | 100.33 | 80.00- 120.00 | 100.00 |
| 2.472 | 2.472 (0.455) | 69 | 185727 | | | 1.95- 61.95 | 32.15 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.462) | 43 | 613816 | 100.000 | 100.81 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.462) | 57 | 88699 | | | 0.00- 44.64 | 14.45 |
| 2.514 | 2.514 (0.462) | 72 | 47993 | | | 0.00- 37.90 | 7.82 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.766 | 2.752 (0.509) | 46 | 57015 | 123.200 | 99.519 | 80.00- 120.00 | 100.00 |
| 2.766 | 2.752 (0.509) | 45 | 143206 | | | 224.40- 284.40 | 251.17 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.061 | 3.061 (0.563) | 55 | 116660 | 116.500 | 94.612 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 56 | 168234 | | | 108.02- 168.02 | 144.21 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.068 | 3.061 (0.564) | 151 | 592188 | 100.000 | 92.794 | 80.00- 120.00 | 100.00 |
| 3.068 | 3.061 (0.564) | 153 | 385161 | | | 35.07- 95.07 | 65.04 |
| 3.068 | 3.061 (0.564) | 101 | 666908 | | | 87.45- 147.45 | 112.62 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.096 | 3.097 (0.569) | 96 | 301261 | 100.000 | 110.95 | 80.00- 120.00 | 100.00 |
| 3.096 | 3.097 (0.569) | 98 | 167959 | | | 33.27- 93.27 | 55.75 |
| 3.096 | 3.097 (0.569) | 61 | 498243 | | | 159.05- 219.05 | 165.39 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.597) | 58 | 148068 | 100.000 | 95.827 | 80.00- 120.00 | 100.00 |
| 3.247 | 3.247 (0.597) | 43 | 537163 | | | 329.45- 389.45 | 362.78 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.333 | 3.333 (0.613) | 76 | 710224 | 100.000 | 95.922 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.433 | 3.426 (0.631) | 45 | 642786 | 100.000 | 100.06 | 80.00- 120.00 | 100.00 |
| 3.433 | 3.426 (0.631) | 43 | 122192 | | | 0.00- 48.18 | 19.01 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.583 | 3.584 (0.659) | 76 | 121265 | 100.000 | 97.215 | 80.00- 120.00 | 100.00 |
| 3.583 | 3.584 (0.659) | 41 | 471311 | | | 366.80- 426.80 | 388.66 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.691 | 3.684 (0.679) | 41 | 334986 | 117.600 | 118.15 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 57 Acetonitrile (continued) | | | | | | | |
| 3.684 | 3.684 (0.677) | 40 | 172907 | | | 22.74- 82.74 | 51.62 |
| 3.684 | 3.684 (0.677) | 38 | 40298 | | | 0.00- 42.52 | 12.03 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.784 | 3.784 (0.696) | 49 | 420045 | 100.000 | 98.971 | 80.00- 120.00 | 100.00 |
| 3.784 | 3.784 (0.696) | 84 | 231441 | | | 24.90- 84.90 | 55.10 |
| 3.784 | 3.784 (0.696) | 51 | 125628 | | | 0.00- 59.67 | 29.91 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.913 | 3.913 (0.719) | 59 | 743605 | 115.200 | 113.46 | 80.00- 120.00 | 100.00 |
| 3.913 | 3.913 (0.719) | 41 | 162125 | | | 0.00- 51.85 | 21.80 |
| 3.913 | 3.913 (0.719) | 57 | 80421 | | | 0.00- 40.17 | 10.82 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.737) | 73 | 741406 | 100.000 | 95.692 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.737) | 57 | 213348 | | | 0.00- 58.72 | 28.78 |
| 4.006 | 4.006 (0.737) | 41 | 218919 | | | 0.00- 59.38 | 29.53 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.035 | 4.028 (0.742) | 98 | 176446 | 100.000 | 96.758 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.741) | 61 | 467010 | | | 232.13- 292.13 | 264.68 |
| 4.035 | 4.028 (0.742) | 96 | 280492 | | | 127.26- 187.26 | 158.97 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.149 | 4.142 (0.763) | 52 | 229116 | 100.000 | 97.154 | 80.00- 120.00 | 100.00 |
| 4.149 | 4.142 (0.763) | 53 | 285142 | | | 86.45- 146.45 | 124.45 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.783) | 57 | 517066 | 100.000 | 91.000 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.257 (0.783) | 43 | 367195 | | | 40.97- 100.97 | 71.02 |
| 4.257 | 4.257 (0.783) | 86 | 65677 | | | 0.00- 42.68 | 12.70 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.838) | 63 | 523580 | 100.000 | 99.356 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 65 | 160766 | | | 0.47- 60.47 | 30.71 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.550 | 4.558 (0.837) | 45 | 1226420 | 100.000 | 97.056 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 87 | 239988 | | | 0.00- 49.55 | 19.57 |
| 4.550 | 4.558 (0.837) | 59 | 123985 | | | 0.00- 40.42 | 10.11 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.615 | 4.608 (0.849) | 86 | 47844 | 100.000 | 103.11 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 43 | 780354 | | | 1727.95-1787.95 | 1631.04 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.945 (0.908) | 59 | 1072332 | 100.000 | 98.406 | 80.00- 120.00 | 100.00 |
| 4.944 | 4.945 (0.909) | 87 | 366422 | | | 3.90- 63.90 | 34.17 |
| 4.937 | 4.945 (0.908) | 41 | 210371 | | | 0.00- 49.72 | 19.62 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.145 | 5.145 (0.946) | 77 | 501026 | 100.000 | 96.313 | 80.00- 120.00 | 100.00 |
| 5.145 | 5.145 (0.946) | 79 | 161864 | | | 2.39- 62.39 | 32.31 |
| 5.145 | 5.145 (0.946) | 97 | 118677 | | | 0.00- 53.57 | 23.69 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.188 | 5.188 (0.954) | 98 | 187231 | 100.000 | 99.151 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 96 | 289937 | | | 125.53- 185.53 | 154.86 |
| 5.188 | 5.188 (0.954) | 61 | 470007 | | | 219.86- 279.86 | 251.03 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.959) | 72 | 137061 | 100.000 | 100.74 | 80.00- 120.00 | 100.00 |
| 5.238 | 5.217 (0.963) | 43 | 1592983 | | | 1138.34-1198.34 | 1162.24 |
| 5.217 | 5.217 (0.959) | 57 | 54006 | | | 10.83- 70.83 | 39.40 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.245 | 5.245 (0.964) | 45 | 126480 | 100.000 | 92.956 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 61 | 470007 | | | 338.96- 398.96 | 371.61 |
| 5.245 | 5.245 (0.964) | 70 | 69046 | | | 24.53- 84.53 | 54.59 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.432 | 5.425 (0.999) | 42 | 374946 | 100.000 | 90.138 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.425 (0.999) | 71 | 106420 | | | 0.00- 58.54 | 28.38 |
| 5.432 | 5.425 (0.999) | 72 | 111677 | | | 0.00- 59.59 | 29.78 |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 105842 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 83069 | | | 47.79- 107.79 | 78.48 |
| 5.439 | 5.439 (1.000) | 49 | 172113 | | | 131.33- 191.33 | 162.61 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.517 | 5.518 (1.014) | 83 | 565091 | 100.000 | 99.863 | 80.00- 120.00 | 100.00 |
| 5.517 | 5.518 (1.014) | 85 | 370641 | | | 35.77- 95.77 | 65.59 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.032) | 84 | 359507 | 100.000 | 94.967 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.032) | 56 | 552721 | | | 125.79- 185.79 | 153.74 |
| 5.611 | 5.611 (1.032) | 41 | 325050 | | | 61.55- 121.55 | 90.42 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.639 | 5.639 (1.037) | 97 | 591595 | 100.000 | 95.857 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 96 1,1,1-Trichloroethane (continued) | | | | | | | |
| 5.639 | 5.639 (1.037) | 99 | 376125 | | | 32.84- 92.84 | 63.58 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.059) | 119 | 642704 | 100.000 | 98.230 | 80.00- 120.00 | 100.00 |
| 5.761 | 5.761 (1.059) | 117 | 669686 | | | 75.19- 135.19 | 104.20 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.804 | 5.804 (0.903) | 110 | 159905 | 100.000 | 100.11 | 80.00- 120.00 | 100.00 |
| 5.804 | 5.804 (0.903) | 75 | 420011 | | | 234.16- 294.16 | 262.66 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.998 (0.933) | 78 | 785301 | 100.000 | 98.366 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.998 (0.933) | 77 | 185549 | | | 0.00- 53.69 | 23.63 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.990 | 5.998 (1.101) | 57 | 1780857 | 100.000 | 100.31 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.998 (1.101) | 56 | 589538 | | | 3.09- 63.09 | 33.10 |
| 5.990 | 5.998 (1.101) | 41 | 491319 | | | 0.00- 57.28 | 27.59 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.108) | 65 | 138700 | 25.0000 | 25.159 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.108) | 67 | 82615 | | | 23.17- 83.17 | 59.56 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.090 | 6.091 (0.948) | 87 | 213810 | 100.000 | 99.657 | 80.00- 120.00 | 100.00 |
| 6.090 | 6.091 (0.948) | 73 | 848451 | | | 365.76- 425.76 | 396.82 |
| 6.090 | 6.091 (0.948) | 55 | 259377 | | | 92.58- 152.58 | 121.31 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 415718 | 100.000 | 99.824 | 80.00- 120.00 | 100.00 |
| 6.105 | 6.105 (0.950) | 64 | 132642 | | | 1.80- 61.80 | 31.91 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 295338 | 100.000 | 93.388 | 80.00- 120.00 | 100.00 |
| 6.184 | 6.184 (0.962) | 43 | 705437 | | | 207.73- 267.73 | 238.86 |
| 6.184 | 6.184 (0.962) | 57 | 339527 | | | 84.83- 144.83 | 114.96 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 396522 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 60780 | | | 0.00- 45.65 | 15.33 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.031) | 56 | 175615 | 100.000 | 96.750 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.031) | 41 | 135185 | | | 47.73- 107.73 | 76.98 |
| 6.628 | 6.628 (1.031) | 43 | 107643 | | | 31.60- 91.60 | 61.29 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 385359 | 100.000 | 100.11 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.635 (1.032) | 130 | 420282 | | | 80.23- 140.23 | 109.06 |
| 6.635 | 6.635 (1.032) | 97 | 247896 | | | 34.78- 94.78 | 64.33 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.735 | 6.735 (1.048) | 83 | 521879 | 100.000 | 95.445 | 80.00- 120.00 | 100.00 |
| 6.735 | 6.735 (1.048) | 98 | 234798 | | | 14.83- 74.83 | 44.99 |
| 6.735 | 6.735 (1.048) | 55 | 529750 | | | 71.50- 131.50 | 101.51 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 356857 | 100.000 | 94.992 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 254327 | | | 40.39- 100.39 | 71.27 |
| 6.893 | 6.893 (1.072) | 41 | 220968 | | | 31.86- 91.86 | 61.92 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.979 | 6.979 (0.762) | 69 | 309787 | 100.000 | 95.457 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 541842 | | | 145.81- 205.81 | 174.91 |
| 6.979 | 6.979 (0.762) | 100 | 124306 | | | 10.05- 70.05 | 40.13 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.088) | 88 | 197381 | 100.000 | 98.283 | 80.00- 120.00 | 100.00 |
| 6.993 | 6.993 (1.088) | 58 | 172789 | | | 56.33- 116.33 | 87.54 |
| 6.993 | 6.993 (1.088) | 57 | 63133 | | | 2.08- 62.08 | 31.99 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.008 (0.765) | 174 | 381602 | 100.000 | 101.51 | 80.00- 120.00 | 100.00 |
| 7.007 | 7.008 (0.765) | 93 | 352368 | | | 62.68- 122.68 | 92.34 |
| 7.007 | 7.008 (0.765) | 95 | 293123 | | | 47.70- 107.70 | 76.81 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 622682 | 100.000 | 99.932 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 405152 | | | 34.96- 94.96 | 65.07 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.459 | 7.459 (1.160) | 63 | 664952 | 100.000 | 100.32 | 80.00- 120.00 | 100.00 |
| 7.459 | 7.459 (1.160) | 65 | 202248 | | | 0.43- 60.43 | 30.42 |
| 7.459 | 7.459 (1.160) | 144 | 71736 | | | 0.00- 40.48 | 10.79 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.574 (1.178) | 75 | 536050 | 100.000 | 100.87 | 80.00- 120.00 | 100.00 |
| 7.573 | 7.574 (1.178) | 77 | 171485 | | | 1.26- 61.26 | 31.99 |
| 7.573 | 7.574 (1.178) | 39 | 348968 | | | 35.06- 95.06 | 65.10 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.709 | 7.710 (1.199) | 58 | 331484 | 100.000 | 90.683 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 131 4-Methyl-2-pentanone (continued) | | | | | | | |
| 7.709 | 7.710 (1.199) | 43 | 967531 | | | 259.88- 319.88 | 291.88 |
| 7.709 | 7.710 (1.199) | 85 | 121207 | | | 7.58- 67.58 | 36.56 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 384928 | 25.0000 | 24.971 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 43720 | | | 0.00- 41.42 | 11.36 |
| 7.767 | 7.767 (1.208) | 100 | 262520 | | | 37.54- 97.54 | 68.20 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 1060130 | 100.000 | 95.924 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 616016 | | | 27.89- 87.89 | 58.11 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 369712 | 100.000 | 91.822 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 344482 | | | 63.53- 123.53 | 93.18 |
| 7.860 | 7.860 (1.223) | 43 | 1007724 | | | 246.00- 306.00 | 272.57 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 443012 | 100.000 | 100.63 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 141332 | | | 1.83- 61.83 | 31.90 |
| 8.118 | 8.118 (0.887) | 39 | 271120 | | | 31.97- 91.97 | 61.20 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.290 | 8.290 (0.905) | 97 | 356494 | 100.000 | 95.630 | 80.00- 120.00 | 100.00 |
| 8.290 | 8.290 (0.905) | 99 | 222775 | | | 32.52- 92.52 | 62.49 |
| 8.290 | 8.290 (0.905) | 83 | 311459 | | | 58.90- 118.90 | 87.37 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 553652 | 100.000 | 98.911 | 80.00- 120.00 | 100.00 |
| 8.318 | 8.318 (0.908) | 129 | 425367 | | | 45.32- 105.32 | 76.83 |
| 8.318 | 8.318 (0.908) | 131 | 417713 | | | 44.17- 104.17 | 75.45 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 496519 | 100.000 | 95.831 | 80.00- 120.00 | 100.00 |
| 8.447 | 8.447 (1.314) | 41 | 440869 | | | 59.72- 119.72 | 88.79 |
| 8.447 | 8.447 (1.314) | 78 | 160031 | | | 3.08- 63.08 | 32.23 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.490 | 8.490 (0.927) | 58 | 464697 | 100.000 | 99.362 | 80.00- 120.00 | 100.00 |
| 8.490 | 8.490 (0.927) | 43 | 963714 | | | 177.32- 237.32 | 207.39 |
| 8.490 | 8.490 (0.927) | 100 | 79775 | | | 0.00- 47.18 | 17.17 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 755601 | 100.000 | 102.56 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.942) | 127 | 585162 | | | 47.27- 107.27 | 77.44 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | | ===== |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | | |
| 8.748 | 8.741 (0.955) | 107 | 596749 | 100.000 | 97.672 | 80.00- 120.00 | | 100.00 |
| 8.748 | 8.741 (0.955) | 109 | 564389 | | | 64.18- 124.18 | | 94.58 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | | |
| 9.156 | 9.157 (1.000) | 117 | 398422 | 25.0000 | | 80.00- 120.00 | | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 211171 | | | 22.92- 82.92 | | 53.00 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | | |
| 9.185 | 9.185 (1.003) | 112 | 891221 | 100.000 | 96.545 | 80.00- 120.00 | | 100.00 |
| 9.185 | 9.185 (1.003) | 114 | 283609 | | | 1.91- 61.91 | | 31.82 |
| 9.178 | 9.185 (1.002) | 77 | 470841 | | | 22.97- 82.97 | | 52.83 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | | |
| 9.249 | 9.250 (1.010) | 106 | 444390 | 100.000 | 95.707 | 80.00- 120.00 | | 100.00 |
| 9.249 | 9.250 (1.010) | 91 | 1374525 | | | 281.09- 341.09 | | 309.31 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | | |
| 9.271 | 9.271 (1.013) | 131 | 531773 | 100.000 | 101.12 | 80.00- 120.00 | | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 357246 | | | 37.10- 97.10 | | 67.18 |
| 9.271 | 9.271 (1.013) | 95 | 181859 | | | 4.93- 64.93 | | 34.20 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | | |
| 9.314 | 9.314 (1.017) | 43 | 1038239 | 100.000 | 96.273 | 80.00- 120.00 | | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 841060 | | | 50.62- 110.62 | | 81.01 |
| 9.314 | 9.314 (1.017) | 85 | 263825 | | | 0.00- 55.65 | | 25.41 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | | |
| 9.371 | 9.364 (1.023) | 106 | 562748 | 100.000 | 97.237 | 80.00- 120.00 | | 100.00 |
| 9.371 | 9.364 (1.023) | 91 | 1122896 | | | 170.33- 230.33 | | 199.54 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | | |
| 9.751 | 9.751 (1.065) | 106 | 531095 | 100.000 | 96.773 | 80.00- 120.00 | | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 1106036 | | | 181.23- 241.23 | | 208.26 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | | |
| 9.779 | 9.780 (1.068) | 104 | 901272 | 100.000 | 96.162 | 80.00- 120.00 | | 100.00 |
| 9.779 | 9.780 (1.068) | 78 | 430200 | | | 17.26- 77.26 | | 47.73 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | | |
| 9.987 | 9.987 (1.091) | 173 | 764011 | 100.000 | 102.61 | 80.00- 120.00 | | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 393935 | | | 21.45- 81.45 | | 51.56 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | | |
| 10.095 | 10.095 (1.102) | 105 | 1623414 | 100.000 | 97.855 | 80.00- 120.00 | | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 439762 | | | 0.00- 56.93 | | 27.09 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 168 Cumene (continued) | | | | | | | | |
| 10.095 | 10.095 (1.102) | 51 | 196064 | | | | 0.00- 42.24 | 12.08 |
| 169 Cyclohexanone | | | | | | CAS #: 108-94-1 | | |
| 10.259 | 10.260 (1.120) | 55 | 573173 | 100.000 | | 87.326 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.260 (1.120) | 98 | 203718 | | | | 5.15- 65.15 | 35.54 |
| 10.259 | 10.260 (1.120) | 42 | 412326 | | | | 41.99- 101.99 | 71.94 |
| $ 170 4-Bromofluorobenzene | | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 296799 | 25.0000 | | 25.066 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 349798 | | | | 88.49- 148.49 | 117.86 |
| 10.295 | 10.295 (1.124) | 176 | 289385 | | | | 66.73- 126.73 | 97.50 |
| 177 Bromobenzene | | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.432 (1.139) | 156 | 558700 | 100.000 | | 96.660 | 80.00- 120.00 | 100.00 |
| 10.431 | 10.432 (1.139) | 158 | 546276 | | | | 67.47- 127.47 | 97.78 |
| 10.431 | 10.432 (1.139) | 77 | 768495 | | | | 108.68- 168.68 | 137.55 |
| 175 1,1,2,2-Tetrachloroethane | | | | | | CAS #: 79-34-5 | | |
| 10.474 | 10.475 (1.144) | 83 | 813731 | 100.000 | | 94.567 | 80.00- 120.00 | 100.00 |
| 10.474 | 10.475 (1.144) | 85 | 524090 | | | | 34.97- 94.97 | 64.41 |
| 178 Propylbenzene | | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 475959 | 100.000 | | 97.023 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 1967721 | | | | 383.60- 443.60 | 413.42 |
| 10.496 | 10.496 (1.146) | 105 | 76416 | | | | 0.00- 46.14 | 16.06 |
| 179 1,2,3-Trichloropropane | | | | | | CAS #: 96-18-4 | | |
| 10.524 | 10.525 (1.149) | 110 | 242072 | 100.000 | | 92.694 | 80.00- 120.00 | 100.00 |
| 10.524 | 10.525 (1.149) | 75 | 873427 | | | | 324.28- 384.28 | 360.81 |
| 10.524 | 10.518 (1.149) | 61 | 211752 | | | | 57.24- 117.24 | 87.47 |
| 182 Decane | | | | | | CAS #: 124-18-5 | | |
| 10.610 | 10.611 (1.159) | 57 | 1121284 | 100.000 | | 88.316 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 71 | 352921 | | | | 1.11- 61.11 | 31.47 |
| 10.610 | 10.611 (1.159) | 142 | 48194 | | | | 0.00- 34.44 | 4.30 |
| 183 4-Ethyltoluene | | | | | | CAS #: 622-96-8 | | |
| 10.610 | 10.611 (1.159) | 120 | 519968 | 100.000 | | 97.247 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 105 | 1707948 | | | | 298.94- 358.94 | 328.47 |
| 184 2-Chlorotoluene | | | | | | CAS #: 95-49-8 | | |
| 10.610 | 10.611 (1.159) | 126 | 437162 | 100.000 | | 96.633 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 91 | 1364629 | | | | 282.78- 342.78 | 312.16 |
| 10.610 | 10.603 (1.159) | 65 | 204643 | | | | 17.33- 77.33 | 46.81 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 721444 | 100.000 | 100.05 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 1454356 | | | 172.08- 232.08 | 201.59 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 734672 | 100.000 | 96.182 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 410215 | | | 25.64- 85.64 | 55.84 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.983 | 10.983 (1.199) | 119 | 1356930 | 100.000 | 98.981 | 80.00- 120.00 | 100.00 |
| 10.983 | 10.983 (1.199) | 134 | 341712 | | | 0.00- 55.10 | 25.18 |
| 10.983 | 10.976 (1.199) | 91 | 878858 | | | 34.53- 94.53 | 64.77 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 1415739 | 100.000 | 96.028 | 80.00- 120.00 | 100.00 |
| 11.047 | 11.040 (1.207) | 120 | 660251 | | | 16.63- 76.63 | 46.64 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 436208 | 100.000 | 97.207 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 2036768 | | | 436.99- 496.99 | 466.93 |
| 11.198 | 11.198 (1.223) | 91 | 314010 | | | 41.69- 101.69 | 71.99 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 1789348 | 100.000 | 97.504 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 489513 | | | 0.00- 57.62 | 27.36 |
| 11.341 | 11.341 (1.239) | 91 | 412100 | | | 0.00- 53.03 | 23.03 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 1033818 | 100.000 | 94.630 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 656564 | | | 34.18- 94.18 | 63.51 |
| 11.348 | 11.348 (1.239) | 111 | 413943 | | | 10.06- 70.06 | 40.04 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.448 | 11.449 (1.250) | 146 | 1055927 | 100.000 | 95.420 | 80.00- 120.00 | 100.00 |
| 11.448 | 11.449 (1.250) | 148 | 670982 | | | 33.55- 93.55 | 63.54 |
| 11.448 | 11.449 (1.250) | 111 | 404166 | | | 7.98- 67.98 | 38.28 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 1381580 | 100.000 | 98.590 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 316241 | | | 0.00- 52.77 | 22.89 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.749 | 11.750 (1.283) | 134 | 482826 | 100.000 | 95.464 | 80.00- 120.00 | 100.00 |
| 11.749 | 11.742 (1.283) | 91 | 1647148 | | | 310.82- 370.82 | 341.15 |
| 11.749 | 11.742 (1.283) | 92 | 873623 | | | 151.53- 211.53 | 180.94 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 1302554 | 100.000 | 86.284 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.287) | 43 | 1209695 | | | 63.59- 123.59 | 92.87 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 1010740 | 100.000 | 95.330 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 639756 | | | 33.00- 93.00 | 63.30 |
| 11.821 | 11.821 (1.291) | 111 | 413337 | | | 10.87- 70.87 | 40.89 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.378) | 157 | 612326 | 100.000 | 97.644 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.378) | 75 | 473919 | | | 48.09- 108.09 | 77.40 |
| 12.616 | 12.616 (1.378) | 155 | 475901 | | | 47.89- 107.89 | 77.72 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.404) | 57 | 1478291 | 100.000 | 97.215 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.404) | 43 | 1300190 | | | 58.52- 118.52 | 87.95 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.463) | 180 | 1005016 | 100.000 | 95.651 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.463) | 182 | 959165 | | | 64.84- 124.84 | 95.44 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.511 | 13.512 (1.476) | 225 | 763508 | 100.000 | 99.618 | 80.00- 120.00 | 100.00 |
| 13.511 | 13.512 (1.476) | 223 | 480549 | | | 32.80- 92.80 | 62.94 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.490) | 128 | 237219 | 11.6000 | 10.817 | 80.00- 120.00 | 100.00 |
| 13.648 | 13.648 (1.490) | 127 | 29486 | | | 0.00- 42.72 | 12.43 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.517) | 180 | 982100 | 100.000 | 95.387 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.517) | 182 | 938291 | | | 65.07- 125.07 | 95.54 |
| 13.891 | 13.891 (1.517) | 145 | 338917 | | | 4.48- 64.48 | 34.51 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042313.d
Lab Smp Id: ICAL Level #8
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 100ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #8
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 105842 | -0.32 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 396522 | 1.42 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 398422 | 1.64 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042313.d

Page 1

Date : 24-APR-2024 00:31

Client ID: ICAL Level #8

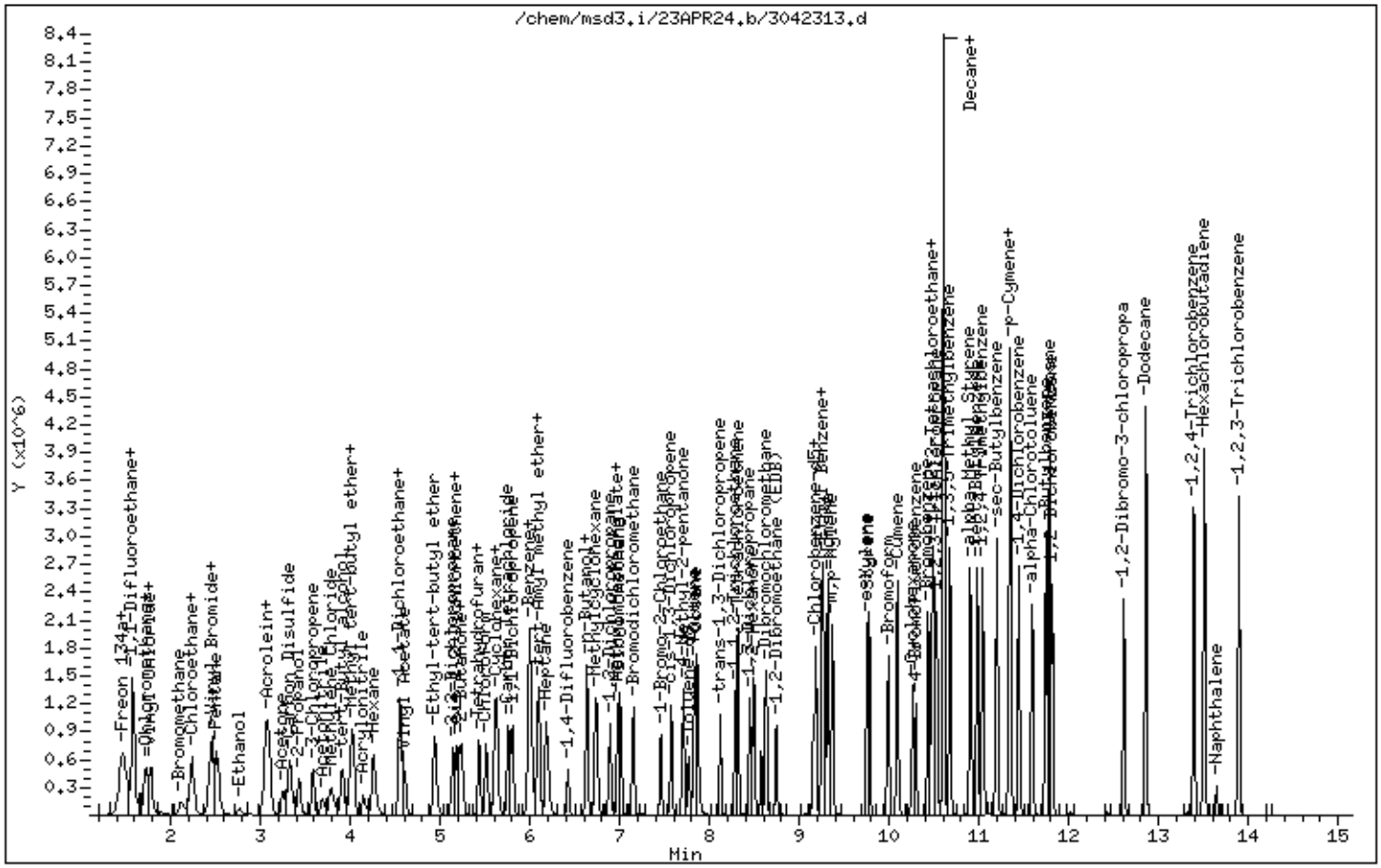
Instrument: msd3.i

Sample Info: 100ml 3018-4439

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



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EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3041808.d
Lab Smp Id: ICAL Level #9 Client Smp ID: ICAL Level #9
Inj Date : 18-APR-2024 12:16
Operator : mjs Inst ID: msd3.i
Smp Info : 200ml 3018-4328
Misc Info : 200ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 2 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT21spICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 120006 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 93128 | | | 47.79- 107.79 | 77.60 |
| 5.439 | 5.439 (1.000) | 49 | 193408 | | | 131.33- 191.33 | 161.17 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 458183 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 72127 | | | 0.00- 45.65 | 15.74 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.157 | 9.157 (1.000) | 117 | 467934 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.157 | 9.157 (1.000) | 82 | 252927 | | | 22.92- 82.92 | 54.05 |
| 3 Freon 143a | | | | | CAS #: 420-46-2 | | |
| 1.409 | 1.395 (0.259) | 65 | 260245 | 200.000 | 160.76 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.395 (0.259) | 69 | 706811 | | | 237.43- 297.43 | 271.59 |
| 1.409 | 1.395 (0.259) | 64 | 64311 | | | 0.00- 57.02 | 24.71 |
| 6 Propane | | | | | CAS #: 74-98-6 | | |
| 1.437 | 1.423 (0.264) | 43 | 225328 | 200.000 | 202.89 | 80.00- 120.00 | 100.00(A) |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 6 Propane (continued) | | | | | | | |
| 1.437 | 1.437 (0.264) | 39 | 150266 | | | 37.94- 97.94 | 66.69 |
| 1.437 | 1.423 (0.264) | 41 | 119790 | | | 21.79- 81.79 | 53.16 |
| 13 Freon 142b | | | | | CAS #: 75-68-3 | | |
| 1.619 | 1.604 (0.298) | 65 | 1134995 | 200.000 | 192.46 | 80.00- 120.00 | 100.00 |
| 1.619 | 1.604 (0.298) | 45 | 327199 | | | 0.00- 58.87 | 28.83 |
| 36 1-Pentene | | | | | CAS #: 109-67-1 | | |
| 2.458 | 2.458 (0.452) | 55 | 733847 | 200.000 | 200.44 | 80.00- 120.00 | 100.00(A) |
| 2.458 | 2.458 (0.452) | 42 | 1064716 | | | 114.47- 174.47 | 145.09 |
| 38 Ethyl Ether | | | | | CAS #: 60-29-7 | | |
| 2.808 | 2.794 (0.516) | 74 | 291432 | 200.000 | 192.47 | 80.00- 120.00 | 100.00 |
| 2.808 | 2.794 (0.516) | 59 | 486012 | | | 138.79- 198.79 | 166.77 |
| 2.794 | 2.794 (0.514) | 45 | 424006 | | | 114.58- 174.58 | 145.49 |
| 40 Freon 123a | | | | | CAS #: 354-23-4 | | |
| 2.906 | 2.906 (0.534) | 117 | 929788 | 200.000 | 194.87 | 80.00- 120.00 | 100.00 |
| 2.906 | 2.892 (0.534) | 67 | 1210967 | | | 102.78- 162.78 | 130.24 |
| 41 Freon 123 | | | | | CAS #: 306-83-2 | | |
| 2.990 | 2.990 (0.550) | 83 | 810128 | 200.000 | 183.32 | 80.00- 120.00 | 100.00 |
| 2.990 | 2.990 (0.550) | 133 | 183216 | | | 0.00- 53.60 | 22.62 |
| 2.990 | 2.990 (0.550) | 85 | 548129 | | | 36.72- 96.72 | 67.66 |
| 55 Cyclopentene | | | | | CAS #: 142-29-0 | | |
| 3.598 | 3.591 (0.662) | 67 | 1370577 | 200.000 | 203.72 | 80.00- 120.00 | 100.00(A) |
| 3.598 | 3.591 (0.662) | 68 | 518522 | | | 8.38- 68.38 | 37.83 |
| 3.598 | 3.591 (0.662) | 53 | 334677 | | | 0.00- 54.97 | 24.42 |
| 56 Methyl Acetate | | | | | CAS #: 79-20-9 | | |
| 3.627 | 3.619 (0.667) | 43 | 1520707 | 200.000 | 203.42 | 80.00- 120.00 | 100.00(A) |
| 3.627 | 3.619 (0.667) | 74 | 239531 | | | 0.00- 45.84 | 15.75 |
| 74 Chloroprene | | | | | CAS #: 126-99-8 | | |
| 4.608 | 4.608 (0.847) | 53 | 1182655 | 200.000 | 202.28 | 80.00- 120.00 | 100.00(A) |
| 4.608 | 4.608 (0.847) | 88 | 527130 | | | 14.44- 74.44 | 44.57 |
| 4.608 | 4.608 (0.847) | 50 | 310870 | | | 0.00- 56.76 | 26.29 |
| 75 1-Propanol | | | | | CAS #: 71-23-8 | | |
| 4.715 | 4.715 (0.867) | 59 | 159495 | 200.000 | 180.68 | 80.00- 120.00 | 100.00 |
| 4.715 | 4.715 (0.867) | 42 | 155026 | | | 63.00- 123.00 | 97.20 |
| 4.723 | 4.715 (0.868) | 41 | 95604 | | | 28.69- 88.69 | 59.94 |
| 88 Methyl Acrylate | | | | | CAS #: 96-33-3 | | |
| 5.289 | 5.288 (0.972) | 55 | 1482990 | 200.000 | 201.92 | 80.00- 120.00 | 100.00(A) |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 88 Methyl Acrylate (continued) | | | | | | | |
| 5.289 | 5.288 (0.972) | 85 | 193920 | | | 0.00- 43.17 | 13.08 |
| 5.289 | 5.288 (0.972) | 58 | 124079 | | | 0.00- 38.59 | 8.37 |
| 103 Isobutanol | | | | | CAS #: 78-83-1 | | |
| 5.998 | 5.990 (1.103) | 39 | 183688 | 200.000 | 158.17 | 80.00- 120.00 | 100.00 |
| 5.998 | 5.990 (1.103) | 43 | 817115 | | | 402.02- 462.02 | 444.84 |
| 5.998 | 5.990 (1.103) | 41 | 574154 | | | 275.29- 335.29 | 312.57 |
| 113 Ethyl acrylate | | | | | CAS #: 140-88-5 | | |
| 6.764 | 6.764 (0.739) | 99 | 116107 | 200.000 | 182.12 | 80.00- 120.00 | 100.00 |
| 6.764 | 6.764 (0.739) | 45 | 198660 | | | 144.38- 204.38 | 171.10 |
| 6.764 | 6.764 (0.739) | 55 | 1988303 | | | 1723.57-1783.57 | 1712.47 |
| 115 2-Pentanone | | | | | CAS #: 107-87-9 | | |
| 6.857 | 6.857 (0.749) | 43 | 2482194 | 200.000 | 193.40 | 80.00- 120.00 | 100.00 |
| 6.857 | 6.857 (0.749) | 58 | 177457 | | | 0.00- 37.02 | 7.15 |
| 6.857 | 6.857 (0.749) | 86 | 336830 | | | 0.00- 43.48 | 13.57 |
| 145 Butyl Acetate | | | | | CAS #: 123-86-4 | | |
| 8.576 | 8.576 (1.334) | 56 | 1057450 | 200.000 | 187.81 | 80.00- 120.00 | 100.00 |
| 8.576 | 8.576 (1.334) | 73 | 345843 | | | 2.83- 62.83 | 32.71 |
| 8.576 | 8.576 (1.334) | 43 | 2829149 | | | 240.40- 300.40 | 267.54 |
| 166 2-Heptanone | | | | | CAS #: 110-43-0 | | |
| 9.902 | 9.901 (1.820) | 58 | 1609997 | 200.000 | 175.26 | 80.00- 120.00 | 100.00 |
| 9.902 | 9.901 (1.820) | 43 | 2792761 | | | 146.16- 206.16 | 173.46 |
| 210 alpha-Pinene | | | | | CAS #: 80-56-8 | | |
| 10.038 | 10.037 (1.096) | 93 | 2425999 | 200.000 | 197.57 | 80.00- 120.00 | 100.00 |
| 10.038 | 10.037 (1.096) | 77 | 698349 | | | 0.00- 59.07 | 28.79 |
| 214 beta-Pinene | | | | | CAS #: 127-91-3 | | |
| 10.697 | 10.696 (1.168) | 93 | 1859561 | 200.000 | 194.47 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 3220890 | | | 151.21- 211.21 | 173.21 |
| 186 4-Chlorotoluene | | | | | CAS #: 106-43-4 | | |
| 10.725 | 10.725 (1.171) | 126 | 981566 | 200.000 | 188.28 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 3220890 | | | 296.65- 356.65 | 328.14 |
| 10.725 | 10.725 (1.171) | 63 | 397359 | | | 10.84- 70.84 | 40.48 |
| 172 D-Limonene | | | | | CAS #: 5989-27-5 | | |
| 11.277 | 11.277 (1.232) | 68 | 1454130 | 200.000 | 187.89 | 80.00- 120.00 | 100.00 |
| 11.277 | 11.277 (1.232) | 93 | 1032179 | | | 41.19- 101.19 | 70.98 |
| 197 1,2,3-Trimethylbenzene | | | | | CAS #: 526-73-8 | | |
| 11.463 | 11.463 (1.252) | 120 | 1341440 | 200.000 | 187.58 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 197 1,2,3-Trimethylbenzene (continued) | | | | | | | |
| 11.463 | 11.463 (1.252) | 105 | 3091684 | | | 201.76- 261.76 | 230.48 |
| 11.463 | 11.463 (1.252) | 77 | 355581 | | | 0.00- 57.12 | 26.51 |
| 205 Hexachloroethane | | | | | CAS #: 67-72-1 | | |
| 12.015 | 12.014 (1.312) | 201 | 896700 | 200.000 | 207.55 | 80.00- 120.00 | 100.00(A) |
| 12.015 | 12.014 (1.312) | 117 | 1289620 | | | 114.78- 174.78 | 143.82 |
| 208 1,3,5-Trichlorobenzene | | | | | CAS #: 108-70-3 | | |
| 12.760 | 12.752 (1.393) | 180 | 1932410 | 200.000 | 194.12 | 80.00- 120.00 | 100.00 |
| 12.760 | 12.752 (1.393) | 182 | 1836171 | | | 64.68- 124.68 | 95.02 |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3041808.d
Lab Smp Id: ICAL Level #9
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 200ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #9
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 120006 | 13.02 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 458183 | 17.19 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 467934 | 19.37 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | 0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | 0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3041808.d

Page 1

Date : 18-APR-2024 12:16

Client ID: ICAL Level #9

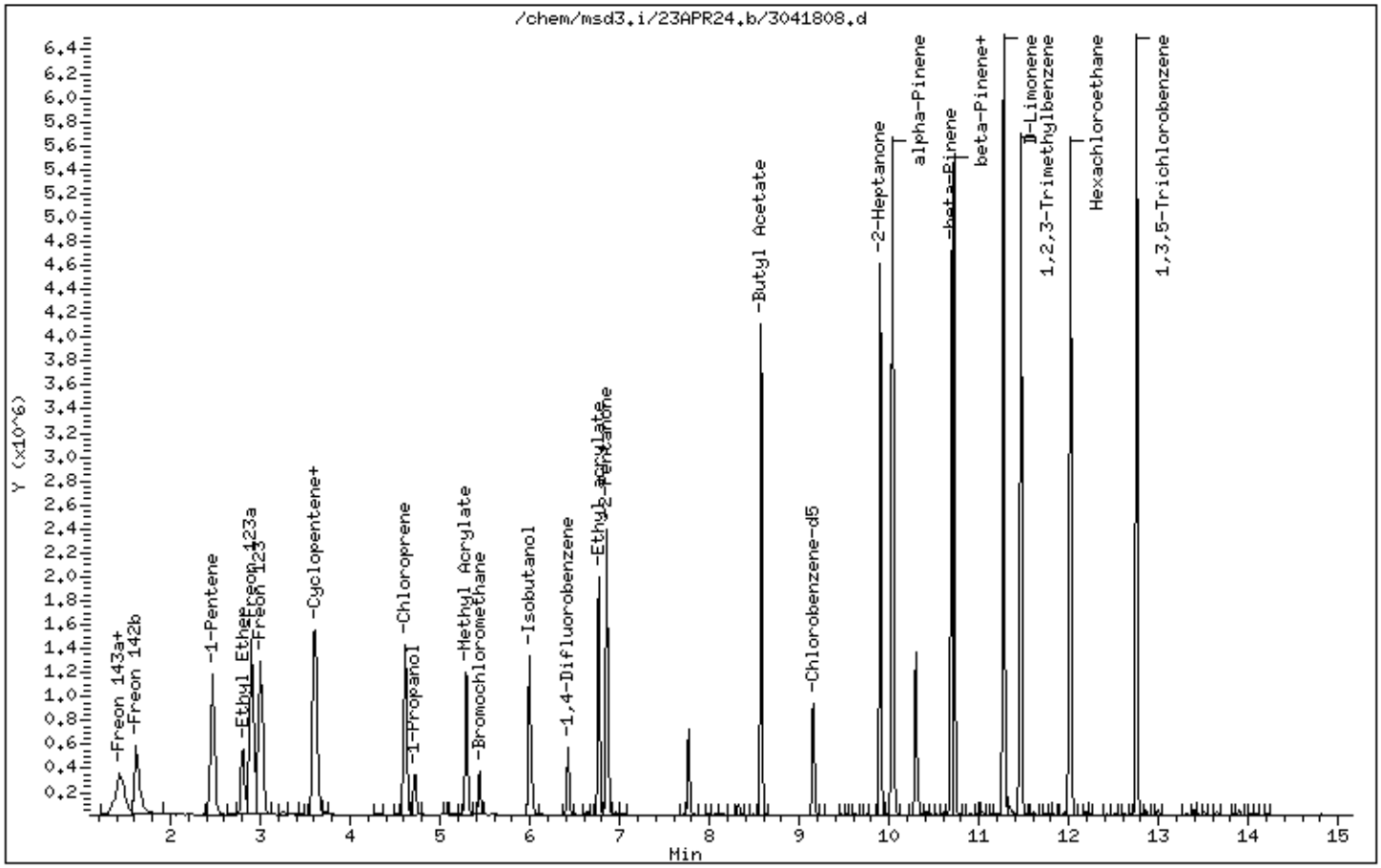
Instrument: msd3.i

Sample Info: 200ml 3018-4328

Operator: mjs

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042314.d
Lab Smp Id: ICAL Level #9 Client Smp ID: ICAL Level #9
Inj Date : 24-APR-2024 01:06
Operator : DF Inst ID: msd3.i
Smp Info : 200ml 3018-4439
Misc Info : 200ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 13 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23ICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 410084 | 200.000 | 160.41 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 385370 | | | 64.17- 124.17 | 93.97 |
| 1.492 | 1.493 (0.274) | 51 | 1962393 | | | 365.46- 425.46 | 478.53 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 572032 | 200.000 | 197.47 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 373175 | | | 35.86- 95.86 | 65.24 |
| 1.437 | 1.437 (0.264) | 39 | 404626 | | | 41.66- 101.66 | 70.73 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.479 | 1.465 (0.272) | 65 | 316553 | 200.000 | 189.56 | 80.00- 120.00 | 100.00 |
| 1.492 | 1.493 (0.274) | 51 | 1962393 | | | 568.10- 628.10 | 619.93 |
| 1.576 | 1.577 (0.290) | 47 | 82323 | | | 0.00- 50.57 | 26.01 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.269) | 85 | 1276509 | 200.000 | 194.89 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.269) | 87 | 414137 | | | 2.88- 62.88 | 32.44 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.506 | 1.493 (0.277) | 67 | 147604 | 200.000 | 180.09 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 9 Chlorodifluoromethane (continued) | | | | | | | |
| 1.492 | 1.493 (0.274) | 51 | 1962393 | | | 1257.55-1317.55 | 1329.50 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.577 (0.290) | 135 | 1162594 | 200.000 | 201.91 | 80.00- 120.00 | 100.00(A) |
| 1.576 | 1.577 (0.290) | 137 | 376760 | | | 2.10- 62.10 | 32.41 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.590 | 1.591 (0.292) | 43 | 1223113 | 200.000 | 199.69 | 80.00- 120.00 | 100.00 |
| 1.590 | 1.591 (0.292) | 42 | 375366 | | | 1.69- 61.69 | 30.69 |
| 1.576 | 1.577 (0.290) | 58 | 37940 | | | 0.00- 33.32 | 3.10 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.675 (0.308) | 50 | 575232 | 200.000 | 182.15 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.675 (0.308) | 52 | 169123 | | | 1.38- 61.38 | 29.40 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.731 (0.316) | 58 | 107881 | 200.000 | 170.38 | 80.00- 120.00 | 100.00 |
| 1.716 | 1.731 (0.316) | 43 | 983482 | | | 866.38- 926.38 | 911.64 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.744 | 1.759 (0.321) | 62 | 529490 | 200.000 | 173.29 | 80.00- 120.00 | 100.00 |
| 1.744 | 1.759 (0.321) | 64 | 162361 | | | 3.10- 63.10 | 30.66 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 467384 | 200.000 | 162.83 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 538307 | | | 78.74- 138.74 | 115.17 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 494739 | 200.000 | 226.58 | 80.00- 120.00 | 100.00(A) |
| 2.108 | 2.108 (0.388) | 96 | 462041 | | | 64.19- 124.19 | 93.39 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.206 | 2.220 (0.406) | 64 | 302289 | 200.000 | 206.30 | 80.00- 120.00 | 100.00(A) |
| 2.206 | 2.220 (0.406) | 66 | 90590 | | | 2.32- 62.32 | 29.97 |
| 2.206 | 2.220 (0.406) | 49 | 105013 | | | 6.33- 66.33 | 34.74 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.220 | 2.234 (0.408) | 43 | 837900 | 200.000 | 200.38 | 80.00- 120.00 | 100.00(A) |
| 2.220 | 2.234 (0.408) | 57 | 515900 | | | 31.77- 91.77 | 61.57 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.416 (0.442) | 106 | 538671 | 200.000 | 212.12 | 80.00- 120.00 | 100.00(A) |
| 2.402 | 2.416 (0.442) | 108 | 501592 | | | 64.21- 124.21 | 93.12 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.449) | 101 | 1540465 | 200.000 | 204.15 | 80.00- 120.00 | 100.00(A) |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 33 Freon 11 (continued) | | | | | | | |
| 2.444 | 2.444 (0.449) | 103 | 1006228 | | | 34.93- 94.93 | 65.32 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.472 (0.452) | 67 | 1214198 | 200.000 | 201.80 | 80.00- 120.00 | 100.00(A) |
| 2.458 | 2.472 (0.452) | 69 | 384330 | | | 1.95- 61.95 | 31.65 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.500 | 2.514 (0.460) | 43 | 1301593 | 200.000 | 204.58 | 80.00- 120.00 | 100.00(A) |
| 2.500 | 2.514 (0.460) | 57 | 185621 | | | 0.00- 44.64 | 14.26 |
| 2.500 | 2.514 (0.460) | 72 | 106619 | | | 0.00- 37.90 | 8.19 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.780 | 2.752 (0.511) | 46 | 121197 | 246.400 | 202.45 | 80.00- 120.00 | 100.00(A) |
| 2.780 | 2.752 (0.511) | 45 | 317519 | | | 224.40- 284.40 | 261.99 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.068 | 3.061 (0.564) | 55 | 247283 | 233.000 | 191.92 | 80.00- 120.00 | 100.00 |
| 3.068 | 3.061 (0.564) | 56 | 352334 | | | 108.02- 168.02 | 142.48 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.053 | 3.061 (0.561) | 151 | 1232782 | 200.000 | 184.86 | 80.00- 120.00 | 100.00 |
| 3.053 | 3.061 (0.561) | 153 | 785359 | | | 35.07- 95.07 | 63.71 |
| 3.053 | 3.061 (0.561) | 101 | 1424886 | | | 87.45- 147.45 | 115.58 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.097 (0.568) | 96 | 651515 | 200.000 | 229.61 | 80.00- 120.00 | 100.00(A) |
| 3.089 | 3.097 (0.568) | 98 | 403777 | | | 33.27- 93.27 | 61.98 |
| 3.089 | 3.097 (0.568) | 61 | 1213559 | | | 159.05- 219.05 | 186.27 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.261 | 3.247 (0.600) | 58 | 311901 | 200.000 | 193.17 | 80.00- 120.00 | 100.00 |
| 3.254 | 3.247 (0.598) | 43 | 1132404 | | | 329.45- 389.45 | 363.07 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.333 (0.611) | 76 | 1502714 | 200.000 | 194.22 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.447 | 3.426 (0.634) | 45 | 1362696 | 200.000 | 203.00 | 80.00- 120.00 | 100.00(A) |
| 3.447 | 3.426 (0.634) | 43 | 245979 | | | 0.00- 48.18 | 18.05 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.583 | 3.584 (0.659) | 76 | 261523 | 200.000 | 200.64 | 80.00- 120.00 | 100.00(A) |
| 3.583 | 3.584 (0.659) | 41 | 985150 | | | 366.80- 426.80 | 376.70 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.691 | 3.684 (0.679) | 41 | 703344 | 235.200 | 237.39 | 80.00- 120.00 | 100.00(A) |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 57 Acetonitrile (continued) | | | | | | | |
| 3.691 | 3.684 (0.679) | 40 | 361433 | | | 22.74- 82.74 | 51.39 |
| 3.691 | 3.684 (0.679) | 38 | 84172 | | | 0.00- 42.52 | 11.97 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.784 (0.694) | 49 | 869976 | 200.000 | 196.16 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.784 (0.694) | 84 | 481094 | | | 24.90- 84.90 | 55.30 |
| 3.777 | 3.784 (0.694) | 51 | 262111 | | | 0.00- 59.67 | 30.13 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.927 | 3.913 (0.722) | 59 | 1604202 | 230.400 | 234.25 | 80.00- 120.00 | 100.00(A) |
| 3.920 | 3.913 (0.721) | 41 | 353540 | | | 0.00- 51.85 | 22.04 |
| 3.927 | 3.913 (0.722) | 57 | 165542 | | | 0.00- 40.17 | 10.32 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.737) | 73 | 1550587 | 200.000 | 191.52 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.737) | 57 | 452421 | | | 0.00- 58.72 | 29.18 |
| 4.006 | 4.006 (0.737) | 41 | 454741 | | | 0.00- 59.38 | 29.33 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.741) | 98 | 380192 | 200.000 | 199.52 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.741) | 61 | 1003569 | | | 232.13- 292.13 | 263.96 |
| 4.028 | 4.028 (0.741) | 96 | 595937 | | | 127.26- 187.26 | 156.75 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.149 | 4.142 (0.763) | 52 | 481156 | 200.000 | 195.25 | 80.00- 120.00 | 100.00 |
| 4.149 | 4.142 (0.763) | 53 | 597806 | | | 86.45- 146.45 | 124.24 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.250 | 4.257 (0.781) | 57 | 1088847 | 200.000 | 183.39 | 80.00- 120.00 | 100.00 |
| 4.250 | 4.257 (0.781) | 43 | 771046 | | | 40.97- 100.97 | 70.81 |
| 4.257 | 4.257 (0.783) | 86 | 136306 | | | 0.00- 42.68 | 12.52 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.838) | 63 | 1128866 | 200.000 | 205.00 | 80.00- 120.00 | 100.00(A) |
| 4.558 | 4.558 (0.838) | 65 | 348102 | | | 0.47- 60.47 | 30.84 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.551 | 4.558 (0.837) | 45 | 2530646 | 200.000 | 191.65 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.558 (0.837) | 87 | 498237 | | | 0.00- 49.55 | 19.69 |
| 4.551 | 4.558 (0.837) | 59 | 258472 | | | 0.00- 40.42 | 10.21 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.608 | 4.608 (0.847) | 86 | 99221 | 200.000 | 204.63 | 80.00- 120.00 | 100.00(A) |
| 4.608 | 4.608 (0.847) | 43 | 1618671 | | | 1727.95-1787.95 | 1631.38 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 79 Ethyl-tert-butyl ether | | | | | | CAS #: 637-92-3 | |
| 4.937 | 4.945 (0.908) | 59 | 2214700 | 200.000 | 194.50 | 80.00- 120.00 | 100.00 |
| 4.937 | 4.945 (0.908) | 87 | 749366 | | | 3.90- 63.90 | 33.84 |
| 4.937 | 4.945 (0.908) | 41 | 433972 | | | 0.00- 49.72 | 19.60 |
| 84 2,2-Dichloropropane | | | | | | CAS #: 594-20-7 | |
| 5.138 | 5.145 (0.945) | 77 | 1056020 | 200.000 | 194.27 | 80.00- 120.00 | 100.00 |
| 5.145 | 5.145 (0.946) | 79 | 339244 | | | 2.39- 62.39 | 32.12 |
| 5.145 | 5.145 (0.946) | 97 | 247687 | | | 0.00- 53.57 | 23.45 |
| 85 cis-1,2-Dichloroethene | | | | | | CAS #: 156-59-2 | |
| 5.188 | 5.188 (0.954) | 98 | 402619 | 200.000 | 204.04 | 80.00- 120.00 | 100.00(A) |
| 5.188 | 5.188 (0.954) | 96 | 619017 | | | 125.53- 185.53 | 153.75 |
| 5.188 | 5.188 (0.954) | 61 | 995983 | | | 219.86- 279.86 | 247.38 |
| 86 2-Butanone | | | | | | CAS #: 78-93-3 | |
| 5.224 | 5.217 (0.960) | 72 | 292653 | 200.000 | 205.85 | 80.00- 120.00 | 100.00(A) |
| 5.238 | 5.217 (0.963) | 43 | 3428922 | | | 1138.34-1198.34 | 1171.67 |
| 5.217 | 5.217 (0.959) | 57 | 119189 | | | 10.83- 70.83 | 40.73 |
| 87 Ethyl Acetate | | | | | | CAS #: 141-78-6 | |
| 5.245 | 5.245 (0.964) | 45 | 273075 | 200.000 | 192.06 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 61 | 995983 | | | 338.96- 398.96 | 364.73 |
| 5.245 | 5.245 (0.964) | 70 | 147385 | | | 24.53- 84.53 | 53.97 |
| 89 Tetrahydrofuran | | | | | | CAS #: 109-99-9 | |
| 5.432 | 5.425 (0.999) | 42 | 804158 | 200.000 | 185.00 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.425 (0.999) | 71 | 227549 | | | 0.00- 58.54 | 28.30 |
| 5.432 | 5.425 (0.999) | 72 | 240332 | | | 0.00- 59.59 | 29.89 |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.439 | 5.439 (1.000) | 130 | 110600 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 86924 | | | 47.79- 107.79 | 78.59 |
| 5.439 | 5.439 (1.000) | 49 | 176948 | | | 131.33- 191.33 | 159.99 |
| 92 Chloroform | | | | | | CAS #: 67-66-3 | |
| 5.510 | 5.518 (1.013) | 83 | 1217588 | 200.000 | 205.92 | 80.00- 120.00 | 100.00(A) |
| 5.510 | 5.518 (1.013) | 85 | 795214 | | | 35.77- 95.77 | 65.31 |
| 94 Cyclohexane | | | | | | CAS #: 110-82-7 | |
| 5.611 | 5.611 (1.032) | 84 | 759463 | 200.000 | 191.99 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.032) | 56 | 1169477 | | | 125.79- 185.79 | 153.99 |
| 5.611 | 5.611 (1.032) | 41 | 679265 | | | 61.55- 121.55 | 89.44 |
| 96 1,1,1-Trichloroethane | | | | | | CAS #: 71-55-6 | |
| 5.632 | 5.639 (1.036) | 97 | 1257346 | 200.000 | 194.97 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 96 1,1,1-Trichloroethane (continued) | | | | | | | |
| 5.632 | 5.639 (1.036) | 99 | 803746 | | | 32.84- 92.84 | 63.92 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.059) | 119 | 1368824 | 200.000 | 200.21 | 80.00- 120.00 | 100.00(A) |
| 5.761 | 5.761 (1.059) | 117 | 1428526 | | | 75.19- 135.19 | 104.36 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.804 | 5.804 (0.903) | 110 | 349336 | 200.000 | 205.88 | 80.00- 120.00 | 100.00(A) |
| 5.797 | 5.804 (0.902) | 75 | 909794 | | | 234.16- 294.16 | 260.44 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.998 (0.933) | 78 | 1691616 | 200.000 | 199.45 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.998 (0.933) | 77 | 401396 | | | 0.00- 53.69 | 23.73 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.983 | 5.998 (1.100) | 57 | 3684783 | 200.000 | 198.63 | 80.00- 120.00 | 100.00 |
| 5.983 | 5.998 (1.100) | 56 | 1186264 | | | 3.09- 63.09 | 32.19 |
| 5.983 | 5.998 (1.100) | 41 | 1019972 | | | 0.00- 57.28 | 27.68 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.108) | 65 | 155226 | 25.0000 | 26.946 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.108) | 67 | 79858 | | | 23.17- 83.17 | 51.45 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.091 | 6.091 (0.948) | 87 | 452633 | 200.000 | 198.59 | 80.00- 120.00 | 100.00 |
| 6.091 | 6.091 (0.948) | 73 | 1790511 | | | 365.76- 425.76 | 395.58 |
| 6.091 | 6.091 (0.948) | 55 | 545645 | | | 92.58- 152.58 | 120.55 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 904476 | 200.000 | 204.44 | 80.00- 120.00 | 100.00(A) |
| 6.105 | 6.105 (0.950) | 64 | 285349 | | | 1.80- 61.80 | 31.55 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 622835 | 200.000 | 185.39 | 80.00- 120.00 | 100.00 |
| 6.184 | 6.184 (0.962) | 43 | 1497699 | | | 207.73- 267.73 | 240.46 |
| 6.184 | 6.184 (0.962) | 57 | 719582 | | | 84.83- 144.83 | 115.53 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 421244 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 64317 | | | 0.00- 45.65 | 15.27 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.635 | 6.628 (1.032) | 56 | 384703 | 200.000 | 199.50 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.628 (1.032) | 41 | 289063 | | | 47.73- 107.73 | 75.14 |
| 6.635 | 6.628 (1.032) | 43 | 231842 | | | 31.60- 91.60 | 60.27 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.635 (1.031) | 95 | 827420 | 200.000 | 202.34 | 80.00- 120.00 | 100.00(A) |
| 6.635 | 6.635 (1.032) | 130 | 906648 | | | 80.23- 140.23 | 109.58 |
| 6.628 | 6.635 (1.031) | 97 | 531936 | | | 34.78- 94.78 | 64.29 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.735 | 6.735 (1.048) | 83 | 1087624 | 200.000 | 187.24 | 80.00- 120.00 | 100.00 |
| 6.735 | 6.735 (1.048) | 98 | 489096 | | | 14.83- 74.83 | 44.97 |
| 6.735 | 6.735 (1.048) | 55 | 1111233 | | | 71.50- 131.50 | 102.17 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 758683 | 200.000 | 190.10 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 544138 | | | 40.39- 100.39 | 71.72 |
| 6.886 | 6.893 (1.071) | 41 | 466611 | | | 31.86- 91.86 | 61.50 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.979 | 6.979 (0.762) | 69 | 661206 | 200.000 | 188.99 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 1145845 | | | 145.81- 205.81 | 173.30 |
| 6.979 | 6.979 (0.762) | 100 | 265624 | | | 10.05- 70.05 | 40.17 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.088) | 88 | 432494 | 200.000 | 202.71 | 80.00- 120.00 | 100.00(A) |
| 6.993 | 6.993 (1.088) | 58 | 369163 | | | 56.33- 116.33 | 85.36 |
| 6.993 | 6.993 (1.088) | 57 | 132525 | | | 2.08- 62.08 | 30.64 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.008 (0.765) | 174 | 823798 | 200.000 | 203.27 | 80.00- 120.00 | 100.00(A) |
| 7.007 | 7.008 (0.765) | 93 | 755755 | | | 62.68- 122.68 | 91.74 |
| 7.007 | 7.008 (0.765) | 95 | 627471 | | | 47.70- 107.70 | 76.17 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 1342387 | 200.000 | 202.79 | 80.00- 120.00 | 100.00(A) |
| 7.151 | 7.151 (1.113) | 85 | 862599 | | | 34.96- 94.96 | 64.26 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.459 | 7.459 (1.160) | 63 | 1417371 | 200.000 | 201.29 | 80.00- 120.00 | 100.00(A) |
| 7.459 | 7.459 (1.160) | 65 | 433726 | | | 0.43- 60.43 | 30.60 |
| 7.459 | 7.459 (1.160) | 144 | 152560 | | | 0.00- 40.48 | 10.76 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.574 (1.178) | 75 | 1155256 | 200.000 | 204.63 | 80.00- 120.00 | 100.00(A) |
| 7.573 | 7.574 (1.178) | 77 | 367433 | | | 1.26- 61.26 | 31.81 |
| 7.573 | 7.574 (1.178) | 39 | 735758 | | | 35.06- 95.06 | 63.69 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.709 | 7.710 (1.199) | 58 | 693561 | 200.000 | 178.60 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 131 4-Methyl-2-pentanone (continued) | | | | | | | |
| 7.709 | 7.710 (1.199) | 43 | 2018305 | | | 259.88- 319.88 | 291.01 |
| 7.709 | 7.710 (1.199) | 85 | 259221 | | | 7.58- 67.58 | 37.38 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 408561 | 25.0000 | 24.949 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 44902 | | | 0.00- 41.42 | 10.99 |
| 7.767 | 7.767 (1.208) | 100 | 277631 | | | 37.54- 97.54 | 67.95 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 2252473 | 200.000 | 191.85 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 1316629 | | | 27.89- 87.89 | 58.45 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 767219 | 200.000 | 179.36 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 712466 | | | 63.53- 123.53 | 92.86 |
| 7.860 | 7.860 (1.223) | 43 | 2093560 | | | 246.00- 306.00 | 272.88 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 950900 | 200.000 | 200.35 | 80.00- 120.00 | 100.00(A) |
| 8.118 | 8.118 (0.887) | 77 | 304969 | | | 1.83- 61.83 | 32.07 |
| 8.118 | 8.118 (0.887) | 39 | 579697 | | | 31.97- 91.97 | 60.96 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.290 | 8.290 (0.905) | 97 | 762947 | 200.000 | 189.84 | 80.00- 120.00 | 100.00 |
| 8.290 | 8.290 (0.905) | 99 | 473869 | | | 32.52- 92.52 | 62.11 |
| 8.290 | 8.290 (0.905) | 83 | 668871 | | | 58.90- 118.90 | 87.67 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 1193313 | 200.000 | 197.75 | 80.00- 120.00 | 100.00 |
| 8.318 | 8.318 (0.908) | 129 | 907251 | | | 45.32- 105.32 | 76.03 |
| 8.318 | 8.318 (0.908) | 131 | 885260 | | | 44.17- 104.17 | 74.19 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 1059573 | 200.000 | 192.50 | 80.00- 120.00 | 100.00 |
| 8.447 | 8.447 (1.314) | 41 | 940665 | | | 59.72- 119.72 | 88.78 |
| 8.447 | 8.447 (1.314) | 78 | 342806 | | | 3.08- 63.08 | 32.35 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.490 | 8.490 (0.927) | 58 | 973677 | 200.000 | 193.12 | 80.00- 120.00 | 100.00 |
| 8.490 | 8.490 (0.927) | 43 | 2036651 | | | 177.32- 237.32 | 209.17 |
| 8.497 | 8.490 (0.928) | 100 | 171419 | | | 0.00- 47.18 | 17.61 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 1630261 | 200.000 | 205.25 | 80.00- 120.00 | 100.00(A) |
| 8.626 | 8.626 (0.942) | 127 | 1267909 | | | 47.27- 107.27 | 77.77 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.748 | 8.741 (0.955) | 107 | 1279201 | 200.000 | 194.21 | 80.00- 120.00 | 100.00 |
| 8.748 | 8.741 (0.955) | 109 | 1207964 | | | 64.18- 124.18 | 94.43 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 429525 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 226464 | | | 22.92- 82.92 | 52.72 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.185 | 9.185 (1.003) | 112 | 1873551 | 200.000 | 188.26 | 80.00- 120.00 | 100.00 |
| 9.185 | 9.185 (1.003) | 114 | 605172 | | | 1.91- 61.91 | 32.30 |
| 9.178 | 9.185 (1.002) | 77 | 992370 | | | 22.97- 82.97 | 52.97 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.257 | 9.250 (1.011) | 106 | 943770 | 200.000 | 188.54 | 80.00- 120.00 | 100.00 |
| 9.249 | 9.250 (1.010) | 91 | 2925092 | | | 281.09- 341.09 | 309.94 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.013) | 131 | 1129091 | 200.000 | 199.15 | 80.00- 120.00 | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 759840 | | | 37.10- 97.10 | 67.30 |
| 9.271 | 9.271 (1.013) | 95 | 393103 | | | 4.93- 64.93 | 34.82 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.017) | 43 | 2183354 | 200.000 | 187.80 | 80.00- 120.00 | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 1775351 | | | 50.62- 110.62 | 81.31 |
| 9.314 | 9.314 (1.017) | 85 | 555366 | | | 0.00- 55.65 | 25.44 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.371 | 9.364 (1.023) | 106 | 1218383 | 200.000 | 195.28 | 80.00- 120.00 | 100.00 |
| 9.371 | 9.364 (1.023) | 91 | 2425009 | | | 170.33- 230.33 | 199.04 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 1110220 | 200.000 | 187.65 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 2318220 | | | 181.23- 241.23 | 208.81 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 1908989 | 200.000 | 188.93 | 80.00- 120.00 | 100.00 |
| 9.780 | 9.780 (1.068) | 78 | 918924 | | | 17.26- 77.26 | 48.14 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 1641262 | 200.000 | 204.47 | 80.00- 120.00 | 100.00(A) |
| 9.987 | 9.987 (1.091) | 171 | 852142 | | | 21.45- 81.45 | 51.92 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 3405406 | 200.000 | 190.40 | 80.00- 120.00 | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 923765 | | | 0.00- 56.93 | 27.13 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 168 Cumene (continued) | | | | | | | |
| 10.095 | 10.095 (1.102) | 51 | 412658 | | | 0.00- 42.24 | 12.12 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.267 | 10.260 (1.121) | 55 | 1225485 | 200.000 | 173.19 | 80.00- 120.00 | 100.00 |
| 10.267 | 10.260 (1.121) | 98 | 434200 | | | 5.15- 65.15 | 35.43 |
| 10.259 | 10.260 (1.120) | 42 | 870161 | | | 41.99- 101.99 | 71.01 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 326907 | 25.0000 | 25.610 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 385916 | | | 88.49- 148.49 | 118.05 |
| 10.295 | 10.295 (1.124) | 176 | 314790 | | | 66.73- 126.73 | 96.29 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.432 (1.139) | 156 | 1189847 | 200.000 | 190.95 | 80.00- 120.00 | 100.00 |
| 10.431 | 10.432 (1.139) | 158 | 1156108 | | | 67.47- 127.47 | 97.16 |
| 10.431 | 10.432 (1.139) | 77 | 1637640 | | | 108.68- 168.68 | 137.63 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.474 | 10.475 (1.144) | 83 | 1750995 | 200.000 | 188.76 | 80.00- 120.00 | 100.00 |
| 10.474 | 10.475 (1.144) | 85 | 1133485 | | | 34.97- 94.97 | 64.73 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 1015276 | 200.000 | 191.98 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 4182455 | | | 383.60- 443.60 | 411.95 |
| 10.496 | 10.496 (1.146) | 105 | 158103 | | | 0.00- 46.14 | 15.57 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.524 | 10.525 (1.149) | 110 | 523959 | 200.000 | 186.10 | 80.00- 120.00 | 100.00 |
| 10.524 | 10.525 (1.149) | 75 | 1889460 | | | 324.28- 384.28 | 360.61 |
| 10.524 | 10.518 (1.149) | 61 | 457068 | | | 57.24- 117.24 | 87.23 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.610 | 10.611 (1.159) | 57 | 2257489 | 200.000 | 164.93 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 71 | 721289 | | | 1.11- 61.11 | 31.95 |
| 10.610 | 10.611 (1.159) | 142 | 100740 | | | 0.00- 34.44 | 4.46 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.610 | 10.611 (1.159) | 120 | 1082851 | 200.000 | 187.85 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 105 | 3581183 | | | 298.94- 358.94 | 330.72 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.610 | 10.611 (1.159) | 126 | 916658 | 200.000 | 187.95 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 91 | 2885973 | | | 282.78- 342.78 | 314.84 |
| 10.610 | 10.603 (1.159) | 65 | 429813 | | | 17.33- 77.33 | 46.89 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 1516834 | 200.000 | 195.12 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 3071263 | | | 172.08- 232.08 | 202.48 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 1557047 | 200.000 | 189.08 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 873206 | | | 25.64- 85.64 | 56.08 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.983 | 10.983 (1.199) | 119 | 2818355 | 200.000 | 190.70 | 80.00- 120.00 | 100.00 |
| 10.983 | 10.983 (1.199) | 134 | 710984 | | | 0.00- 55.10 | 25.23 |
| 10.983 | 10.976 (1.199) | 91 | 1831070 | | | 34.53- 94.53 | 64.97 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.047 | 11.040 (1.207) | 105 | 2997479 | 200.000 | 188.59 | 80.00- 120.00 | 100.00 |
| 11.047 | 11.040 (1.207) | 120 | 1399751 | | | 16.63- 76.63 | 46.70 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 926105 | 200.000 | 191.43 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 4263896 | | | 436.99- 496.99 | 460.41 |
| 11.198 | 11.198 (1.223) | 91 | 664178 | | | 41.69- 101.69 | 71.72 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 3753209 | 200.000 | 189.71 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 1033850 | | | 0.00- 57.62 | 27.55 |
| 11.341 | 11.341 (1.239) | 91 | 866218 | | | 0.00- 53.03 | 23.08 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 2197354 | 200.000 | 186.57 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 1392077 | | | 34.18- 94.18 | 63.35 |
| 11.348 | 11.348 (1.239) | 111 | 886962 | | | 10.06- 70.06 | 40.37 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.449 | 11.449 (1.250) | 146 | 2277989 | 200.000 | 190.94 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.250) | 148 | 1451384 | | | 33.55- 93.55 | 63.71 |
| 11.449 | 11.449 (1.250) | 111 | 880508 | | | 7.98- 67.98 | 38.65 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 2949028 | 200.000 | 195.20 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 685991 | | | 0.00- 52.77 | 23.26 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.749 | 11.750 (1.283) | 134 | 1015482 | 200.000 | 186.24 | 80.00- 120.00 | 100.00 |
| 11.749 | 11.742 (1.283) | 91 | 3451801 | | | 310.82- 370.82 | 339.92 |
| 11.749 | 11.742 (1.283) | 92 | 1836149 | | | 151.53- 211.53 | 180.82 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 2690035 | 200.000 | 165.29 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.287) | 43 | 2434104 | | | 63.59- 123.59 | 90.49 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 2165447 | 200.000 | 189.45 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 1378276 | | | 33.00- 93.00 | 63.65 |
| 11.821 | 11.821 (1.291) | 111 | 893293 | | | 10.87- 70.87 | 41.25 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.378) | 157 | 1281198 | 200.000 | 189.51 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.378) | 75 | 986158 | | | 48.09- 108.09 | 76.97 |
| 12.616 | 12.616 (1.378) | 155 | 997199 | | | 47.89- 107.89 | 77.83 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.404) | 57 | 3034771 | 200.000 | 185.12 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.404) | 43 | 2628320 | | | 58.52- 118.52 | 86.61 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.463) | 180 | 2100057 | 200.000 | 185.40 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.463) | 182 | 2001703 | | | 64.84- 124.84 | 95.32 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.511 | 13.512 (1.476) | 225 | 1585826 | 200.000 | 191.92 | 80.00- 120.00 | 100.00 |
| 13.511 | 13.512 (1.476) | 223 | 1007250 | | | 32.80- 92.80 | 63.52 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.490) | 128 | 496040 | 23.2000 | 20.981 | 80.00- 120.00 | 100.00 |
| 13.648 | 13.648 (1.490) | 127 | 64018 | | | 0.00- 42.72 | 12.91 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.898 | 13.891 (1.518) | 180 | 2063122 | 200.000 | 185.87 | 80.00- 120.00 | 100.00 |
| 13.898 | 13.891 (1.518) | 182 | 1965614 | | | 65.07- 125.07 | 95.27 |
| 13.891 | 13.891 (1.517) | 145 | 715192 | | | 4.48- 64.48 | 34.67 |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042314.d
Lab Smp Id: ICAL Level #9
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 200ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #9
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 110600 | 4.16 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 421244 | 7.74 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 429525 | 9.57 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042314.d

Page 1

Date : 24-APR-2024 01:06

Client ID: ICAL Level #9

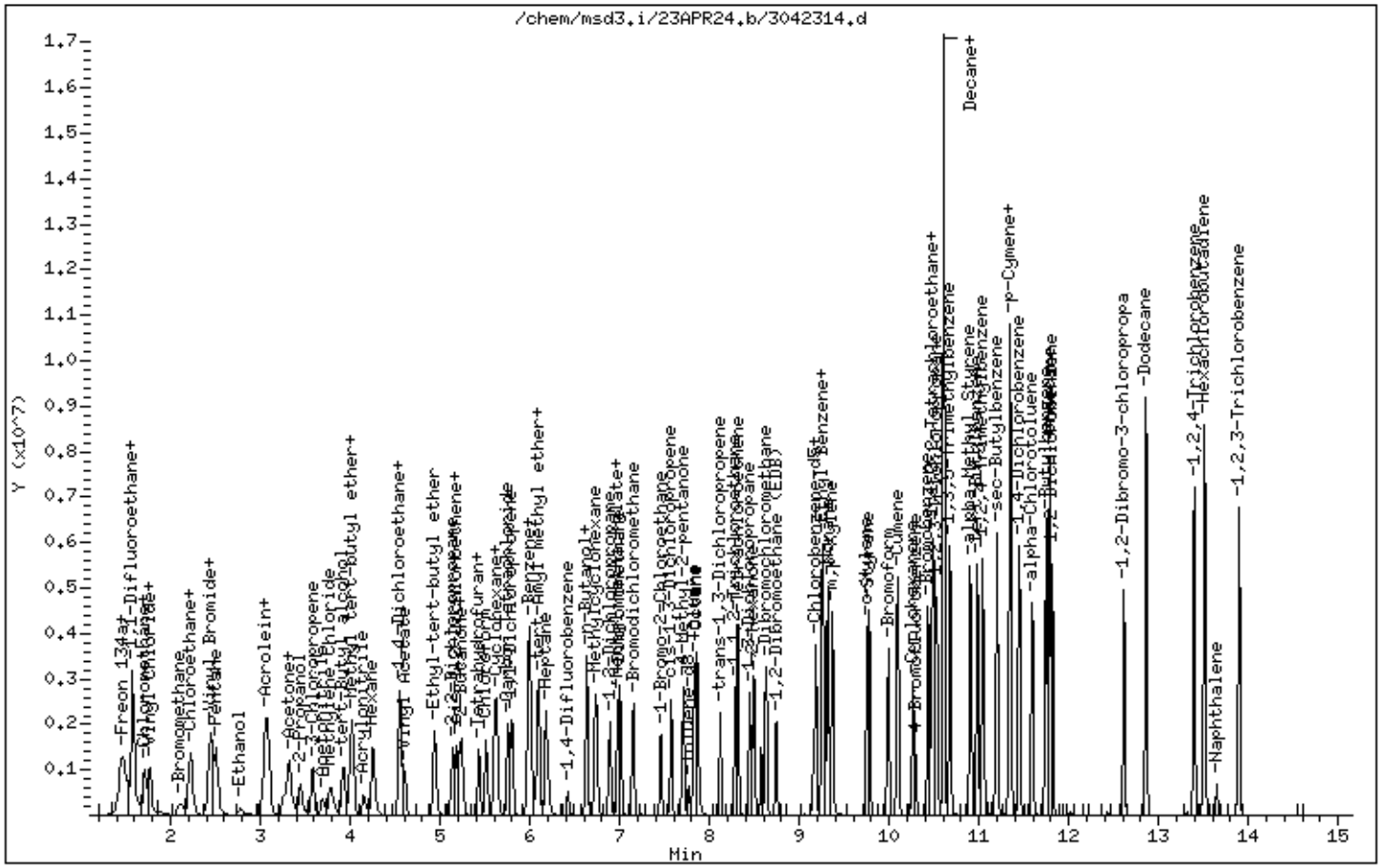
Instrument: msd3.i

Sample Info: 200ml 3018-4439

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/24APR24.b/3042404.d
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-APR-2024 12:00
Operator : jrf Inst ID: msd3.i
Smp Info : 50mL 3018-4441
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/24APR24.b/324q0423a.m
Meth Date : 25-Apr-2024 08:47 z8dr Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 14 QC Sample: ICV
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 99038 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 77862 | | | 47.79- 107.79 | 78.62 |
| 5.439 | 5.439 (1.000) | 49 | 163970 | | | 131.33- 191.33 | 165.56 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 376074 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 57604 | | | 0.00- 45.65 | 15.32 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.156 (1.000) | 117 | 364730 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.156 (1.000) | 82 | 194368 | | | 22.92- 82.92 | 53.29 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.108) | 65 | 131864 | 25.5625 | 25.562 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.108) | 67 | 71926 | | | 23.17- 83.17 | 54.55 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 360913 | 24.6865 | 24.686 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 39301 | | | 0.00- 41.42 | 10.89 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.767 | 7.767 (1.208) | 100 | 243706 | | | 37.54- 97.54 | 67.52 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 267193 | 24.6507 | 24.651 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 319453 | | | 88.49- 148.49 | 119.56 |
| 10.295 | 10.295 (1.124) | 176 | 259024 | | | 66.73- 126.73 | 96.94 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 110401 | 48.2269 | 48.227 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 106007 | | | 64.17- 124.17 | 96.02 |
| 1.493 | 1.493 (0.274) | 51 | 440873 | | | 365.46- 425.46 | 399.34 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 122092 | 47.0677 | 47.068 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 81432 | | | 35.86- 95.86 | 66.70 |
| 1.437 | 1.437 (0.264) | 39 | 88344 | | | 41.66- 101.66 | 72.36 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.269) | 65 | 74074 | 49.5373 | 49.537 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.274) | 51 | 440873 | | | 568.10- 628.10 | 595.18 |
| 1.576 | 1.577 (0.290) | 47 | 16099 | | | 0.00- 50.57 | 21.73 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.269) | 85 | 281817 | 48.0489 | 48.049 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.269) | 87 | 91392 | | | 2.88- 62.88 | 32.43 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.493 (0.274) | 67 | 33736 | 45.9655 | 45.965 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.274) | 51 | 440873 | | | 1257.55-1317.55 | 1306.83 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.577 (0.290) | 135 | 245083 | 47.5337 | 47.534 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.577 (0.290) | 137 | 79041 | | | 2.10- 62.10 | 32.25 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.590 | 1.591 (0.292) | 43 | 262061 | 47.7790 | 47.779 | 80.00- 120.00 | 100.00 |
| 1.590 | 1.591 (0.292) | 42 | 83864 | | | 1.69- 61.69 | 32.00 |
| 1.576 | 1.577 (0.290) | 58 | 8383 | | | 0.00- 33.32 | 3.20 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.674 (0.308) | 50 | 141151 | 49.9143 | 49.914 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.674 (0.308) | 52 | 44313 | | | 1.38- 61.38 | 31.39 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.716 (0.316) | 58 | 26801 | 47.2701 | 47.270 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 18 Butane (continued) | | | | | | | |
| 1.716 | 1.716 (0.316) | 43 | 236008 | | | 866.38- 926.38 | 880.59 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.758 (0.323) | 62 | 131824 | 48.1788 | 48.179 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.758 (0.323) | 64 | 42933 | | | 3.10- 63.10 | 32.57 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.772 (0.326) | 54 | 115386 | 44.8910 | 44.891 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.772 (0.326) | 39 | 124709 | | | 78.74- 138.74 | 108.08 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 91182 | 46.6357 | 46.636 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 86143 | | | 64.19- 124.19 | 94.47 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.408) | 64 | 64257 | 48.9714 | 48.971 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.408) | 66 | 20597 | | | 2.32- 62.32 | 32.05 |
| 2.220 | 2.220 (0.408) | 49 | 22709 | | | 6.33- 66.33 | 35.34 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 183972 | 49.1329 | 49.133 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 116761 | | | 31.77- 91.77 | 63.47 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.416 | 2.416 (0.444) | 106 | 112885 | 49.6413 | 49.641 | 80.00- 120.00 | 100.00 |
| 2.416 | 2.416 (0.444) | 108 | 104506 | | | 64.21- 124.21 | 92.58 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.449) | 101 | 324578 | 48.0362 | 48.036 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.449) | 103 | 211890 | | | 34.93- 94.93 | 65.28 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.472 (0.452) | 67 | 255022 | 47.3324 | 47.332 | 80.00- 120.00 | 100.00 |
| 2.472 | 2.472 (0.455) | 69 | 81207 | | | 1.95- 61.95 | 31.84 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.462) | 43 | 274602 | 48.1991 | 48.199 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.462) | 57 | 40525 | | | 0.00- 44.64 | 14.76 |
| 2.514 | 2.514 (0.462) | 72 | 21941 | | | 0.00- 37.90 | 7.99 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.506) | 46 | 24035 | 47.7169 | 47.717 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.506) | 45 | 62090 | | | 224.40- 284.40 | 258.33 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.053 | 3.054 (0.561) | 55 | 57232 | 49.6042 | 49.604 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 42 Acrolein (continued) | | | | | | | |
| 3.061 | 3.061 (0.563) | 56 | 76372 | | | 108.02- 168.02 | 133.44 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 275792 | 46.1849 | 46.185 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.068 (0.563) | 153 | 180621 | | | 35.07- 95.07 | 65.49 |
| 3.061 | 3.061 (0.563) | 101 | 316874 | | | 87.45- 147.45 | 114.90 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.096 | 3.096 (0.569) | 96 | 112117 | 44.1263 | 44.126 | 80.00- 120.00 | 100.00 |
| 3.096 | 3.096 (0.569) | 98 | 71956 | | | 33.27- 93.27 | 64.18 |
| 3.096 | 3.096 (0.569) | 61 | 212710 | | | 159.05- 219.05 | 189.72 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.597) | 58 | 67916 | 46.9737 | 46.974 | 80.00- 120.00 | 100.00 |
| 3.247 | 3.247 (0.597) | 43 | 241612 | | | 329.45- 389.45 | 355.75 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.333 | 3.333 (0.613) | 76 | 323188 | 46.6483 | 46.648 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.630) | 45 | 297215 | 58.2790 | 58.279 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.630) | 43 | 53192 | | | 0.00- 48.18 | 17.90 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.584 | 3.584 (0.659) | 76 | 53744 | 46.0451 | 46.045 | 80.00- 120.00 | 100.00 |
| 3.584 | 3.584 (0.659) | 41 | 209522 | | | 366.80- 426.80 | 389.85 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.677) | 41 | 124124 | 46.7849 | 46.785 | 80.00- 120.00 | 100.00 |
| 3.684 | 3.684 (0.677) | 40 | 67744 | | | 22.74- 82.74 | 54.58 |
| 3.684 | 3.684 (0.677) | 38 | 14545 | | | 0.00- 42.52 | 11.72 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.784 (0.694) | 49 | 183738 | 46.2665 | 46.266 | 80.00- 120.00 | 100.00 |
| 3.784 | 3.784 (0.696) | 84 | 102136 | | | 24.90- 84.90 | 55.59 |
| 3.784 | 3.784 (0.696) | 51 | 56156 | | | 0.00- 59.67 | 30.56 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.913 | 3.913 (0.719) | 59 | 318673 | 51.9653 | 51.965 | 80.00- 120.00 | 100.00 |
| 3.913 | 3.913 (0.719) | 41 | 70083 | | | 0.00- 51.85 | 21.99 |
| 3.913 | 3.913 (0.719) | 57 | 34694 | | | 0.00- 40.17 | 10.89 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.737) | 73 | 356738 | 49.2066 | 49.207 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.737) | 57 | 101700 | | | 0.00- 58.72 | 28.51 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 4.006 | 4.006 (0.737) | 41 | 104021 | | | 0.00- 59.38 | 29.16 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.741) | 98 | 77965 | 45.6912 | 45.691 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.741) | 61 | 205899 | | | 232.13- 292.13 | 264.09 |
| 4.028 | 4.028 (0.741) | 96 | 122524 | | | 127.26- 187.26 | 157.15 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.142 | 4.142 (0.762) | 52 | 101466 | 45.9814 | 45.981 | 80.00- 120.00 | 100.00 |
| 4.142 | 4.142 (0.762) | 53 | 118398 | | | 86.45- 146.45 | 116.69 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.783) | 57 | 239531 | 45.0522 | 45.052 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.257 (0.783) | 43 | 169397 | | | 40.97- 100.97 | 70.72 |
| 4.264 | 4.264 (0.784) | 86 | 29850 | | | 0.00- 42.68 | 12.46 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.838) | 63 | 235775 | 47.8151 | 47.815 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 65 | 72628 | | | 0.47- 60.47 | 30.80 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.558 | 4.558 (0.838) | 45 | 598348 | 50.6050 | 50.605 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 87 | 117336 | | | 0.00- 49.55 | 19.61 |
| 4.551 | 4.551 (0.837) | 59 | 61208 | | | 0.00- 40.42 | 10.23 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.608 | 4.608 (0.847) | 86 | 32122 | 76.9705 | 76.970 | 80.00- 120.00 | 100.00(R) |
| 4.608 | 4.608 (0.847) | 43 | 520795 | | | 1727.95-1787.95 | 1621.30 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.944 | 4.945 (0.909) | 59 | 514746 | 50.4826 | 50.482 | 80.00- 120.00 | 100.00 |
| 4.944 | 4.945 (0.909) | 87 | 174807 | | | 3.90- 63.90 | 33.96 |
| 4.937 | 4.937 (0.908) | 41 | 100366 | | | 0.00- 49.72 | 19.50 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.145 | 5.145 (0.946) | 77 | 228270 | 46.8952 | 46.895 | 80.00- 120.00 | 100.00 |
| 5.145 | 5.145 (0.946) | 79 | 73480 | | | 2.39- 62.39 | 32.19 |
| 5.145 | 5.145 (0.946) | 97 | 54964 | | | 0.00- 53.57 | 24.08 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.188 | 5.188 (0.954) | 98 | 83429 | 47.2165 | 47.216 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 96 | 128416 | | | 125.53- 185.53 | 153.92 |
| 5.188 | 5.188 (0.954) | 61 | 207989 | | | 219.86- 279.86 | 249.30 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.959) | 72 | 61493 | 48.3043 | 48.304 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 86 2-Butanone (continued) | | | | | | | |
| 5.238 | 5.238 (0.963) | 43 | 723157 | | | 1138.34-1198.34 | 1176.00 |
| 5.217 | 5.217 (0.959) | 57 | 25516 | | | 10.83- 70.83 | 41.49 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.245 | 5.245 (0.964) | 45 | 59985 | 47.1145 | 47.114 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 61 | 207989 | | | 338.96- 398.96 | 346.74 |
| 5.245 | 5.245 (0.964) | 70 | 32788 | | | 24.53- 84.53 | 54.66 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.432 | 5.432 (0.999) | 42 | 180157 | 46.2854 | 46.285 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (0.999) | 71 | 49389 | | | 0.00- 58.54 | 27.41 |
| 5.432 | 5.432 (0.999) | 72 | 51590 | | | 0.00- 59.59 | 28.64 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.510 | 5.518 (1.013) | 83 | 249441 | 47.1097 | 47.110 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.518 (1.013) | 85 | 160385 | | | 35.77- 95.77 | 64.30 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.032) | 84 | 172177 | 48.6070 | 48.607 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.032) | 56 | 265557 | | | 125.79- 185.79 | 154.23 |
| 5.611 | 5.611 (1.032) | 41 | 155796 | | | 61.55- 121.55 | 90.49 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.639 | 5.639 (1.037) | 97 | 281508 | 48.7470 | 48.747 | 80.00- 120.00 | 100.00 |
| 5.639 | 5.639 (1.037) | 99 | 178065 | | | 32.84- 92.84 | 63.25 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.059) | 119 | 300713 | 49.1181 | 49.118 | 80.00- 120.00 | 100.00 |
| 5.761 | 5.761 (1.059) | 117 | 314926 | | | 75.19- 135.19 | 104.73 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.804 | 5.804 (0.903) | 110 | 70771 | 46.7175 | 46.718 | 80.00- 120.00 | 100.00 |
| 5.804 | 5.804 (0.903) | 75 | 185140 | | | 234.16- 294.16 | 261.60 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.997 | 5.998 (1.103) | 57 | 830193 | 49.9765 | 49.976 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.990 (1.103) | 56 | 277365 | | | 3.09- 63.09 | 33.41 |
| 5.997 | 5.990 (1.103) | 41 | 225916 | | | 0.00- 57.28 | 27.21 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.998 (0.933) | 78 | 362504 | 47.8756 | 47.876 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.998 (0.933) | 77 | 86494 | | | 0.00- 53.69 | 23.86 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.091 | 6.091 (0.948) | 87 | 101155 | 49.7121 | 49.712 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.091 | 6.091 (0.948) | 73 | 399924 | | | 365.76- 425.76 | 395.36 |
| 6.091 | 6.091 (0.948) | 55 | 123977 | | | 92.58- 152.58 | 122.56 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 189844 | 48.0649 | 48.065 | 80.00- 120.00 | 100.00 |
| 6.105 | 6.105 (0.950) | 64 | 60444 | | | 1.80- 61.80 | 31.84 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 139283 | 46.4370 | 46.437 | 80.00- 120.00 | 100.00 |
| 6.184 | 6.184 (0.962) | 43 | 334940 | | | 207.73- 267.73 | 240.47 |
| 6.184 | 6.184 (0.962) | 57 | 160716 | | | 84.83- 144.83 | 115.39 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.031) | 56 | 143484 | 83.3461 | 83.346 | 80.00- 120.00 | 100.00(R) |
| 6.628 | 6.628 (1.031) | 41 | 107673 | | | 47.73- 107.73 | 75.04 |
| 6.628 | 6.628 (1.031) | 43 | 85592 | | | 31.60- 91.60 | 59.65 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 171664 | 47.0210 | 47.021 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.635 (1.032) | 130 | 190232 | | | 80.23- 140.23 | 110.82 |
| 6.635 | 6.635 (1.032) | 97 | 110913 | | | 34.78- 94.78 | 64.61 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.735 | 6.735 (1.048) | 83 | 236805 | 45.6633 | 45.663 | 80.00- 120.00 | 100.00 |
| 6.735 | 6.735 (1.048) | 98 | 106532 | | | 14.83- 74.83 | 44.99 |
| 6.735 | 6.735 (1.048) | 55 | 243405 | | | 71.50- 131.50 | 102.79 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 160756 | 45.1186 | 45.118 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 114903 | | | 40.39- 100.39 | 71.48 |
| 6.886 | 6.893 (1.071) | 41 | 100166 | | | 31.86- 91.86 | 62.31 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.979 | 6.979 (0.762) | 69 | 143437 | 48.2814 | 48.281 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 249521 | | | 145.81- 205.81 | 173.96 |
| 6.979 | 6.979 (0.762) | 100 | 57087 | | | 10.05- 70.05 | 39.80 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.088) | 88 | 93851 | 49.2725 | 49.272 | 80.00- 120.00 | 100.00 |
| 6.993 | 6.993 (1.088) | 58 | 80946 | | | 56.33- 116.33 | 86.25 |
| 6.993 | 6.993 (1.088) | 57 | 29551 | | | 2.08- 62.08 | 31.49 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.008 (0.765) | 174 | 170136 | 49.4380 | 49.438 | 80.00- 120.00 | 100.00 |
| 7.007 | 7.008 (0.765) | 93 | 156928 | | | 62.68- 122.68 | 92.24 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 118 Dibromomethane (continued) | | | | | | | |
| 7.007 | 7.008 (0.765) | 95 | 131562 | | | 47.70- 107.70 | 77.33 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 274926 | 46.5211 | 46.521 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 178289 | | | 34.96- 94.96 | 64.85 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.573 (1.178) | 75 | 239250 | 47.4692 | 47.469 | 80.00- 120.00 | 100.00 |
| 7.573 | 7.573 (1.178) | 77 | 75830 | | | 1.26- 61.26 | 31.69 |
| 7.573 | 7.573 (1.178) | 39 | 156864 | | | 35.06- 95.06 | 65.56 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.709 | 7.710 (1.199) | 58 | 153130 | 44.1688 | 44.169 | 80.00- 120.00 | 100.00 |
| 7.709 | 7.710 (1.199) | 43 | 450916 | | | 259.88- 319.88 | 294.47 |
| 7.709 | 7.710 (1.199) | 85 | 57438 | | | 7.58- 67.58 | 37.51 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 484854 | 46.2568 | 46.257 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 280607 | | | 27.89- 87.89 | 57.87 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 170596 | 44.6733 | 44.673 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 163470 | | | 63.53- 123.53 | 95.82 |
| 7.860 | 7.860 (1.223) | 43 | 470317 | | | 246.00- 306.00 | 275.69 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 199117 | 49.4059 | 49.406 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 65012 | | | 1.83- 61.83 | 32.65 |
| 8.118 | 8.118 (0.887) | 39 | 123125 | | | 31.97- 91.97 | 61.84 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.290 | 8.290 (0.905) | 97 | 163757 | 47.9859 | 47.986 | 80.00- 120.00 | 100.00 |
| 8.282 | 8.290 (0.905) | 99 | 101184 | | | 32.52- 92.52 | 61.79 |
| 8.282 | 8.283 (0.905) | 83 | 143488 | | | 58.90- 118.90 | 87.62 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 255477 | 49.8577 | 49.858 | 80.00- 120.00 | 100.00 |
| 8.318 | 8.318 (0.908) | 129 | 193091 | | | 45.32- 105.32 | 75.58 |
| 8.318 | 8.318 (0.908) | 131 | 190424 | | | 44.17- 104.17 | 74.54 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.490 | 8.490 (0.927) | 58 | 212865 | 49.7198 | 49.720 | 80.00- 120.00 | 100.00 |
| 8.490 | 8.490 (0.927) | 43 | 451322 | | | 177.32- 237.32 | 212.02 |
| 8.490 | 8.490 (0.927) | 100 | 37624 | | | 0.00- 47.18 | 17.68 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 227016 | 46.1976 | 46.198 | 80.00- 120.00 | 100.00 |
| 8.447 | 8.447 (1.314) | 41 | 194960 | | | 59.72- 119.72 | 85.88 |
| 8.447 | 8.447 (1.314) | 78 | 74355 | | | 3.08- 63.08 | 32.75 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 336212 | 49.8501 | 49.850 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.942) | 127 | 262138 | | | 47.27- 107.27 | 77.97 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 270406 | 48.3467 | 48.347 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 256036 | | | 64.18- 124.18 | 94.69 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.459 (1.159) | 63 | 301119 | 47.9001 | 47.900 | 80.00- 120.00 | 100.00 |
| 7.459 | 7.459 (1.160) | 65 | 91793 | | | 0.43- 60.43 | 30.48 |
| 7.459 | 7.459 (1.160) | 144 | 32373 | | | 0.00- 40.48 | 10.75 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.002) | 112 | 414577 | 49.0594 | 49.059 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.002) | 114 | 133179 | | | 1.91- 61.91 | 32.12 |
| 9.178 | 9.178 (1.002) | 77 | 219597 | | | 22.97- 82.97 | 52.97 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.249 | 9.250 (1.010) | 106 | 212260 | 49.9366 | 49.936 | 80.00- 120.00 | 100.00 |
| 9.249 | 9.250 (1.010) | 91 | 662858 | | | 281.09- 341.09 | 312.29 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.017) | 43 | 497088 | 50.3517 | 50.352 | 80.00- 120.00 | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 403822 | | | 50.62- 110.62 | 81.24 |
| 9.314 | 9.314 (1.017) | 85 | 125336 | | | 0.00- 55.65 | 25.21 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.013) | 131 | 246966 | 51.2996 | 51.300 | 80.00- 120.00 | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 165935 | | | 37.10- 97.10 | 67.19 |
| 9.271 | 9.271 (1.013) | 95 | 85198 | | | 4.93- 64.93 | 34.50 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 260935 | 49.2516 | 49.252 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 525774 | | | 170.33- 230.33 | 201.50 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 250263 | 49.8139 | 49.814 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 525204 | | | 181.23- 241.23 | 209.86 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 421405 | 49.1155 | 49.115 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.780 | 9.780 (1.068) | 78 | 199566 | | | 17.26- 77.26 | 47.36 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 343655 | 50.4179 | 50.418 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 176745 | | | 21.45- 81.45 | 51.43 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 766297 | 50.4569 | 50.457 | 80.00- 120.00 | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 207829 | | | 0.00- 56.93 | 27.12 |
| 10.095 | 10.095 (1.102) | 51 | 92957 | | | 0.00- 42.24 | 12.13 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.259 | 10.260 (1.120) | 55 | 282331 | 46.9884 | 46.988 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.260 (1.120) | 98 | 98671 | | | 5.15- 65.15 | 34.95 |
| 10.259 | 10.260 (1.120) | 42 | 202870 | | | 41.99- 101.99 | 71.86 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.143) | 83 | 392198 | 49.7893 | 49.789 | 80.00- 120.00 | 100.00 |
| 10.474 | 10.467 (1.144) | 85 | 252893 | | | 34.97- 94.97 | 64.48 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.431 (1.139) | 156 | 259801 | 49.1000 | 49.100 | 80.00- 120.00 | 100.00 |
| 10.431 | 10.431 (1.139) | 158 | 252666 | | | 67.47- 127.47 | 97.25 |
| 10.431 | 10.431 (1.139) | 77 | 354910 | | | 108.68- 168.68 | 136.61 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 226691 | 50.4792 | 50.479 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 928756 | | | 383.60- 443.60 | 409.70 |
| 10.496 | 10.496 (1.146) | 105 | 35639 | | | 0.00- 46.14 | 15.72 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.517 (1.149) | 110 | 116704 | 48.8162 | 48.816 | 80.00- 120.00 | 100.00 |
| 10.525 | 10.525 (1.149) | 75 | 422564 | | | 324.28- 384.28 | 362.08 |
| 10.517 | 10.517 (1.149) | 61 | 101572 | | | 57.24- 117.24 | 87.03 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.610 | 10.611 (1.159) | 57 | 540146 | 46.4736 | 46.474 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 71 | 169945 | | | 1.11- 61.11 | 31.46 |
| 10.610 | 10.611 (1.159) | 142 | 23418 | | | 0.00- 34.44 | 4.34 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.610 | 10.611 (1.159) | 120 | 244852 | 50.0235 | 50.024 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 105 | 804106 | | | 298.94- 358.94 | 328.40 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.610 | 10.611 (1.159) | 126 | 210759 | 50.8908 | 50.891 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.610 | 10.611 (1.159) | 91 | 651229 | | | 282.78- 342.78 | 308.99 |
| 10.610 | 10.611 (1.159) | 65 | 96416 | | | 17.33- 77.33 | 45.75 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 334529 | 50.6784 | 50.678 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 682353 | | | 172.08- 232.08 | 203.97 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 357365 | 51.1077 | 51.108 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 199934 | | | 25.64- 85.64 | 55.95 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.983 | 10.983 (1.199) | 119 | 633334 | 50.4659 | 50.466 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.983 (1.199) | 134 | 157381 | | | 0.00- 55.10 | 24.85 |
| 10.976 | 10.976 (1.199) | 91 | 410717 | | | 34.53- 94.53 | 64.85 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 675602 | 50.0585 | 50.058 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.206) | 120 | 313940 | | | 16.63- 76.63 | 46.47 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 205522 | 50.0303 | 50.030 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 960521 | | | 436.99- 496.99 | 467.36 |
| 11.198 | 11.198 (1.223) | 91 | 148515 | | | 41.69- 101.69 | 72.26 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 866367 | 51.5703 | 51.570 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 238078 | | | 0.00- 57.62 | 27.48 |
| 11.341 | 11.341 (1.239) | 91 | 198678 | | | 0.00- 53.03 | 22.93 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 490450 | 49.0400 | 49.040 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 311205 | | | 34.18- 94.18 | 63.45 |
| 11.348 | 11.348 (1.239) | 111 | 195621 | | | 10.06- 70.06 | 39.89 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.449 | 11.449 (1.250) | 146 | 496815 | 49.0422 | 49.042 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.250) | 148 | 316268 | | | 33.55- 93.55 | 63.66 |
| 11.441 | 11.449 (1.250) | 111 | 188839 | | | 7.98- 67.98 | 38.01 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 641862 | 50.0346 | 50.035 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 146221 | | | 0.00- 52.77 | 22.78 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 630692 | 45.6377 | 45.638 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane (continued) | | | | | | | |
| 11.785 | 11.785 (1.287) | 43 | 588181 | | | 63.59- 123.59 | 93.26 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.749 | 11.742 (1.283) | 134 | 233321 | 50.3935 | 50.393 | 80.00- 120.00 | 100.00 |
| 11.742 | 11.742 (1.282) | 91 | 804930 | | | 310.82- 370.82 | 344.99 |
| 11.742 | 11.742 (1.282) | 92 | 424596 | | | 151.53- 211.53 | 181.98 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 481317 | 49.5901 | 49.590 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 302426 | | | 33.00- 93.00 | 62.83 |
| 11.814 | 11.814 (1.290) | 111 | 196504 | | | 10.87- 70.87 | 40.83 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.378) | 157 | 299069 | 52.0962 | 52.096 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.378) | 75 | 234676 | | | 48.09- 108.09 | 78.47 |
| 12.616 | 12.616 (1.378) | 155 | 232608 | | | 47.89- 107.89 | 77.78 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.404) | 57 | 728690 | 52.3465 | 52.346 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.404) | 43 | 644840 | | | 58.52- 118.52 | 88.49 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.463) | 180 | 494421 | 51.4025 | 51.402 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.463) | 182 | 468953 | | | 64.84- 124.84 | 94.85 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.511 | 13.512 (1.476) | 225 | 356997 | 50.8814 | 50.881 | 80.00- 120.00 | 100.00 |
| 13.511 | 13.504 (1.476) | 223 | 224938 | | | 32.80- 92.80 | 63.01 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.490) | 128 | 127738 | 6.36288 | 6.363 | 80.00- 120.00 | 100.00 |
| 13.648 | 13.648 (1.490) | 127 | 16748 | | | 0.00- 42.72 | 13.11 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.517) | 180 | 488033 | 51.7790 | 51.779 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.517) | 182 | 466089 | | | 65.07- 125.07 | 95.50 |
| 13.891 | 13.891 (1.517) | 145 | 168134 | | | 4.48- 64.48 | 34.45 |

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042404.d
Lab Smp Id: ICV
Analysis Type: VOA
Quant Type: ISTD
Operator: jrf
Method File: /chem/msd3.i/24APR24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 24-APR-2024
Calibration Time: 11:28
Client Smp ID: ICV
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 99858 | 59915 | 139801 | 99038 | -0.82 |
| 108 1,4-Difluorobenze | 376895 | 226137 | 527653 | 376074 | -0.22 |
| 153 Chlorobenzene-d5 | 365862 | 219517 | 512207 | 364730 | -0.31 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 24APR24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: ICV Client Smp ID: ICV
Level: LOW Operator: jrf
Data Type: MS DATA SampleType: ICV
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: AT23.sub
Method File: /chem/msd3.i/24APR24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 4 Freon 134a | 50.000 | 48.227 | 96.45 | 70-130 |
| 5 Propylene | 50.000 | 47.068 | 94.14 | 70-130 |
| 7 1,1-Difluoroethan | 50.000 | 49.537 | 99.07 | 70-130 |
| 8 Freon 12 | 50.000 | 48.049 | 96.10 | 70-130 |
| 9 Chlorodifluoromet | 50.000 | 45.965 | 91.93 | 70-130 |
| 10 Freon 114 | 50.000 | 47.534 | 95.07 | 70-130 |
| 12 Isobutane | 50.000 | 47.779 | 95.56 | 70-130 |
| 15 Chloromethane | 50.000 | 49.914 | 99.83 | 70-130 |
| 18 Butane | 50.000 | 47.270 | 94.54 | 70-130 |
| 19 Vinyl Chloride | 50.000 | 48.179 | 96.36 | 70-130 |
| 20 1,3-Butadiene | 50.000 | 44.891 | 89.78 | 70-130 |
| 24 Bromomethane | 50.000 | 46.636 | 93.27 | 70-130 |
| 30 Chloroethane | 50.000 | 48.971 | 97.94 | 70-130 |
| 31 Isopentane | 50.000 | 49.133 | 98.27 | 70-130 |
| 32 Vinyl Bromide | 50.000 | 49.641 | 99.28 | 70-130 |
| 33 Freon 11 | 50.000 | 48.036 | 96.07 | 70-130 |
| 34 Dichlorofluoromet | 50.000 | 47.332 | 94.66 | 70-130 |
| 35 Pentane | 50.000 | 48.199 | 96.40 | 70-130 |
| 39 Ethanol | 50.000 | 47.717 | 95.43 | 70-130 |
| 42 Acrolein | 57.000 | 49.604 | 87.02 | 70-130 |
| 43 Freon 113 | 50.000 | 46.185 | 92.37 | 70-130 |
| 44 1,1-Dichloroethen | 50.000 | 44.126 | 88.25 | 70-130 |
| 47 Acetone | 50.000 | 46.974 | 93.95 | 70-130 |
| 48 Carbon Disulfide | 50.000 | 46.648 | 93.30 | 70-130 |
| 52 2-Propanol | 50.000 | 58.279 | 116.56 | 70-130 |
| 54 3-Chloropropene | 50.000 | 46.045 | 92.09 | 70-130 |
| 57 Acetonitrile | 50.000 | 46.785 | 93.57 | 70-130 |
| 59 Methylene Chlorid | 50.000 | 46.266 | 92.53 | 70-130 |
| 62 tert-Butyl alcoho | 50.000 | 51.965 | 103.93 | 70-130 |
| 63 Methyl tert-butyl | 50.000 | 49.207 | 98.41 | 70-130 |
| 64 trans-1,2-Dichlor | 50.000 | 45.691 | 91.38 | 70-130 |
| 66 Acrylonitrile | 50.000 | 45.981 | 91.96 | 70-130 |
| 67 Hexane | 50.000 | 45.052 | 90.10 | 70-130 |

| | SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| 71 | 1,1-Dichloroethan | 50.000 | 47.815 | 95.63 | 70-130 |
| 72 | Isopropyl ether | 50.000 | 50.605 | 101.21 | 70-130 |
| 73 | Vinyl Acetate | 50.000 | 76.970 | 153.94* | 70-130 |
| 79 | Ethyl-tert-butyl | 50.000 | 50.482 | 100.97 | 70-130 |
| 84 | 2,2-Dichloropropa | 50.000 | 46.895 | 93.79 | 70-130 |
| 85 | cis-1,2-Dichloroe | 50.000 | 47.216 | 94.43 | 70-130 |
| 86 | 2-Butanone | 50.000 | 48.304 | 96.61 | 70-130 |
| 87 | Ethyl Acetate | 50.000 | 47.114 | 94.23 | 70-130 |
| 89 | Tetrahydrofuran | 50.000 | 46.285 | 92.57 | 70-130 |
| 92 | Chloroform | 50.000 | 47.110 | 94.22 | 70-130 |
| 94 | Cyclohexane | 50.000 | 48.607 | 97.21 | 70-130 |
| 96 | 1,1,1-Trichloroet | 50.000 | 48.747 | 97.49 | 70-130 |
| 99 | 1,1-Dichloroprope | 50.000 | 46.718 | 93.44 | 70-130 |
| 97 | Carbon Tetrachlor | 50.000 | 49.118 | 98.24 | 70-130 |
| 101 | 2,2,4-Trimethylpe | 50.000 | 49.976 | 99.95 | 70-130 |
| 102 | Benzene | 50.000 | 47.876 | 95.75 | 70-130 |
| 105 | tert-Amyl methyl | 50.000 | 49.712 | 99.42 | 70-130 |
| 106 | 1,2-Dichloroethan | 50.000 | 48.065 | 96.13 | 70-130 |
| 107 | Heptane | 50.000 | 46.437 | 92.87 | 70-130 |
| 110 | n-Butanol | 50.000 | 83.346 | 166.69* | 70-130 |
| 111 | Trichloroethene | 50.000 | 47.021 | 94.04 | 70-130 |
| 118 | Dibromomethane | 50.000 | 49.438 | 98.88 | 70-130 |
| 127 | Methylcyclohexane | 50.000 | 45.663 | 91.33 | 70-130 |
| 114 | 1,2-Dichloropropa | 50.000 | 45.118 | 90.24 | 70-130 |
| 116 | Methyl Methacryla | 50.000 | 48.281 | 96.56 | 70-130 |
| 117 | 1,4-Dioxane | 50.000 | 49.272 | 98.54 | 70-130 |
| 122 | Bromodichlorometh | 50.000 | 46.521 | 93.04 | 70-130 |
| 126 | cis-1,3-Dichlorop | 50.000 | 47.469 | 94.94 | 70-130 |
| 131 | 4-Methyl-2-pentan | 50.000 | 44.169 | 88.34 | 70-130 |
| 136 | Octane | 50.000 | 44.673 | 89.35 | 70-130 |
| 137 | Toluene | 50.000 | 46.257 | 92.51 | 70-130 |
| 139 | trans-1,3-Dichlor | 50.000 | 49.406 | 98.81 | 70-130 |
| 141 | 1,1,2-Trichloroet | 50.000 | 47.986 | 95.97 | 70-130 |
| 142 | Tetrachloroethene | 50.000 | 49.858 | 99.72 | 70-130 |
| 143 | 2-Hexanone | 50.000 | 49.720 | 99.44 | 70-130 |
| 144 | 1,3-Dichloropropa | 50.000 | 46.198 | 92.40 | 70-130 |
| 146 | Dibromochlorometh | 50.000 | 49.850 | 99.70 | 70-130 |
| 148 | 1,2-Dibromoethane | 50.000 | 48.347 | 96.69 | 70-130 |
| 151 | 1-Bromo-2-Chloroe | 50.000 | 47.900 | 95.80 | 70-130 |
| 154 | Chlorobenzene | 50.000 | 49.059 | 98.12 | 70-130 |
| 155 | Ethyl Benzene | 50.000 | 49.936 | 99.87 | 70-130 |
| 156 | Nonane | 50.000 | 50.352 | 100.70 | 70-130 |
| 157 | 1,1,1,2-Tetrachlo | 50.000 | 51.300 | 102.60 | 70-130 |
| 158 | m,p-Xylene | 50.000 | 49.252 | 98.50 | 70-130 |
| 164 | o-Xylene | 50.000 | 49.814 | 99.63 | 70-130 |
| 165 | Styrene | 50.000 | 49.115 | 98.23 | 70-130 |
| 167 | Bromoform | 50.000 | 50.418 | 100.84 | 70-130 |

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 168 Cumene | 50.000 | 50.457 | 100.91 | 70-130 |
| 169 Cyclohexanone | 50.000 | 46.988 | 93.98 | 70-130 |
| 175 1,1,2,2-Tetrachlo | 50.000 | 49.789 | 99.58 | 70-130 |
| 177 Bromobenzene | 50.000 | 49.100 | 98.20 | 70-130 |
| 178 Propylbenzene | 50.000 | 50.479 | 100.96 | 70-130 |
| 179 1,2,3-Trichloropr | 50.000 | 48.816 | 97.63 | 70-130 |
| 182 Decane | 50.000 | 46.474 | 92.95 | 70-130 |
| 183 4-Ethyltoluene | 50.000 | 50.024 | 100.05 | 70-130 |
| 184 2-Chlorotoluene | 50.000 | 50.891 | 101.78 | 70-130 |
| 185 1,3,5-Trimethylbe | 50.000 | 50.678 | 101.36 | 70-130 |
| 188 alpha Methyl Styr | 50.000 | 51.108 | 102.22 | 70-130 |
| 189 tert-Butylbenzene | 50.000 | 50.466 | 100.93 | 70-130 |
| 190 1,2,4-Trimethylbe | 50.000 | 50.058 | 100.12 | 70-130 |
| 192 sec-Butylbenzene | 50.000 | 50.030 | 100.06 | 70-130 |
| 194 p-Cymene | 50.000 | 51.570 | 103.14 | 70-130 |
| 195 1,3-Dichlorobenze | 50.000 | 49.040 | 98.08 | 70-130 |
| 196 1,4-Dichlorobenze | 50.000 | 49.042 | 98.08 | 70-130 |
| 199 alpha-Chlorotolue | 50.000 | 50.035 | 100.07 | 70-130 |
| 201 Undecane | 50.000 | 45.638 | 91.28 | 70-130 |
| 202 Butylbenzene | 50.000 | 50.393 | 100.79 | 70-130 |
| 204 1,2-Dichlorobenze | 50.000 | 49.590 | 99.18 | 70-130 |
| 206 1,2-Dibromo-3-chl | 50.000 | 52.096 | 104.19 | 70-130 |
| 207 Dodecane | 50.000 | 52.346 | 104.69 | 70-130 |
| 213 1,2,4-Trichlorobe | 50.000 | 51.402 | 102.80 | 70-130 |
| 215 Hexachlorobutadie | 50.000 | 50.881 | 101.76 | 70-130 |
| 216 Naphthalene | 5.700 | 6.363 | 111.63 | 60-140 |
| 222 1,2,3-Trichlorobe | 50.000 | 51.779 | 103.56 | 70-130 |

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 25.562 | 102.25 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.686 | 98.75 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 24.651 | 98.60 | 70-130 |

Report Date: 26-Apr-2024 11:38

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RECOVERY REPORT

Client Name: Client SDG: 24APR24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: ICV Client Smp ID: ICV
Level: LOW Operator: jrf
Data Type: MS DATA SampleType: ICV
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: AT23_cont051124.sub
Method File: /chem/msd3.i/24APR24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 4 Freon 134a | 50.000 | 48.227 | 96.45 | 70-130 |
| 5 Propylene | 50.000 | 47.068 | 94.14 | 70-130 |
| 7 1,1-Difluoroethan | 50.000 | 49.537 | 99.07 | 70-130 |
| 8 Freon 12 | 50.000 | 48.049 | 96.10 | 70-130 |
| 9 Chlorodifluoromet | 50.000 | 45.965 | 91.93 | 70-130 |
| 10 Freon 114 | 50.000 | 47.534 | 95.07 | 70-130 |
| 12 Isobutane | 50.000 | 47.779 | 95.56 | 70-130 |
| 15 Chloromethane | 50.000 | 49.914 | 99.83 | 70-130 |
| 18 Butane | 50.000 | 47.270 | 94.54 | 70-130 |
| 19 Vinyl Chloride | 50.000 | 48.179 | 96.36 | 70-130 |
| 20 1,3-Butadiene | 50.000 | 44.891 | 89.78 | 70-130 |
| 24 Bromomethane | 50.000 | 46.636 | 93.27 | 70-130 |
| 30 Chloroethane | 50.000 | 48.971 | 97.94 | 70-130 |
| 31 Isopentane | 50.000 | 49.133 | 98.27 | 70-130 |
| 32 Vinyl Bromide | 50.000 | 49.641 | 99.28 | 70-130 |
| 33 Freon 11 | 50.000 | 48.036 | 96.07 | 70-130 |
| 34 Dichlorofluoromet | 50.000 | 47.332 | 94.66 | 70-130 |
| 35 Pentane | 50.000 | 48.199 | 96.40 | 70-130 |
| 39 Ethanol | 50.000 | 44.835 | 89.67 | 70-130 |
| 42 Acrolein | 57.000 | 49.604 | 87.02 | 70-130 |
| 43 Freon 113 | 50.000 | 46.185 | 92.37 | 70-130 |
| 44 1,1-Dichloroethen | 50.000 | 44.126 | 88.25 | 70-130 |
| 47 Acetone | 50.000 | 46.974 | 93.95 | 70-130 |
| 48 Carbon Disulfide | 50.000 | 46.648 | 93.30 | 70-130 |
| 52 2-Propanol | 50.000 | 49.444 | 98.89 | 70-130 |
| 54 3-Chloropropene | 50.000 | 46.045 | 92.09 | 70-130 |
| 57 Acetonitrile | 50.000 | 46.785 | 93.57 | 70-130 |
| 59 Methylene Chlorid | 50.000 | 46.266 | 92.53 | 70-130 |
| 62 tert-Butyl alcoho | 50.000 | 51.965 | 103.93 | 70-130 |
| 63 Methyl tert-butyl | 50.000 | 49.207 | 98.41 | 70-130 |
| 64 trans-1,2-Dichlor | 50.000 | 45.691 | 91.38 | 70-130 |
| 66 Acrylonitrile | 50.000 | 45.981 | 91.96 | 70-130 |
| 67 Hexane | 50.000 | 45.052 | 90.10 | 70-130 |

| | SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| 71 | 1,1-Dichloroethan | 50.000 | 47.815 | 95.63 | 70-130 |
| 72 | Isopropyl ether | 50.000 | 50.605 | 101.21 | 70-130 |
| 73 | Vinyl Acetate | 50.000 | 73.982 | 147.96* | 70-130 |
| 79 | Ethyl-tert-butyl | 50.000 | 50.482 | 100.97 | 70-130 |
| 84 | 2,2-Dichloropropa | 50.000 | 46.895 | 93.79 | 70-130 |
| 85 | cis-1,2-Dichloroe | 50.000 | 47.216 | 94.43 | 70-130 |
| 86 | 2-Butanone | 50.000 | 48.304 | 96.61 | 70-130 |
| 87 | Ethyl Acetate | 50.000 | 47.114 | 94.23 | 70-130 |
| 89 | Tetrahydrofuran | 50.000 | 46.285 | 92.57 | 70-130 |
| 92 | Chloroform | 50.000 | 47.110 | 94.22 | 70-130 |
| 94 | Cyclohexane | 50.000 | 48.607 | 97.21 | 70-130 |
| 96 | 1,1,1-Trichloroet | 50.000 | 48.747 | 97.49 | 70-130 |
| 99 | 1,1-Dichloroprope | 50.000 | 46.718 | 93.44 | 70-130 |
| 97 | Carbon Tetrachlor | 50.000 | 49.118 | 98.24 | 70-130 |
| 101 | 2,2,4-Trimethylpe | 50.000 | 49.976 | 99.95 | 70-130 |
| 102 | Benzene | 50.000 | 47.876 | 95.75 | 70-130 |
| 105 | tert-Amyl methyl | 50.000 | 49.712 | 99.42 | 70-130 |
| 106 | 1,2-Dichloroethan | 50.000 | 48.065 | 96.13 | 70-130 |
| 107 | Heptane | 50.000 | 46.437 | 92.87 | 70-130 |
| 110 | n-Butanol | 50.000 | 83.346 | 166.69* | 70-130 |
| 111 | Trichloroethene | 50.000 | 47.021 | 94.04 | 70-130 |
| 118 | Dibromomethane | 50.000 | 49.438 | 98.88 | 70-130 |
| 127 | Methylcyclohexane | 50.000 | 45.663 | 91.33 | 70-130 |
| 114 | 1,2-Dichloropropa | 50.000 | 45.118 | 90.24 | 70-130 |
| 116 | Methyl Methacryla | 50.000 | 48.281 | 96.56 | 70-130 |
| 117 | 1,4-Dioxane | 50.000 | 49.272 | 98.54 | 70-130 |
| 122 | Bromodichlorometh | 50.000 | 46.521 | 93.04 | 70-130 |
| 126 | cis-1,3-Dichlorop | 50.000 | 47.469 | 94.94 | 70-130 |
| 131 | 4-Methyl-2-pentan | 50.000 | 44.169 | 88.34 | 70-130 |
| 136 | Octane | 50.000 | 44.673 | 89.35 | 70-130 |
| 137 | Toluene | 50.000 | 46.257 | 92.51 | 70-130 |
| 139 | trans-1,3-Dichlor | 50.000 | 49.406 | 98.81 | 70-130 |
| 141 | 1,1,2-Trichloroet | 50.000 | 47.986 | 95.97 | 70-130 |
| 142 | Tetrachloroethene | 50.000 | 49.858 | 99.72 | 70-130 |
| 143 | 2-Hexanone | 50.000 | 49.720 | 99.44 | 70-130 |
| 144 | 1,3-Dichloropropa | 50.000 | 46.198 | 92.40 | 70-130 |
| 146 | Dibromochlorometh | 50.000 | 49.850 | 99.70 | 70-130 |
| 148 | 1,2-Dibromoethane | 50.000 | 48.347 | 96.69 | 70-130 |
| 151 | 1-Bromo-2-Chloroe | 50.000 | 47.900 | 95.80 | 70-130 |
| 154 | Chlorobenzene | 50.000 | 49.059 | 98.12 | 70-130 |
| 155 | Ethyl Benzene | 50.000 | 49.936 | 99.87 | 70-130 |
| 156 | Nonane | 50.000 | 50.352 | 100.70 | 70-130 |
| 157 | 1,1,1,2-Tetrachlo | 50.000 | 51.300 | 102.60 | 70-130 |
| 158 | m,p-Xylene | 50.000 | 49.252 | 98.50 | 70-130 |
| 164 | o-Xylene | 50.000 | 49.814 | 99.63 | 70-130 |
| 165 | Styrene | 50.000 | 49.115 | 98.23 | 70-130 |
| 167 | Bromoform | 50.000 | 50.418 | 100.84 | 70-130 |

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 168 Cumene | 50.000 | 50.457 | 100.91 | 70-130 |
| 169 Cyclohexanone | 50.000 | 46.988 | 93.98 | 70-130 |
| 175 1,1,2,2-Tetrachlo | 50.000 | 49.789 | 99.58 | 70-130 |
| 177 Bromobenzene | 50.000 | 49.100 | 98.20 | 70-130 |
| 178 Propylbenzene | 50.000 | 50.479 | 100.96 | 70-130 |
| 179 1,2,3-Trichloropr | 50.000 | 48.816 | 97.63 | 70-130 |
| 182 Decane | 50.000 | 46.474 | 92.95 | 70-130 |
| 183 4-Ethyltoluene | 50.000 | 50.024 | 100.05 | 70-130 |
| 184 2-Chlorotoluene | 50.000 | 50.891 | 101.78 | 70-130 |
| 185 1,3,5-Trimethylbe | 50.000 | 50.678 | 101.36 | 70-130 |
| 188 alpha Methyl Styr | 50.000 | 51.108 | 102.22 | 70-130 |
| 189 tert-Butylbenzene | 50.000 | 50.466 | 100.93 | 70-130 |
| 190 1,2,4-Trimethylbe | 50.000 | 50.058 | 100.12 | 70-130 |
| 192 sec-Butylbenzene | 50.000 | 50.030 | 100.06 | 70-130 |
| 194 p-Cymene | 50.000 | 51.570 | 103.14 | 70-130 |
| 195 1,3-Dichlorobenze | 50.000 | 49.040 | 98.08 | 70-130 |
| 196 1,4-Dichlorobenze | 50.000 | 49.042 | 98.08 | 70-130 |
| 199 alpha-Chlorotolue | 50.000 | 50.035 | 100.07 | 70-130 |
| 201 Undecane | 50.000 | 45.638 | 91.28 | 70-130 |
| 202 Butylbenzene | 50.000 | 50.393 | 100.79 | 70-130 |
| 204 1,2-Dichlorobenze | 50.000 | 49.590 | 99.18 | 70-130 |
| 206 1,2-Dibromo-3-chl | 50.000 | 52.096 | 104.19 | 70-130 |
| 207 Dodecane | 50.000 | 52.346 | 104.69 | 70-130 |
| 213 1,2,4-Trichlorobe | 50.000 | 51.402 | 102.80 | 70-130 |
| 215 Hexachlorobutadie | 50.000 | 50.881 | 101.76 | 70-130 |
| 216 Naphthalene | 5.700 | 6.363 | 111.63 | 60-140 |
| 222 1,2,3-Trichlorobe | 50.000 | 51.779 | 103.56 | 70-130 |

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 25.562 | 102.25 | 65-134 |
| $ 134 Toluene-d8 | 25.000 | 24.686 | 98.75 | 92-109 |
| $ 170 4-Bromofluorobenz | 25.000 | 24.651 | 98.60 | 85-118 |

Data File: /chem/msd3.i/24APR24.b/3042404.d

Page 1

Date : 24-APR-2024 12:00

Client ID: ICV

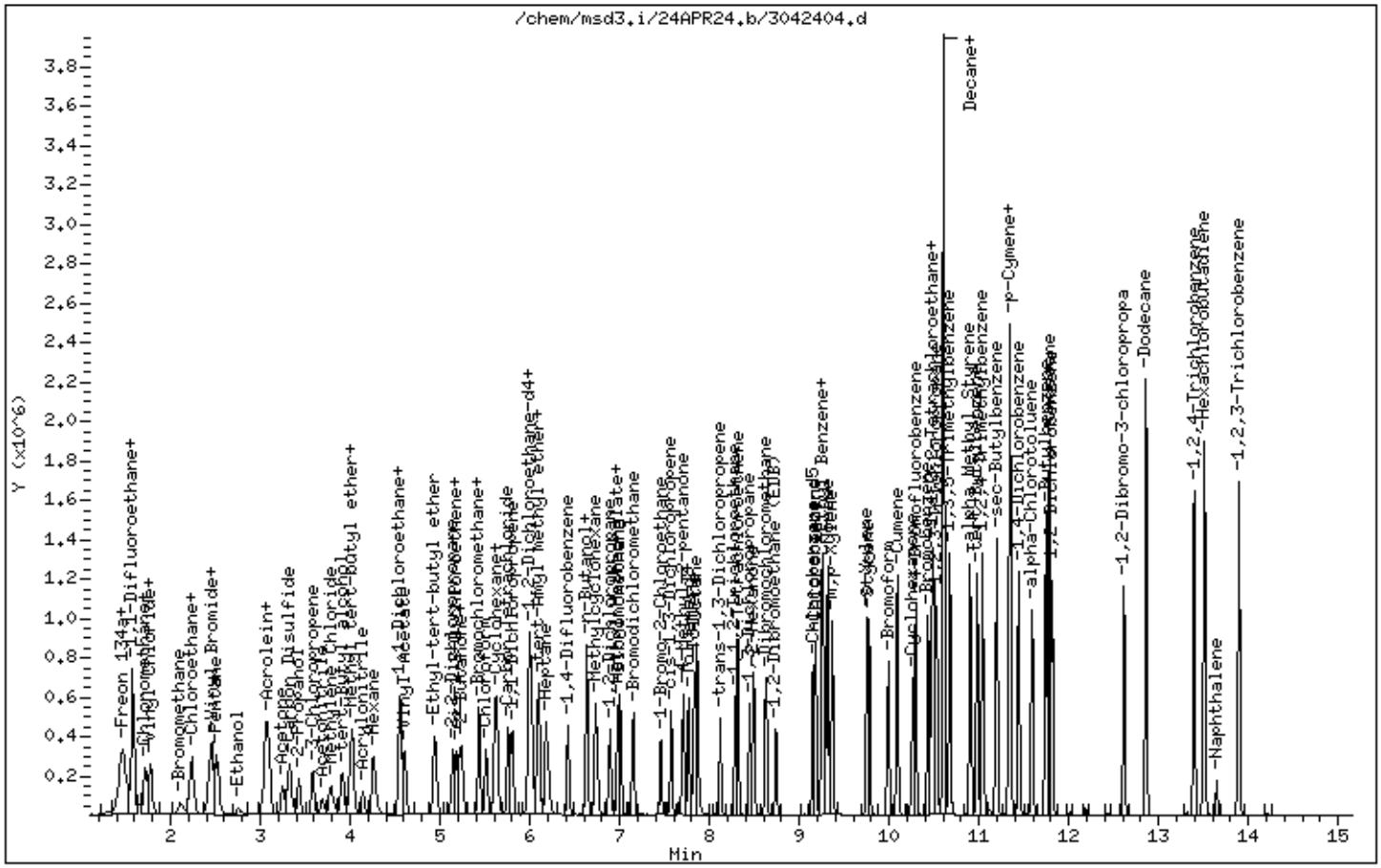
Instrument: msd3.i

Sample Info: 50mL 3018-4441

Operator: jrf

Column phase: RTX-624

Column diameter: 0.25



# TO-15 QUAD POOLED MDL CASE NARRATIVE

A Method Detection Limit Study for TO-15 Quad method was analyzed 8/01/23-8/29/23 for MSDA, MSD3, MSDP, MSDJ, MSD16, and MSD91.

**0.5ppbv MDL:** Standard # 3018-3932, 3018-3942, 3018-3921 (5.0ppbv); 20mL load volume. Spike amount of 0.5ppbv.

Notes:

1. MDL verification was analyzed on 9/01/23. Standard #3018-3942; 5.0ppbv, 18mL load volume; file #91090108; spike concentration of 0.45ppbv.
2. MDL spike calculated on file #91081408x
3. The MDL spikes for MSD-91 were re-analyzed due to the initial spikes having multiple compounds recover outside of 50-150%.

**2.0ppbv MDL:** Standard # 3018-3932, 3018-3942, 3018-3921 (5.0ppbv); 80mL load volume. Spike amount of 2.0ppbv.

Notes:

1. MDL verification was analyzed on 9/01/23. Standard #3018-3942; 5.0ppbv, 60mL load volume; file #91090109; spike concentration of 1.5ppbv.
2. MDL verification for Ethanol and Acetone was analyzed on 9/01/23. Standard #3018-3942; 5.0ppbv, 160ml load volume; file#91090111; spike concentration of 4.0ppbv.
3. MDL spike calculated on file# 91080109x
4. MDL verification for Napthalene was analyzed on 9/01/23. Standard #3018-3942; 5.0ppbv, 80ml load volume; file#91090110; spike concentration of 2.0ppbv (0.2ppbv for Napthalene).
5. MDL spike calculated on file# 91080109ax

**The concentrations for Acetonitrile,Tert-butanol, Naphthalene, Ethanol, and Acrolein were adjusted in the MDL spike due to the certified concentration exceeding more than 15% of nominal concentration.**

**MDL values for the following compounds were taken from the MDL blank:**

Acetone (1.3907ppbv)
1,3-Dichlorobenzene (0.11681ppbv)
1,4-Dichlorobenzene (0.16832ppbv)

**The ratio of the mean recovered concentration was between 1 and 20 for all compounds.**

**Iodomethane and trans-1,4-Dichlorobutane were not included in the MDL study.**

**MDL Expires 8/29/24**

AT23 0.5ppbv Quad Pooled MDL

MDL Verification for 0.5ppbv MDL
Standard #3018-3942 (5.0ppbv)
Load volume of 18ml.
Spike concentration of 0.45ppbv.
File#91090108

The ratio of the mean recovered concentration and the MDL was between 1 and 20 for all compounds.

[(s12H Report Date : 01-SEP-2023 07:50 Page 1
US32TAR1
SPIKED METHOD DETECTION LIMIT SUMMARY REPORT
Method File: /chem/msda.i/29AUG23.b/a23q0825a.m Spiked ID(s) Spiked Vol(s)
Batch File: /chem/msda.i/29AUG23.b
Instrument Names: msdp.i
Student T 2.718 for 12 Replicates with 99% Confidence

| ID: | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL010 | MDL11 | MDL12 | AVG CONC | STD DEV | SPK AMT | RL | RATIO | MDL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILENAME: | p080108 | p080208 | 91081408 | 91081508 | 3082309 | 3082409 | j082411 | j082507 | 16082507 | 16082807 | a082808 | a082908 | | | | | | |
| INJ.DATE: | 1-Aug-23 | 2-Aug-23 | 14-Aug-23 | 15-Aug-23 | 23-Aug-23 | 24-Aug-23 | 24-Aug-23 | 25-Aug-23 | 25-Aug-23 | 28-Aug-23 | 28-Aug-23 | 29-Aug-23 | | | | | | |
| INJ.TIME: | 14:44 | 14:11 | 12:15 | 12:34 | 21:30 | 15:24 | 15:53 | 14:13 | 15:09 | 12:47 | 14:56 | 16:04 | | | | | | |
| Compound | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL10 | MDL11 | MDL12 | | | | | | |
| 1 Freon 12 | 480.54 | 516.84 | 353.31 | 332.41 | 616.10 | 619.01 | 453.56 | 503.79 | 465.78 | 456.36 | 555.10 | 516.96 | 489.15 | 87.94 | 0.00 | 500.00 | 2.05 | 239.02 |
| 2 Freon 114 | 558.43 | 603.17 | 452.00 | 449.12 | 528.53 | 575.78 | 533.15 | 549.15 | 464.69 | 459.68 | 518.68 | 511.88 | 517.02 | 51.26 | 0.00 | 500.00 | 3.71 | 139.34 |
| 3 Vinyl Chloride | 358.58 | 437.48 | 302.48 | 295.26 | 702.68 | 792.24 | 330.71 | 377.68 | 478.87 | 455.46 | 539.14 | 475.21 | 462.15 | 154.43 | 0.00 | 500.00 | 1.10 | 419.74 |
| 4 1,3-Butadiene | 430.80 | 584.01 | 361.88 | 317.19 | 592.24 | 703.18 | 416.37 | 412.30 | 455.22 | 467.86 | 535.48 | 473.86 | 479.20 | 108.13 | 0.00 | 500.00 | 1.63 | 293.89 |
| 5 Freon 11 | 498.13 | 540.14 | 458.53 | 449.18 | 588.93 | 647.40 | 501.73 | 515.21 | 451.14 | 464.39 | 537.21 | 507.82 | 513.32 | 59.36 | 0.00 | 500.00 | 3.18 | 161.34 |
| 6 Freon 113 | 538.82 | 565.96 | 510.45 | 456.46 | 537.11 | 546.87 | 511.97 | 531.12 | 450.60 | 450.56 | 543.58 | 520.06 | 513.63 | 39.89 | 0.00 | 500.00 | 4.74 | 108.43 |
| 7 1,1-Dichloroethene | 426.92 | 461.56 | 359.17 | 336.60 | 559.22 | 666.54 | 408.12 | 384.79 | 443.03 | 447.90 | 561.80 | 505.32 | 463.41 | 95.37 | 0.00 | 500.00 | 1.79 | 259.22 |
| 8 trans-1,2-Dichloroethene | 429.25 | 523.45 | 369.30 | 336.68 | 582.08 | 602.74 | 414.26 | 445.99 | 429.22 | 433.13 | 510.53 | 557.18 | 469.48 | 84.51 | 0.00 | 500.00 | 2.04 | 229.70 |
| 9 Acrylonitrile | 388.99 | 494.23 | 374.39 | 321.14 | 712.25 | 735.53 | 373.47 | 389.75 | 400.73 | 367.64 | 488.78 | 449.49 | 457.62 | 133.98 | 0.00 | 500.00 | 1.26 | 364.15 |
| 10 Hexane | 467.95 | 419.45 | 477.91 | 467.13 | 589.60 | 552.84 | 400.66 | 432.18 | 441.56 | 424.18 | 527.26 | 489.44 | 474.18 | 57.52 | 0.00 | 500.00 | 3.03 | 156.33 |
| 11 1,1-Dichloroethane | 481.17 | 480.22 | 467.73 | 434.17 | 567.58 | 562.41 | 489.81 | 494.86 | 458.95 | 456.30 | 512.82 | 478.62 | 490.39 | 40.25 | 0.00 | 500.00 | 4.48 | 109.40 |
| 12 cis-1,2-Dichloroethene | 470.64 | 455.38 | 467.30 | 450.37 | 524.72 | 492.72 | 426.59 | 443.54 | 415.38 | 399.10 | 517.43 | 417.30 | 456.71 | 40.02 | 0.00 | 500.00 | 4.20 | 108.78 |
| * 13 Bromochloromethane | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 |
| 14 Tetrahydrofuran | 568.82 | 471.54 | 498.86 | 437.10 | 739.14 | 789.14 | 453.10 | 467.51 | 439.10 | 437.19 | 559.24 | 537.19 | 533.16 | 117.90 | 0.00 | 500.00 | 1.66 | 320.45 |
| 15 Chloroform | 534.00 | 530.13 | 489.78 | 519.46 | 557.98 | 552.02 | 525.20 | 506.14 | 448.31 | 413.30 | 529.76 | 502.52 | 509.05 | 41.98 | 0.00 | 500.00 | 4.46 | 114.10 |
| 16 1,1,1-Trichloroethane | 530.04 | 526.27 | 473.07 | 473.92 | 567.19 | 566.14 | 495.97 | 502.10 | 439.04 | 430.64 | 542.04 | 497.80 | 503.69 | 44.77 | 0.00 | 500.00 | 4.14 | 121.67 |
| 17 Cyclohexane | 442.44 | 421.57 | 447.38 | 450.82 | 548.50 | 575.58 | 351.66 | 381.93 | 404.88 | 429.14 | 518.66 | 505.91 | 456.54 | 67.72 | 0.00 | 500.00 | 2.48 | 184.07 |
| 18 Carbon Tetrachloride | 499.91 | 557.42 | 452.00 | 420.30 | 577.02 | 539.52 | 540.44 | 511.12 | 418.56 | 415.38 | 552.94 | 511.87 | 499.71 | 58.73 | 0.00 | 500.00 | 3.13 | 159.63 |
| 19 2,2,4-Trimethylpentane | 368.77 | 409.79 | 402.67 | 388.91 | 548.01 | 558.02 | 359.98 | 387.46 | 445.32 | 436.02 | 531.29 | 506.30 | 445.21 | 72.11 | 0.00 | 500.00 | 2.27 | 195.99 |
| 20 Benzene | 541.04 | 519.95 | 521.68 | 555.69 | 565.10 | 588.10 | 559.58 | 552.33 | 440.25 | 464.31 | 566.80 | 514.94 | 532.48 | 43.50 | 0.00 | 500.00 | 4.50 | 118.22 |
| $ 21 1,2-Dichloroethane-d4 | 24566.00 | 25833.00 | 25963.00 | 25696.00 | 25165.00 | 25682.00 | 25322.00 | 25520.00 | 10259.00 | 10268.00 | 24392.00 | 23951.00 | 22718.08 | 5850.20 | 0.00 | 400.00 | 1.43 | 15900.85 |
| 22 1,2-Dichloroethane | 671.73 | 563.33 | 478.16 | 488.98 | 583.09 | 651.58 | 506.77 | 546.54 | 488.96 | 503.53 | 541.50 | 514.44 | 544.88 | 69.30 | 0.00 | 500.00 | 3.17 | 172.06 |
| 23 Heptane | 431.18 | 490.71 | 489.31 | 500.11 | 560.48 | 628.53 | 469.13 | 502.61 | 403.60 | 433.66 | 556.78 | 487.36 | 496.12 | 62.50 | 0.00 | 500.00 | 2.92 | 169.88 |
| * 24 1,4-Difluorobenzene | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 |
| 25 Trichloroethene | 519.57 | 602.58 | 480.73 | 461.64 | 591.60 | 615.84 | 529.24 | 526.29 | 461.85 | 467.12 | 501.38 | 495.00 | 521.07 | 55.05 | 0.00 | 500.00 | 3.48 | 149.64 |
| 26 1,2-Dichloropropane | 597.28 | 544.58 | 504.54 | 552.35 | 586.44 | 631.86 | 516.28 | 545.64 | 457.79 | 480.64 | 530.85 | 502.26 | 537.54 | 50.11 | 0.00 | 500.00 | 3.95 | 136.19 |
| 27 Dibromomethane | 528.85 | 536.36 | 466.38 | 490.94 | 555.95 | 607.82 | 586.41 | 571.97 | 456.90 | 426.75 | 532.50 | 500.67 | 521.79 | 55.06 | 0.00 | 500.00 | 3.49 | 149.66 |
| 28 Bromodichloromethane | 541.72 | 582.87 | 502.59 | 499.10 | 588.58 | 594.10 | 527.55 | 536.73 | 425.88 | 433.38 | 561.89 | 471.32 | 522.14 | 57.31 | 0.00 | 500.00 | 3.35 | 155.76 |
| 29 cis-1,3-Dichloropropene | 486.67 | 544.44 | 500.12 | 492.66 | 555.58 | 559.74 | 488.08 | 480.49 | 410.76 | 440.61 | 512.12 | 460.61 | 494.32 | 44.91 | 0.00 | 500.00 | 4.05 | 122.08 |
| 30 4-Methyl-2-pentanone | 527.84 | 463.63 | 497.25 | 539.64 | 655.87 | 524.37 | 472.46 | 499.70 | 392.20 | 379.58 | 484.64 | 498.75 | 494.66 | 70.93 | 0.00 | 500.00 | 2.57 | 192.79 |
| $ 31 Toluene-d8 | 24769.00 | 24734.00 | 24140.00 | 24043.00 | 25232.00 | 25371.00 | 25634.00 | 25730.00 | 10050.00 | 9955.30 | 25155.00 | 24777.00 | 22465.86 | 5844.68 | 0.00 | 400.00 | 1.41 | 15885.83 |
| 32 Toluene | 543.46 | 510.78 | 570.65 | 548.38 | 574.66 | 572.00 | 570.54 | 575.41 | 451.05 | 448.01 | 534.47 | 507.80 | 533.93 | 46.01 | 0.00 | 500.00 | 4.27 | 125.06 |
| 33 trans-1,3-Dichloropropene | 459.08 | 490.10 | 480.81 | 484.78 | 485.36 | 558.75 | 480.24 | 453.05 | 522.79 | 504.42 | 492.10 | 473.64 | 490.43 | 28.33 | 0.00 | 500.00 | 6.37 | 77.00 |
| 34 1,1,2-Trichloroethane | 504.11 | 583.16 | 490.10 | 458.32 | 600.01 | 603.80 | 556.17 | 583.71 | 439.85 | 442.89 | 555.49 | 508.50 | 527.18 | 60.96 | 0.00 | 500.00 | 3.18 | 165.69 |
| 35 Tetrachloroethene | 515.83 | 523.84 | 555.19 | 536.17 | 534.34 | 564.81 | 567.43 | 563.79 | 423.99 | 439.36 | 531.19 | 490.25 | 520.52 | 47.33 | 0.00 | 500.00 | 4.08 | 128.64 |
| 36 1,3-Dichloropropane | 577.27 | 555.01 | 510.30 | 505.47 | 549.39 | 600.62 | 566.94 | 564.38 | 472.40 | 474.19 | 556.31 | 494.10 | 535.53 | 42.43 | 0.00 | 500.00 | 4.64 | 115.33 |
| 37 Dibromochloromethane | 518.57 | 565.77 | 510.06 | 524.38 | 527.07 | 585.61 | 537.69 | 543.47 | 417.15 | 400.80 | 532.84 | 485.05 | 512.37 | 54.70 | 0.00 | 500.00 | 3.45 | 148.66 |
| 38 1,2-Dibromoethane (EDB) | 582.61 | 578.76 | 445.39 | 437.26 | 531.45 | 546.97 | 535.03 | 541.38 | 426.45 | 420.17 | 541.82 | 473.58 | 508.07 | 60.30 | 0.00 | 500.00 | 3.08 | 163.90 |
| * 39 Chlorobenzene-d5 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 |
| 40 Chlorobenzene | 535.27 | 497.64 | 479.10 | 490.46 | 569.79 | 552.58 | 571.28 | 567.91 | 475.15 | 470.59 | 523.96 | 502.26 | 519.67 | 38.76 | 0.00 | 500.00 | 4.93 | 105.35 |
| 41 Ethyl Benzene | 448.50 | 457.30 | 480.89 | 508.15 | 525.19 | 572.64 | 511.99 | 506.23 | 459.41 | 402.39 | 508.38 | 478.17 | 488.27 | 43.77 | 0.00 | 500.00 | 4.10 | 118.96 |
| 42 1,1,1,2-Tetrachloroethane | 518.82 | 565.19 | 534.97 | 529.22 | 545.37 | 572.20 | 552.25 | 596.60 | 431.45 | 409.42 | 548.70 | 497.72 | 525.16 | 55.35 | 0.00 | 500.00 | 3.49 | 150.44 |
| 43 m,p-Xylene | 483.83 | 458.86 | 509.02 | 491.08 | 497.55 | 531.74 | 463.20 | 460.44 | 467.73 | 452.96 | 514.81 | 512.75 | 487.00 | 26.38 | 0.00 | 500.00 | 6.79 | 71.70 |
| 44 o-Xylene | 446.69 | 463.60 | 475.79 | 474.07 | 523.62 | 551.68 | 413.86 | 449.49 | 446.11 | 409.46 | 522.04 | 443.68 | 468.34 | 44.06 | 0.00 | 500.00 | 3.91 | 119.76 |
| 45 Styrene | 423.58 | 411.25 | 483.17 | 456.35 | 467.30 | 477.44 | 404.18 | 423.44 | 408.53 | 420.63 | 497.63 | 455.66 | 444.10 | 32.56 | 0.00 | 500.00 | 5.02 | 88.50 |

Blank (1/2 L.)

x= 160.105
2x=320.210 (1/2 L.)
3x=480.316
4x=640.421

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 Bromoform | 532.74 | 584.35 | 541.83 | 548.07 | 510.80 | 548.92 | 544.76 | 586.95 | 382.53 | 368.14 | 518.67 | 444.43 | 509.35 | 72.55 | 0.00 | 500.00 | 2.58 | 197.18 | 23.32 |
| 47 Cumene | 453.31 | 416.87 | 483.80 | 476.23 | 516.79 | 524.91 | 434.18 | 438.38 | 428.49 | 413.66 | 515.41 | 485.32 | 465.61 | 40.21 | 0.00 | 500.00 | 4.26 | 109.28 | - |
| $ 48 4-Bromofluorobenzene | 23911.00 | 24748.00 | 25504.00 | 25060.00 | 24991.00 | 24818.00 | 25090.00 | 24894.00 | 9835.60 | 9471.70 | 24778.00 | 24685.00 | 22915.53 | 5926.20 | 0.00 | 400.00 | 1.39 | 16107.41 | - |
| 49 1,1,2,2-Tetrachloroethane | 513.07 | 606.08 | 590.63 | 579.81 | 547.75 | 601.66 | 603.91 | 595.63 | 448.59 | 420.90 | 531.41 | 497.95 | 544.78 | 63.52 | 0.00 | 500.00 | 3.16 | 172.66 | 2.61 |
| 50 Propylbenzene | 431.78 | 492.40 | 511.26 | 505.99 | 532.60 | 573.85 | 456.38 | 505.64 | 455.23 | 443.63 | 516.72 | 474.54 | 491.67 | 41.12 | 0.00 | 500.00 | 4.40 | 111.77 | 4.26 |
| 51 1,2,3-Trichloropropane | 545.89 | 655.60 | 561.72 | 501.15 | 641.29 | 608.30 | 569.65 | 598.55 | 461.41 | 442.06 | 540.59 | 487.68 | 551.16 | 68.51 | 0.00 | 500.00 | 2.96 | 186.20 | - |
| 52 4-Ethyltoluene | 468.47 | 429.25 | 515.78 | 507.04 | 504.95 | 565.29 | 470.56 | 493.55 | 445.26 | 428.84 | 525.99 | 487.04 | 486.83 | 40.81 | 0.00 | 500.00 | 4.39 | 110.91 | 50.62 |
| 53 1,3,5-Trimethylbenzene | 416.91 | 432.28 | 503.18 | 493.37 | 553.08 | 536.14 | 438.38 | 453.33 | 438.56 | 412.42 | 533.15 | 482.49 | 474.44 | 49.23 | 0.00 | 500.00 | 3.55 | 133.79 | 38.13 |
| 54 alpha Methyl Styrene | 418.51 | 405.94 | 486.16 | 416.11 | 394.31 | 382.13 | 401.38 | 318.86 | 316.46 | 388.32 | 385.97 | 332.69 | 387.24 | 47.56 | 0.00 | 500.00 | 3.00 | 179.28 | 3.97 |
| 55 1,2,4-Trimethylbenzene | 401.85 | 468.06 | 513.51 | 504.71 | 509.75 | 532.54 | 397.24 | 399.83 | 456.34 | 421.79 | 505.56 | 480.07 | 465.94 | 49.67 | 0.00 | 500.00 | 3.45 | 134.99 | 64.40 |
| 56 sec-Butylbenzene | 407.94 | 448.90 | 513.35 | 540.23 | 508.83 | 570.02 | 428.12 | 439.92 | 425.40 | 428.56 | 549.13 | 517.85 | 481.52 | 57.16 | 0.00 | 500.00 | 3.10 | 155.37 | 28.61 |
| 57 p-Cymene | 392.25 | 436.54 | 511.82 | 514.81 | 507.70 | 512.07 | 411.02 | 413.15 | 436.42 | 397.56 | 509.08 | 485.97 | 460.70 | 50.40 | 0.00 | 500.00 | 3.36 | 136.99 | 41.35 |
| 58 1,3-Dichlorobenzene | 508.16 | 499.02 | 586.08 | 600.41 | 560.15 | 576.36 | 560.63 | 576.87 | 521.19 | 496.43 | 539.24 | 523.76 | 545.69 | 35.81 | 0.00 | 500.00 | 5.61 | 87.33 | 16.51 |
| 59 1,4-Dichlorobenzene | 473.23 | 523.08 | 595.39 | 584.78 | 570.77 | 573.18 | 532.71 | 549.35 | 557.77 | 537.76 | 529.08 | 500.56 | 543.97 | 35.44 | 0.00 | 500.00 | 5.65 | 86.31 | 68.32 |
| 60 alpha-Chlorotoluene | 463.47 | 483.78 | 576.84 | 547.91 | 451.53 | 479.30 | 397.03 | 401.42 | 414.93 | 393.60 | 455.41 | 411.50 | 456.39 | 59.13 | 0.00 | 500.00 | 2.84 | 160.71 | 109.39 |
| 61 Butylbenzene | 441.29 | 381.41 | 554.61 | 534.42 | 543.71 | 563.94 | 393.69 | 412.55 | 450.80 | 436.81 | 514.19 | 478.80 | 475.52 | 65.02 | 0.00 | 500.00 | 2.69 | 176.71 | 71.27 |
| 62 1,2-Dichlorobenzene | 489.86 | 559.24 | 610.60 | 603.76 | 551.81 | 590.65 | 556.04 | 573.27 | 501.84 | 448.26 | 553.52 | 505.58 | 545.37 | 49.45 | 0.00 | 500.00 | 4.06 | 134.40 | 121.32 |

Blank (ppbv)

Reviewer 1 _____ Date: 9/1/23

Reviewer 2 _____ Date: 09/06/23

# AT-23 2.0ppbv Quad Pooled MDL

∥s12H Report Date : 01-SEP-2023 07:25 Page 1
US32TAR1
SPIKED METHOD DETECTION LIMIT SUMMARY REPORT
Method File: /chem/msda.i/29AUG23.b/a23q0825a.m Spiked ID(s) Spiked Vol(s)
Batch File: /chem/msda.i/29AUG23.b
Instrument Names: msdp.i
Student T 2.718 for 12 Replicates with 99% Confidence

The ratio of the mean recovered concentration and the MDL was between 1 and 20 for all compounds.

∥s14H

| ID: | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL010 | MDL11 | MDL12 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILENAME: | p080109 | p080209 | 91080109 | 91080211 | 3082310 | 3082410 | j082412 | j082508 | 16082508 | 16082808 | a082808 | a082909 | | | | | | | |
| INJ.DATE: | 1-Aug-23 | 2-Aug-23 | 1-Aug-23 | 2-Aug-23 | 23-Aug-23 | 24-Aug-23 | 24-Aug-23 | 25-Aug-23 | 25-Aug-23 | 28-Aug-23 | 28-Aug-23 | 29-Aug-23 | | | | | | | |
| INJ.TIME: | 15:13 | 14:40 | 12:20 | 14:19 | 22:02 | 15:56 | 16:18 | 14:38 | 15:50 | 13:29 | 15:33 | 16:40 | | | | | | | |
| Compound | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL10 | MDL11 | MDL12 | AVG CONC | STD DEV | SPK AMT | RL | RATIO | MDL | Blank (pptv) |
| 1 Freon 134a | 2241.40 | 2551.70 | 1778.20 | 1582.50 | 2197.60 | 2363.00 | 1835.40 | 1958.30 | 2699.20 | 2641.90 | 2299.80 | 2143.20 | 2191.02 | 351.52 | 0.00 | 2000.00 | 2.29 | 955.44 | — |
| 2 Propylene | 2116.90 | 2156.60 | 1959.60 | 1939.50 | 1814.20 | 2706.20 | 1982.20 | 2142.20 | 2183.00 | 2163.80 | 2081.20 | 2110.40 | 2112.98 | 218.09 | 0.00 | 2000.00 | 3.56 | 592.76 | — |
| 3 1,1-Difluoroethane | 1938.10 | 2139.10 | 1743.60 | 1575.50 | 2447.80 | 2680.20 | 1771.40 | 1949.20 | 2380.30 | 2469.20 | 2106.70 | 1903.00 | 2092.01 | 339.94 | 0.00 | 2000.00 | 2.26 | 923.95 | — |
| 4 Chlorodifluoromethane | 1862.60 | 2432.70 | 1845.40 | 1831.40 | 2434.40 | 2396.40 | 1594.60 | 1689.60 | 2350.60 | 2178.20 | 2234.10 | 1957.20 | 2067.27 | 304.81 | 0.00 | 2000.00 | 2.50 | 828.47 | — |
| 5 Isobutane | 1873.50 | 2067.80 | 2000.00 | 1855.30 | 1998.20 | 2229.40 | 1942.80 | 2098.30 | 2906.70 | 2271.40 | 2164.70 | 1978.50 | 2060.38 | 150.92 | 0.00 | 2000.00 | 5.02 | 410.21 | — |
| 6 Chloromethane | 2056.50 | 2159.60 | 2048.20 | 1886.30 | 2627.40 | 2956.30 | 2014.80 | 2244.70 | 2466.20 | 2431.50 | 2576.00 | 2481.50 | 2329.08 | 313.30 | 0.00 | 5000.00 | 2.74 | 851.56 | — |
| 7 Butane | 1830.10 | 2170.00 | 1949.70 | 1598.00 | 2746.60 | 2543.90 | 1806.20 | 1917.80 | 2099.30 | 2344.40 | 2185.90 | 1843.90 | 2086.27 | 332.61 | 0.00 | 2000.00 | 2.31 | 904.02 | — |
| 8 Bromomethane | 2209.40 | 2356.80 | 1778.90 | 1600.40 | 2017.00 | 2576.10 | 1950.60 | 2084.60 | 2089.70 | 2119.20 | 2685.90 | 2550.50 | 2168.26 | 327.18 | 0.00 | 5000.00 | 2.44 | 889.28 | 201.19 |
| 9 Chloroethane | 2941.10 | 1869.50 | 1822.10 | 1738.40 | 1678.80 | 2378.50 | 1991.10 | 2069.20 | 2219.40 | 2214.40 | 2300.10 | 2353.50 | 2081.34 | 254.86 | 0.00 | 2000.00 | 3.00 | 692.71 | — |
| 10 Isopentane | 2016.20 | 1970.80 | 2111.60 | 1912.50 | 2399.20 | 2648.80 | 1906.30 | 1970.00 | 2315.10 | 2401.50 | 2206.60 | 1991.50 | 2154.17 | 239.17 | 0.00 | 2000.00 | 3.31 | 650.06 | — |
| 11 Vinyl Bromide | 2003.10 | 2072.40 | 1728.40 | 1640.10 | 2203.40 | 2414.40 | 1830.90 | 1949.40 | 2041.10 | 2140.40 | 2156.80 | 1972.70 | 2012.76 | 212.68 | 0.00 | 2000.00 | 3.48 | 578.08 | — |
| 12 Dichlorofluoromethane | 1976.00 | 2176.30 | 1970.40 | 1757.00 | 2095.50 | 2270.00 | 2246.30 | 2423.50 | 2154.40 | 2212.90 | 2099.30 | 1965.30 | 2112.24 | 176.50 | 0.00 | 2000.00 | 4.40 | 479.72 | — |
| 13 Pentane | 1757.10 | 1961.80 | 1985.00 | 1870.10 | 2345.50 | 2324.60 | 1732.40 | 1854.60 | 2322.60 | 2327.80 | 2186.90 | 1982.80 | 2054.27 | 234.80 | 0.00 | 2000.00 | 3.22 | 638.19 | — |
| 14 Ethanol | 1795.70 | 2774.90 | 2316.90 | 2332.60 | 4565.70 | 4807.40 | 2823.90 | 3891.90 | 2985.30 | 2936.50 | 2813.20 | 2569.30 | 3051.11 | 912.09 | 0.00 | 5000.00 | 1.23 | 2479.06 | — |
| 15 Acrolein | 2150.20 | 2222.90 | 2152.80 | 2101.20 | 2784.00 | 4047.80 | 2210.40 | 2343.30 | 2603.60 | 2438.70 | 2567.40 | 2360.00 | 2498.53 | 531.05 | 0.00 | 2000.00 | 1.73 | 1443.38 | — |
| 16 Acetone | 2336.40 | 2088.00 | 2072.60 | 2133.80 | 2889.30 | 2483.50 | 2359.50 | 2477.40 | 2766.40 | 2496.40 | 2571.80 | 2771.50 | 2448.88 | 271.01 | 0.00 | 2000.00 | 3.32 | 736.59 | 390.7 |
| ~~17 Iodomethane~~ | ~~1559.20~~ | ~~2013.90~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~2017.20~~ | ~~2093.10~~ | ~~1450.60~~ | ~~1102.20~~ | ~~852.93~~ | ~~930.40~~ | ~~0.00~~ | ~~5000.00~~ | ~~0.34~~ | ~~2528.83~~ | Ratio 1 to 20 Failed KK 9/1/23 |
| 18 Carbon Disulfide | 2093.70 | 2141.00 | 1997.80 | 1888.70 | 2211.90 | 2447.80 | 2009.30 | 2178.20 | 2103.70 | 2091.00 | 2204.00 | 2037.60 | 2117.06 | 140.11 | 0.00 | 2000.00 | 5.56 | 380.83 | 367.53 |
| 19 2-Propanol | 1929.70 | 2023.40 | 1901.80 | 1859.90 | 2060.90 | 2254.50 | 2368.20 | 2775.00 | 2056.70 | 2029.80 | 2118.70 | 1963.70 | 2111.86 | 253.84 | 0.00 | 2000.00 | 3.06 | 689.95 | 241.23 |
| 20 3-Chloropropene | 1839.10 | 2238.20 | 1809.60 | 1729.30 | 2101.80 | 2152.20 | 1636.40 | 1815.70 | 2005.70 | 2154.00 | 1967.80 | 1894.10 | 1945.28 | 188.73 | 0.00 | 2000.00 | 3.79 | 512.98 | = |
| 21 Acetonitrile | 2385.90 | 2795.10 | 2281.40 | 2223.70 | 2538.50 | 2459.60 | 2364.20 | 2635.20 | 2820.00 | 2647.80 | 2422.90 | 1969.80 | 2460.96 | 245.71 | 0.00 | 2000.00 | 3.69 | 667.83 | = |
| 22 Methylene Chloride | 2100.60 | 1989.40 | 1955.40 | 1811.60 | 2189.50 | 2378.70 | 2062.60 | 2135.60 | 2254.90 | 2258.00 | 2087.60 | 2013.50 | 2103.12 | 154.08 | 0.00 | 5000.00 | 5.02 | 418.79 | 21.99 |
| 23 tert-Butyl alcohol | 2191.10 | 2075.90 | 2177.20 | 2121.40 | 2258.90 | 2188.70 | 2868.50 | 3469.60 | 2225.10 | 2188.90 | 2236.60 | 2293.50 | 2357.90 | 404.08 | 0.00 | 2000.00 | 2.15 | 1098.30 | — |
| 24 Methyl tert-butyl ether | 1757.90 | 1797.90 | 1974.80 | 1864.90 | 1917.60 | 1951.10 | 1660.80 | 1706.70 | 2035.00 | 2050.00 | 2049.80 | 1937.00 | 1891.91 | 134.41 | 0.00 | 2000.00 | 5.18 | 365.34 | — |
| 25 Isopropyl ether | 1760.70 | 1844.80 | 2087.70 | 1899.20 | 2069.10 | 2124.50 | 1532.70 | 1643.70 | 2176.50 | 2137.10 | 2059.60 | 1968.70 | 1941.52 | 208.36 | 0.00 | 2000.00 | 3.43 | 566.33 | — |
| 26 Vinyl Acetate | 1298.70 | 1060.20 | 1822.80 | 1848.70 | 1903.80 | 1969.70 | 1398.80 | 1358.40 | 1802.00 | 1958.90 | 1861.00 | 1983.30 | 1688.86 | 317.86 | 0.00 | 2000.00 | 1.95 | 863.94 | — |
| 27 Ethyl-tert-butyl ether | 1695.90 | 1837.00 | 2091.60 | 1924.30 | 1961.10 | 2041.70 | 1564.60 | 1718.20 | 2046.60 | 2080.50 | 2083.00 | 1911.40 | 1912.99 | 175.28 | 0.00 | 2000.00 | 4.02 | 476.41 | — |
| 28 2,2-Dichloropropane | 2005.40 | 2194.50 | 2104.90 | 1959.90 | 1884.40 | 1989.90 | 1821.10 | 1982.20 | 2087.00 | 2123.00 | 2157.90 | 1951.10 | 2021.72 | 119.07 | 0.00 | 2000.00 | 6.58 | 307.32 | — |
| 29 2-Butanone | 1848.00 | 1910.00 | 2042.70 | 1944.50 | 2035.20 | 2138.10 | 1791.30 | 1843.40 | 1945.10 | 2003.40 | 2163.60 | 1982.40 | 1965.64 | 123.98 | 0.00 | 2000.00 | 5.83 | 336.97 | 159.34 |
| 30 Ethyl Acetate | 1879.60 | 2155.20 | 2222.40 | 2082.70 | 2638.50 | 2605.60 | 1725.80 | 1948.20 | 2480.40 | 2481.80 | 2019.60 | 1881.60 | 2176.28 | 309.16 | 0.00 | 2000.00 | 2.59 | 840.30 | — |
| * 31 Bromochloromethane | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 | — |
| 32 1,1-Dichloropropene | 1864.20 | 1972.50 | 2027.90 | 1863.90 | 2032.20 | 2182.80 | 1758.00 | 1900.40 | 2116.60 | 2123.20 | 2113.40 | 1992.70 | 1995.65 | 128.95 | 0.00 | 2000.00 | 5.69 | 350.47 | — |
| $ 33 1,2-Dichloroethane-d4 | 26025.00 | 26363.00 | 25657.00 | 24467.00 | 24850.00 | 24807.00 | 25416.00 | 25684.00 | 10076.00 | 10190.00 | 24749.00 | 24130.00 | 22701.17 | 5906.78 | 0.00 | 400.00 | 1.41 | 16054.64 | — |
| 34 tert-Amyl methyl ether | 1760.50 | 1771.10 | 1905.60 | 1966.10 | 1876.70 | 2159.00 | 1611.70 | 1725.20 | 2101.90 | 2162.40 | 2071.00 | 1940.40 | 1920.97 | 180.15 | 0.00 | 2000.00 | 3.92 | 489.64 | — |
| * 35 1,4-Difluorobenzene | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 | — |
| 36 n-Butanol | 2124.90 | 1909.00 | 2071.90 | 2290.50 | 2192.60 | 1960.10 | 2961.30 | 3376.90 | 2181.60 | 2184.00 | 2047.10 | 2003.80 | 2275.26 | 440.07 | 0.00 | 2000.00 | 1.90 | 1196.11 | 691.92 |
| 37 Methylcyclohexane | 1841.00 | 1786.80 | 1932.70 | 1832.30 | 1900.90 | 1992.30 | 1753.30 | 1855.20 | 2177.00 | 2155.00 | 2085.60 | 1878.00 | 1932.51 | 140.78 | 0.00 | 2000.00 | 5.05 | 382.63 | — |
| 38 Methyl Methacrylate | 1664.30 | 1789.30 | 2056.50 | 1776.90 | 1965.10 | 1997.80 | 1730.80 | 1817.00 | 2051.60 | 2172.80 | 2057.80 | 1936.10 | 1918.00 | 158.54 | 0.00 | 2000.00 | 4.45 | 430.92 | — |
| 39 1,4-Dioxane | 1864.90 | 1867.80 | 2142.60 | 2042.60 | 1996.50 | 2081.10 | 2114.90 | 2528.80 | 2119.40 | 2062.50 | 2022.40 | 2008.10 | 2070.97 | 169.38 | 0.00 | 2000.00 | 4.50 | 460.38 | — |
| 40 1-Bromo-2-Chloroethane | 2001.30 | 2152.40 | 1990.80 | 1951.90 | 2034.60 | 2294.70 | 2074.60 | 2211.80 | 2153.60 | 2241.10 | 2116.50 | 1946.50 | 2092.48 | 107.81 | 0.00 | 2000.00 | 7.14 | 293.02 | — |
| $ 41 Toluene-d8 | 24761.00 | 24391.00 | 24575.00 | 24488.00 | 25262.00 | 25221.00 | 24941.00 | 25118.00 | 10023.00 | 10049.00 | 24696.00 | 24896.00 | 22363.42 | 5784.70 | 0.00 | 400.00 | 1.43 | 15668.45 | — |
| 42 Octane | 1850.10 | 1927.00 | 1899.80 | 1911.00 | 1941.70 | 2081.10 | 1935.20 | 2153.00 | 2191.40 | 2226.30 | 1877.20 | 1926.50 | 1993.36 | 131.82 | 0.00 | 2000.00 | 5.56 | 358.29 | — |
| 43 2-Hexanone | 1673.80 | 1601.70 | 1957.40 | 2012.40 | 2098.40 | 1908.90 | 1634.50 | 1615.40 | 2182.60 | 2142.20 | 1897.90 | 1912.50 | 1887.73 | 207.50 | 0.00 | 2000.00 | 3.35 | 563.97 | ~~23.05~~ 73.03 KK 9/1/23 |
| * 44 Chlorobenzene-d5 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 | — |
| 45 Nonane | 1674.90 | 1730.00 | 2204.90 | 2200.00 | 1927.00 | 2080.70 | 1887.20 | 1985.90 | 2261.80 | 2281.80 | 2078.00 | 1879.10 | 2015.84 | 202.57 | 0.00 | 2000.00 | 3.66 | 550.59 | 41.34 |
| 46 Cyclohexanone | 1770.00 | 1744.40 | 1917.70 | 2025.20 | 2078.70 | 1818.30 | 2344.80 | 2260.20 | 2097.60 | 2129.00 | 1778.00 | 1972.90 | 1994.73 | 197.09 | 0.00 | 2000.00 | 3.72 | 535.69 | 77.70 |
| $ 47 4-Bromofluorobenzene | 24461.00 | 24686.00 | 24852.00 | 24750.00 | 25290.00 | 25158.00 | 24720.00 | 24623.00 | 9315.60 | 9311.70 | 24439.00 | 24741.00 | 22195.61 | 6022.18 | 0.00 | 400.00 | 1.36 | 16368.28 | — |
| 48 Bromobenzene | 1926.10 | 2017.10 | 2143.00 | 2152.00 | 1978.00 | 2112.10 | 2101.50 | 2237.90 | 2131.80 | 2147.50 | 2106.60 | 1966.20 | 2084.98 | 92.55 | 0.00 | 2000.00 | 8.29 | 251.55 | 56.01 |
| ~~49 trans-1,4-Dichloro-2-butene~~ | ~~1842.10~~ | ~~2006.90~~ | ~~0.00~~ | ~~0.00~~ | ~~1559.10~~ | ~~1622.10~~ | ~~0.00~~ | ~~0.00~~ | ~~2095.00~~ | ~~2038.40~~ | ~~1720.30~~ | ~~1663.20~~ | ~~1218.16~~ | ~~915.13~~ | ~~0.00~~ | ~~5000.00~~ | ~~0.49~~ | ~~2487.33~~ | Ratio 1 to 20 Failed KK 9/1/23 |
| 50 Decane | 1615.10 | 1778.60 | 2129.40 | 2181.10 | 2003.60 | 2132.80 | 2045.60 | 2154.60 | 2182.20 | 2093.70 | 1905.70 | 1735.20 | 1996.47 | 193.34 | 0.00 | 2000.00 | 3.80 | 525.49 | — |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 2-Chlorotoluene | 1899.50 | 2034.60 | 2098.60 | 2099.60 | 2017.10 | 2057.00 | 2149.80 | 2270.00 | 2109.40 | 2155.90 | 2046.80 | 1929.80 | 2072.94 | 100.19 | 0.00 | 2000.00 | 7.61 | 272.31 | 37.65 |
| 52 tert-Butylbenzene | 1709.50 | 1815.20 | 2101.20 | 2190.60 | 1962.60 | 2023.50 | 1924.80 | 2003.70 | 2167.50 | 2171.80 | 2116.10 | 1963.00 | 2012.45 | 148.72 | 0.00 | 2000.00 | 4.98 | 404.22 | |
| 53 Undecane | 1412.40 | 1602.70 | 2253.60 | 2278.00 | 1994.40 | 2099.90 | 2003.60 | 2085.80 | 2074.90 | 1977.60 | 1998.80 | 1746.60 | 1960.26 | 254.65 | 0.00 | 2000.00 | 2.83 | 692.13 | 170.54 |
| 54 1,2-Dibromo-3-chloropropane | 1905.80 | 2087.80 | 2121.00 | 2135.10 | 2009.30 | 2143.50 | 1906.70 | 2031.00 | 1892.00 | 1907.10 | 1898.50 | 1871.70 | 1992.46 | 107.11 | 0.00 | 2000.00 | 6.84 | 291.17 | 113.55 |
| 55 Dodecane | 1238.50 | 1242.90 | 1478.10 | 1658.20 | 1866.80 | 1934.00 | 1997.00 | 1963.10 | 1961.40 | 1767.90 | 1840.10 | 1781.10 | 1723.16 | 269.76 | 0.00 | 2000.00 | 2.35 | 733.21 | 72.63 |
| 56 1,2,4-Trichlorobenzene | 1758.20 | 1893.80 | 2103.50 | 2224.80 | 2132.60 | 2072.60 | 2173.90 | 2241.20 | 2067.10 | 1990.90 | 2068.10 | 2043.70 | 2064.20 | 136.16 | 0.00 | 2000.00 | 5.58 | 370.09 | 134.06 |
| 57 Hexachlorobutadiene | 1993.70 | 2084.30 | 2485.40 | 2472.80 | 2129.70 | 2134.60 | 2476.50 | 2588.60 | 2178.30 | 2043.70 | 2068.00 | 2021.80 | 2218.95 | 209.31 | 0.00 | 2000.00 | 3.90 | 568.90 | 102.47 |
| 58 1,2,3-Trichlorobenzene | 1838.50 | 1816.30 | 2232.90 | 2399.70 | 2249.60 | 2127.00 | 2250.00 | 2906.00 | 2129.10 | 1894.90 | 2075.90 | 2093.70 | 2117.30 | 186.49 | 0.00 | 2000.00 | 4.18 | 506.89 | 119.68 |

Reviewer 1 _____ Date: 9/1/27

Reviewer 2 _____ Date: 09/06/23

Blank (ppbv)

x=595.640 (ppbv)
2x=1191.281
3x=1786.921
4x=2382.562

MDL Verification for 2.0ppbv MDL
Standard #3018-3942 (5.0ppbv)
Load volume of 60ml
Spike concentration of 1.5ppbv
File #91090109.

Ethanol and Acetone (ppbv)
x=1934.88
2x=3869.76
3x=5804.64
4x=7739.52

MDL Verification for Ethanol and Acetone MDL
Standard #3018-3942 (5.0ppbv)
Load volume of 160ml
Spike concentration of 4.0ppbv
File #91090111

# AT23 Naphthalene (0.2ppbv) MDL

]s12H Report Date : 01-SEP-2023 07:53 Page 1
US32TAR1
SPIKED METHOD DETECTION LIMIT SUMMARY REPORT
Method File: /chem/msda.i/29AUG23.b/a23q0825a.m Spiked ID(s) Spiked Vol(s)
Batch File: /chem/msda.i/29AUG23.b
Instrument Names: msdp.i
Student T 2.718 for 12 Replicates with 99% Confidence
]s14H

| ID: | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL10 | MDL11 | MDL12 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILENAME: | p0801095 | p0802098 | 91080109a | 91080217a | 30823105 | 30824104 | j082412a | j082508a | 16082508a | 16082808a | a082809a | a082909a | | | | | | |
| INJ.DATE: | 1-Aug-23 | 2-Aug-23 | 1-Aug-23 | 2-Aug-23 | 23-Aug-23 | 24-Aug-23 | 24-Aug-23 | 25-Aug-23 | 25-Aug-23 | 28-Aug-23 | 28-Aug-23 | 29-Aug-23 | | | | | | |
| INJ.TIME: | 15:13 | 14:40 | 12:20 | 14:19 | 22:02 | 15:56 | 16:18 | 14:38 | 15:50 | 13:29 | 15:33 | 16:40 | | | | | | |
| Compound | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL10 | MDL11 | MDL12 | AVG CONC | STD DEV | SPK AMT | RL | RATIO | MDL |
| * 1 Bromochloromethane | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 |
| $ 2 1,2-Dichloroethane-d4 | 26025.00 | 26363.00 | 25657.00 | 24467.00 | 24850.00 | 24807.00 | 25416.00 | 25684.00 | 10076.00 | 10190.00 | 24749.00 | 24130.00 | 22701.17 | 5906.78 | 0.00 | 400.00 | 1.41 | 16054.64 |
| * 3 1,4-Difluorobenzene | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 |
| $ 4 Toluene-d8 | 24761.00 | 24391.00 | 24575.00 | 24488.00 | 25262.00 | 25221.00 | 24941.00 | 25118.00 | 10023.00 | 10049.00 | 24696.00 | 24836.00 | 22363.42 | 5764.70 | 0.00 | 400.00 | 1.43 | 15668.45 |
| * 5 Chlorobenzene-d5 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 |
| $ 6 4-Bromofluorobenzene | 24461.00 | 24686.00 | 24852.00 | 24750.00 | 25290.00 | 25158.00 | 24720.00 | 24623.00 | 9315.60 | 9311.70 | 24439.00 | 24741.00 | 22195.51 | 6022.18 | 0.00 | 400.00 | 1.36 | 16368.28 |
| 7 Naphthalene | 181.56 | 193.92 | 260.52 | 263.44 | 229.12 | 224.77 | 185.56 | 186.35 | 188.71 | 185.39 | 217.65 | 217.05 | 210.75 | 29.12 | 0.00 | 1000.00 | 2.66 | 79.14 |

Blank (ppbv)

Reviewer 1 _____ Date: 9/1/23
Reviewer 2 _____ Date: 09/06/23

57.36

x= 79.14 (ppbv)
2x=158.28
3x=237.42
4x=316.56

MDL Verification for Naph MDL
Standard #3018-3942 (5.0ppbv)
Load volume of 80ml
Spike concentration of 2.0ppbv (0.2ppbv for Naph)
File #91090110

MDL Blank

Il(s12H Report Date : 30-AUG-2023 13:01 Page 1
US32TAR1

BLANK METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msda.i/29AUG23.b/a23q0825a.m
Batch File: /chem/msda.i/29AUG23.b
Instrument Names: msdp.i Il(s14H
Student T 2.718 for 12 Replicates with 99% Confidence

| ID: | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL010 | MDL11 | MDL12 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILENAME: | p080107EPALB | p080207EPALB | 91080107EPALB | 91080209EPALB | 3082311EPALB | 308240 8EPALB | J082406EPALB | J082506EPALB | 16082506EPALB | 16082806EPALB | a082807EPALB | a082907EPALB | | | | | | |
| INJ.DATE: | 1-Aug-23 | 2-Aug-23 | 1-Aug-23 | 2-Aug-23 | 23-Aug-23 | 24-Aug-23 | 24-Aug-23 | 25-Aug-23 | 25-Aug-23 | 28-Aug-23 | 28-Aug-23 | 29-Aug-23 | | | | | | |
| INJ.TIME: | 13:48 | 12:58 | 10:44 | 12:53 | 22:38 | 14:35 | 13:54 | 13:05 | 14:30 | 12:08 | 14:12 | 15:15 | | | | | | |
| Compound | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL10 | MDL11 | MDL12 | AVG CONC | STD DEV | MAX | RL | CAL MDL | MDL |
| 1 Freon 134a | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 2 Propylene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 3 1,1-Difluoroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 4 Freon 12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 5 Chlorodifluoromethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 6 Freon 114 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 7 Isobutane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 8 Chloromethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 9 Butane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 10 Vinyl Chloride | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 11 1,3-Butadiene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 12 Bromomethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 13 Chloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 201.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 14 Isopentane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 16.77 | 58.08 | 201.19 | 400.00 | 157.86 | 201.19 |
| 15 Vinyl Bromide | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 16 Freon 11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 17 Dichlorofluoromethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 37.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 18 Pentane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.11 | 10.77 | 37.30 | 400.00 | 29.27 | 37.30 |
| 19 Ethanol | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 20 Acrolein | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 21 Freon 113 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 22 1,1-Dichloroethene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 33.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 23 Acetone | 207.02 | 579.74 | 441.04 | 520.73 | 0.00 | 730.09 | 1267.20 | 873.67 | 106.84 | 422.40 | 1390.70 | 665.19 | 600.38 | 425.07 | 1390.70 | 400.00 | 1155.35 | 1390.70 |
| 24 Iodomethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 25 Carbon Disulfide | 93.48 | 82.92 | 50.79 | 52.35 | 296.45 | 367.53 | 162.66 | 111.28 | 0.00 | 0.00 | 0.00 | 0.00 | 101.45 | 120.31 | 367.53 | 400.00 | 327.00 | 367.53 |
| 26 2-Propanol | 0.00 | 0.00 | 85.63 | 0.00 | 0.00 | 0.00 | 112.88 | 0.00 | 110.76 | 241.23 | 0.00 | 126.58 | 56.42 | 78.83 | 241.23 | 400.00 | 214.26 | 241.23 |
| 27 3-Chloropropene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 28 Acetonitrile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 29 Methylene Chloride | 0.00 | 0.00 | 21.99 | 21.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.64 | 8.51 | 21.99 | 400.00 | 23.13 | 21.99 |
| 30 tert-Butyl alcohol | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 31 Methyl tert-butyl ether | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 32 trans-1,2-Dichloroethene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 33 Acrylonitrile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 34 Hexane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 35 Isopropyl ether | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 36 1,1-Dichloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 37 Vinyl Acetate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 38 Ethyl-tert-butyl ether | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 39 2,2-Dichloropropane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 40 cis-1,2-Dichloroethene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 41 2-Butanone | 0.00 | 0.00 | 52.76 | 33.88 | 0.00 | 0.00 | 159.34 | 0.00 | 0.00 | 0.00 | 70.07 | 0.00 | 26.34 | 48.53 | 159.34 | 400.00 | 131.90 | 159.34 |
| 42 Ethyl Acetate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| * 43 Bromochloromethane | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 25.00 | 400.00 | 15.87 | 38.37 |
| 44 Tetrahydrofuran | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 10.38 | 35.97 | 400.00 | 28.22 | 35.97 |
| 45 Chloroform | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 46 Cyclohexane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 35.97 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 47 1,1,1-Trichloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 48 Carbon Tetrachloride | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 49 1,1-Dichloropropene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 21.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 50 2,2,4-Trimethylpentane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.82 | 6.32 | 21.89 | 400.00 | 17.17 | 21.89 |
| 51 Benzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| $ 52 1,2-Dichloroethane-d4 | 24758.00 | 25080.00 | 26504.00 | 24839.00 | 24674.00 | 25600.00 | 25846.00 | 26006.00 | 10407.00 | 10060.00 | 24947.00 | 24442.00 | 22763.58 | 5885.28 | 26504.00 | 400.00 | 15996.19 | 38759.77 |
| 53 tert-Amyl methyl ether | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 54 1,2-Dichloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 55 Heptane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.47 | 18.94 | 65.60 | 400.00 | 51.47 | 65.60 |
| * 56 1,4-Difluorobenzene | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 25.00 | 400.00 | 15.87 | 38.37 |
| 57 n-Butanol | 0.00 | 0.00 | 264.70 | 217.12 | 0.00 | 0.00 | 691.92 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 97.81 | 209.14 | 691.92 | 400.00 | 568.45 | 691.92 |
| 58 Trichloroethene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 44.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.69 | 12.78 | 44.26 | 400.00 | 34.73 | 44.26 |
| 59 Methylcyclohexane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 1,2-Dichloropropane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | | |
| 61 Methyl Methacrylate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | | |
| 62 1,4-Dioxane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | | |
| 63 Dibromomethane | 0.00 | 0.00 | 23.76 | 0.00 | 0.00 | 0.00 | 91.72 | 50.70 | 20.88 | 0.00 | 21.04 | 11.94 | 18.34 | 27.85 | 91.72 | 400.00 | 75.70 | 91.72 | |
| 64 Bromodichloromethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 65 1-Bromo-2-Chloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 66 cis-1,3-Dichloropropene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 67 4-Methyl-2-pentanone | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 | |
| $ 68 Toluene-d8 | 24696.00 | 24545.00 | 24337.00 | 24161.00 | 25397.00 | 25226.00 | 24915.00 | 24785.00 | 9947.10 | 9867.60 | 25184.00 | 25022.00 | 22340.23 | 5818.67 | 25397.00 | 400.00 | 15815.14 | 38155.37 | |
| 69 Octane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 70 Toluene | 0.00 | 0.00 | 9.01 | 0.00 | 0.00 | 0.00 | 46.35 | 0.00 | 19.93 | 24.25 | 0.00 | 0.00 | 8.29 | 14.74 | 46.35 | 400.00 | 40.05 | 46.35 | |
| 71 trans-1,3-Dichloropropene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 72 1,1,2-Trichloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 36.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.03 | 10.51 | 36.41 | 400.00 | 28.57 | 36.41 | |
| 73 Tetrachloroethene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 39.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.29 | 11.41 | 39.53 | 400.00 | 31.02 | 39.53 | |
| 74 1,3-Dichloropropane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.12 | 0.00 | 0.00 | 0.68 | 2.34 | 8.12 | 2000.00 | 6.37 | 8.12 | |
| 75 2-Hexanone | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 73.03 | 0.00 | 0.00 | 6.09 | 21.08 | 73.03 | 400.00 | 57.30 | 73.03 | |
| 76 Dibromochloromethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 33.54 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.80 | 9.68 | 33.54 | 400.00 | 26.32 | 33.54 | |
| 77 1,2-Dibromoethane (EDB) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 28.82 | 0.00 | 25.12 | 12.81 | 0.00 | 0.00 | 5.56 | 10.68 | 28.82 | 400.00 | 29.02 | 28.82 | |
| * 78 Chlorobenzene-d5 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 25.00 | 400.00 | 15.87 | 38.37 | |
| 79 Chlorobenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 66.22 | 0.00 | 35.37 | 39.31 | 0.00 | 0.00 | 11.74 | 22.41 | 66.22 | 400.00 | 60.92 | 66.22 | |
| 80 Ethyl Benzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 34.82 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.90 | 10.05 | 34.82 | 400.00 | 27.32 | 34.82 | |
| 81 1,1,1,2-Tetrachloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | |
| 82 Nonane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 42.34 | 0.00 | 0.00 | 38.73 | 0.00 | 0.00 | 6.76 | 15.80 | 42.34 | 400.00 | 42.94 | 42.34 | |
| 83 m,p-Xylene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 32.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.69 | 9.30 | 32.23 | 400.00 | 25.29 | 32.23 | |
| 84 o-Xylene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 29.28 | 0.00 | 0.00 | 8.21 | 0.00 | 0.00 | 3.12 | 8.57 | 29.28 | 400.00 | 23.29 | 29.28 | |
| 85 Styrene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 18.10 | 35.03 | 0.00 | 60.20 | 56.88 | 0.00 | 0.00 | 14.18 | 23.35 | 60.20 | 400.00 | 63.47 | 60.20 | |
| 86 Bromoform | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 23.32 | 0.00 | 0.00 | 17.67 | 0.00 | 0.00 | 3.42 | 8.07 | 23.32 | 400.00 | 21.93 | 23.32 | |
| 87 Cumene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 88 Cyclohexanone | 0.00 | 0.00 | 34.82 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 53.54 | 0.00 | 0.00 | 13.84 | 26.66 | 77.70 | 5000.00 | 72.47 | 77.70 | |
| $ 89 4-Bromofluorobenzene | 24121.00 | 23417.00 | 24496.00 | 24780.00 | 25519.00 | 25079.00 | 24470.00 | 24251.00 | 9759.80 | 9991.30 | 24430.00 | 25018.00 | 22111.01 | 5739.76 | 25519.00 | 400.00 | 15600.67 | 37711.67 | |
| 90 1,1,2,2-Tetrachloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 42.61 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.55 | 12.30 | 42.61 | 400.00 | 33.44 | 42.61 | |
| 91 Bromobenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 40.69 | 0.00 | 64.54 | 68.01 | 0.00 | 0.00 | 14.44 | 26.87 | 68.01 | 2000.00 | 73.05 | 68.01 | |
| 92 Propylbenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 34.26 | 0.00 | 0.00 | 2.85 | 9.89 | 34.26 | 400.00 | 26.88 | 34.26 | |
| 93 1,2,3-Trichloropropane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 94 trans-1,4-Dichloro-2-buten | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 | |
| 95 Decane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.45 | 15.90 | 50.62 | 400.00 | 43.22 | 50.62 | |
| 96 4-Ethyltoluene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 37.65 | 0.00 | 0.00 | 3.14 | 10.87 | 37.65 | 400.00 | 29.54 | 37.65 | |
| 97 2-Chlorotoluene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 26.79 | 0.00 | 0.00 | 50.62 | 0.00 | 0.00 | 6.45 | 15.90 | 50.62 | 400.00 | 43.22 | 50.62 | |
| 98 1,3,5-Trimethylbenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 37.65 | 0.00 | 0.00 | 3.14 | 10.87 | 37.65 | 400.00 | 29.54 | 37.65 | |
| 99 alpha Methyl Styrene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 28.82 | 0.00 | 0.00 | 38.13 | 0.00 | 0.00 | 5.58 | 13.18 | 38.13 | 400.00 | 35.83 | 38.13 | |
| 100 tert-Butylbenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 30.19 | 0.00 | 60.99 | 63.97 | 0.00 | 0.00 | 12.93 | 24.71 | 63.97 | 400.00 | 67.17 | 63.97 | |
| 101 1,2,4-Trimethylbenzene | 29.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 102 sec-Butylbenzene | 0.00 | 0.00 | 0.00 | 0.00 | 13.91 | 0.00 | 27.85 | 0.00 | 60.86 | 64.40 | 0.00 | 0.00 | 16.39 | 24.27 | 64.40 | 400.00 | 65.96 | 64.40 | |
| 103 p-Cymene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 28.61 | 25.79 | 0.00 | 0.00 | 4.53 | 10.61 | 28.61 | 400.00 | 28.83 | 28.61 | |
| 104 1,3-Dichlorobenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 31.61 | 0.00 | 41.35 | 0.00 | 0.00 | 0.00 | 6.08 | 14.35 | 41.35 | 400.00 | 39.01 | 41.35 | |
| 105 1,4-Dichlorobenzene | 0.00 | 0.00 | 9.33 | 7.30 | 0.00 | 0.00 | 49.70 | 0.00 | 116.81 | 115.32 | 0.00 | 0.00 | 25.75 | 44.92 | 116.81 | 400.00 | 122.09 | 116.81 | |
| 106 alpha-Chlorotoluene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 50.40 | 0.00 | 168.32 | 154.12 | 0.00 | 0.00 | 32.46 | 61.88 | 168.32 | 400.00 | 168.20 | 168.32 | |
| 107 Butylbenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 97.90 | 109.39 | 0.00 | 0.00 | 17.27 | 40.42 | 109.39 | 400.00 | 109.85 | 109.39 | |
| 108 Undecane | 21.72 | 14.70 | 18.88 | 0.00 | 0.00 | 0.00 | 26.58 | 0.00 | 65.74 | 71.27 | 0.00 | 0.00 | 13.63 | 26.76 | 71.27 | 400.00 | 72.73 | 71.27 | |
| 109 1,2-Dichlorobenzene | 0.00 | 0.00 | 7.18 | 0.00 | 0.00 | 0.00 | 40.83 | 0.00 | 52.63 | 48.43 | 170.54 | 40.65 | 34.03 | 47.35 | 170.54 | 400.00 | 128.71 | 170.54 | |
| 110 1,2-Dibromo-3-chloropror | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 51.20 | 0.00 | 111.80 | 121.32 | 0.00 | 0.00 | 24.29 | 45.54 | 121.32 | 400.00 | 123.77 | 121.32 | |
| 111 Dodecane | 8.77 | 17.03 | 0.00 | 17.47 | 0.00 | 0.00 | 41.43 | 0.00 | 113.55 | 97.70 | 0.00 | 0.00 | 21.06 | 41.38 | 113.55 | 2000.00 | 112.47 | 113.55 | |
| 112 1,2,4-Trichlorobenzene | 48.41 | 0.00 | 15.24 | 9.93 | 34.23 | 20.59 | 75.10 | 0.00 | 92.63 | 79.73 | 65.78 | 23.19 | 31.64 | 35.80 | 92.63 | 400.00 | 97.31 | 92.63 | |
| 113 Hexachlorobutadiene | 24.52 | 26.43 | 7.37 | 0.00 | 0.00 | 0.00 | 143.17 | 14.62 | 334.06 | 330.59 | 33.96 | 30.59 | 84.62 | 121.37 | 334.06 | 400.00 | 329.89 | 334.06 | |
| 114 Naphthalene | 11.90 | 14.18 | 2.14 | 0.00 | 36.08 | 18.14 | 102.47 | 0.00 | 72.85 | 61.35 | 0.00 | 0.00 | 24.58 | 35.26 | 102.47 | 400.00 | 95.83 | 102.47 | |
| 115 1,2,3-Trichlorobenzene | 0.00 | 0.00 | 17.12 | 10.07 | 0.00 | 0.00 | 32.58 | 9.14 | 56.59 | 57.36 | 13.32 | 11.66 | 21.92 | 19.45 | 57.36 | 400.00 | 52.87 | 57.36 | |
| | | | | | | | 201.96 | 0.00 | 319.68 | 308.69 | 42.02 | 33.30 | 77.74 | 123.96 | 319.68 | 400.00 | 336.92 | 319.68 | |

(ppt.)

Reviewer 1 _____ Date: 9/1/23

Reviewer 2 _____ Date: 09/06/23

| | | | |
|---|---|---|---|
| **Client ID:** | CCV | | |
| **Lab ID:** | 2406133-24A | **Date/Time Analyzed:** | 6/13/24 11:42 AM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061303a |

| Compound | CAS# | %Recovery |
|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 94 |
| 1,4-Dichlorobenzene | 106-46-7 | 98 |
| Benzene | 71-43-2 | 93 |
| cis-1,2-Dichloroethene | 156-59-2 | 93 |
| Ethyl Benzene | 100-41-4 | 97 |
| m,p-Xylene | 108-38-3 | 98 |
| o-Xylene | 95-47-6 | 97 |
| Toluene | 108-88-3 | 92 |
| trans-1,2-Dichloroethene | 156-60-5 | 93 |
| Trichloroethene | 79-01-6 | 117 |
| Vinyl Chloride | 75-01-4 | 97 |

D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 93 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 100 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/13JUN24.b/3061303a.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 13-JUN-2024 11:42
Operator : RT Inst ID: msd3.i
Smp Info : 50mL 3018-4465
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/13JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:00 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 13 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23_cont111224.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ======= | ========== | ===== |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 94691 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 74234 | | | | 47.79- 107.79 | 78.40 |
| 5.432 | 5.432 (1.000) | 49 | 143700 | | | | 131.33- 191.33 | 151.76 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 348240 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 49973 | | | | 0.00- 45.65 | 14.35 |
| * 153 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 341662 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 170326 | | | | 22.92- 82.92 | 49.85 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 114844 | 25.0000 | 23.285 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 64467 | | | | 23.17- 83.17 | 56.13 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 327173 | 25.0000 | 24.167 | | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 34632 | | | | 0.00- 41.42 | 10.59 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 222313 | | | 37.54- 97.54 | 67.95 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 253138 | 25.0000 | 24.931 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 278203 | | | 88.49- 148.49 | 109.90 |
| 10.288 | 10.288 (1.124) | 176 | 246745 | | | 66.73- 126.73 | 97.47 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 113150 | 50.0000 | 51.697 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 103149 | | | 64.17- 124.17 | 91.16 |
| 1.493 | 1.493 (0.275) | 51 | 436018 | | | 365.46- 425.46 | 385.35 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 118286 | 50.0000 | 47.694 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 78829 | | | 35.86- 95.86 | 66.64 |
| 1.437 | 1.437 (0.264) | 39 | 86295 | | | 41.66- 101.66 | 72.95 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.270) | 65 | 72199 | 50.0000 | 50.500 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.275) | 51 | 436018 | | | 568.10- 628.10 | 603.91 |
| 1.577 | 1.577 (0.290) | 47 | 14580 | | | 0.00- 50.57 | 20.19 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.270) | 85 | 284314 | 50.0000 | 50.700 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 91764 | | | 2.88- 62.88 | 32.28 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.507 | 1.507 (0.277) | 67 | 33467 | 50.0000 | 47.692 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.275) | 51 | 436018 | | | 1257.55-1317.55 | 1302.83 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 257550 | 50.0000 | 52.245 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 83569 | | | 2.10- 62.10 | 32.45 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.577 | 1.577 (0.290) | 43 | 249308 | 50.0000 | 47.540 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 42 | 79320 | | | 1.69- 61.69 | 31.82 |
| 1.577 | 1.577 (0.290) | 58 | 8286 | | | 0.00- 33.32 | 3.32 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.674 (0.308) | 50 | 136720 | 50.0000 | 50.567 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.674 (0.308) | 52 | 42075 | | | 1.38- 61.38 | 30.77 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.716 (0.316) | 58 | 25434 | 50.0000 | 46.918 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 18 Butane (continued) | | | | | | | |
| 1.716 | 1.716 (0.316) | 43 | 222152 | | | 866.38- 926.38 | 873.44 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.758 (0.324) | 62 | 126953 | 50.0000 | 48.529 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.758 (0.324) | 64 | 42658 | | | 3.10- 63.10 | 33.60 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.772 (0.326) | 54 | 111416 | 50.0000 | 45.336 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.772 (0.326) | 39 | 119541 | | | 78.74- 138.74 | 107.29 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 101389 | 50.0000 | 54.237 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 95947 | | | 64.19- 124.19 | 94.63 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.409) | 64 | 65202 | 50.0000 | 51.973 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.409) | 66 | 19363 | | | 2.32- 62.32 | 29.70 |
| 2.220 | 2.220 (0.409) | 49 | 21926 | | | 6.33- 66.33 | 33.63 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 171494 | 50.0000 | 47.903 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 108026 | | | 31.77- 91.77 | 62.99 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.402 (0.442) | 106 | 113337 | 50.0000 | 52.128 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.402 (0.442) | 108 | 105912 | | | 64.21- 124.21 | 93.45 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 325550 | 50.0000 | 50.392 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 213710 | | | 34.93- 94.93 | 65.65 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.458 (0.453) | 67 | 245261 | 50.0000 | 47.610 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 69 | 77801 | | | 1.95- 61.95 | 31.72 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 254864 | 50.0000 | 46.788 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 38090 | | | 0.00- 44.64 | 14.95 |
| 2.514 | 2.514 (0.463) | 72 | 20660 | | | 0.00- 37.90 | 8.11 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 23834 | 61.6000 | 46.501 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.507) | 45 | 62834 | | | 224.40- 284.40 | 263.63 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.054 | 3.054 (0.562) | 55 | 28326 | 58.2500 | 25.678 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 42 Acrolein (continued) | | | | | | | |
| 3.054 | 3.054 (0.562) | 56 | 39087 | | | 108.02- 168.02 | 137.99 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 285980 | 50.0000 | 50.090 | 80.00- 120.00 | 100.00 |
| 3.054 | 3.054 (0.562) | 153 | 183921 | | | 35.07- 95.07 | 64.31 |
| 3.061 | 3.061 (0.563) | 101 | 314402 | | | 87.45- 147.45 | 109.94 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.089 (0.569) | 96 | 114628 | 50.0000 | 47.186 | 80.00- 120.00 | 100.00 |
| 3.089 | 3.089 (0.569) | 98 | 72634 | | | 33.27- 93.27 | 63.36 |
| 3.089 | 3.089 (0.569) | 61 | 237241 | | | 159.05- 219.05 | 206.97 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.598) | 58 | 61099 | 50.0000 | 44.199 | 80.00- 120.00 | 100.00 |
| 3.240 | 3.240 (0.596) | 43 | 219487 | | | 329.45- 389.45 | 359.23 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.326 (0.612) | 76 | 298533 | 50.0000 | 45.068 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.631) | 45 | 240273 | 50.0000 | 41.806 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.631) | 43 | 44560 | | | 0.00- 48.18 | 18.55 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.584 | 3.584 (0.660) | 76 | 49193 | 50.0000 | 44.081 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.576 (0.658) | 41 | 186238 | | | 366.80- 426.80 | 378.59 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.677 | 3.677 (0.677) | 41 | 137291 | 58.8000 | 54.123 | 80.00- 120.00 | 100.00 |
| 3.677 | 3.677 (0.677) | 40 | 69125 | | | 22.74- 82.74 | 50.35 |
| 3.677 | 3.677 (0.677) | 38 | 16119 | | | 0.00- 42.52 | 11.74 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.777 (0.695) | 49 | 173531 | 50.0000 | 45.702 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.777 (0.695) | 84 | 100141 | | | 24.90- 84.90 | 57.71 |
| 3.777 | 3.777 (0.695) | 51 | 52836 | | | 0.00- 59.67 | 30.45 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.906 | 3.906 (0.719) | 59 | 282756 | 57.6000 | 48.225 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.906 (0.719) | 41 | 65485 | | | 0.00- 51.85 | 23.16 |
| 3.906 | 3.906 (0.719) | 57 | 28475 | | | 0.00- 40.17 | 10.07 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 3.999 | 3.999 (0.736) | 73 | 311299 | 50.0000 | 44.910 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.738) | 57 | 90479 | | | 0.00- 58.72 | 29.06 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 3.999 | 3.999 (0.736) | 41 | 91896 | | | 0.00- 59.38 | 29.52 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 76011 | 50.0000 | 46.591 | 80.00- 120.00 | 100.00 |
| 4.021 | 4.021 (0.740) | 61 | 190898 | | | 232.13- 292.13 | 251.15 |
| 4.028 | 4.028 (0.742) | 96 | 119600 | | | 127.26- 187.26 | 157.35 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.135 (0.761) | 52 | 91964 | 50.0000 | 43.588 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.135 (0.761) | 53 | 109767 | | | 86.45- 146.45 | 119.36 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.250 | 4.250 (0.782) | 57 | 217073 | 50.0000 | 42.702 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.257 (0.784) | 43 | 149984 | | | 40.97- 100.97 | 69.09 |
| 4.257 | 4.257 (0.784) | 86 | 27947 | | | 0.00- 42.68 | 12.87 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.551 (0.838) | 63 | 215025 | 50.0000 | 45.609 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 65 | 66231 | | | 0.47- 60.47 | 30.80 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.551 | 4.551 (0.838) | 45 | 510292 | 50.0000 | 45.139 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 87 | 101846 | | | 0.00- 49.55 | 19.96 |
| 4.551 | 4.551 (0.838) | 59 | 53392 | | | 0.00- 40.42 | 10.46 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.608 | 4.608 (0.848) | 86 | 5519 | 50.0000 | 13.295 | 80.00- 120.00 | 100.00 |
| 4.601 | 4.601 (0.847) | 43 | 113311 | | | 1727.95-1787.95 | 2053.11 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.937 (0.909) | 59 | 433809 | 50.0000 | 44.498 | 80.00- 120.00 | 100.00 |
| 4.937 | 4.937 (0.909) | 87 | 149883 | | | 3.90- 63.90 | 34.55 |
| 4.937 | 4.937 (0.909) | 41 | 89094 | | | 0.00- 49.72 | 20.54 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.138 (0.946) | 77 | 208885 | 50.0000 | 44.883 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.138 (0.946) | 79 | 67495 | | | 2.39- 62.39 | 32.31 |
| 5.138 | 5.138 (0.946) | 97 | 49492 | | | 0.00- 53.57 | 23.69 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.181 | 5.181 (0.954) | 98 | 78530 | 50.0000 | 46.484 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 121626 | | | 125.53- 185.53 | 154.88 |
| 5.181 | 5.181 (0.954) | 61 | 189029 | | | 219.86- 279.86 | 240.71 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.210 | 5.210 (0.959) | 72 | 54619 | 50.0000 | 44.874 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 86 2-Butanone (continued) | | | | | | | |
| 5.231 | 5.231 (0.963) | 43 | 606244 | | | 1138.34-1198.34 | 1109.95 |
| 5.210 | 5.210 (0.959) | 57 | 21859 | | | 10.83- 70.83 | 40.02 |
| 87 Ethyl Acetate | | | | | | CAS #: 141-78-6 | |
| 5.238 | 5.238 (0.964) | 45 | 48195 | 50.0000 | 39.592 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 61 | 189029 | | | 338.96- 398.96 | 392.22 |
| 5.238 | 5.238 (0.964) | 70 | 24924 | | | 24.53- 84.53 | 51.71 |
| 89 Tetrahydrofuran | | | | | | CAS #: 109-99-9 | |
| 5.424 | 5.424 (0.999) | 42 | 147804 | 50.0000 | 39.717 | 80.00- 120.00 | 100.00 |
| 5.424 | 5.424 (0.999) | 71 | 42988 | | | 0.00- 58.54 | 29.08 |
| 5.424 | 5.424 (0.999) | 72 | 44241 | | | 0.00- 59.59 | 29.93 |
| 92 Chloroform | | | | | | CAS #: 67-66-3 | |
| 5.510 | 5.510 (1.014) | 83 | 238061 | 50.0000 | 47.024 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.510 (1.014) | 85 | 154819 | | | 35.77- 95.77 | 65.03 |
| 94 Cyclohexane | | | | | | CAS #: 110-82-7 | |
| 5.604 | 5.604 (1.032) | 84 | 154173 | 50.0000 | 45.522 | 80.00- 120.00 | 100.00 |
| 5.604 | 5.604 (1.032) | 56 | 232747 | | | 125.79- 185.79 | 150.96 |
| 5.604 | 5.604 (1.032) | 41 | 132250 | | | 61.55- 121.55 | 85.78 |
| 96 1,1,1-Trichloroethane | | | | | | CAS #: 71-55-6 | |
| 5.632 | 5.632 (1.037) | 97 | 259873 | 50.0000 | 47.066 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.632 (1.037) | 99 | 167020 | | | 32.84- 92.84 | 64.27 |
| 97 Carbon Tetrachloride | | | | | | CAS #: 56-23-5 | |
| 5.754 | 5.754 (1.059) | 119 | 288283 | 50.0000 | 49.249 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.754 (1.059) | 117 | 300118 | | | 75.19- 135.19 | 104.11 |
| 99 1,1-Dichloropropene | | | | | | CAS #: 563-58-6 | |
| 5.797 | 5.797 (0.903) | 110 | 67012 | 50.0000 | 47.772 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.797 (0.903) | 75 | 172106 | | | 234.16- 294.16 | 256.83 |
| 101 2,2,4-Trimethylpentane | | | | | | CAS #: 540-84-1 | |
| 5.990 | 5.990 (1.103) | 57 | 729101 | 50.0000 | 45.906 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (1.103) | 56 | 243929 | | | 3.09- 63.09 | 33.46 |
| 5.990 | 5.990 (1.103) | 41 | 193864 | | | 0.00- 57.28 | 26.59 |
| 102 Benzene | | | | | | CAS #: 71-43-2 | |
| 5.990 | 5.990 (0.933) | 78 | 326248 | 50.0000 | 46.531 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 76822 | | | 0.00- 53.69 | 23.55 |
| 105 tert-Amyl methyl ether | | | | | | CAS #: 994-05-8 | |
| 6.083 | 6.083 (0.948) | 87 | 85357 | 50.0000 | 45.301 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.083 | 6.083 (0.948) | 73 | 335999 | | | 365.76- 425.76 | 393.64 |
| 6.083 | 6.083 (0.948) | 55 | 112578 | | | 92.58- 152.58 | 131.89 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.098 (0.950) | 62 | 169632 | 50.0000 | 46.380 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.098 (0.950) | 64 | 54107 | | | 1.80- 61.80 | 31.90 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.177 | 6.177 (0.962) | 71 | 119749 | 50.0000 | 43.115 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.177 (0.962) | 43 | 284258 | | | 207.73- 267.73 | 237.38 |
| 6.177 | 6.177 (0.962) | 57 | 141448 | | | 84.83- 144.83 | 118.12 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.032) | 56 | 63505 | 50.0000 | 39.837 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 41 | 47013 | | | 47.73- 107.73 | 74.03 |
| 6.628 | 6.628 (1.032) | 43 | 39438 | | | 31.60- 91.60 | 62.10 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 198389 | 50.0000 | 58.685 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 225300 | | | 80.23- 140.23 | 113.56 |
| 6.628 | 6.628 (1.032) | 97 | 128387 | | | 34.78- 94.78 | 64.71 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.886 (1.073) | 63 | 144949 | 50.0000 | 43.934 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.886 (1.073) | 62 | 104697 | | | 40.39- 100.39 | 72.23 |
| 6.886 | 6.886 (1.073) | 41 | 87302 | | | 31.86- 91.86 | 60.23 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.972 | 6.972 (0.762) | 69 | 120731 | 50.0000 | 43.382 | 80.00- 120.00 | 100.00 |
| 6.972 | 6.972 (0.762) | 41 | 202367 | | | 145.81- 205.81 | 167.62 |
| 6.972 | 6.972 (0.762) | 100 | 49067 | | | 10.05- 70.05 | 40.64 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.986 | 6.986 (1.088) | 88 | 82970 | 50.0000 | 47.042 | 80.00- 120.00 | 100.00 |
| 6.986 | 6.986 (1.088) | 58 | 68021 | | | 56.33- 116.33 | 81.98 |
| 6.986 | 6.986 (1.088) | 57 | 24692 | | | 2.08- 62.08 | 29.76 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.008 | 7.008 (0.766) | 174 | 168911 | 50.0000 | 52.396 | 80.00- 120.00 | 100.00 |
| 7.000 | 7.000 (0.765) | 93 | 147489 | | | 62.68- 122.68 | 87.32 |
| 7.000 | 7.000 (0.765) | 95 | 123544 | | | 47.70- 107.70 | 73.14 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.144 | 7.144 (1.113) | 83 | 262800 | 50.0000 | 48.024 | 80.00- 120.00 | 100.00 |
| 7.144 | 7.144 (1.113) | 85 | 169322 | | | 34.96- 94.96 | 64.43 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.566 | 7.566 (1.179) | 75 | 213638 | 50.0000 | 45.776 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.566 (1.179) | 77 | 67511 | | | 1.26- 61.26 | 31.60 |
| 7.566 | 7.566 (1.179) | 39 | 130481 | | | 35.06- 95.06 | 61.08 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.728 | 6.728 (1.048) | 83 | 220226 | 50.0000 | 45.860 | 80.00- 120.00 | 100.00 |
| 6.728 | 6.728 (1.048) | 98 | 100666 | | | 14.83- 74.83 | 45.71 |
| 6.728 | 6.728 (1.048) | 55 | 216877 | | | 71.50- 131.50 | 98.48 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.702 | 7.702 (1.200) | 58 | 128459 | 50.0000 | 40.014 | 80.00- 120.00 | 100.00 |
| 7.702 | 7.702 (1.200) | 43 | 376432 | | | 259.88- 319.88 | 293.04 |
| 7.702 | 7.702 (1.200) | 85 | 48122 | | | 7.58- 67.58 | 37.46 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 448938 | 50.0000 | 46.254 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 260089 | | | 27.89- 87.89 | 57.93 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.853 | 7.853 (1.223) | 57 | 149104 | 50.0000 | 42.166 | 80.00- 120.00 | 100.00 |
| 7.853 | 7.853 (1.223) | 85 | 144903 | | | 63.53- 123.53 | 97.18 |
| 7.853 | 7.853 (1.223) | 43 | 412890 | | | 246.00- 306.00 | 276.91 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.111 | 8.111 (0.886) | 75 | 175308 | 50.0000 | 46.435 | 80.00- 120.00 | 100.00 |
| 8.111 | 8.111 (0.886) | 77 | 56492 | | | 1.83- 61.83 | 32.22 |
| 8.111 | 8.111 (0.886) | 39 | 101589 | | | 31.97- 91.97 | 57.95 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.283 | 8.283 (0.905) | 97 | 152303 | 50.0000 | 47.643 | 80.00- 120.00 | 100.00 |
| 8.283 | 8.283 (0.905) | 99 | 94520 | | | 32.52- 92.52 | 62.06 |
| 8.283 | 8.283 (0.905) | 83 | 131239 | | | 58.90- 118.90 | 86.17 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.311 (0.908) | 166 | 251460 | 50.0000 | 52.387 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.311 (0.908) | 129 | 188459 | | | 45.32- 105.32 | 74.95 |
| 8.311 | 8.311 (0.908) | 131 | 184204 | | | 44.17- 104.17 | 73.25 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.483 | 8.483 (0.927) | 58 | 178587 | 50.0000 | 44.530 | 80.00- 120.00 | 100.00 |
| 8.483 | 8.483 (0.927) | 43 | 372125 | | | 177.32- 237.32 | 208.37 |
| 8.490 | 8.490 (0.928) | 100 | 31917 | | | 0.00- 47.18 | 17.87 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.440 | 8.440 (1.315) | 76 | 202890 | 50.0000 | 44.588 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 144 1,3-Dichloropropane (continued) | | | | | | | |
| 8.440 | 8.440 (1.315) | 41 | 172089 | | | 59.72- 119.72 | 84.82 |
| 8.440 | 8.440 (1.315) | 78 | 66822 | | | 3.08- 63.08 | 32.94 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 330717 | 50.0000 | 52.346 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 256888 | | | 47.27- 107.27 | 77.68 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 256046 | 50.0000 | 48.870 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 240825 | | | 64.18- 124.18 | 94.06 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.452 (1.161) | 63 | 270032 | 50.0000 | 46.388 | 80.00- 120.00 | 100.00 |
| 7.452 | 7.452 (1.161) | 65 | 81461 | | | 0.43- 60.43 | 30.17 |
| 7.452 | 7.452 (1.161) | 144 | 30848 | | | 0.00- 40.48 | 11.42 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.003) | 112 | 391090 | 50.0000 | 49.405 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.003) | 114 | 124695 | | | 1.91- 61.91 | 31.88 |
| 9.171 | 9.171 (1.002) | 77 | 197405 | | | 22.97- 82.97 | 50.48 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 194010 | 50.0000 | 48.725 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 591872 | | | 281.09- 341.09 | 305.07 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.307 | 9.307 (1.017) | 43 | 419553 | 50.0000 | 45.367 | 80.00- 120.00 | 100.00 |
| 9.307 | 9.307 (1.017) | 57 | 341163 | | | 50.62- 110.62 | 81.32 |
| 9.307 | 9.307 (1.017) | 85 | 108952 | | | 0.00- 55.65 | 25.97 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.264 | 9.264 (1.013) | 131 | 234596 | 50.0000 | 52.020 | 80.00- 120.00 | 100.00 |
| 9.264 | 9.264 (1.013) | 117 | 153015 | | | 37.10- 97.10 | 65.22 |
| 9.264 | 9.264 (1.013) | 95 | 79313 | | | 4.93- 64.93 | 33.81 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 243245 | 50.0000 | 49.012 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 475237 | | | 170.33- 230.33 | 195.37 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 227361 | 50.0000 | 48.311 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 474087 | | | 181.23- 241.23 | 208.52 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.772 | 9.772 (1.068) | 104 | 385706 | 50.0000 | 47.990 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.772 | 9.772 (1.068) | 78 | 177187 | | | 17.26- 77.26 | 45.94 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.092) | 173 | 346374 | 50.0000 | 54.248 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.092) | 171 | 176920 | | | 21.45- 81.45 | 51.08 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.088 | 10.088 (1.103) | 105 | 704540 | 50.0000 | 49.523 | 80.00- 120.00 | 100.00 |
| 10.088 | 10.088 (1.103) | 120 | 193479 | | | 0.00- 56.93 | 27.46 |
| 10.088 | 10.088 (1.103) | 51 | 82322 | | | 0.00- 42.24 | 11.68 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.252 | 10.252 (1.121) | 55 | 220921 | 50.0000 | 39.250 | 80.00- 120.00 | 100.00 |
| 10.260 | 10.260 (1.121) | 98 | 81109 | | | 5.15- 65.15 | 36.71 |
| 10.252 | 10.252 (1.121) | 42 | 153801 | | | 41.99- 101.99 | 69.62 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.144) | 83 | 273819 | 50.0000 | 37.108 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.467 (1.144) | 85 | 177400 | | | 34.97- 94.97 | 64.79 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.424 | 10.424 (1.139) | 156 | 252734 | 50.0000 | 50.989 | 80.00- 120.00 | 100.00 |
| 10.424 | 10.424 (1.139) | 158 | 248348 | | | 67.47- 127.47 | 98.26 |
| 10.424 | 10.424 (1.139) | 77 | 321252 | | | 108.68- 168.68 | 127.11 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.489 | 10.489 (1.146) | 120 | 208324 | 50.0000 | 49.521 | 80.00- 120.00 | 100.00 |
| 10.489 | 10.489 (1.146) | 91 | 850787 | | | 383.60- 443.60 | 408.40 |
| 10.489 | 10.489 (1.146) | 105 | 32692 | | | 0.00- 46.14 | 15.69 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.517 (1.150) | 110 | 105244 | 50.0000 | 46.995 | 80.00- 120.00 | 100.00 |
| 10.517 | 10.517 (1.150) | 75 | 349197 | | | 324.28- 384.28 | 331.80 |
| 10.517 | 10.517 (1.150) | 61 | 86042 | | | 57.24- 117.24 | 81.75 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.603 (1.159) | 57 | 445774 | 50.0000 | 40.943 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 71 | 139293 | | | 1.11- 61.11 | 31.25 |
| 10.603 | 10.603 (1.159) | 142 | 20961 | | | 0.00- 34.44 | 4.70 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.603 (1.159) | 120 | 222470 | 50.0000 | 48.520 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 105 | 728957 | | | 298.94- 358.94 | 327.67 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.603 (1.159) | 126 | 190171 | 50.0000 | 49.020 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.603 | 10.603 (1.159) | 91 | 567048 | | | 282.78- 342.78 | 298.18 |
| 10.603 | 10.603 (1.159) | 65 | 83292 | | | 17.33- 77.33 | 43.80 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.668 | 10.668 (1.166) | 120 | 301733 | 50.0000 | 48.796 | 80.00- 120.00 | 100.00 |
| 10.668 | 10.668 (1.166) | 105 | 604459 | | | 172.08- 232.08 | 200.33 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.897 | 10.897 (1.191) | 118 | 317154 | 50.0000 | 48.419 | 80.00- 120.00 | 100.00 |
| 10.897 | 10.897 (1.191) | 103 | 179734 | | | 25.64- 85.64 | 56.67 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.976 (1.200) | 119 | 580012 | 50.0000 | 49.338 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.976 (1.200) | 134 | 147472 | | | 0.00- 55.10 | 25.43 |
| 10.976 | 10.976 (1.200) | 91 | 364012 | | | 34.53- 94.53 | 62.76 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.033 | 11.033 (1.206) | 105 | 600754 | 50.0000 | 47.518 | 80.00- 120.00 | 100.00 |
| 11.033 | 11.033 (1.206) | 120 | 282881 | | | 16.63- 76.63 | 47.09 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.191 | 11.191 (1.223) | 134 | 192495 | 50.0000 | 50.023 | 80.00- 120.00 | 100.00 |
| 11.191 | 11.191 (1.223) | 105 | 876792 | | | 436.99- 496.99 | 455.49 |
| 11.191 | 11.191 (1.223) | 91 | 133243 | | | 41.69- 101.69 | 69.22 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.334 | 11.334 (1.239) | 119 | 772839 | 50.0000 | 49.109 | 80.00- 120.00 | 100.00 |
| 11.334 | 11.334 (1.239) | 134 | 216086 | | | 0.00- 57.62 | 27.96 |
| 11.334 | 11.334 (1.239) | 91 | 170354 | | | 0.00- 53.03 | 22.04 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.341 | 11.341 (1.240) | 146 | 459898 | 50.0000 | 49.090 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 148 | 291718 | | | 34.18- 94.18 | 63.43 |
| 11.341 | 11.341 (1.240) | 111 | 176839 | | | 10.06- 70.06 | 38.45 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.441 (1.251) | 146 | 466675 | 50.0000 | 49.177 | 80.00- 120.00 | 100.00 |
| 11.441 | 11.441 (1.251) | 148 | 296827 | | | 33.55- 93.55 | 63.60 |
| 11.441 | 11.441 (1.251) | 111 | 172847 | | | 7.98- 67.98 | 37.04 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.585 | 11.585 (1.266) | 91 | 538415 | 50.0000 | 44.804 | 80.00- 120.00 | 100.00 |
| 11.585 | 11.585 (1.266) | 126 | 127814 | | | 0.00- 52.77 | 23.74 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.778 | 11.778 (1.287) | 57 | 520366 | 50.0000 | 40.197 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 201 Undecane (continued) | | | | | | | |
| 11.778 | 11.778 (1.287) | 43 | 482340 | | | 63.59- 123.59 | 92.69 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.742 (1.283) | 134 | 213540 | 50.0000 | 49.235 | 80.00- 120.00 | 100.00 |
| 11.735 | 11.735 (1.283) | 91 | 707711 | | | 310.82- 370.82 | 331.42 |
| 11.735 | 11.735 (1.283) | 92 | 376199 | | | 151.53- 211.53 | 176.17 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.814 (1.291) | 146 | 442827 | 50.0000 | 48.705 | 80.00- 120.00 | 100.00 |
| 11.814 | 11.814 (1.291) | 148 | 280704 | | | 33.00- 93.00 | 63.39 |
| 11.814 | 11.814 (1.291) | 111 | 176112 | | | 10.87- 70.87 | 39.77 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.609 | 12.609 (1.378) | 157 | 265633 | 50.0000 | 49.396 | 80.00- 120.00 | 100.00 |
| 12.609 | 12.609 (1.378) | 75 | 196400 | | | 48.09- 108.09 | 73.94 |
| 12.609 | 12.609 (1.378) | 155 | 207445 | | | 47.89- 107.89 | 78.09 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.853 | 12.853 (1.405) | 57 | 568004 | 50.0000 | 43.558 | 80.00- 120.00 | 100.00 |
| 12.853 | 12.853 (1.405) | 43 | 499371 | | | 58.52- 118.52 | 87.92 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.390 | 13.390 (1.463) | 180 | 438946 | 50.0000 | 48.716 | 80.00- 120.00 | 100.00 |
| 13.390 | 13.390 (1.463) | 182 | 420162 | | | 64.84- 124.84 | 95.72 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.504 | 13.504 (1.476) | 225 | 328686 | 50.0000 | 50.009 | 80.00- 120.00 | 100.00 |
| 13.504 | 13.504 (1.476) | 223 | 211452 | | | 32.80- 92.80 | 64.33 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.640 | 13.640 (1.491) | 128 | 95102 | 5.80000 | 5.057 | 80.00- 120.00 | 100.00 |
| 13.640 | 13.640 (1.491) | 127 | 12373 | | | 0.00- 42.72 | 13.01 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.518) | 180 | 420685 | 50.0000 | 47.647 | 80.00- 120.00 | 100.00 |
| 13.884 | 13.884 (1.518) | 182 | 404615 | | | 65.07- 125.07 | 96.18 |
| 13.884 | 13.884 (1.518) | 145 | 138870 | | | 4.48- 64.48 | 33.01 |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 13-JUN-2024 11:42
Lab File ID: 3061303a.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/13JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE | |
|---|---|---|---|---|---|---|---|
| $ 104 1,2-Dichloroethane-d4 | 1.30215 | 1.21283 | 0.010 | 6.85948 | 30.00000 | Averaged | |
| $ 134 Toluene-d8 | 0.97187 | 0.93950 | 0.010 | 3.33057 | 30.00000 | Averaged | |
| $ 170 4-Bromofluorobenzene | 0.74296 | 0.74090 | 0.010 | 0.27688 | 30.00000 | Averaged | |
| 4 Freon 134a | 0.57786 | 0.59747 | 0.010 | -3.39375 | 30.00000 | Averaged | |
| 5 Propylene | 0.65479 | 0.62459 | 0.010 | 4.61237 | 30.00000 | Averaged | |
| 7 1,1-Difluoroethane | 0.37746 | 0.38123 | 0.010 | -0.99992 | 30.00000 | Averaged | |
| 8 Freon 12 | 1.48055 | 1.50127 | 0.010 | -1.39997 | 30.00000 | Averaged | |
| 9 Chlorodifluoromethane | 0.18527 | 0.17672 | 0.010 | 4.61540 | 30.00000 | Averaged | |
| 10 Freon 114 | 1.30152 | 1.35995 | 0.010 | -4.48966 | 30.00000 | Averaged | |
| 12 Isobutane | 1.38453 | 1.31643 | 0.010 | 4.91884 | 30.00000 | Averaged | |
| 15 Chloromethane | 0.71383 | 0.72193 | 0.010 | -1.13387 | 30.00000 | Averaged | |
| 18 Butane | 0.14312 | 0.13430 | 0.010 | 6.16311 | 30.00000 | Averaged | |
| 19 Vinyl Chloride | 0.69068 | 0.67035 | 0.010 | 2.94280 | 30.00000 | Averaged | |
| 20 1,3-Butadiene | 0.64883 | 0.58831 | 0.010 | 9.32719 | 30.00000 | Averaged | |
| 24 Bromomethane | 0.49355 | 0.53537 | 0.010 | -8.47332 | 30.00000 | Averaged | |
| 30 Chloroethane | 0.33122 | 0.34429 | 0.010 | -3.94554 | 30.00000 | Averaged | |
| 31 Isopentane | 0.94519 | 0.90555 | 0.010 | 4.19404 | 30.00000 | Averaged | |
| 32 Vinyl Bromide | 0.57403 | 0.59846 | 0.010 | -4.25627 | 30.00000 | Averaged | |
| 33 Freon 11 | 1.70564 | 1.71901 | 0.010 | -0.78382 | 30.00000 | Averaged | |
| 34 Dichlorofluoromethane | 1.36006 | 1.29506 | 0.010 | 4.77897 | 30.00000 | Averaged | |
| 35 Pentane | 1.43815 | 1.34577 | 0.010 | 6.42348 | 30.00000 | Averaged | |
| 39 Ethanol | 0.13532 | 0.10215 | 0.010 | 24.51148 | 30.00000 | Averaged | |
| 42 Acrolein | 0.29124 | 0.12839 | 0.010 | 55.91788 | 30.00000 | Averaged | <- |
| 43 Freon 113 | 1.50737 | 1.51007 | 0.010 | -0.17915 | 30.00000 | Averaged | |
| 44 1,1-Dichloroethene | 0.64138 | 0.60527 | 0.010 | 5.62872 | 30.00000 | Averaged | |
| 47 Acetone | 0.36497 | 0.32262 | 0.010 | 11.60259 | 30.00000 | Averaged | |
| 48 Carbon Disulfide | 1.74887 | 1.57635 | 0.010 | 9.86447 | 30.00000 | Averaged | |
| 52 2-Propanol | 1.51737 | 1.26872 | 0.010 | 16.38696 | 30.00000 | Averaged | |
| 54 3-Chloropropene | 0.29464 | 0.25976 | 0.010 | 11.83833 | 30.00000 | Averaged | |
| 57 Acetonitrile | 0.66971 | 0.61645 | 0.010 | 7.95339 | 30.00000 | Averaged | |
| 59 Methylene Chloride | 1.00247 | 0.91630 | 0.010 | 8.59540 | 30.00000 | Averaged | |
| 62 tert-Butyl alcohol | 1.54800 | 1.29605 | 0.010 | 16.27585 | 30.00000 | Averaged | |
| 63 Methyl tert-butyl ether | 1.83005 | 1.64376 | 0.010 | 10.17955 | 30.00000 | Averaged | |
| 64 trans-1,2-Dichloroethene | 0.43073 | 0.40136 | 0.010 | 6.81788 | 30.00000 | Averaged | |
| 66 Acrylonitrile | 0.55703 | 0.48560 | 0.010 | 12.82294 | 30.00000 | Averaged | |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 13-JUN-2024 11:42
Lab File ID: 3061303a.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/13JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE | |
|---|---|---|---|---|---|---|---|
| 67 Hexane | 1.34210 | 1.14622 | 0.010 | 14.59508 | 30.00000 | Averaged | |
| 71 1,1-Dichloroethane | 1.24472 | 1.13540 | 0.010 | 8.78217 | 30.00000 | Averaged | |
| 72 Isopropyl ether | 2.98469 | 2.69451 | 0.010 | 9.72208 | 30.00000 | Averaged | |
| 73 Vinyl Acetate | 0.10960 | 0.02914 | 0.010 | 73.41057 | 30.00000 | Averaged | <- |
| 79 Ethyl-tert-butyl ether | 2.57389 | 2.29066 | 0.010 | 11.00403 | 30.00000 | Averaged | |
| 84 2,2-Dichloropropane | 1.22874 | 1.10298 | 0.010 | 10.23435 | 30.00000 | Averaged | |
| 85 cis-1,2-Dichloroethene | 0.44603 | 0.41466 | 0.010 | 7.03156 | 30.00000 | Averaged | |
| 86 2-Butanone | 0.32135 | 0.28841 | 0.010 | 10.25149 | 30.00000 | Averaged | |
| 87 Ethyl Acetate | 0.32139 | 0.25449 | 0.010 | 20.81609 | 30.00000 | Averaged | |
| 89 Tetrahydrofuran | 0.98253 | 0.78045 | 0.010 | 20.56672 | 30.00000 | Averaged | |
| 92 Chloroform | 1.33658 | 1.25704 | 0.010 | 5.95099 | 30.00000 | Averaged | |
| 94 Cyclohexane | 0.89416 | 0.81408 | 0.010 | 8.95525 | 30.00000 | Averaged | |
| 96 1,1,1-Trichloroethane | 1.45774 | 1.37222 | 0.010 | 5.86704 | 30.00000 | Averaged | |
| 97 Carbon Tetrachloride | 1.54543 | 1.52223 | 0.010 | 1.50109 | 30.00000 | Averaged | |
| 99 1,1-Dichloropropene | 0.10070 | 0.09622 | 0.010 | 4.45635 | 30.00000 | Averaged | |
| 101 2,2,4-Trimethylpentane | 4.19325 | 3.84990 | 0.010 | 8.18830 | 30.00000 | Averaged | |
| 102 Benzene | 0.50334 | 0.46842 | 0.010 | 6.93763 | 30.00000 | Averaged | |
| 105 tert-Amyl methyl ether | 0.13527 | 0.12255 | 0.010 | 9.39775 | 30.00000 | Averaged | |
| 106 1,2-Dichloroethane | 0.26256 | 0.24356 | 0.010 | 7.23946 | 30.00000 | Averaged | |
| 107 Heptane | 0.19939 | 0.17193 | 0.010 | 13.76907 | 30.00000 | Averaged | |
| 110 n-Butanol | 0.11444 | 0.09118 | 0.010 | 20.32644 | 30.00000 | Averaged | |
| 111 Trichloroethene | 0.24269 | 0.28485 | 0.010 | -17.36929 | 30.00000 | Averaged | |
| 114 1,2-Dichloropropane | 0.23685 | 0.20812 | 0.010 | 12.13251 | 30.00000 | Averaged | |
| 116 Methyl Methacrylate | 0.20363 | 0.17668 | 0.010 | 13.23552 | 30.00000 | Averaged | |
| 117 1,4-Dioxane | 0.12662 | 0.11913 | 0.010 | 5.91699 | 30.00000 | Averaged | |
| 118 Dibromomethane | 0.23589 | 0.24719 | 0.010 | -4.79189 | 30.00000 | Averaged | |
| 122 Bromodichloromethane | 0.39286 | 0.37733 | 0.010 | 3.95288 | 30.00000 | Averaged | |
| 126 cis-1,3-Dichloropropene | 0.33505 | 0.30674 | 0.010 | 8.44897 | 30.00000 | Averaged | |
| 127 Methylcyclohexane | 0.34474 | 0.31620 | 0.010 | 8.27885 | 30.00000 | Averaged | |
| 131 4-Methyl-2-pentanone | 0.23047 | 0.18444 | 0.010 | 19.97150 | 30.00000 | Averaged | |
| 137 Toluene | 0.69679 | 0.64458 | 0.010 | 7.49277 | 30.00000 | Averaged | |
| 136 Octane | 0.25386 | 0.21408 | 0.010 | 15.66790 | 30.00000 | Averaged | |
| 139 trans-1,3-Dichloropropene | 0.27625 | 0.25655 | 0.010 | 7.12963 | 30.00000 | Averaged | |
| 141 1,1,2-Trichloroethane | 0.23391 | 0.22289 | 0.010 | 4.71436 | 30.00000 | Averaged | |
| 142 Tetrachloroethene | 0.35123 | 0.36800 | 0.010 | -4.77412 | 30.00000 | Averaged | |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 13-JUN-2024 11:42
Lab File ID: 3061303a.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/13JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE |
|---|---|---|---|---|---|---|
| 143 2-Hexanone | 0.29346 | 0.26135 | 0.010 | 10.94067 | 30.00000 | Averaged |
| 144 1,3-Dichloropropane | 0.32667 | 0.29131 | 0.010 | 10.82402 | 30.00000 | Averaged |
| 146 Dibromochloromethane | 0.46229 | 0.48398 | 0.010 | -4.69211 | 30.00000 | Averaged |
| 148 1,2-Dibromoethane (EDB) | 0.38337 | 0.37471 | 0.010 | 2.25973 | 30.00000 | Averaged |
| 151 1-Bromo-2-Chloroethane | 0.41790 | 0.38771 | 0.010 | 7.22345 | 30.00000 | Averaged |
| 154 Chlorobenzene | 0.57923 | 0.57233 | 0.010 | 1.19058 | 30.00000 | Averaged |
| 155 Ethyl Benzene | 0.29135 | 0.28392 | 0.010 | 2.55051 | 30.00000 | Averaged |
| 156 Nonane | 0.67669 | 0.61399 | 0.010 | 9.26551 | 30.00000 | Averaged |
| 157 1,1,1,2-Tetrachloroethane | 0.32998 | 0.34332 | 0.010 | -4.04040 | 30.00000 | Averaged |
| 158 m,p-Xylene | 0.36315 | 0.35597 | 0.010 | 1.97499 | 30.00000 | Averaged |
| 164 o-Xylene | 0.34436 | 0.33273 | 0.010 | 3.37835 | 30.00000 | Averaged |
| 165 Styrene | 0.58810 | 0.56446 | 0.010 | 4.02016 | 30.00000 | Averaged |
| 167 Bromoform | 0.46720 | 0.50690 | 0.010 | -8.49560 | 30.00000 | Averaged |
| 168 Cumene | 1.04099 | 1.03105 | 0.010 | 0.95461 | 30.00000 | Averaged |
| 169 Cyclohexanone | 0.41185 | 0.32330 | 0.010 | 21.49921 | 30.00000 | Averaged |
| 175 1,1,2,2-Tetrachloroethane | 0.53993 | 0.40072 | 0.010 | 25.78369 | 30.00000 | Averaged |
| 177 Bromobenzene | 0.36268 | 0.36986 | 0.010 | -1.97862 | 30.00000 | Averaged |
| 178 Propylbenzene | 0.30782 | 0.30487 | 0.010 | 0.95726 | 30.00000 | Averaged |
| 179 1,2,3-Trichloropropane | 0.16387 | 0.15402 | 0.010 | 6.01037 | 30.00000 | Averaged |
| 182 Decane | 0.79666 | 0.65236 | 0.010 | 18.11311 | 30.00000 | Averaged |
| 183 4-Ethyltoluene | 0.33550 | 0.32557 | 0.010 | 2.96086 | 30.00000 | Averaged |
| 184 2-Chlorotoluene | 0.28387 | 0.27830 | 0.010 | 1.96015 | 30.00000 | Averaged |
| 185 1,3,5-Trimethylbenzene | 0.45246 | 0.44157 | 0.010 | 2.40739 | 30.00000 | Averaged |
| 188 alpha Methyl Styrene | 0.47929 | 0.46413 | 0.010 | 3.16124 | 30.00000 | Averaged |
| 189 tert-Butylbenzene | 0.86021 | 0.84881 | 0.010 | 1.32498 | 30.00000 | Averaged |
| 190 1,2,4-Trimethylbenzene | 0.92509 | 0.87916 | 0.010 | 4.96397 | 30.00000 | Averaged |
| 192 sec-Butylbenzene | 0.28157 | 0.28170 | 0.010 | -0.04581 | 30.00000 | Averaged |
| 194 p-Cymene | 1.15152 | 1.13100 | 0.010 | 1.78194 | 30.00000 | Averaged |
| 195 1,3-Dichlorobenzene | 0.68551 | 0.67303 | 0.010 | 1.82018 | 30.00000 | Averaged |
| 196 1,4-Dichlorobenzene | 0.69437 | 0.68295 | 0.010 | 1.64544 | 30.00000 | Averaged |
| 199 alpha-Chlorotoluene | 0.87930 | 0.78794 | 0.010 | 10.39113 | 30.00000 | Averaged |
| 201 Undecane | 0.94724 | 0.76152 | 0.010 | 19.60657 | 30.00000 | Averaged |
| 202 Butylbenzene | 0.31736 | 0.31250 | 0.010 | 1.52986 | 30.00000 | Averaged |
| 204 1,2-Dichlorobenzene | 0.66528 | 0.64805 | 0.010 | 2.59028 | 30.00000 | Averaged |
| 206 1,2-Dibromo-3-chloropropane | 0.39349 | 0.38874 | 0.010 | 1.20798 | 30.00000 | Averaged |
| 207 Dodecane | 0.95417 | 0.83124 | 0.010 | 12.88340 | 30.00000 | Averaged |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 13-JUN-2024 11:42
Lab File ID: 3061303a.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/13JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE |
|---|---|---|---|---|---|---|
| 213 1,2,4-Trichlorobenzene | 0.65930 | 0.64237 | 0.010 | 2.56768 | 30.00000 | Averaged |
| 215 Hexachlorobutadiene | 0.48092 | 0.48101 | 0.010 | -0.01852 | 30.00000 | Averaged |
| 216 Naphthalene | 1.37605 | 1.19979 | 0.010 | 12.80936 | 30.00000 | Averaged |
| 222 1,2,3-Trichlorobenzene | 0.64605 | 0.61564 | 0.010 | 4.70588 | 30.00000 | Averaged |

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INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061303a.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 13-JUN-2024
Calibration Time: 11:42
Client Smp ID: CCV
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 94691 | 56815 | 132567 | 94691 | 0.00 |
| 108 1,4-Difluorobenze | 348240 | 208944 | 487536 | 348240 | 0.00 |
| 153 Chlorobenzene-d5 | 341662 | 204997 | 478327 | 341662 | 0.00 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/13JUN24.b/3061303a.d

Page 1

Date : 13-JUN-2024 11:42

Client ID: CCV

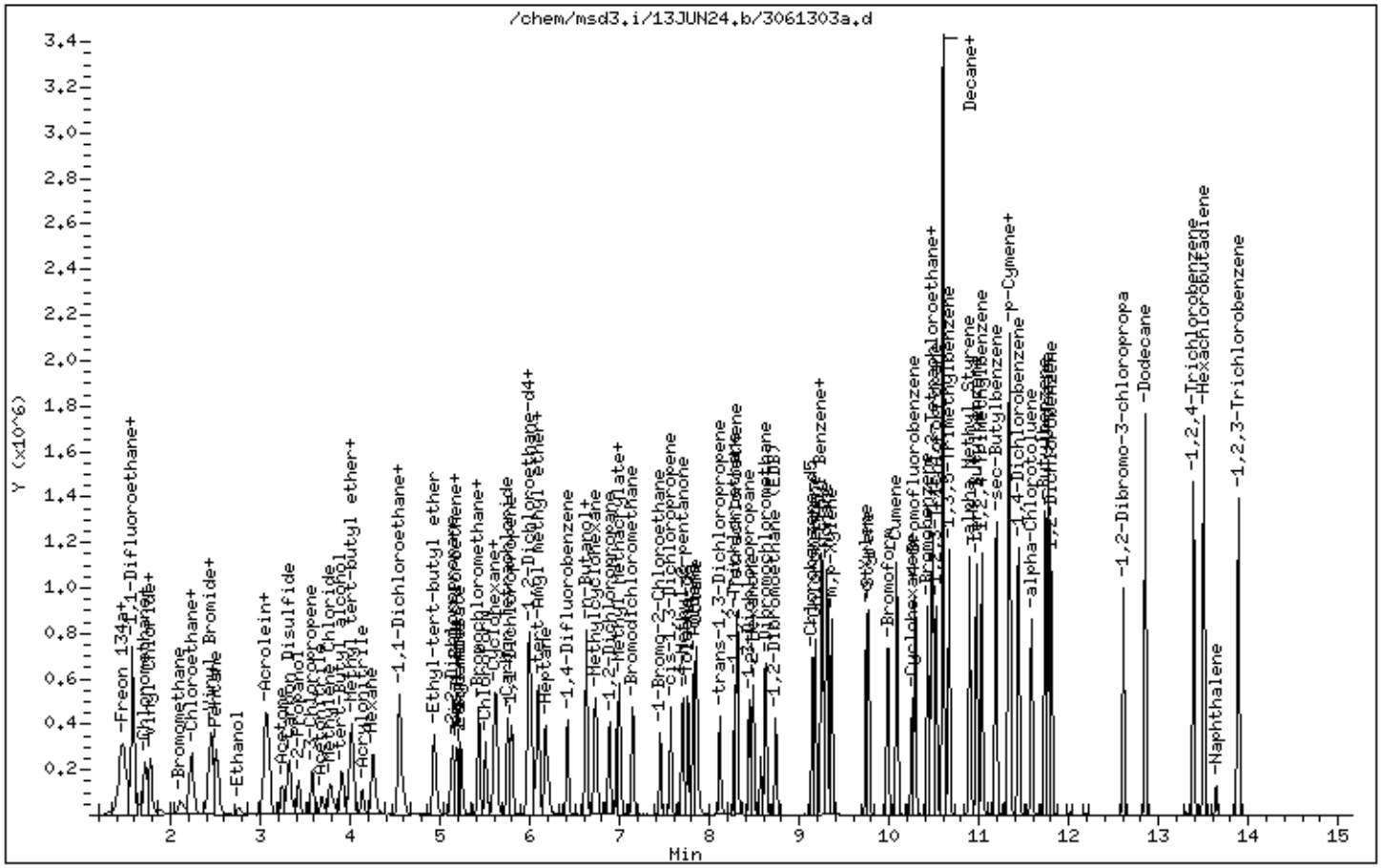
Instrument: msd3.i

Sample Info: 50mL 3018-4465

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



| | | | |
|---|---|---|---|
| **Client ID:** | CCV | | |
| **Lab ID:** | 2406133-24B | **Date/Time Analyzed:** | 6/14/24 12:02 PM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061403a |

| Compound | CAS# | %Recovery |
|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 109 |
| 1,4-Dichlorobenzene | 106-46-7 | 97 |
| Benzene | 71-43-2 | 92 |
| cis-1,2-Dichloroethene | 156-59-2 | 92 |
| Ethyl Benzene | 100-41-4 | 96 |
| m,p-Xylene | 108-38-3 | 96 |
| o-Xylene | 95-47-6 | 96 |
| Toluene | 108-88-3 | 92 |
| trans-1,2-Dichloroethene | 156-60-5 | 92 |
| Trichloroethene | 79-01-6 | 118 |
| Vinyl Chloride | 75-01-4 | 96 |

D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 101 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061403a.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 14-JUN-2024 12:02
Operator : RT Inst ID: msd3.i
Smp Info : 50mL 3018-4465
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 17-Jun-2024 08:29 ugdc Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 13 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23_cont111224.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | | ======= | ======= | ========== | ===== |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 97298 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 75071 | | | | 47.79- 107.79 | 77.16 |
| 5.432 | 5.432 (1.000) | 49 | 144176 | | | | 131.33- 191.33 | 148.18 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 356185 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 52319 | | | | 0.00- 45.65 | 14.69 |
| * 153 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 352841 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 177126 | | | | 22.92- 82.92 | 50.20 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 115351 | 25.0000 | 22.761 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 65910 | | | | 23.17- 83.17 | 57.14 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 335984 | 25.0000 | 24.265 | | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 35541 | | | | 0.00- 41.42 | 10.58 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 225336 | | | 37.54- 97.54 | 67.07 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 266020 | 25.0000 | 25.369 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 289397 | | | 88.49- 148.49 | 108.79 |
| 10.288 | 10.288 (1.124) | 176 | 255266 | | | 66.73- 126.73 | 95.96 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 113151 | 50.0000 | 50.312 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 104406 | | | 64.17- 124.17 | 92.27 |
| 1.492 | 1.492 (0.275) | 51 | 437213 | | | 365.46- 425.46 | 386.40 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 118201 | 50.0000 | 46.382 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 79360 | | | 35.86- 95.86 | 67.14 |
| 1.437 | 1.437 (0.264) | 39 | 83253 | | | 41.66- 101.66 | 70.43 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.464 | 1.464 (0.270) | 65 | 73436 | 50.0000 | 49.989 | 80.00- 120.00 | 100.00 |
| 1.492 | 1.492 (0.275) | 51 | 437213 | | | 568.10- 628.10 | 595.37 |
| 1.576 | 1.576 (0.290) | 47 | 15022 | | | 0.00- 50.57 | 20.46 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.464 | 1.464 (0.270) | 85 | 284417 | 50.0000 | 49.359 | 80.00- 120.00 | 100.00 |
| 1.464 | 1.464 (0.270) | 87 | 93848 | | | 2.88- 62.88 | 33.00 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.492 | 1.492 (0.275) | 67 | 33691 | 50.0000 | 46.725 | 80.00- 120.00 | 100.00 |
| 1.492 | 1.492 (0.275) | 51 | 437213 | | | 1257.55-1317.55 | 1297.71 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.576 (0.290) | 135 | 262972 | 50.0000 | 51.915 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.576 (0.290) | 137 | 83625 | | | 2.10- 62.10 | 31.80 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.590 | 1.590 (0.293) | 43 | 245221 | 50.0000 | 45.508 | 80.00- 120.00 | 100.00 |
| 1.590 | 1.590 (0.293) | 42 | 78748 | | | 1.69- 61.69 | 32.11 |
| 1.576 | 1.576 (0.290) | 58 | 8177 | | | 0.00- 33.32 | 3.33 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.674 (0.308) | 50 | 136087 | 50.0000 | 48.984 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.674 (0.308) | 52 | 41531 | | | 1.38- 61.38 | 30.52 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.716 (0.316) | 58 | 24831 | 50.0000 | 44.579 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 18 Butane (continued) | | | | | | | |
| 1.716 | 1.716 (0.316) | 43 | 217263 | | | 866.38- 926.38 | 874.97 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.758 (0.324) | 62 | 129459 | 50.0000 | 48.160 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.758 (0.324) | 64 | 41820 | | | 3.10- 63.10 | 32.30 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.772 (0.326) | 54 | 111917 | 50.0000 | 44.320 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.772 (0.326) | 39 | 116232 | | | 78.74- 138.74 | 103.86 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 103904 | 50.0000 | 54.093 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 97864 | | | 64.19- 124.19 | 94.19 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.409) | 64 | 61711 | 50.0000 | 47.872 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.409) | 66 | 19363 | | | 2.32- 62.32 | 31.38 |
| 2.220 | 2.220 (0.409) | 49 | 22211 | | | 6.33- 66.33 | 35.99 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 169744 | 50.0000 | 46.144 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 108890 | | | 31.77- 91.77 | 64.15 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.402 (0.442) | 106 | 114781 | 50.0000 | 51.378 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.402 (0.442) | 108 | 107900 | | | 64.21- 124.21 | 94.01 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 326553 | 50.0000 | 49.193 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 211973 | | | 34.93- 94.93 | 64.91 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.458 (0.453) | 67 | 247883 | 50.0000 | 46.830 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 69 | 78765 | | | 1.95- 61.95 | 31.78 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 256073 | 50.0000 | 45.751 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 37984 | | | 0.00- 44.64 | 14.83 |
| 2.514 | 2.514 (0.463) | 72 | 20990 | | | 0.00- 37.90 | 8.20 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 23574 | 61.6000 | 44.761 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.507) | 45 | 61813 | | | 224.40- 284.40 | 262.21 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.053 | 3.053 (0.562) | 55 | 29037 | 58.2500 | 25.617 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 42 Acrolein (continued) | | | | | | | |
| 3.053 | 3.053 (0.562) | 56 | 39883 | | | 108.02- 168.02 | 137.35 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 285962 | 50.0000 | 48.744 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 189265 | | | 35.07- 95.07 | 66.19 |
| 3.061 | 3.061 (0.563) | 101 | 316238 | | | 87.45- 147.45 | 110.59 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.096 | 3.096 (0.570) | 96 | 136462 | 50.0000 | 54.668 | 80.00- 120.00 | 100.00 |
| 3.089 | 3.089 (0.569) | 98 | 73958 | | | 33.27- 93.27 | 54.20 |
| 3.089 | 3.089 (0.569) | 61 | 207970 | | | 159.05- 219.05 | 152.40 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.598) | 58 | 63076 | 50.0000 | 44.406 | 80.00- 120.00 | 100.00 |
| 3.240 | 3.240 (0.596) | 43 | 216844 | | | 329.45- 389.45 | 343.78 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.326 (0.612) | 76 | 303564 | 50.0000 | 44.599 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.631) | 45 | 243610 | 50.0000 | 41.251 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.631) | 43 | 45402 | | | 0.00- 48.18 | 18.64 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.576 | 3.576 (0.658) | 76 | 51508 | 50.0000 | 44.918 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.576 (0.658) | 41 | 183159 | | | 366.80- 426.80 | 355.59 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.678) | 41 | 134227 | 58.8000 | 51.498 | 80.00- 120.00 | 100.00 |
| 3.684 | 3.684 (0.678) | 40 | 72409 | | | 22.74- 82.74 | 53.95 |
| 3.677 | 3.677 (0.677) | 38 | 16451 | | | 0.00- 42.52 | 12.26 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.777 (0.695) | 49 | 175057 | 50.0000 | 44.869 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.777 (0.695) | 84 | 100869 | | | 24.90- 84.90 | 57.62 |
| 3.777 | 3.777 (0.695) | 51 | 52471 | | | 0.00- 59.67 | 29.97 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.913 | 3.913 (0.720) | 59 | 286126 | 57.6000 | 47.492 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.906 (0.719) | 41 | 64828 | | | 0.00- 51.85 | 22.66 |
| 3.906 | 3.906 (0.719) | 57 | 29797 | | | 0.00- 40.17 | 10.41 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 3.999 | 3.999 (0.736) | 73 | 316864 | 50.0000 | 44.488 | 80.00- 120.00 | 100.00 |
| 3.999 | 3.999 (0.736) | 57 | 91199 | | | 0.00- 58.72 | 28.78 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 3.999 | 3.999 (0.736) | 41 | 91784 | | | 0.00- 59.38 | 28.97 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 77491 | 50.0000 | 46.226 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.742) | 61 | 192512 | | | 232.13- 292.13 | 248.43 |
| 4.028 | 4.028 (0.742) | 96 | 119909 | | | 127.26- 187.26 | 154.74 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.135 (0.761) | 52 | 94053 | 50.0000 | 43.384 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.135 (0.761) | 53 | 109649 | | | 86.45- 146.45 | 116.58 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.784) | 57 | 219487 | 50.0000 | 42.020 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.257 (0.784) | 43 | 153072 | | | 40.97- 100.97 | 69.74 |
| 4.257 | 4.257 (0.784) | 86 | 28166 | | | 0.00- 42.68 | 12.83 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.550 | 4.550 (0.838) | 63 | 219283 | 50.0000 | 45.266 | 80.00- 120.00 | 100.00 |
| 4.550 | 4.550 (0.838) | 65 | 66953 | | | 0.47- 60.47 | 30.53 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.550 | 4.550 (0.838) | 45 | 510641 | 50.0000 | 43.960 | 80.00- 120.00 | 100.00 |
| 4.550 | 4.550 (0.838) | 87 | 103791 | | | 0.00- 49.55 | 20.33 |
| 4.550 | 4.550 (0.838) | 59 | 54371 | | | 0.00- 40.42 | 10.65 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.608 | 4.608 (0.848) | 86 | 5697 | 50.0000 | 13.356 | 80.00- 120.00 | 100.00 |
| 4.601 | 4.601 (0.847) | 43 | 96992 | | | 1727.95-1787.95 | 1702.51 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.937 (0.909) | 59 | 441737 | 50.0000 | 44.097 | 80.00- 120.00 | 100.00 |
| 4.937 | 4.937 (0.909) | 87 | 155649 | | | 3.90- 63.90 | 35.24 |
| 4.937 | 4.937 (0.909) | 41 | 89084 | | | 0.00- 49.72 | 20.17 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.138 (0.946) | 77 | 211829 | 50.0000 | 44.296 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.138 (0.946) | 79 | 67694 | | | 2.39- 62.39 | 31.96 |
| 5.138 | 5.138 (0.946) | 97 | 50599 | | | 0.00- 53.57 | 23.89 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.181 | 5.181 (0.954) | 98 | 80027 | 50.0000 | 46.101 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 124688 | | | 125.53- 185.53 | 155.81 |
| 5.181 | 5.181 (0.954) | 61 | 192978 | | | 219.86- 279.86 | 241.14 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.960) | 72 | 56485 | 50.0000 | 45.164 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 86 2-Butanone (continued) | | | | | | | |
| 5.231 | 5.231 (0.963) | 43 | 614568 | | | 1138.34-1198.34 | 1088.02 |
| 5.217 | 5.217 (0.960) | 57 | 23120 | | | 10.83- 70.83 | 40.93 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.238 | 5.238 (0.964) | 45 | 48620 | 50.0000 | 38.871 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 61 | 192978 | | | 338.96- 398.96 | 396.91 |
| 5.238 | 5.238 (0.964) | 70 | 25120 | | | 24.53- 84.53 | 51.67 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.424 | 5.424 (0.999) | 42 | 147442 | 50.0000 | 38.558 | 80.00- 120.00 | 100.00 |
| 5.424 | 5.424 (0.999) | 71 | 43599 | | | 0.00- 58.54 | 29.57 |
| 5.424 | 5.424 (0.999) | 72 | 45010 | | | 0.00- 59.59 | 30.53 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.510 | 5.510 (1.014) | 83 | 239323 | 50.0000 | 46.007 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.510 (1.014) | 85 | 157796 | | | 35.77- 95.77 | 65.93 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.033) | 84 | 155164 | 50.0000 | 44.587 | 80.00- 120.00 | 100.00 |
| 5.603 | 5.603 (1.032) | 56 | 235378 | | | 125.79- 185.79 | 151.70 |
| 5.603 | 5.603 (1.032) | 41 | 131684 | | | 61.55- 121.55 | 84.87 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.632 | 5.632 (1.037) | 97 | 262260 | 50.0000 | 46.226 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.632 (1.037) | 99 | 167421 | | | 32.84- 92.84 | 63.84 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.754 (1.059) | 119 | 287883 | 50.0000 | 47.863 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.754 (1.059) | 117 | 301680 | | | 75.19- 135.19 | 104.79 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.797 (0.903) | 110 | 69299 | 50.0000 | 48.300 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.797 (0.903) | 75 | 174064 | | | 234.16- 294.16 | 251.18 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.990 | 5.990 (1.103) | 57 | 738257 | 50.0000 | 45.237 | 80.00- 120.00 | 100.00 |
| 5.983 | 5.983 (1.102) | 56 | 245120 | | | 3.09- 63.09 | 33.20 |
| 5.983 | 5.983 (1.102) | 41 | 190988 | | | 0.00- 57.28 | 25.87 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 330022 | 50.0000 | 46.020 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 78407 | | | 0.00- 53.69 | 23.76 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.083 | 6.083 (0.948) | 87 | 88533 | 50.0000 | 45.939 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.083 | 6.083 (0.948) | 73 | 343486 | | | 365.76- 425.76 | 387.98 |
| 6.083 | 6.083 (0.948) | 55 | 110573 | | | 92.58- 152.58 | 124.89 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.098 (0.950) | 62 | 170615 | 50.0000 | 45.608 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.098 (0.950) | 64 | 54627 | | | 1.80- 61.80 | 32.02 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.176 | 6.176 (0.962) | 71 | 122357 | 50.0000 | 43.072 | 80.00- 120.00 | 100.00 |
| 6.176 | 6.176 (0.962) | 43 | 285444 | | | 207.73- 267.73 | 233.29 |
| 6.176 | 6.176 (0.962) | 57 | 141790 | | | 84.83- 144.83 | 115.88 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.032) | 56 | 63349 | 50.0000 | 38.852 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 41 | 47120 | | | 47.73- 107.73 | 74.38 |
| 6.628 | 6.628 (1.032) | 43 | 38622 | | | 31.60- 91.60 | 60.97 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 203441 | 50.0000 | 58.837 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 228614 | | | 80.23- 140.23 | 112.37 |
| 6.628 | 6.628 (1.032) | 97 | 130587 | | | 34.78- 94.78 | 64.19 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.886 (1.073) | 63 | 149617 | 50.0000 | 44.337 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.886 (1.073) | 62 | 106271 | | | 40.39- 100.39 | 71.03 |
| 6.886 | 6.886 (1.073) | 41 | 87207 | | | 31.86- 91.86 | 58.29 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.972 | 6.972 (0.762) | 69 | 122645 | 50.0000 | 42.674 | 80.00- 120.00 | 100.00 |
| 6.972 | 6.972 (0.762) | 41 | 204004 | | | 145.81- 205.81 | 166.34 |
| 6.972 | 6.972 (0.762) | 100 | 51481 | | | 10.05- 70.05 | 41.98 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.089) | 88 | 83898 | 50.0000 | 46.507 | 80.00- 120.00 | 100.00 |
| 6.993 | 6.993 (1.089) | 58 | 69958 | | | 56.33- 116.33 | 83.38 |
| 6.993 | 6.993 (1.089) | 57 | 25784 | | | 2.08- 62.08 | 30.73 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.007 (0.766) | 174 | 172348 | 50.0000 | 51.768 | 80.00- 120.00 | 100.00 |
| 7.000 | 7.000 (0.765) | 93 | 151239 | | | 62.68- 122.68 | 87.75 |
| 7.000 | 7.000 (0.765) | 95 | 125780 | | | 47.70- 107.70 | 72.98 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.144 | 7.144 (1.113) | 83 | 268412 | 50.0000 | 47.955 | 80.00- 120.00 | 100.00 |
| 7.144 | 7.144 (1.113) | 85 | 171941 | | | 34.96- 94.96 | 64.06 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.566 | 7.566 (1.179) | 75 | 218526 | 50.0000 | 45.778 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.566 (1.179) | 77 | 70547 | | | 1.26- 61.26 | 32.28 |
| 7.566 | 7.566 (1.179) | 39 | 131671 | | | 35.06- 95.06 | 60.25 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.728 | 6.728 (1.048) | 83 | 224522 | 50.0000 | 45.712 | 80.00- 120.00 | 100.00 |
| 6.728 | 6.728 (1.048) | 98 | 103204 | | | 14.83- 74.83 | 45.97 |
| 6.728 | 6.728 (1.048) | 55 | 218333 | | | 71.50- 131.50 | 97.24 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.702 | 7.702 (1.200) | 58 | 133091 | 50.0000 | 40.532 | 80.00- 120.00 | 100.00 |
| 7.702 | 7.702 (1.200) | 43 | 372393 | | | 259.88- 319.88 | 279.80 |
| 7.702 | 7.702 (1.200) | 85 | 50022 | | | 7.58- 67.58 | 37.58 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 457963 | 50.0000 | 46.131 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 261633 | | | 27.89- 87.89 | 57.13 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.853 | 7.853 (1.223) | 57 | 152097 | 50.0000 | 42.053 | 80.00- 120.00 | 100.00 |
| 7.853 | 7.853 (1.223) | 85 | 147915 | | | 63.53- 123.53 | 97.25 |
| 7.853 | 7.853 (1.223) | 43 | 409537 | | | 246.00- 306.00 | 269.26 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.111 | 8.111 (0.886) | 75 | 179996 | 50.0000 | 46.166 | 80.00- 120.00 | 100.00 |
| 8.111 | 8.111 (0.886) | 77 | 59153 | | | 1.83- 61.83 | 32.86 |
| 8.111 | 8.111 (0.886) | 39 | 101006 | | | 31.97- 91.97 | 56.12 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.282 | 8.282 (0.905) | 97 | 156550 | 50.0000 | 47.420 | 80.00- 120.00 | 100.00 |
| 8.282 | 8.282 (0.905) | 99 | 96448 | | | 32.52- 92.52 | 61.61 |
| 8.282 | 8.282 (0.905) | 83 | 134023 | | | 58.90- 118.90 | 85.61 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.311 (0.908) | 166 | 252900 | 50.0000 | 51.018 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.311 (0.908) | 129 | 187728 | | | 45.32- 105.32 | 74.23 |
| 8.311 | 8.311 (0.908) | 131 | 185960 | | | 44.17- 104.17 | 73.53 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.483 | 8.483 (0.927) | 58 | 181545 | 50.0000 | 43.833 | 80.00- 120.00 | 100.00 |
| 8.483 | 8.483 (0.927) | 43 | 371437 | | | 177.32- 237.32 | 204.60 |
| 8.490 | 8.490 (0.928) | 100 | 32777 | | | 0.00- 47.18 | 18.05 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.440 | 8.440 (1.315) | 76 | 209197 | 50.0000 | 44.948 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane (continued) | | | | | | | |
| 8.440 | 8.440 (1.315) | 41 | 171865 | | | 59.72- 119.72 | 82.15 |
| 8.440 | 8.440 (1.315) | 78 | 66949 | | | 3.08- 63.08 | 32.00 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 337595 | 50.0000 | 51.742 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 261603 | | | 47.27- 107.27 | 77.49 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 261989 | 50.0000 | 48.420 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 248850 | | | 64.18- 124.18 | 94.98 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.452 (1.161) | 63 | 274511 | 50.0000 | 46.106 | 80.00- 120.00 | 100.00 |
| 7.452 | 7.452 (1.161) | 65 | 84683 | | | 0.43- 60.43 | 30.85 |
| 7.452 | 7.452 (1.161) | 144 | 32066 | | | 0.00- 40.48 | 11.68 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.003) | 112 | 395819 | 50.0000 | 48.418 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.003) | 114 | 126515 | | | 1.91- 61.91 | 31.96 |
| 9.178 | 9.178 (1.003) | 77 | 198167 | | | 22.97- 82.97 | 50.07 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 196683 | 50.0000 | 47.831 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 601902 | | | 281.09- 341.09 | 306.03 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.307 | 9.307 (1.017) | 43 | 420235 | 50.0000 | 44.001 | 80.00- 120.00 | 100.00 |
| 9.307 | 9.307 (1.017) | 57 | 343083 | | | 50.62- 110.62 | 81.64 |
| 9.307 | 9.307 (1.017) | 85 | 112647 | | | 0.00- 55.65 | 26.81 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.264 | 9.264 (1.013) | 131 | 235804 | 50.0000 | 50.631 | 80.00- 120.00 | 100.00 |
| 9.264 | 9.264 (1.013) | 117 | 158770 | | | 37.10- 97.10 | 67.33 |
| 9.264 | 9.264 (1.013) | 95 | 79836 | | | 4.93- 64.93 | 33.86 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 245821 | 50.0000 | 47.962 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 484817 | | | 170.33- 230.33 | 197.22 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 232231 | 50.0000 | 47.782 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 476096 | | | 181.23- 241.23 | 205.01 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.772 | 9.772 (1.068) | 104 | 390257 | 50.0000 | 47.018 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 165 Styrene (continued) | | | | | | | |
| 9.772 | 9.772 (1.068) | 78 | 180864 | | | 17.26- 77.26 | 46.34 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.092) | 173 | 351544 | 50.0000 | 53.313 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.092) | 171 | 181169 | | | 21.45- 81.45 | 51.54 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.088 | 10.088 (1.103) | 105 | 713546 | 50.0000 | 48.567 | 80.00- 120.00 | 100.00 |
| 10.088 | 10.088 (1.103) | 120 | 195446 | | | 0.00- 56.93 | 27.39 |
| 10.088 | 10.088 (1.103) | 51 | 81936 | | | 0.00- 42.24 | 11.48 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.252 | 10.252 (1.121) | 55 | 223832 | 50.0000 | 38.508 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.259 (1.121) | 98 | 82552 | | | 5.15- 65.15 | 36.88 |
| 10.252 | 10.252 (1.121) | 42 | 154053 | | | 41.99- 101.99 | 68.83 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.144) | 83 | 275504 | 50.0000 | 36.154 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.467 (1.144) | 85 | 182576 | | | 34.97- 94.97 | 66.27 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.424 | 10.424 (1.139) | 156 | 258822 | 50.0000 | 50.563 | 80.00- 120.00 | 100.00 |
| 10.424 | 10.424 (1.139) | 158 | 252852 | | | 67.47- 127.47 | 97.69 |
| 10.424 | 10.424 (1.139) | 77 | 327123 | | | 108.68- 168.68 | 126.39 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.489 | 10.489 (1.146) | 120 | 211387 | 50.0000 | 48.657 | 80.00- 120.00 | 100.00 |
| 10.489 | 10.489 (1.146) | 91 | 860519 | | | 383.60- 443.60 | 407.08 |
| 10.489 | 10.489 (1.146) | 105 | 33150 | | | 0.00- 46.14 | 15.68 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.517 (1.150) | 110 | 106477 | 50.0000 | 46.039 | 80.00- 120.00 | 100.00 |
| 10.517 | 10.517 (1.150) | 75 | 352299 | | | 324.28- 384.28 | 330.87 |
| 10.517 | 10.517 (1.150) | 61 | 86469 | | | 57.24- 117.24 | 81.21 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.603 (1.159) | 57 | 453625 | 50.0000 | 40.344 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 71 | 142704 | | | 1.11- 61.11 | 31.46 |
| 10.603 | 10.603 (1.159) | 142 | 21509 | | | 0.00- 34.44 | 4.74 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.603 (1.159) | 120 | 228468 | 50.0000 | 48.249 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 105 | 742302 | | | 298.94- 358.94 | 324.90 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.603 (1.159) | 126 | 193015 | 50.0000 | 48.177 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.603 | 10.603 (1.159) | 91 | 579696 | | | 282.78- 342.78 | 300.34 |
| 10.603 | 10.603 (1.159) | 65 | 85106 | | | 17.33- 77.33 | 44.09 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.668 | 10.668 (1.166) | 120 | 305331 | 50.0000 | 47.814 | 80.00- 120.00 | 100.00 |
| 10.668 | 10.668 (1.166) | 105 | 613452 | | | 172.08- 232.08 | 200.91 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.897 | 10.897 (1.191) | 118 | 322438 | 50.0000 | 47.666 | 80.00- 120.00 | 100.00 |
| 10.897 | 10.897 (1.191) | 103 | 179785 | | | 25.64- 85.64 | 55.76 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.976 (1.200) | 119 | 591783 | 50.0000 | 48.744 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.976 (1.200) | 134 | 151156 | | | 0.00- 55.10 | 25.54 |
| 10.976 | 10.976 (1.200) | 91 | 369745 | | | 34.53- 94.53 | 62.48 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.033 | 11.033 (1.206) | 105 | 616807 | 50.0000 | 47.242 | 80.00- 120.00 | 100.00 |
| 11.033 | 11.033 (1.206) | 120 | 288951 | | | 16.63- 76.63 | 46.85 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.191 | 11.191 (1.223) | 134 | 195527 | 50.0000 | 49.201 | 80.00- 120.00 | 100.00 |
| 11.191 | 11.191 (1.223) | 105 | 889705 | | | 436.99- 496.99 | 455.03 |
| 11.191 | 11.191 (1.223) | 91 | 139324 | | | 41.69- 101.69 | 71.26 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.334 | 11.334 (1.239) | 119 | 787844 | 50.0000 | 48.476 | 80.00- 120.00 | 100.00 |
| 11.334 | 11.334 (1.239) | 134 | 220636 | | | 0.00- 57.62 | 28.01 |
| 11.334 | 11.334 (1.239) | 91 | 174784 | | | 0.00- 53.03 | 22.19 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.341 | 11.341 (1.240) | 146 | 467989 | 50.0000 | 48.371 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 148 | 298695 | | | 34.18- 94.18 | 63.83 |
| 11.341 | 11.341 (1.240) | 111 | 180145 | | | 10.06- 70.06 | 38.49 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.441 (1.251) | 146 | 477315 | 50.0000 | 48.705 | 80.00- 120.00 | 100.00 |
| 11.441 | 11.441 (1.251) | 148 | 302465 | | | 33.55- 93.55 | 63.37 |
| 11.441 | 11.441 (1.251) | 111 | 176159 | | | 7.98- 67.98 | 36.91 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.585 | 11.585 (1.266) | 91 | 552428 | 50.0000 | 44.514 | 80.00- 120.00 | 100.00 |
| 11.585 | 11.585 (1.266) | 126 | 129380 | | | 0.00- 52.77 | 23.42 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.778 | 11.778 (1.287) | 57 | 538291 | 50.0000 | 40.264 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane (continued) | | | | | | | |
| 11.778 | 11.778 (1.287) | 43 | 491430 | | | 63.59- 123.59 | 91.29 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.742 (1.283) | 134 | 216574 | 50.0000 | 48.352 | 80.00- 120.00 | 100.00 |
| 11.735 | 11.735 (1.283) | 91 | 722360 | | | 310.82- 370.82 | 333.54 |
| 11.735 | 11.735 (1.283) | 92 | 382281 | | | 151.53- 211.53 | 176.51 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.814 (1.291) | 146 | 453719 | 50.0000 | 48.322 | 80.00- 120.00 | 100.00 |
| 11.814 | 11.814 (1.291) | 148 | 288067 | | | 33.00- 93.00 | 63.49 |
| 11.814 | 11.814 (1.291) | 111 | 180849 | | | 10.87- 70.87 | 39.86 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.609 | 12.609 (1.378) | 157 | 274016 | 50.0000 | 49.340 | 80.00- 120.00 | 100.00 |
| 12.609 | 12.609 (1.378) | 75 | 199833 | | | 48.09- 108.09 | 72.93 |
| 12.609 | 12.609 (1.378) | 155 | 212295 | | | 47.89- 107.89 | 77.48 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.845 | 12.845 (1.404) | 57 | 601976 | 50.0000 | 44.701 | 80.00- 120.00 | 100.00 |
| 12.845 | 12.845 (1.404) | 43 | 518383 | | | 58.52- 118.52 | 86.11 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.383 | 13.383 (1.463) | 180 | 469208 | 50.0000 | 50.425 | 80.00- 120.00 | 100.00 |
| 13.383 | 13.383 (1.463) | 182 | 445396 | | | 64.84- 124.84 | 94.93 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.497 | 13.497 (1.475) | 225 | 345434 | 50.0000 | 50.892 | 80.00- 120.00 | 100.00 |
| 13.497 | 13.497 (1.475) | 223 | 218402 | | | 32.80- 92.80 | 63.23 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.633 | 13.633 (1.490) | 128 | 101175 | 5.80000 | 5.210 | 80.00- 120.00 | 100.00 |
| 13.633 | 13.633 (1.490) | 127 | 13039 | | | 0.00- 42.72 | 12.89 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.884 | 13.884 (1.518) | 180 | 457199 | 50.0000 | 50.142 | 80.00- 120.00 | 100.00 |
| 13.884 | 13.884 (1.518) | 182 | 432572 | | | 65.07- 125.07 | 94.61 |
| 13.884 | 13.884 (1.518) | 145 | 150547 | | | 4.48- 64.48 | 32.93 |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 14-JUN-2024 12:02
Lab File ID: 3061403a.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/14JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | MIN %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE | |
|---|---|---|---|---|---|---|---|
| $ 104 1,2-Dichloroethane-d4 | 1.30215 | 1.18554 | 0.010 | 8.95492 | 30.00000 | Averaged | |
| $ 134 Toluene-d8 | 0.97187 | 0.94329 | 0.010 | 2.94156 | 30.00000 | Averaged | |
| $ 170 4-Bromofluorobenzene | 0.74296 | 0.75394 | 0.010 | -1.47766 | 30.00000 | Averaged | |
| 4 Freon 134a | 0.57786 | 0.58147 | 0.010 | -0.62431 | 30.00000 | Averaged | |
| 5 Propylene | 0.65479 | 0.60742 | 0.010 | 7.23490 | 30.00000 | Averaged | |
| 7 1,1-Difluoroethane | 0.37746 | 0.37738 | 0.010 | 0.02219 | 30.00000 | Averaged | |
| 8 Freon 12 | 1.48055 | 1.46158 | 0.010 | 1.28119 | 30.00000 | Averaged | |
| 9 Chlorodifluoromethane | 0.18527 | 0.17313 | 0.010 | 6.54981 | 30.00000 | Averaged | |
| 10 Freon 114 | 1.30152 | 1.35137 | 0.010 | -3.83077 | 30.00000 | Averaged | |
| 12 Isobutane | 1.38453 | 1.26015 | 0.010 | 8.98338 | 30.00000 | Averaged | |
| 15 Chloromethane | 0.71383 | 0.69933 | 0.010 | 2.03160 | 30.00000 | Averaged | |
| 18 Butane | 0.14312 | 0.12760 | 0.010 | 10.84249 | 30.00000 | Averaged | |
| 19 Vinyl Chloride | 0.69068 | 0.66527 | 0.010 | 3.67881 | 30.00000 | Averaged | |
| 20 1,3-Butadiene | 0.64883 | 0.57512 | 0.010 | 11.35987 | 30.00000 | Averaged | |
| 24 Bromomethane | 0.49355 | 0.53395 | 0.010 | -8.18552 | 30.00000 | Averaged | |
| 30 Chloroethane | 0.33122 | 0.31712 | 0.010 | 4.25584 | 30.00000 | Averaged | |
| 31 Isopentane | 0.94519 | 0.87229 | 0.010 | 7.71251 | 30.00000 | Averaged | |
| 32 Vinyl Bromide | 0.57403 | 0.58984 | 0.010 | -2.75554 | 30.00000 | Averaged | |
| 33 Freon 11 | 1.70564 | 1.67811 | 0.010 | 1.61439 | 30.00000 | Averaged | |
| 34 Dichlorofluoromethane | 1.36006 | 1.27383 | 0.010 | 6.33962 | 30.00000 | Averaged | |
| 35 Pentane | 1.43815 | 1.31592 | 0.010 | 8.49876 | 30.00000 | Averaged | |
| 39 Ethanol | 0.13532 | 0.09833 | 0.010 | 27.33555 | 30.00000 | Averaged | |
| 42 Acrolein | 0.29124 | 0.12808 | 0.010 | 56.02218 | 30.00000 | Averaged | <- |
| 43 Freon 113 | 1.50737 | 1.46952 | 0.010 | 2.51119 | 30.00000 | Averaged | |
| 44 1,1-Dichloroethene | 0.64138 | 0.70126 | 0.010 | -9.33662 | 30.00000 | Averaged | |
| 47 Acetone | 0.36497 | 0.32414 | 0.010 | 11.18744 | 30.00000 | Averaged | |
| 48 Carbon Disulfide | 1.74887 | 1.55997 | 0.010 | 10.80126 | 30.00000 | Averaged | |
| 52 2-Propanol | 1.51737 | 1.25188 | 0.010 | 17.49716 | 30.00000 | Averaged | |
| 54 3-Chloropropene | 0.29464 | 0.26469 | 0.010 | 10.16284 | 30.00000 | Averaged | |
| 57 Acetonitrile | 0.66971 | 0.58654 | 0.010 | 12.41890 | 30.00000 | Averaged | |
| 59 Methylene Chloride | 1.00247 | 0.89959 | 0.010 | 10.26224 | 30.00000 | Averaged | |
| 62 tert-Butyl alcohol | 1.54800 | 1.27635 | 0.010 | 17.54804 | 30.00000 | Averaged | |
| 63 Methyl tert-butyl ether | 1.83005 | 1.62832 | 0.010 | 11.02352 | 30.00000 | Averaged | |
| 64 trans-1,2-Dichloroethene | 0.43073 | 0.39821 | 0.010 | 7.54887 | 30.00000 | Averaged | |
| 66 Acrylonitrile | 0.55703 | 0.48332 | 0.010 | 13.23156 | 30.00000 | Averaged | |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 14-JUN-2024 12:02
Lab File ID: 3061403a.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/14JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | MIN %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE | |
|---|---|---|---|---|---|---|---|
| 67 Hexane | 1.34210 | 1.12791 | 0.010 | 15.95910 | 30.00000 | Averaged | |
| 71 1,1-Dichloroethane | 1.24472 | 1.12686 | 0.010 | 9.46833 | 30.00000 | Averaged | |
| 72 Isopropyl ether | 2.98469 | 2.62411 | 0.010 | 12.08090 | 30.00000 | Averaged | |
| 73 Vinyl Acetate | 0.10960 | 0.02928 | 0.010 | 73.28841 | 30.00000 | Averaged | <- |
| 79 Ethyl-tert-butyl ether | 2.57389 | 2.27002 | 0.010 | 11.80573 | 30.00000 | Averaged | |
| 84 2,2-Dichloropropane | 1.22874 | 1.08856 | 0.010 | 11.40828 | 30.00000 | Averaged | |
| 85 cis-1,2-Dichloroethene | 0.44603 | 0.41125 | 0.010 | 7.79781 | 30.00000 | Averaged | |
| 86 2-Butanone | 0.32135 | 0.29027 | 0.010 | 9.67220 | 30.00000 | Averaged | |
| 87 Ethyl Acetate | 0.32139 | 0.24985 | 0.010 | 22.25818 | 30.00000 | Averaged | |
| 89 Tetrahydrofuran | 0.98253 | 0.75768 | 0.010 | 22.88439 | 30.00000 | Averaged | |
| 92 Chloroform | 1.33658 | 1.22985 | 0.010 | 7.98572 | 30.00000 | Averaged | |
| 94 Cyclohexane | 0.89416 | 0.79736 | 0.010 | 10.82516 | 30.00000 | Averaged | |
| 96 1,1,1-Trichloroethane | 1.45774 | 1.34772 | 0.010 | 7.54777 | 30.00000 | Averaged | |
| 97 Carbon Tetrachloride | 1.54543 | 1.47939 | 0.010 | 4.27328 | 30.00000 | Averaged | |
| 99 1,1-Dichloropropene | 0.10070 | 0.09728 | 0.010 | 3.39953 | 30.00000 | Averaged | |
| 101 2,2,4-Trimethylpentane | 4.19325 | 3.79379 | 0.010 | 9.52623 | 30.00000 | Averaged | |
| 102 Benzene | 0.50334 | 0.46327 | 0.010 | 7.96094 | 30.00000 | Averaged | |
| 105 tert-Amyl methyl ether | 0.13527 | 0.12428 | 0.010 | 8.12274 | 30.00000 | Averaged | |
| 106 1,2-Dichloroethane | 0.26256 | 0.23950 | 0.010 | 8.78301 | 30.00000 | Averaged | |
| 107 Heptane | 0.19939 | 0.17176 | 0.010 | 13.85640 | 30.00000 | Averaged | |
| 110 n-Butanol | 0.11444 | 0.08893 | 0.010 | 22.29498 | 30.00000 | Averaged | |
| 111 Trichloroethene | 0.24269 | 0.28558 | 0.010 | -17.67342 | 30.00000 | Averaged | |
| 114 1,2-Dichloropropane | 0.23685 | 0.21003 | 0.010 | 11.32587 | 30.00000 | Averaged | |
| 116 Methyl Methacrylate | 0.20363 | 0.17380 | 0.010 | 14.65253 | 30.00000 | Averaged | |
| 117 1,4-Dioxane | 0.12662 | 0.11777 | 0.010 | 6.98677 | 30.00000 | Averaged | |
| 118 Dibromomethane | 0.23589 | 0.24423 | 0.010 | -3.53653 | 30.00000 | Averaged | |
| 122 Bromodichloromethane | 0.39286 | 0.37679 | 0.010 | 4.08998 | 30.00000 | Averaged | |
| 126 cis-1,3-Dichloropropene | 0.33505 | 0.30676 | 0.010 | 8.44315 | 30.00000 | Averaged | |
| 127 Methylcyclohexane | 0.34474 | 0.31518 | 0.010 | 8.57545 | 30.00000 | Averaged | |
| 131 4-Methyl-2-pentanone | 0.23047 | 0.18683 | 0.010 | 18.93528 | 30.00000 | Averaged | |
| 137 Toluene | 0.69679 | 0.64287 | 0.010 | 7.73803 | 30.00000 | Averaged | |
| 136 Octane | 0.25386 | 0.21351 | 0.010 | 15.89394 | 30.00000 | Averaged | |
| 139 trans-1,3-Dichloropropene | 0.27625 | 0.25507 | 0.010 | 7.66721 | 30.00000 | Averaged | |
| 141 1,1,2-Trichloroethane | 0.23391 | 0.22184 | 0.010 | 5.16040 | 30.00000 | Averaged | |
| 142 Tetrachloroethene | 0.35123 | 0.35838 | 0.010 | -2.03557 | 30.00000 | Averaged | |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 14-JUN-2024 12:02
Lab File ID: 3061403a.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/14JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE |
|---|---|---|---|---|---|---|
|143 2-Hexanone | 0.29346| 0.25726|0.010| 12.33394| 30.00000| Averaged|
|144 1,3-Dichloropropane | 0.32667| 0.29366|0.010| 10.10289| 30.00000| Averaged|
|146 Dibromochloromethane | 0.46229| 0.47840|0.010| -3.48349| 30.00000| Averaged|
|148 1,2-Dibromoethane (EDB) | 0.38337| 0.37126|0.010| 3.15968| 30.00000| Averaged|
|151 1-Bromo-2-Chloroethane | 0.41790| 0.38535|0.010| 7.78836| 30.00000| Averaged|
|154 Chlorobenzene | 0.57923| 0.56090|0.010| 3.16420| 30.00000| Averaged|
|155 Ethyl Benzene | 0.29135| 0.27871|0.010| 4.33790| 30.00000| Averaged|
|156 Nonane | 0.67669| 0.59550|0.010| 11.99742| 30.00000| Averaged|
|157 1,1,1,2-Tetrachloroethane | 0.32998| 0.33415|0.010| -1.26286| 30.00000| Averaged|
|158 m,p-Xylene | 0.36315| 0.34835|0.010| 4.07549| 30.00000| Averaged|
|164 o-Xylene | 0.34436| 0.32909|0.010| 4.43556| 30.00000| Averaged|
|165 Styrene | 0.58810| 0.55302|0.010| 5.96447| 30.00000| Averaged|
|167 Bromoform | 0.46720| 0.49816|0.010| -6.62626| 30.00000| Averaged|
|168 Cumene | 1.04099| 1.01114|0.010| 2.86669| 30.00000| Averaged|
|169 Cyclohexanone | 0.41185| 0.31719|0.010| 22.98474| 30.00000| Averaged|
|175 1,1,2,2-Tetrachloroethane | 0.53993| 0.39041|0.010| 27.69284| 30.00000| Averaged|
|177 Bromobenzene | 0.36268| 0.36677|0.010| -1.12634| 30.00000| Averaged|
|178 Propylbenzene | 0.30782| 0.29955|0.010| 2.68512| 30.00000| Averaged|
|179 1,2,3-Trichloropropane | 0.16387| 0.15089|0.010| 7.92197| 30.00000| Averaged|
|182 Decane | 0.79666| 0.64282|0.010| 19.31102| 30.00000| Averaged|
|183 4-Ethyltoluene | 0.33550| 0.32375|0.010| 3.50196| 30.00000| Averaged|
|184 2-Chlorotoluene | 0.28387| 0.27352|0.010| 3.64660| 30.00000| Averaged|
|185 1,3,5-Trimethylbenzene | 0.45246| 0.43268|0.010| 4.37253| 30.00000| Averaged|
|188 alpha Methyl Styrene | 0.47929| 0.45692|0.010| 4.66708| 30.00000| Averaged|
|189 tert-Butylbenzene | 0.86021| 0.83860|0.010| 2.51218| 30.00000| Averaged|
|190 1,2,4-Trimethylbenzene | 0.92509| 0.87406|0.010| 5.51594| 30.00000| Averaged|
|192 sec-Butylbenzene | 0.28157| 0.27708|0.010| 1.59802| 30.00000| Averaged|
|194 p-Cymene | 1.15152| 1.11643|0.010| 3.04724| 30.00000| Averaged|
|195 1,3-Dichlorobenzene | 0.68551| 0.66317|0.010| 3.25824| 30.00000| Averaged|
|196 1,4-Dichlorobenzene | 0.69437| 0.67639|0.010| 2.59019| 30.00000| Averaged|
|199 alpha-Chlorotoluene | 0.87930| 0.78283|0.010| 10.97189| 30.00000| Averaged|
|201 Undecane | 0.94724| 0.76280|0.010| 19.47209| 30.00000| Averaged|
|202 Butylbenzene | 0.31736| 0.30690|0.010| 3.29492| 30.00000| Averaged|
|204 1,2-Dichlorobenzene | 0.66528| 0.64295|0.010| 3.35647| 30.00000| Averaged|
|206 1,2-Dibromo-3-chloropropane | 0.39349| 0.38830|0.010| 1.31904| 30.00000| Averaged|
|207 Dodecane | 0.95417| 0.85304|0.010| 10.59818| 30.00000| Averaged|

US32TAR1

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 14-JUN-2024 12:02
Lab File ID: 3061403a.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/14JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE |
|---|---|---|---|---|---|---|
| 213 1,2,4-Trichlorobenzene | 0.65930 | 0.66490 | 0.010 | -0.84979 | 30.00000 | Averaged |
| 215 Hexachlorobutadiene | 0.48092 | 0.48950 | 0.010 | -1.78457 | 30.00000 | Averaged |
| 216 Naphthalene | 1.37605 | 1.23597 | 0.010 | 10.18041 | 30.00000 | Averaged |
| 222 1,2,3-Trichlorobenzene | 0.64605 | 0.64788 | 0.010 | -0.28407 | 30.00000 | Averaged |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061403a.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 15-JUN-2024
Calibration Time: 08:26
Client Smp ID: CCV
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 94062 | 56437 | 131687 | 97298 | 3.44 |
| 108 1,4-Difluorobenze | 341260 | 204756 | 477764 | 356185 | 4.37 |
| 153 Chlorobenzene-d5 | 337707 | 202624 | 472790 | 352841 | 4.48 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/14JUN24.b/3061403a.d

Page 1

Date : 14-JUN-2024 12:02

Client ID: CCV

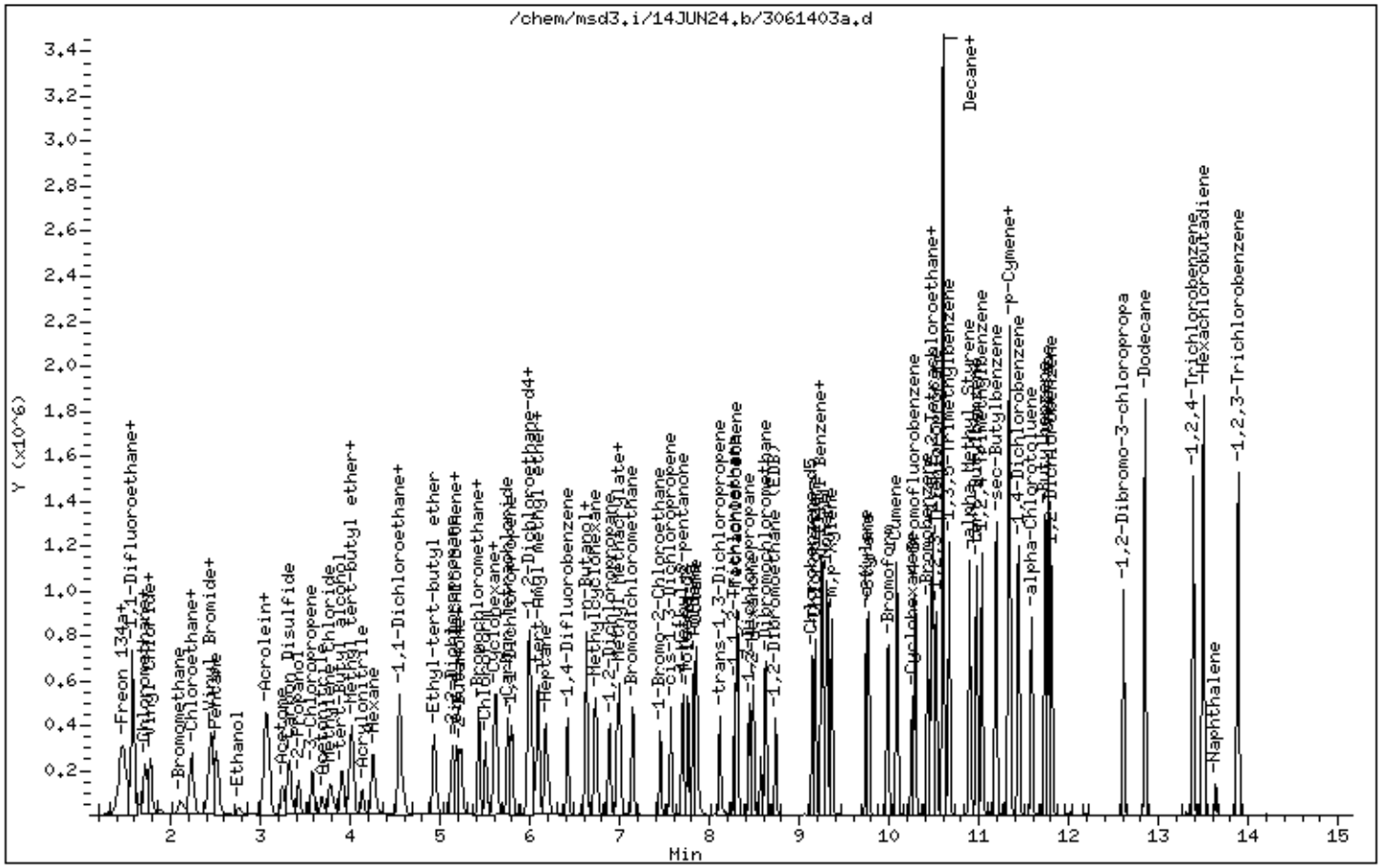
Instrument: msd3.i

Sample Info: 50mL 3018-4465

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



| | | | |
|---|---|---|---|
| **Client ID:** | CCV | | |
| **Lab ID:** | 2406133-24C | **Date/Time Analyzed:** | 6/14/24 08:42 AM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061332 |

| Compound | CAS# | %Recovery |
|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 92 |
| 1,4-Dichlorobenzene | 106-46-7 | 99 |
| Benzene | 71-43-2 | 94 |
| cis-1,2-Dichloroethene | 156-59-2 | 94 |
| Ethyl Benzene | 100-41-4 | 97 |
| m,p-Xylene | 108-38-3 | 98 |
| o-Xylene | 95-47-6 | 98 |
| Toluene | 108-88-3 | 93 |
| trans-1,2-Dichloroethene | 156-60-5 | 91 |
| Trichloroethene | 79-01-6 | 118 |
| Vinyl Chloride | 75-01-4 | 95 |

D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 100 |
| Toluene-d8 | 2037-26-5 | 91-110 | 96 |

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EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/13JUN24.b/3061332.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 14-JUN-2024 08:42
Operator : RT Inst ID: msd3.i
Smp Info : 50mL 3018-4465
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/13JUN24.b/324q0423a.m
Meth Date : 14-Jun-2024 09:06 yrc5 Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 13 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23_cont111224.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | | ======= | ======= | ========== | ===== |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 99024 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 75357 | | | | 47.79- 107.79 | 76.10 |
| 5.432 | 5.432 (1.000) | 49 | 145795 | | | | 131.33- 191.33 | 147.23 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 358909 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 52215 | | | | 0.00- 45.65 | 14.55 |
| * 153 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 349704 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 176143 | | | | 22.92- 82.92 | 50.37 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 117467 | 25.0000 | 22.775 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 65305 | | | | 23.17- 83.17 | 55.59 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 335233 | 25.0000 | 24.027 | | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 35608 | | | | 0.00- 41.42 | 10.62 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 226274 | | | 37.54- 97.54 | 67.50 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 259408 | 25.0000 | 24.961 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 286063 | | | 88.49- 148.49 | 110.28 |
| 10.288 | 10.288 (1.124) | 176 | 253326 | | | 66.73- 126.73 | 97.66 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 113965 | 50.0000 | 49.791 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 106029 | | | 64.17- 124.17 | 93.04 |
| 1.493 | 1.493 (0.275) | 51 | 439019 | | | 365.46- 425.46 | 385.22 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 120485 | 50.0000 | 46.454 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 80118 | | | 35.86- 95.86 | 66.50 |
| 1.437 | 1.437 (0.264) | 39 | 86463 | | | 41.66- 101.66 | 71.76 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.270) | 65 | 74811 | 50.0000 | 50.037 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.275) | 51 | 439019 | | | 568.10- 628.10 | 586.84 |
| 1.577 | 1.577 (0.290) | 47 | 14399 | | | 0.00- 50.57 | 19.25 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.270) | 85 | 292771 | 50.0000 | 49.923 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 94395 | | | 2.88- 62.88 | 32.24 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.493 (0.275) | 67 | 33659 | 50.0000 | 45.868 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.275) | 51 | 439019 | | | 1257.55-1317.55 | 1304.28 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 267010 | 50.0000 | 51.793 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 85655 | | | 2.10- 62.10 | 32.08 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.577 | 1.577 (0.290) | 43 | 251792 | 50.0000 | 45.913 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 42 | 82714 | | | 1.69- 61.69 | 32.85 |
| 1.577 | 1.577 (0.290) | 58 | 8526 | | | 0.00- 33.32 | 3.39 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.674 (0.308) | 50 | 138164 | 50.0000 | 48.865 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.674 (0.308) | 52 | 42869 | | | 1.38- 61.38 | 31.03 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.716 (0.316) | 58 | 25035 | 50.0000 | 44.162 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 18 Butane (continued) | | | | | | | |
| 1.716 | 1.716 (0.316) | 43 | 221096 | | | 866.38- 926.38 | 883.13 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.758 (0.324) | 62 | 130537 | 50.0000 | 47.715 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.758 (0.324) | 64 | 42881 | | | 3.10- 63.10 | 32.85 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.772 (0.326) | 54 | 114073 | 50.0000 | 44.386 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.772 (0.326) | 39 | 117026 | | | 78.74- 138.74 | 102.59 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 103124 | 50.0000 | 52.750 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 95724 | | | 64.19- 124.19 | 92.82 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.409) | 64 | 63746 | 50.0000 | 48.589 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.409) | 66 | 19452 | | | 2.32- 62.32 | 30.51 |
| 2.220 | 2.220 (0.409) | 49 | 22184 | | | 6.33- 66.33 | 34.80 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 173444 | 50.0000 | 46.328 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 110064 | | | 31.77- 91.77 | 63.46 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.402 (0.442) | 106 | 117813 | 50.0000 | 51.816 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.402 (0.442) | 108 | 109323 | | | 64.21- 124.21 | 92.79 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 328977 | 50.0000 | 48.694 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 214370 | | | 34.93- 94.93 | 65.16 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.458 (0.453) | 67 | 250345 | 50.0000 | 46.471 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 69 | 80650 | | | 1.95- 61.95 | 32.22 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 259285 | 50.0000 | 45.517 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 38694 | | | 0.00- 44.64 | 14.92 |
| 2.514 | 2.514 (0.463) | 72 | 21219 | | | 0.00- 37.90 | 8.18 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 24901 | 61.6000 | 46.457 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.507) | 45 | 63294 | | | 224.40- 284.40 | 254.18 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.053 | 3.053 (0.562) | 55 | 29423 | 58.2500 | 25.506 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 42 Acrolein (continued) | | | | | | | |
| 3.053 | 3.053 (0.562) | 56 | 40900 | | | 108.02- 168.02 | 139.01 |
| 43 Freon 113 | | | | | | CAS #: 76-13-1 | |
| 3.061 | 3.061 (0.563) | 151 | 287409 | 50.0000 | 48.137 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 186384 | | | 35.07- 95.07 | 64.85 |
| 3.061 | 3.061 (0.563) | 101 | 322873 | | | 87.45- 147.45 | 112.34 |
| 44 1,1-Dichloroethene | | | | | | CAS #: 75-35-4 | |
| 3.089 | 3.089 (0.569) | 96 | 117593 | 50.0000 | 46.288 | 80.00- 120.00 | 100.00 |
| 3.089 | 3.089 (0.569) | 98 | 75567 | | | 33.27- 93.27 | 64.26 |
| 3.089 | 3.089 (0.569) | 61 | 241112 | | | 159.05- 219.05 | 205.04 |
| 47 Acetone | | | | | | CAS #: 67-64-1 | |
| 3.240 | 3.240 (0.596) | 58 | 64533 | 50.0000 | 44.640 | 80.00- 120.00 | 100.00 |
| 3.240 | 3.240 (0.596) | 43 | 220078 | | | 329.45- 389.45 | 341.03 |
| 48 Carbon Disulfide | | | | | | CAS #: 75-15-0 | |
| 3.326 | 3.326 (0.612) | 76 | 305822 | 50.0000 | 44.148 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | | CAS #: 67-63-0 | |
| 3.426 | 3.426 (0.631) | 45 | 248940 | 50.0000 | 41.419 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.631) | 43 | 45668 | | | 0.00- 48.18 | 18.35 |
| 54 3-Chloropropene | | | | | | CAS #: 107-05-1 | |
| 3.576 | 3.576 (0.658) | 76 | 51388 | 50.0000 | 44.033 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.576 (0.658) | 41 | 188806 | | | 366.80- 426.80 | 367.41 |
| 57 Acetonitrile | | | | | | CAS #: 75-05-8 | |
| 3.677 | 3.677 (0.677) | 41 | 140626 | 58.8000 | 53.012 | 80.00- 120.00 | 100.00 |
| 3.677 | 3.677 (0.677) | 40 | 72424 | | | 22.74- 82.74 | 51.50 |
| 3.684 | 3.684 (0.678) | 38 | 17364 | | | 0.00- 42.52 | 12.35 |
| 59 Methylene Chloride | | | | | | CAS #: 75-09-2 | |
| 3.777 | 3.777 (0.695) | 49 | 178035 | 50.0000 | 44.836 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.777 (0.695) | 84 | 102973 | | | 24.90- 84.90 | 57.84 |
| 3.777 | 3.777 (0.695) | 51 | 54739 | | | 0.00- 59.67 | 30.75 |
| 62 tert-Butyl alcohol | | | | | | CAS #: 75-65-0 | |
| 3.906 | 3.906 (0.719) | 59 | 289894 | 57.6000 | 47.279 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.906 (0.719) | 41 | 66913 | | | 0.00- 51.85 | 23.08 |
| 3.906 | 3.906 (0.719) | 57 | 30485 | | | 0.00- 40.17 | 10.52 |
| 63 Methyl tert-butyl ether | | | | | | CAS #: 1634-04-4 | |
| 3.999 | 3.999 (0.736) | 73 | 322389 | 50.0000 | 44.475 | 80.00- 120.00 | 100.00 |
| 3.999 | 3.999 (0.736) | 57 | 91982 | | | 0.00- 58.72 | 28.53 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 3.999 | 3.999 (0.736) | 41 | 92720 | | | 0.00- 59.38 | 28.76 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 78007 | 50.0000 | 45.722 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.742) | 61 | 195779 | | | 232.13- 292.13 | 250.97 |
| 4.028 | 4.028 (0.742) | 96 | 122376 | | | 127.26- 187.26 | 156.88 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.135 (0.761) | 52 | 93716 | 50.0000 | 42.475 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.135 (0.761) | 53 | 112136 | | | 86.45- 146.45 | 119.66 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.250 | 4.250 (0.782) | 57 | 223803 | 50.0000 | 42.100 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.257 (0.784) | 43 | 155007 | | | 40.97- 100.97 | 69.26 |
| 4.257 | 4.257 (0.784) | 86 | 29287 | | | 0.00- 42.68 | 13.09 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.551 (0.838) | 63 | 222856 | 50.0000 | 45.201 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 65 | 67663 | | | 0.47- 60.47 | 30.36 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.551 | 4.551 (0.838) | 45 | 518546 | 50.0000 | 43.862 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 87 | 105812 | | | 0.00- 49.55 | 20.41 |
| 4.551 | 4.551 (0.838) | 59 | 55382 | | | 0.00- 40.42 | 10.68 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.601 | 4.601 (0.847) | 86 | 5949 | 50.0000 | 13.705 | 80.00- 120.00 | 100.00 |
| 4.601 | 4.601 (0.847) | 43 | 97629 | | | 1727.95-1787.95 | 1640.84 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.937 (0.909) | 59 | 444951 | 50.0000 | 43.643 | 80.00- 120.00 | 100.00 |
| 4.937 | 4.937 (0.909) | 87 | 155530 | | | 3.90- 63.90 | 34.95 |
| 4.937 | 4.937 (0.909) | 41 | 89657 | | | 0.00- 49.72 | 20.15 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.138 (0.946) | 77 | 215365 | 50.0000 | 44.250 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.138 (0.946) | 79 | 69269 | | | 2.39- 62.39 | 32.16 |
| 5.138 | 5.138 (0.946) | 97 | 52238 | | | 0.00- 53.57 | 24.26 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.181 | 5.181 (0.954) | 98 | 82967 | 50.0000 | 46.962 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 126593 | | | 125.53- 185.53 | 152.58 |
| 5.181 | 5.181 (0.954) | 61 | 186870 | | | 219.86- 279.86 | 225.23 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.960) | 72 | 57478 | 50.0000 | 45.156 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 86 2-Butanone (continued) | | | | | | | |
| 5.231 | 5.231 (0.963) | 43 | 623546 | | | 1138.34-1198.34 | 1084.84 |
| 5.210 | 5.210 (0.959) | 57 | 23774 | | | 10.83- 70.83 | 41.36 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.238 | 5.238 (0.964) | 45 | 47271 | 50.0000 | 37.134 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 61 | 186870 | | | 338.96- 398.96 | 395.31 |
| 5.238 | 5.238 (0.964) | 70 | 25594 | | | 24.53- 84.53 | 54.14 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.424 | 5.424 (0.999) | 42 | 150602 | 50.0000 | 38.697 | 80.00- 120.00 | 100.00 |
| 5.424 | 5.424 (0.999) | 71 | 43819 | | | 0.00- 58.54 | 29.10 |
| 5.424 | 5.424 (0.999) | 72 | 46262 | | | 0.00- 59.59 | 30.72 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.510 | 5.510 (1.014) | 83 | 245598 | 50.0000 | 46.390 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.510 (1.014) | 85 | 158967 | | | 35.77- 95.77 | 64.73 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.604 | 5.604 (1.032) | 84 | 160083 | 50.0000 | 45.199 | 80.00- 120.00 | 100.00 |
| 5.604 | 5.604 (1.032) | 56 | 238918 | | | 125.79- 185.79 | 149.25 |
| 5.604 | 5.604 (1.032) | 41 | 133428 | | | 61.55- 121.55 | 83.35 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.632 | 5.632 (1.037) | 97 | 265055 | 50.0000 | 45.904 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.632 (1.037) | 99 | 170995 | | | 32.84- 92.84 | 64.51 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.754 (1.059) | 119 | 291281 | 50.0000 | 47.584 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.754 (1.059) | 117 | 302921 | | | 75.19- 135.19 | 104.00 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.797 (0.903) | 110 | 70495 | 50.0000 | 48.761 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.797 (0.903) | 75 | 177013 | | | 234.16- 294.16 | 251.10 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.983 | 5.983 (1.102) | 57 | 750959 | 50.0000 | 45.213 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (1.103) | 56 | 250838 | | | 3.09- 63.09 | 33.40 |
| 5.983 | 5.983 (1.102) | 41 | 201100 | | | 0.00- 57.28 | 26.78 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 337914 | 50.0000 | 46.762 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 79642 | | | 0.00- 53.69 | 23.57 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.083 | 6.083 (0.948) | 87 | 89214 | 50.0000 | 45.941 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.083 | 6.083 (0.948) | 73 | 348976 | | | 365.76- 425.76 | 391.16 |
| 6.083 | 6.083 (0.948) | 55 | 115779 | | | 92.58- 152.58 | 129.78 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.098 (0.950) | 62 | 172436 | 50.0000 | 45.746 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.098 (0.950) | 64 | 54741 | | | 1.80- 61.80 | 31.75 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.177 | 6.177 (0.962) | 71 | 125761 | 50.0000 | 43.934 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.177 (0.962) | 43 | 292545 | | | 207.73- 267.73 | 232.62 |
| 6.177 | 6.177 (0.962) | 57 | 144031 | | | 84.83- 144.83 | 114.53 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.032) | 56 | 66636 | 50.0000 | 40.558 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 41 | 50107 | | | 47.73- 107.73 | 75.20 |
| 6.628 | 6.628 (1.032) | 43 | 39610 | | | 31.60- 91.60 | 59.44 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 206037 | 50.0000 | 59.135 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 233478 | | | 80.23- 140.23 | 113.32 |
| 6.628 | 6.628 (1.032) | 97 | 132888 | | | 34.78- 94.78 | 64.50 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.886 (1.073) | 63 | 150219 | 50.0000 | 44.178 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.886 (1.073) | 62 | 107352 | | | 40.39- 100.39 | 71.46 |
| 6.886 | 6.886 (1.073) | 41 | 89225 | | | 31.86- 91.86 | 59.40 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.972 | 6.972 (0.762) | 69 | 127452 | 50.0000 | 44.744 | 80.00- 120.00 | 100.00 |
| 6.972 | 6.972 (0.762) | 41 | 209112 | | | 145.81- 205.81 | 164.07 |
| 6.972 | 6.972 (0.762) | 100 | 51860 | | | 10.05- 70.05 | 40.69 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.089) | 88 | 85717 | 50.0000 | 47.155 | 80.00- 120.00 | 100.00 |
| 6.986 | 6.986 (1.088) | 58 | 71386 | | | 56.33- 116.33 | 83.28 |
| 6.986 | 6.986 (1.088) | 57 | 26003 | | | 2.08- 62.08 | 30.34 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.007 (0.766) | 174 | 176090 | 50.0000 | 53.367 | 80.00- 120.00 | 100.00 |
| 7.000 | 7.000 (0.765) | 93 | 152663 | | | 62.68- 122.68 | 86.70 |
| 7.000 | 7.000 (0.765) | 95 | 127161 | | | 47.70- 107.70 | 72.21 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.144 | 7.144 (1.113) | 83 | 270456 | 50.0000 | 47.953 | 80.00- 120.00 | 100.00 |
| 7.144 | 7.144 (1.113) | 85 | 174952 | | | 34.96- 94.96 | 64.69 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | | ======= | ======= | ========== | ===== |
| 126 cis-1,3-Dichloropropene | | | | | | CAS #: 10061-01-5 | | |
| 7.566 | 7.566 (1.179) | 75 | 225674 | 50.0000 | | 46.917 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.566 (1.179) | 77 | 70907 | | | | 1.26- 61.26 | 31.42 |
| 7.566 | 7.566 (1.179) | 39 | 133013 | | | | 35.06- 95.06 | 58.94 |
| 127 Methylcyclohexane | | | | | | CAS #: 108-87-2 | | |
| 6.728 | 6.728 (1.048) | 83 | 227720 | 50.0000 | | 46.012 | 80.00- 120.00 | 100.00 |
| 6.728 | 6.728 (1.048) | 98 | 105610 | | | | 14.83- 74.83 | 46.38 |
| 6.728 | 6.728 (1.048) | 55 | 225187 | | | | 71.50- 131.50 | 98.89 |
| 131 4-Methyl-2-pentanone | | | | | | CAS #: 108-10-1 | | |
| 7.702 | 7.702 (1.200) | 58 | 135070 | 50.0000 | | 40.823 | 80.00- 120.00 | 100.00 |
| 7.702 | 7.702 (1.200) | 43 | 383929 | | | | 259.88- 319.88 | 284.24 |
| 7.702 | 7.702 (1.200) | 85 | 50991 | | | | 7.58- 67.58 | 37.75 |
| 137 Toluene | | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 467519 | 50.0000 | | 46.736 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 268041 | | | | 27.89- 87.89 | 57.33 |
| 136 Octane | | | | | | CAS #: 111-65-9 | | |
| 7.853 | 7.853 (1.223) | 57 | 155416 | 50.0000 | | 42.644 | 80.00- 120.00 | 100.00 |
| 7.853 | 7.853 (1.223) | 85 | 149325 | | | | 63.53- 123.53 | 96.08 |
| 7.853 | 7.853 (1.223) | 43 | 419683 | | | | 246.00- 306.00 | 270.04 |
| 139 trans-1,3-Dichloropropene | | | | | | CAS #: 10061-02-6 | | |
| 8.111 | 8.111 (0.886) | 75 | 184252 | 50.0000 | | 47.682 | 80.00- 120.00 | 100.00 |
| 8.111 | 8.111 (0.886) | 77 | 60176 | | | | 1.83- 61.83 | 32.66 |
| 8.111 | 8.111 (0.886) | 39 | 104407 | | | | 31.97- 91.97 | 56.67 |
| 141 1,1,2-Trichloroethane | | | | | | CAS #: 79-00-5 | | |
| 8.282 | 8.282 (0.905) | 97 | 158436 | 50.0000 | | 48.422 | 80.00- 120.00 | 100.00 |
| 8.282 | 8.282 (0.905) | 99 | 98503 | | | | 32.52- 92.52 | 62.17 |
| 8.282 | 8.282 (0.905) | 83 | 136323 | | | | 58.90- 118.90 | 86.04 |
| 142 Tetrachloroethene | | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.311 (0.908) | 166 | 259386 | 50.0000 | | 52.796 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.311 (0.908) | 129 | 192826 | | | | 45.32- 105.32 | 74.34 |
| 8.311 | 8.311 (0.908) | 131 | 189929 | | | | 44.17- 104.17 | 73.22 |
| 143 2-Hexanone | | | | | | CAS #: 591-78-6 | | |
| 8.483 | 8.483 (0.927) | 58 | 186374 | 50.0000 | | 45.403 | 80.00- 120.00 | 100.00 |
| 8.483 | 8.483 (0.927) | 43 | 376651 | | | | 177.32- 237.32 | 202.09 |
| 8.483 | 8.483 (0.927) | 100 | 33496 | | | | 0.00- 47.18 | 17.97 |
| 144 1,3-Dichloropropane | | | | | | CAS #: 142-28-9 | | |
| 8.440 | 8.440 (1.315) | 76 | 212438 | 50.0000 | | 45.298 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane (continued) | | | | | | | |
| 8.440 | 8.440 (1.315) | 41 | 174685 | | | 59.72- 119.72 | 82.23 |
| 8.440 | 8.440 (1.315) | 78 | 69098 | | | 3.08- 63.08 | 32.53 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 342046 | 50.0000 | 52.894 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 264749 | | | 47.27- 107.27 | 77.40 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 267717 | 50.0000 | 49.923 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 255323 | | | 64.18- 124.18 | 95.37 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.452 (1.161) | 63 | 278147 | 50.0000 | 46.362 | 80.00- 120.00 | 100.00 |
| 7.452 | 7.452 (1.161) | 65 | 84759 | | | 0.43- 60.43 | 30.47 |
| 7.452 | 7.452 (1.161) | 144 | 33177 | | | 0.00- 40.48 | 11.93 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.003) | 112 | 402724 | 50.0000 | 49.704 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.003) | 114 | 129453 | | | 1.91- 61.91 | 32.14 |
| 9.178 | 9.178 (1.003) | 77 | 203357 | | | 22.97- 82.97 | 50.50 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 197913 | 50.0000 | 48.562 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 613467 | | | 281.09- 341.09 | 309.97 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.307 | 9.307 (1.017) | 43 | 428101 | 50.0000 | 45.227 | 80.00- 120.00 | 100.00 |
| 9.307 | 9.307 (1.017) | 57 | 350612 | | | 50.62- 110.62 | 81.90 |
| 9.307 | 9.307 (1.017) | 85 | 114927 | | | 0.00- 55.65 | 26.85 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.264 | 9.264 (1.013) | 131 | 238567 | 50.0000 | 51.684 | 80.00- 120.00 | 100.00 |
| 9.264 | 9.264 (1.013) | 117 | 161644 | | | 37.10- 97.10 | 67.76 |
| 9.264 | 9.264 (1.013) | 95 | 80807 | | | 4.93- 64.93 | 33.87 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.357 (1.023) | 106 | 248371 | 50.0000 | 48.894 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.357 (1.023) | 91 | 490387 | | | 170.33- 230.33 | 197.44 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 235894 | 50.0000 | 48.971 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 486899 | | | 181.23- 241.23 | 206.41 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.772 | 9.772 (1.068) | 104 | 396942 | 50.0000 | 48.252 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.772 | 9.772 (1.068) | 78 | 183188 | | | 17.26- 77.26 | 46.15 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.092) | 173 | 354100 | 50.0000 | 54.182 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.092) | 171 | 183084 | | | 21.45- 81.45 | 51.70 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.088 | 10.088 (1.103) | 105 | 726346 | 50.0000 | 49.881 | 80.00- 120.00 | 100.00 |
| 10.088 | 10.088 (1.103) | 120 | 198873 | | | 0.00- 56.93 | 27.38 |
| 10.088 | 10.088 (1.103) | 51 | 83973 | | | 0.00- 42.24 | 11.56 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.252 | 10.252 (1.121) | 55 | 230601 | 50.0000 | 40.028 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.259 (1.121) | 98 | 84145 | | | 5.15- 65.15 | 36.49 |
| 10.252 | 10.252 (1.121) | 42 | 156989 | | | 41.99- 101.99 | 68.08 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.144) | 83 | 283956 | 50.0000 | 37.597 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.467 (1.144) | 85 | 183327 | | | 34.97- 94.97 | 64.56 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.424 | 10.424 (1.139) | 156 | 258594 | 50.0000 | 50.972 | 80.00- 120.00 | 100.00 |
| 10.424 | 10.424 (1.139) | 158 | 253682 | | | 67.47- 127.47 | 98.10 |
| 10.424 | 10.424 (1.139) | 77 | 333012 | | | 108.68- 168.68 | 128.78 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.489 | 10.489 (1.146) | 120 | 213354 | 50.0000 | 49.551 | 80.00- 120.00 | 100.00 |
| 10.489 | 10.489 (1.146) | 91 | 866981 | | | 383.60- 443.60 | 406.36 |
| 10.489 | 10.489 (1.146) | 105 | 32989 | | | 0.00- 46.14 | 15.46 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.517 (1.150) | 110 | 107991 | 50.0000 | 47.113 | 80.00- 120.00 | 100.00 |
| 10.517 | 10.517 (1.150) | 75 | 356822 | | | 324.28- 384.28 | 330.42 |
| 10.517 | 10.517 (1.150) | 61 | 88322 | | | 57.24- 117.24 | 81.79 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.603 (1.159) | 57 | 461842 | 50.0000 | 41.444 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 71 | 148000 | | | 1.11- 61.11 | 32.05 |
| 10.603 | 10.603 (1.159) | 142 | 21164 | | | 0.00- 34.44 | 4.58 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.603 (1.159) | 120 | 228355 | 50.0000 | 48.658 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 105 | 748849 | | | 298.94- 358.94 | 327.93 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.603 (1.159) | 126 | 194328 | 50.0000 | 48.940 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.603 | 10.603 (1.159) | 91 | 587645 | | | 282.78- 342.78 | 302.40 |
| 10.603 | 10.603 (1.159) | 65 | 85517 | | | 17.33- 77.33 | 44.01 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.668 | 10.668 (1.166) | 120 | 310178 | 50.0000 | 49.008 | 80.00- 120.00 | 100.00 |
| 10.668 | 10.668 (1.166) | 105 | 622198 | | | 172.08- 232.08 | 200.59 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.897 | 10.897 (1.191) | 118 | 326955 | 50.0000 | 48.768 | 80.00- 120.00 | 100.00 |
| 10.897 | 10.897 (1.191) | 103 | 182570 | | | 25.64- 85.64 | 55.84 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.969 | 10.969 (1.199) | 119 | 599803 | 50.0000 | 49.848 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.976 (1.200) | 134 | 151744 | | | 0.00- 55.10 | 25.30 |
| 10.969 | 10.969 (1.199) | 91 | 376697 | | | 34.53- 94.53 | 62.80 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.033 | 11.033 (1.206) | 105 | 619331 | 50.0000 | 47.861 | 80.00- 120.00 | 100.00 |
| 11.033 | 11.033 (1.206) | 120 | 290950 | | | 16.63- 76.63 | 46.98 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.191 | 11.191 (1.223) | 134 | 198848 | 50.0000 | 50.486 | 80.00- 120.00 | 100.00 |
| 11.191 | 11.191 (1.223) | 105 | 899811 | | | 436.99- 496.99 | 452.51 |
| 11.191 | 11.191 (1.223) | 91 | 136050 | | | 41.69- 101.69 | 68.42 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.334 | 11.334 (1.239) | 119 | 796952 | 50.0000 | 49.477 | 80.00- 120.00 | 100.00 |
| 11.334 | 11.334 (1.239) | 134 | 221885 | | | 0.00- 57.62 | 27.84 |
| 11.334 | 11.334 (1.239) | 91 | 176150 | | | 0.00- 53.03 | 22.10 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.341 | 11.341 (1.240) | 146 | 472425 | 50.0000 | 49.267 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 148 | 296726 | | | 34.18- 94.18 | 62.81 |
| 11.341 | 11.341 (1.240) | 111 | 183640 | | | 10.06- 70.06 | 38.87 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.441 (1.251) | 146 | 481162 | 50.0000 | 49.538 | 80.00- 120.00 | 100.00 |
| 11.441 | 11.441 (1.251) | 148 | 305744 | | | 33.55- 93.55 | 63.54 |
| 11.441 | 11.441 (1.251) | 111 | 178331 | | | 7.98- 67.98 | 37.06 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.585 | 11.585 (1.266) | 91 | 561715 | 50.0000 | 45.668 | 80.00- 120.00 | 100.00 |
| 11.585 | 11.585 (1.266) | 126 | 131953 | | | 0.00- 52.77 | 23.49 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.778 | 11.778 (1.287) | 57 | 528833 | 50.0000 | 39.911 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane (continued) | | | | | | | |
| 11.778 | 11.778 (1.287) | 43 | 492065 | | | 63.59- 123.59 | 93.05 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.742 (1.283) | 134 | 218388 | 50.0000 | 49.195 | 80.00- 120.00 | 100.00 |
| 11.735 | 11.735 (1.283) | 91 | 721694 | | | 310.82- 370.82 | 330.46 |
| 11.735 | 11.735 (1.283) | 92 | 382591 | | | 151.53- 211.53 | 175.19 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.814 (1.291) | 146 | 457182 | 50.0000 | 49.127 | 80.00- 120.00 | 100.00 |
| 11.814 | 11.814 (1.291) | 148 | 290079 | | | 33.00- 93.00 | 63.45 |
| 11.814 | 11.814 (1.291) | 111 | 181379 | | | 10.87- 70.87 | 39.67 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.379) | 157 | 287841 | 50.0000 | 52.295 | 80.00- 120.00 | 100.00 |
| 12.609 | 12.609 (1.378) | 75 | 206277 | | | 48.09- 108.09 | 71.66 |
| 12.616 | 12.616 (1.379) | 155 | 221560 | | | 47.89- 107.89 | 76.97 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.406) | 57 | 598692 | 50.0000 | 44.856 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.406) | 43 | 519020 | | | 58.52- 118.52 | 86.69 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.464) | 180 | 461126 | 50.0000 | 50.001 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.464) | 182 | 440526 | | | 64.84- 124.84 | 95.53 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.511 | 13.511 (1.477) | 225 | 347878 | 50.0000 | 51.712 | 80.00- 120.00 | 100.00 |
| 13.511 | 13.511 (1.477) | 223 | 217266 | | | 32.80- 92.80 | 62.45 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.492) | 128 | 100993 | 5.80000 | 5.247 | 80.00- 120.00 | 100.00 |
| 13.648 | 13.648 (1.492) | 127 | 12760 | | | 0.00- 42.72 | 12.63 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.898 | 13.898 (1.519) | 180 | 445735 | 50.0000 | 49.323 | 80.00- 120.00 | 100.00 |
| 13.898 | 13.898 (1.519) | 182 | 424453 | | | 65.07- 125.07 | 95.23 |
| 13.898 | 13.898 (1.519) | 145 | 148161 | | | 4.48- 64.48 | 33.24 |

US32TAR1

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 14-JUN-2024 08:42
Lab File ID: 3061332.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/13JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE | |
|---|---|---|---|---|---|---|---|
| $ 104 1,2-Dichloroethane-d4 | 1.30215 | 1.18624 | 0.010 | 8.90143 | 30.00000 | Averaged | |
| $ 134 Toluene-d8 | 0.97187 | 0.93403 | 0.010 | 3.89359 | 30.00000 | Averaged | |
| $ 170 4-Bromofluorobenzene | 0.74296 | 0.74180 | 0.010 | 0.15660 | 30.00000 | Averaged | |
| 4 Freon 134a | 0.57786 | 0.57544 | 0.010 | 0.41855 | 30.00000 | Averaged | |
| 5 Propylene | 0.65479 | 0.60836 | 0.010 | 7.09111 | 30.00000 | Averaged | |
| 7 1,1-Difluoroethane | 0.37746 | 0.37774 | 0.010 | -0.07385 | 30.00000 | Averaged | |
| 8 Freon 12 | 1.48055 | 1.47827 | 0.010 | 0.15362 | 30.00000 | Averaged | |
| 9 Chlorodifluoromethane | 0.18527 | 0.16996 | 0.010 | 8.26468 | 30.00000 | Averaged | |
| 10 Freon 114 | 1.30152 | 1.34820 | 0.010 | -3.58678 | 30.00000 | Averaged | |
| 12 Isobutane | 1.38453 | 1.27136 | 0.010 | 8.17395 | 30.00000 | Averaged | |
| 15 Chloromethane | 0.71383 | 0.69763 | 0.010 | 2.27032 | 30.00000 | Averaged | |
| 18 Butane | 0.14312 | 0.12641 | 0.010 | 11.67571 | 30.00000 | Averaged | |
| 19 Vinyl Chloride | 0.69068 | 0.65911 | 0.010 | 4.57025 | 30.00000 | Averaged | |
| 20 1,3-Butadiene | 0.64883 | 0.57598 | 0.010 | 11.22771 | 30.00000 | Averaged | |
| 24 Bromomethane | 0.49355 | 0.52070 | 0.010 | -5.50115 | 30.00000 | Averaged | |
| 30 Chloroethane | 0.33122 | 0.32187 | 0.010 | 2.82242 | 30.00000 | Averaged | |
| 31 Isopentane | 0.94519 | 0.87576 | 0.010 | 7.34491 | 30.00000 | Averaged | |
| 32 Vinyl Bromide | 0.57403 | 0.59487 | 0.010 | -3.63122 | 30.00000 | Averaged | |
| 33 Freon 11 | 1.70564 | 1.66109 | 0.010 | 2.61234 | 30.00000 | Averaged | |
| 34 Dichlorofluoromethane | 1.36006 | 1.26405 | 0.010 | 7.05875 | 30.00000 | Averaged | |
| 35 Pentane | 1.43815 | 1.30919 | 0.010 | 8.96676 | 30.00000 | Averaged | |
| 39 Ethanol | 0.13532 | 0.10206 | 0.010 | 24.58300 | 30.00000 | Averaged | |
| 42 Acrolein | 0.29124 | 0.12753 | 0.010 | 56.21326 | 30.00000 | Averaged | <- |
| 43 Freon 113 | 1.50737 | 1.45120 | 0.010 | 3.72652 | 30.00000 | Averaged | |
| 44 1,1-Dichloroethene | 0.64138 | 0.59376 | 0.010 | 7.42422 | 30.00000 | Averaged | |
| 47 Acetone | 0.36497 | 0.32584 | 0.010 | 10.72031 | 30.00000 | Averaged | |
| 48 Carbon Disulfide | 1.74887 | 1.54417 | 0.010 | 11.70491 | 30.00000 | Averaged | |
| 52 2-Propanol | 1.51737 | 1.25696 | 0.010 | 17.16210 | 30.00000 | Averaged | |
| 54 3-Chloropropene | 0.29464 | 0.25947 | 0.010 | 11.93402 | 30.00000 | Averaged | |
| 57 Acetonitrile | 0.66971 | 0.60379 | 0.010 | 9.84362 | 30.00000 | Averaged | |
| 59 Methylene Chloride | 1.00247 | 0.89894 | 0.010 | 10.32716 | 30.00000 | Averaged | |
| 62 tert-Butyl alcohol | 1.54800 | 1.27061 | 0.010 | 17.91902 | 30.00000 | Averaged | |
| 63 Methyl tert-butyl ether | 1.83005 | 1.62782 | 0.010 | 11.05057 | 30.00000 | Averaged | |
| 64 trans-1,2-Dichloroethene | 0.43073 | 0.39388 | 0.010 | 8.55576 | 30.00000 | Averaged | |
| 66 Acrylonitrile | 0.55703 | 0.47319 | 0.010 | 15.05019 | 30.00000 | Averaged | |

US32TAR1

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 14-JUN-2024 08:42
Lab File ID: 3061332.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/13JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE | |
|---|---|---|---|---|---|---|---|
| 67 Hexane | 1.34210 | 1.13003 | 0.010 | 15.80089 | 30.00000 | Averaged | |
| 71 1,1-Dichloroethane | 1.24472 | 1.12525 | 0.010 | 9.59755 | 30.00000 | Averaged | |
| 72 Isopropyl ether | 2.98469 | 2.61826 | 0.010 | 12.27672 | 30.00000 | Averaged | |
| 73 Vinyl Acetate | 0.10960 | 0.03004 | 0.010 | 72.58901 | 30.00000 | Averaged | <- |
| 79 Ethyl-tert-butyl ether | 2.57389 | 2.24666 | 0.010 | 12.71323 | 30.00000 | Averaged | |
| 84 2,2-Dichloropropane | 1.22874 | 1.08743 | 0.010 | 11.50018 | 30.00000 | Averaged | |
| 85 cis-1,2-Dichloroethene | 0.44603 | 0.41892 | 0.010 | 6.07671 | 30.00000 | Averaged | |
| 86 2-Butanone | 0.32135 | 0.29022 | 0.010 | 9.68708 | 30.00000 | Averaged | |
| 87 Ethyl Acetate | 0.32139 | 0.23869 | 0.010 | 25.73226 | 30.00000 | Averaged | |
| 89 Tetrahydrofuran | 0.98253 | 0.76043 | 0.010 | 22.60508 | 30.00000 | Averaged | |
| 92 Chloroform | 1.33658 | 1.24008 | 0.010 | 7.21986 | 30.00000 | Averaged | |
| 94 Cyclohexane | 0.89416 | 0.80830 | 0.010 | 9.60236 | 30.00000 | Averaged | |
| 96 1,1,1-Trichloroethane | 1.45774 | 1.33832 | 0.010 | 8.19195 | 30.00000 | Averaged | |
| 97 Carbon Tetrachloride | 1.54543 | 1.47075 | 0.010 | 4.83234 | 30.00000 | Averaged | |
| 99 1,1-Dichloropropene | 0.10070 | 0.09821 | 0.010 | 2.47781 | 30.00000 | Averaged | |
| 101 2,2,4-Trimethylpentane | 4.19325 | 3.79177 | 0.010 | 9.57443 | 30.00000 | Averaged | |
| 102 Benzene | 0.50334 | 0.47075 | 0.010 | 6.47520 | 30.00000 | Averaged | |
| 105 tert-Amyl methyl ether | 0.13527 | 0.12429 | 0.010 | 8.11782 | 30.00000 | Averaged | |
| 106 1,2-Dichloroethane | 0.26256 | 0.24022 | 0.010 | 8.50896 | 30.00000 | Averaged | |
| 107 Heptane | 0.19939 | 0.17520 | 0.010 | 12.13157 | 30.00000 | Averaged | |
| 110 n-Butanol | 0.11444 | 0.09283 | 0.010 | 18.88339 | 30.00000 | Averaged | |
| 111 Trichloroethene | 0.24269 | 0.28703 | 0.010 | -18.27060 | 30.00000 | Averaged | |
| 114 1,2-Dichloropropane | 0.23685 | 0.20927 | 0.010 | 11.64470 | 30.00000 | Averaged | |
| 116 Methyl Methacrylate | 0.20363 | 0.18223 | 0.010 | 10.51130 | 30.00000 | Averaged | |
| 117 1,4-Dioxane | 0.12662 | 0.11941 | 0.010 | 5.69051 | 30.00000 | Averaged | |
| 118 Dibromomethane | 0.23589 | 0.25177 | 0.010 | -6.73360 | 30.00000 | Averaged | |
| 122 Bromodichloromethane | 0.39286 | 0.37678 | 0.010 | 4.09305 | 30.00000 | Averaged | |
| 126 cis-1,3-Dichloropropene | 0.33505 | 0.31439 | 0.010 | 6.16606 | 30.00000 | Averaged | |
| 127 Methylcyclohexane | 0.34474 | 0.31724 | 0.010 | 7.97677 | 30.00000 | Averaged | |
| 131 4-Methyl-2-pentanone | 0.23047 | 0.18817 | 0.010 | 18.35428 | 30.00000 | Averaged | |
| 137 Toluene | 0.69679 | 0.65130 | 0.010 | 6.52784 | 30.00000 | Averaged | |
| 136 Octane | 0.25386 | 0.21651 | 0.010 | 14.71097 | 30.00000 | Averaged | |
| 139 trans-1,3-Dichloropropene | 0.27625 | 0.26344 | 0.010 | 4.63605 | 30.00000 | Averaged | |
| 141 1,1,2-Trichloroethane | 0.23391 | 0.22653 | 0.010 | 3.15677 | 30.00000 | Averaged | |
| 142 Tetrachloroethene | 0.35123 | 0.37087 | 0.010 | -5.59133 | 30.00000 | Averaged | |

US32TAR1

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 14-JUN-2024 08:42
Lab File ID: 3061332.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/13JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE |
|---|---|---|---|---|---|---|
|143 2-Hexanone | 0.29346| 0.26647|0.010| 9.19459| 30.00000| Averaged|
|144 1,3-Dichloropropane | 0.32667| 0.29595|0.010| 9.40287| 30.00000| Averaged|
|146 Dibromochloromethane | 0.46229| 0.48905|0.010| -5.78850| 30.00000| Averaged|
|148 1,2-Dibromoethane (EDB) | 0.38337| 0.38278|0.010| 0.15453| 30.00000| Averaged|
|151 1-Bromo-2-Chloroethane | 0.41790| 0.38749|0.010| 7.27596| 30.00000| Averaged|
|154 Chlorobenzene | 0.57923| 0.57581|0.010| 0.59108| 30.00000| Averaged|
|155 Ethyl Benzene | 0.29135| 0.28297|0.010| 2.87577| 30.00000| Averaged|
|156 Nonane | 0.67669| 0.61209|0.010| 9.54591| 30.00000| Averaged|
|157 1,1,1,2-Tetrachloroethane | 0.32998| 0.34110|0.010| -3.36851| 30.00000| Averaged|
|158 m,p-Xylene | 0.36315| 0.35512|0.010| 2.21102| 30.00000| Averaged|
|164 o-Xylene | 0.34436| 0.33728|0.010| 2.05731| 30.00000| Averaged|
|165 Styrene | 0.58810| 0.56754|0.010| 3.49559| 30.00000| Averaged|
|167 Bromoform | 0.46720| 0.50629|0.010| -8.36508| 30.00000| Averaged|
|168 Cumene | 1.04099| 1.03852|0.010| 0.23727| 30.00000| Averaged|
|169 Cyclohexanone | 0.41185| 0.32971|0.010| 19.94388| 30.00000| Averaged|
|175 1,1,2,2-Tetrachloroethane | 0.53993| 0.40600|0.010| 24.80590| 30.00000| Averaged|
|177 Bromobenzene | 0.36268| 0.36973|0.010| -1.94366| 30.00000| Averaged|
|178 Propylbenzene | 0.30782| 0.30505|0.010| 0.89826| 30.00000| Averaged|
|179 1,2,3-Trichloropropane | 0.16387| 0.15440|0.010| 5.77464| 30.00000| Averaged|
|182 Decane | 0.79666| 0.66033|0.010| 17.11244| 30.00000| Averaged|
|183 4-Ethyltoluene | 0.33550| 0.32650|0.010| 2.68419| 30.00000| Averaged|
|184 2-Chlorotoluene | 0.28387| 0.27785|0.010| 2.12097| 30.00000| Averaged|
|185 1,3,5-Trimethylbenzene | 0.45246| 0.44349|0.010| 1.98281| 30.00000| Averaged|
|188 alpha Methyl Styrene | 0.47929| 0.46748|0.010| 2.46418| 30.00000| Averaged|
|189 tert-Butylbenzene | 0.86021| 0.85759|0.010| 0.30455| 30.00000| Averaged|
|190 1,2,4-Trimethylbenzene | 0.92509| 0.88551|0.010| 4.27818| 30.00000| Averaged|
|192 sec-Butylbenzene | 0.28157| 0.28431|0.010| -0.97136| 30.00000| Averaged|
|194 p-Cymene | 1.15152| 1.13947|0.010| 1.04669| 30.00000| Averaged|
|195 1,3-Dichlorobenzene | 0.68551| 0.67546|0.010| 1.46514| 30.00000| Averaged|
|196 1,4-Dichlorobenzene | 0.69437| 0.68796|0.010| 0.92416| 30.00000| Averaged|
|199 alpha-Chlorotoluene | 0.87930| 0.80313|0.010| 8.66307| 30.00000| Averaged|
|201 Undecane | 0.94724| 0.75612|0.010| 20.17727| 30.00000| Averaged|
|202 Butylbenzene | 0.31736| 0.31225|0.010| 1.61014| 30.00000| Averaged|
|204 1,2-Dichlorobenzene | 0.66528| 0.65367|0.010| 1.74532| 30.00000| Averaged|
|206 1,2-Dibromo-3-chloropropane | 0.39349| 0.41155|0.010| -4.58970| 30.00000| Averaged|
|207 Dodecane | 0.95417| 0.85600|0.010| 10.28829| 30.00000| Averaged|

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 14-JUN-2024 08:42
Lab File ID: 3061332.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/13JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE |
|---|---|---|---|---|---|---|
| 213 1,2,4-Trichlorobenzene | 0.65930 | 0.65931 | 0.010 | -0.00190 | 30.00000 | Averaged |
| 215 Hexachlorobutadiene | 0.48092 | 0.49739 | 0.010 | -3.42439 | 30.00000 | Averaged |
| 216 Naphthalene | 1.37605 | 1.24482 | 0.010 | 9.53692 | 30.00000 | Averaged |
| 222 1,2,3-Trichlorobenzene | 0.64605 | 0.63730 | 0.010 | 1.35347 | 30.00000 | Averaged |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061332.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 13-JUN-2024
Calibration Time: 11:42
Client Smp ID: CCV
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 94691 | 56815 | 132567 | 99024 | 4.58 |
| 108 1,4-Difluorobenze | 348240 | 208944 | 487536 | 358909 | 3.06 |
| 153 Chlorobenzene-d5 | 341662 | 204997 | 478327 | 349704 | 2.35 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/13JUN24.b/3061332.d

Page 1

Date : 14-JUN-2024 08:42

Client ID: CCV

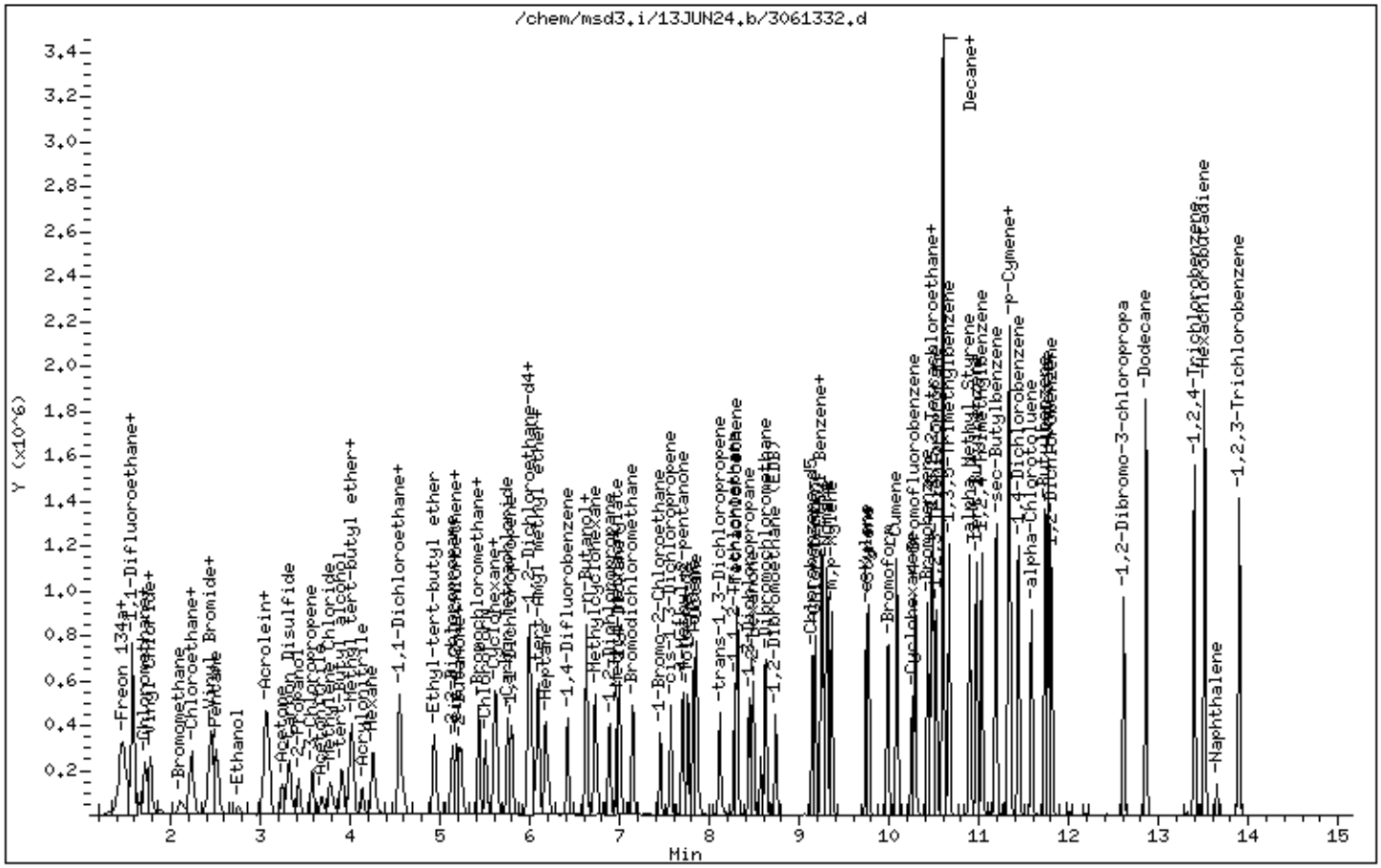
Instrument: msd3.i

Sample Info: 50mL 3018-4465

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | CCV | | |
| **Lab ID:** | 2406133-24D | **Date/Time Analyzed:** | 6/15/24 08:26 AM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061430 |

| Compound | CAS# | %Recovery |
|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 95 |
| 1,4-Dichlorobenzene | 106-46-7 | 102 |
| Benzene | 71-43-2 | 96 |
| cis-1,2-Dichloroethene | 156-59-2 | 95 |
| Ethyl Benzene | 100-41-4 | 99 |
| m,p-Xylene | 108-38-3 | 99 |
| o-Xylene | 95-47-6 | 99 |
| Toluene | 108-88-3 | 95 |
| trans-1,2-Dichloroethene | 156-60-5 | 95 |
| Trichloroethene | 79-01-6 | 122 |
| Vinyl Chloride | 75-01-4 | 100 |

D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 100 |
| Toluene-d8 | 2037-26-5 | 91-110 | 98 |

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EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061430.d
Lab Smp Id: CCV
Inj Date : 15-JUN-2024 08:26
Operator : jcw Inst ID: msd3.i
Smp Info : 50mL 3018-4465
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 15-Jun-2024 08:46 vrq5 Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 13 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23_cont111224.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 94062 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 73646 | | | 47.79- 107.79 | 78.30 |
| 5.432 | 5.432 (1.000) | 49 | 141134 | | | 131.33- 191.33 | 150.04 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 341260 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 50570 | | | 0.00- 45.65 | 14.82 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 337707 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 170266 | | | 22.92- 82.92 | 50.42 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 112859 | 25.0000 | 23.036 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 65141 | | | 23.17- 83.17 | 57.72 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 324098 | 25.0000 | 24.430 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 34377 | | | 0.00- 41.42 | 10.61 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 219564 | | | 37.54- 97.54 | 67.75 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 252141 | 25.0000 | 25.123 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 278261 | | | 88.49- 148.49 | 110.36 |
| 10.288 | 10.288 (1.124) | 176 | 243475 | | | 66.73- 126.73 | 96.56 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 113484 | 50.0000 | 52.196 | 80.00- 120.00 | 100.00 |
| 1.423 | 1.423 (0.262) | 69 | 103875 | | | 64.17- 124.17 | 91.53 |
| 1.493 | 1.493 (0.275) | 51 | 434306 | | | 365.46- 425.46 | 382.70 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 119452 | 50.0000 | 48.486 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 79903 | | | 35.86- 95.86 | 66.89 |
| 1.437 | 1.437 (0.264) | 39 | 84422 | | | 41.66- 101.66 | 70.67 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.270) | 65 | 73457 | 50.0000 | 51.723 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.275) | 51 | 434306 | | | 568.10- 628.10 | 591.24 |
| 1.577 | 1.577 (0.290) | 47 | 14890 | | | 0.00- 50.57 | 20.27 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.270) | 85 | 284954 | 50.0000 | 51.154 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 94224 | | | 2.88- 62.88 | 33.07 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.507 | 1.507 (0.277) | 67 | 33293 | 50.0000 | 47.762 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.275) | 51 | 434306 | | | 1257.55-1317.55 | 1304.50 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 260224 | 50.0000 | 53.140 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 84577 | | | 2.10- 62.10 | 32.50 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.591 | 1.591 (0.293) | 43 | 251195 | 50.0000 | 48.221 | 80.00- 120.00 | 100.00 |
| 1.591 | 1.591 (0.293) | 42 | 81605 | | | 1.69- 61.69 | 32.49 |
| 1.577 | 1.577 (0.290) | 58 | 8070 | | | 0.00- 33.32 | 3.21 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.675 | 1.675 (0.308) | 50 | 134538 | 50.0000 | 50.093 | 80.00- 120.00 | 100.00 |
| 1.675 | 1.675 (0.308) | 52 | 43283 | | | 1.38- 61.38 | 32.17 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.717 | 1.717 (0.316) | 58 | 24255 | 50.0000 | 45.043 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 18 Butane (continued) | | | | | | | |
| 1.717 | 1.717 (0.316) | 43 | 219938 | | | 866.38- 926.38 | 906.77 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.758 (0.324) | 62 | 129308 | 50.0000 | 49.759 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.758 (0.324) | 64 | 41431 | | | 3.10- 63.10 | 32.04 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.772 (0.326) | 54 | 110647 | 50.0000 | 45.324 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.772 (0.326) | 39 | 117317 | | | 78.74- 138.74 | 106.03 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 102282 | 50.0000 | 55.080 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 97975 | | | 64.19- 124.19 | 95.79 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.409) | 64 | 62285 | 50.0000 | 49.980 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.409) | 66 | 19058 | | | 2.32- 62.32 | 30.60 |
| 2.220 | 2.220 (0.409) | 49 | 22024 | | | 6.33- 66.33 | 35.36 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 171908 | 50.0000 | 48.340 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 107051 | | | 31.77- 91.77 | 62.27 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.402 (0.442) | 106 | 114571 | 50.0000 | 53.048 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.402 (0.442) | 108 | 107862 | | | 64.21- 124.21 | 94.14 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 326482 | 50.0000 | 50.874 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 214439 | | | 34.93- 94.93 | 65.68 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.458 (0.453) | 67 | 245583 | 50.0000 | 47.992 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 69 | 78874 | | | 1.95- 61.95 | 32.12 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 253496 | 50.0000 | 46.848 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 36640 | | | 0.00- 44.64 | 14.45 |
| 2.514 | 2.514 (0.463) | 72 | 20101 | | | 0.00- 37.90 | 7.93 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 24518 | 61.6000 | 48.155 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.507) | 45 | 61908 | | | 224.40- 284.40 | 252.50 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.054 | 3.054 (0.562) | 55 | 28607 | 58.2500 | 26.106 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | | ======= | ======= | ========== | ===== |
| 42 Acrolein (continued) | | | | | | | | |
| 3.054 | 3.054 (0.562) | 56 | 39079 | | | | 108.02- 168.02 | 136.61 |
| 43 Freon 113 | | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 283381 | 50.0000 | 49.966 | | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 184840 | | | | 35.07- 95.07 | 65.23 |
| 3.061 | 3.061 (0.563) | 101 | 312538 | | | | 87.45- 147.45 | 110.29 |
| 44 1,1-Dichloroethene | | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.089 (0.569) | 96 | 114183 | 50.0000 | 47.317 | | 80.00- 120.00 | 100.00 |
| 3.089 | 3.089 (0.569) | 98 | 73414 | | | | 33.27- 93.27 | 64.30 |
| 3.089 | 3.089 (0.569) | 61 | 237121 | | | | 159.05- 219.05 | 207.67 |
| 47 Acetone | | | | | | CAS #: 67-64-1 | | |
| 3.240 | 3.240 (0.596) | 58 | 63747 | 50.0000 | 46.423 | | 80.00- 120.00 | 100.00 |
| 3.240 | 3.240 (0.596) | 43 | 222922 | | | | 329.45- 389.45 | 349.70 |
| 48 Carbon Disulfide | | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.326 (0.612) | 76 | 301461 | 50.0000 | 45.814 | | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.631) | 45 | 244751 | 50.0000 | 42.870 | | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.631) | 43 | 43727 | | | | 0.00- 48.18 | 17.87 |
| 54 3-Chloropropene | | | | | | CAS #: 107-05-1 | | |
| 3.576 | 3.576 (0.658) | 76 | 50259 | 50.0000 | 45.337 | | 80.00- 120.00 | 100.00 |
| 3.576 | 3.576 (0.658) | 41 | 185030 | | | | 366.80- 426.80 | 368.15 |
| 57 Acetonitrile | | | | | | CAS #: 75-05-8 | | |
| 3.677 | 3.677 (0.677) | 41 | 129690 | 58.8000 | 51.469 | | 80.00- 120.00 | 100.00 |
| 3.677 | 3.677 (0.677) | 40 | 71727 | | | | 22.74- 82.74 | 55.31 |
| 3.677 | 3.677 (0.677) | 38 | 17407 | | | | 0.00- 42.52 | 13.42 |
| 59 Methylene Chloride | | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.777 (0.695) | 49 | 173623 | 50.0000 | 46.032 | | 80.00- 120.00 | 100.00 |
| 3.777 | 3.777 (0.695) | 84 | 100946 | | | | 24.90- 84.90 | 58.14 |
| 3.777 | 3.777 (0.695) | 51 | 53034 | | | | 0.00- 59.67 | 30.55 |
| 62 tert-Butyl alcohol | | | | | | CAS #: 75-65-0 | | |
| 3.906 | 3.906 (0.719) | 59 | 285168 | 57.6000 | 48.962 | | 80.00- 120.00 | 100.00 |
| 3.906 | 3.906 (0.719) | 41 | 65238 | | | | 0.00- 51.85 | 22.88 |
| 3.906 | 3.906 (0.719) | 57 | 29248 | | | | 0.00- 40.17 | 10.26 |
| 63 Methyl tert-butyl ether | | | | | | CAS #: 1634-04-4 | | |
| 3.999 | 3.999 (0.736) | 73 | 315446 | 50.0000 | 45.813 | | 80.00- 120.00 | 100.00 |
| 3.999 | 3.999 (0.736) | 57 | 90306 | | | | 0.00- 58.72 | 28.63 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 4.006 | 4.006 (0.738) | 41 | 94489 | | | 0.00- 59.38 | 29.95 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 76886 | 50.0000 | 47.442 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.742) | 61 | 191938 | | | 232.13- 292.13 | 249.64 |
| 4.028 | 4.028 (0.742) | 96 | 119647 | | | 127.26- 187.26 | 155.62 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.135 (0.761) | 52 | 94567 | 50.0000 | 45.122 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.135 (0.761) | 53 | 110717 | | | 86.45- 146.45 | 117.08 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.784) | 57 | 217563 | 50.0000 | 43.085 | 80.00- 120.00 | 100.00 |
| 4.250 | 4.250 (0.782) | 43 | 150839 | | | 40.97- 100.97 | 69.33 |
| 4.250 | 4.250 (0.782) | 86 | 28179 | | | 0.00- 42.68 | 12.95 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.551 (0.838) | 63 | 219442 | 50.0000 | 46.857 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 65 | 67488 | | | 0.47- 60.47 | 30.75 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.551 | 4.551 (0.838) | 45 | 507407 | 50.0000 | 45.184 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 87 | 102453 | | | 0.00- 49.55 | 20.19 |
| 4.543 | 4.543 (0.836) | 59 | 53792 | | | 0.00- 40.42 | 10.60 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.601 | 4.601 (0.847) | 86 | 5837 | 50.0000 | 14.155 | 80.00- 120.00 | 100.00 |
| 4.601 | 4.601 (0.847) | 43 | 97510 | | | 1727.95-1787.95 | 1670.55 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.937 (0.909) | 59 | 439755 | 50.0000 | 45.410 | 80.00- 120.00 | 100.00 |
| 4.937 | 4.937 (0.909) | 87 | 153120 | | | 3.90- 63.90 | 34.82 |
| 4.937 | 4.937 (0.909) | 41 | 88902 | | | 0.00- 49.72 | 20.22 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.138 (0.946) | 77 | 212249 | 50.0000 | 45.911 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.138 (0.946) | 79 | 68404 | | | 2.39- 62.39 | 32.23 |
| 5.138 | 5.138 (0.946) | 97 | 51234 | | | 0.00- 53.57 | 24.14 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.181 | 5.181 (0.954) | 98 | 79586 | 50.0000 | 47.424 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 124581 | | | 125.53- 185.53 | 156.54 |
| 5.181 | 5.181 (0.954) | 61 | 191741 | | | 219.86- 279.86 | 240.92 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.960) | 72 | 55564 | 50.0000 | 45.956 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 86 2-Butanone (continued) | | | | | | | |
| 5.231 | 5.231 (0.963) | 43 | 616650 | | | 1138.34-1198.34 | 1109.80 |
| 5.210 | 5.210 (0.959) | 57 | 22922 | | | 10.83- 70.83 | 41.25 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.238 | 5.238 (0.964) | 45 | 49377 | 50.0000 | 40.834 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 61 | 191741 | | | 338.96- 398.96 | 388.32 |
| 5.238 | 5.238 (0.964) | 70 | 25187 | | | 24.53- 84.53 | 51.01 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.425 | 5.425 (0.999) | 42 | 148757 | 50.0000 | 40.240 | 80.00- 120.00 | 100.00 |
| 5.425 | 5.425 (0.999) | 71 | 43065 | | | 0.00- 58.54 | 28.95 |
| 5.425 | 5.425 (0.999) | 72 | 44934 | | | 0.00- 59.59 | 30.21 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.511 | 5.511 (1.014) | 83 | 243356 | 50.0000 | 48.392 | 80.00- 120.00 | 100.00 |
| 5.511 | 5.511 (1.014) | 85 | 158163 | | | 35.77- 95.77 | 64.99 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.604 | 5.604 (1.032) | 84 | 155017 | 50.0000 | 46.078 | 80.00- 120.00 | 100.00 |
| 5.604 | 5.604 (1.032) | 56 | 231824 | | | 125.79- 185.79 | 149.55 |
| 5.604 | 5.604 (1.032) | 41 | 131757 | | | 61.55- 121.55 | 85.00 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.632 | 5.632 (1.037) | 97 | 259278 | 50.0000 | 47.273 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.632 (1.037) | 99 | 167446 | | | 32.84- 92.84 | 64.58 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.754 (1.059) | 119 | 288308 | 50.0000 | 49.583 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.754 (1.059) | 117 | 301563 | | | 75.19- 135.19 | 104.60 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.797 (0.903) | 110 | 68312 | 50.0000 | 49.695 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.797 (0.903) | 75 | 173966 | | | 234.16- 294.16 | 254.66 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.990 | 5.990 (1.103) | 57 | 729382 | 50.0000 | 46.231 | 80.00- 120.00 | 100.00 |
| 5.983 | 5.983 (1.102) | 56 | 246032 | | | 3.09- 63.09 | 33.73 |
| 5.990 | 5.990 (1.103) | 41 | 194596 | | | 0.00- 57.28 | 26.68 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 328943 | 50.0000 | 47.875 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 77626 | | | 0.00- 53.69 | 23.60 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.084 | 6.084 (0.948) | 87 | 89116 | 50.0000 | 48.263 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.084 | 6.084 (0.948) | 73 | 340421 | | | 365.76- 425.76 | 382.00 |
| 6.084 | 6.084 (0.948) | 55 | 111563 | | | 92.58- 152.58 | 125.19 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.098 (0.950) | 62 | 171410 | 50.0000 | 47.825 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.098 (0.950) | 64 | 54428 | | | 1.80- 61.80 | 31.75 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.177 | 6.177 (0.962) | 71 | 121948 | 50.0000 | 44.805 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.177 (0.962) | 43 | 285057 | | | 207.73- 267.73 | 233.75 |
| 6.177 | 6.177 (0.962) | 57 | 140562 | | | 84.83- 144.83 | 115.26 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.032) | 56 | 64977 | 50.0000 | 41.594 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 41 | 49800 | | | 47.73- 107.73 | 76.64 |
| 6.628 | 6.628 (1.032) | 43 | 38661 | | | 31.60- 91.60 | 59.50 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 201306 | 50.0000 | 60.765 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 228796 | | | 80.23- 140.23 | 113.66 |
| 6.628 | 6.628 (1.032) | 97 | 129095 | | | 34.78- 94.78 | 64.13 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.886 (1.073) | 63 | 147258 | 50.0000 | 45.546 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.886 (1.073) | 62 | 105694 | | | 40.39- 100.39 | 71.77 |
| 6.886 | 6.886 (1.073) | 41 | 87410 | | | 31.86- 91.86 | 59.36 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.972 | 6.972 (0.762) | 69 | 122894 | 50.0000 | 44.677 | 80.00- 120.00 | 100.00 |
| 6.972 | 6.972 (0.762) | 41 | 206325 | | | 145.81- 205.81 | 167.89 |
| 6.972 | 6.972 (0.762) | 100 | 50830 | | | 10.05- 70.05 | 41.36 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.986 | 6.986 (1.088) | 88 | 83284 | 50.0000 | 48.185 | 80.00- 120.00 | 100.00 |
| 6.986 | 6.986 (1.088) | 58 | 69985 | | | 56.33- 116.33 | 84.03 |
| 6.986 | 6.986 (1.088) | 57 | 25362 | | | 2.08- 62.08 | 30.45 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.008 | 7.008 (0.766) | 174 | 171918 | 50.0000 | 53.953 | 80.00- 120.00 | 100.00 |
| 7.000 | 7.000 (0.765) | 93 | 151273 | | | 62.68- 122.68 | 87.99 |
| 7.000 | 7.000 (0.765) | 95 | 125811 | | | 47.70- 107.70 | 73.18 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.144 | 7.144 (1.113) | 83 | 263896 | 50.0000 | 49.210 | 80.00- 120.00 | 100.00 |
| 7.144 | 7.144 (1.113) | 85 | 169651 | | | 34.96- 94.96 | 64.29 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.566 | 7.566 (1.179) | 75 | 218513 | 50.0000 | 47.778 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.566 (1.179) | 77 | 69049 | | | 1.26- 61.26 | 31.60 |
| 7.566 | 7.566 (1.179) | 39 | 133343 | | | 35.06- 95.06 | 61.02 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.728 | 6.728 (1.048) | 83 | 222743 | 50.0000 | 47.333 | 80.00- 120.00 | 100.00 |
| 6.728 | 6.728 (1.048) | 98 | 101244 | | | 14.83- 74.83 | 45.45 |
| 6.728 | 6.728 (1.048) | 55 | 220880 | | | 71.50- 131.50 | 99.16 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.702 | 7.702 (1.200) | 58 | 127302 | 50.0000 | 40.465 | 80.00- 120.00 | 100.00 |
| 7.702 | 7.702 (1.200) | 43 | 376606 | | | 259.88- 319.88 | 295.84 |
| 7.702 | 7.702 (1.200) | 85 | 49378 | | | 7.58- 67.58 | 38.79 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 450132 | 50.0000 | 47.325 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 260877 | | | 27.89- 87.89 | 57.96 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.853 | 7.853 (1.223) | 57 | 152312 | 50.0000 | 43.954 | 80.00- 120.00 | 100.00 |
| 7.853 | 7.853 (1.223) | 85 | 144974 | | | 63.53- 123.53 | 95.18 |
| 7.853 | 7.853 (1.223) | 43 | 410790 | | | 246.00- 306.00 | 269.70 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.111 | 8.111 (0.886) | 75 | 182500 | 50.0000 | 48.906 | 80.00- 120.00 | 100.00 |
| 8.111 | 8.111 (0.886) | 77 | 59173 | | | 1.83- 61.83 | 32.42 |
| 8.111 | 8.111 (0.886) | 39 | 105628 | | | 31.97- 91.97 | 57.88 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.283 | 8.283 (0.905) | 97 | 151977 | 50.0000 | 48.098 | 80.00- 120.00 | 100.00 |
| 8.283 | 8.283 (0.905) | 99 | 96570 | | | 32.52- 92.52 | 63.54 |
| 8.283 | 8.283 (0.905) | 83 | 133602 | | | 58.90- 118.90 | 87.91 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.311 (0.908) | 166 | 256173 | 50.0000 | 53.994 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.311 (0.908) | 129 | 191032 | | | 45.32- 105.32 | 74.57 |
| 8.311 | 8.311 (0.908) | 131 | 186867 | | | 44.17- 104.17 | 72.95 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.483 | 8.483 (0.927) | 58 | 180611 | 50.0000 | 45.562 | 80.00- 120.00 | 100.00 |
| 8.483 | 8.483 (0.927) | 43 | 370426 | | | 177.32- 237.32 | 205.10 |
| 8.490 | 8.490 (0.928) | 100 | 32629 | | | 0.00- 47.18 | 18.07 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.440 | 8.440 (1.315) | 76 | 208107 | 50.0000 | 46.670 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 144 1,3-Dichloropropane (continued) | | | | | | | |
| 8.440 | 8.440 (1.315) | 41 | 173536 | | | 59.72- 119.72 | 83.39 |
| 8.440 | 8.440 (1.315) | 78 | 67667 | | | 3.08- 63.08 | 32.52 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 335143 | 50.0000 | 53.668 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 262383 | | | 47.27- 107.27 | 78.29 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 262416 | 50.0000 | 50.672 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 248775 | | | 64.18- 124.18 | 94.80 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.452 (1.161) | 63 | 272708 | 50.0000 | 47.806 | 80.00- 120.00 | 100.00 |
| 7.452 | 7.452 (1.161) | 65 | 82294 | | | 0.43- 60.43 | 30.18 |
| 7.452 | 7.452 (1.161) | 144 | 31732 | | | 0.00- 40.48 | 11.64 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.003) | 112 | 392347 | 50.0000 | 50.144 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.003) | 114 | 126860 | | | 1.91- 61.91 | 32.33 |
| 9.171 | 9.171 (1.002) | 77 | 198682 | | | 22.97- 82.97 | 50.64 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 194108 | 50.0000 | 49.320 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 592748 | | | 281.09- 341.09 | 305.37 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.307 | 9.307 (1.017) | 43 | 422270 | 50.0000 | 46.196 | 80.00- 120.00 | 100.00 |
| 9.307 | 9.307 (1.017) | 57 | 342108 | | | 50.62- 110.62 | 81.02 |
| 9.307 | 9.307 (1.017) | 85 | 108501 | | | 0.00- 55.65 | 25.69 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.264 | 9.264 (1.013) | 131 | 238876 | 50.0000 | 53.590 | 80.00- 120.00 | 100.00 |
| 9.264 | 9.264 (1.013) | 117 | 155332 | | | 37.10- 97.10 | 65.03 |
| 9.264 | 9.264 (1.013) | 95 | 78876 | | | 4.93- 64.93 | 33.02 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 242188 | 50.0000 | 49.371 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.357 (1.023) | 91 | 477335 | | | 170.33- 230.33 | 197.09 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 229632 | 50.0000 | 49.365 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 473111 | | | 181.23- 241.23 | 206.03 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.773 | 9.773 (1.068) | 104 | 388542 | 50.0000 | 48.909 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.773 | 9.773 (1.068) | 78 | 180006 | | | 17.26- 77.26 | 46.33 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.980 | 9.980 (1.091) | 173 | 348249 | 50.0000 | 55.180 | 80.00- 120.00 | 100.00 |
| 9.980 | 9.980 (1.091) | 171 | 180886 | | | 21.45- 81.45 | 51.94 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.088 | 10.088 (1.103) | 105 | 710309 | 50.0000 | 50.513 | 80.00- 120.00 | 100.00 |
| 10.088 | 10.088 (1.103) | 120 | 193407 | | | 0.00- 56.93 | 27.23 |
| 10.088 | 10.088 (1.103) | 51 | 80537 | | | 0.00- 42.24 | 11.34 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.252 | 10.252 (1.121) | 55 | 224610 | 50.0000 | 40.373 | 80.00- 120.00 | 100.00 |
| 10.260 | 10.260 (1.121) | 98 | 79080 | | | 5.15- 65.15 | 35.21 |
| 10.252 | 10.252 (1.121) | 42 | 153454 | | | 41.99- 101.99 | 68.32 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.144) | 83 | 273295 | 50.0000 | 37.471 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.467 (1.144) | 85 | 177528 | | | 34.97- 94.97 | 64.96 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.424 | 10.424 (1.139) | 156 | 256874 | 50.0000 | 52.431 | 80.00- 120.00 | 100.00 |
| 10.424 | 10.424 (1.139) | 158 | 250468 | | | 67.47- 127.47 | 97.51 |
| 10.424 | 10.424 (1.139) | 77 | 327667 | | | 108.68- 168.68 | 127.56 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.489 | 10.489 (1.146) | 120 | 210242 | 50.0000 | 50.563 | 80.00- 120.00 | 100.00 |
| 10.489 | 10.489 (1.146) | 91 | 850136 | | | 383.60- 443.60 | 404.36 |
| 10.489 | 10.489 (1.146) | 105 | 32642 | | | 0.00- 46.14 | 15.53 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.517 (1.150) | 110 | 106860 | 50.0000 | 48.275 | 80.00- 120.00 | 100.00 |
| 10.517 | 10.517 (1.150) | 75 | 351503 | | | 324.28- 384.28 | 328.94 |
| 10.517 | 10.517 (1.150) | 61 | 85451 | | | 57.24- 117.24 | 79.97 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.603 (1.159) | 57 | 448709 | 50.0000 | 41.696 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 71 | 141521 | | | 1.11- 61.11 | 31.54 |
| 10.603 | 10.603 (1.159) | 142 | 21295 | | | 0.00- 34.44 | 4.75 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.603 (1.159) | 120 | 226592 | 50.0000 | 49.997 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 105 | 732216 | | | 298.94- 358.94 | 323.14 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.603 (1.159) | 126 | 189994 | 50.0000 | 49.548 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.603 | 10.603 (1.159) | 91 | 574602 | | | 282.78- 342.78 | 302.43 |
| 10.603 | 10.603 (1.159) | 65 | 84446 | | | 17.33- 77.33 | 44.45 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.668 | 10.668 (1.166) | 120 | 303845 | 50.0000 | 49.713 | 80.00- 120.00 | 100.00 |
| 10.668 | 10.668 (1.166) | 105 | 613088 | | | 172.08- 232.08 | 201.78 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.897 | 10.897 (1.191) | 118 | 321264 | 50.0000 | 49.621 | 80.00- 120.00 | 100.00 |
| 10.897 | 10.897 (1.191) | 103 | 179479 | | | 25.64- 85.64 | 55.87 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.976 (1.200) | 119 | 590113 | 50.0000 | 50.785 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.976 (1.200) | 134 | 151586 | | | 0.00- 55.10 | 25.69 |
| 10.969 | 10.969 (1.199) | 91 | 370757 | | | 34.53- 94.53 | 62.83 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.033 | 11.033 (1.206) | 105 | 609010 | 50.0000 | 48.735 | 80.00- 120.00 | 100.00 |
| 11.033 | 11.033 (1.206) | 120 | 286041 | | | 16.63- 76.63 | 46.97 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.191 | 11.191 (1.223) | 134 | 194991 | 50.0000 | 51.265 | 80.00- 120.00 | 100.00 |
| 11.191 | 11.191 (1.223) | 105 | 886901 | | | 436.99- 496.99 | 454.84 |
| 11.191 | 11.191 (1.223) | 91 | 137186 | | | 41.69- 101.69 | 70.36 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.334 | 11.334 (1.239) | 119 | 779890 | 50.0000 | 50.137 | 80.00- 120.00 | 100.00 |
| 11.334 | 11.334 (1.239) | 134 | 217521 | | | 0.00- 57.62 | 27.89 |
| 11.334 | 11.334 (1.239) | 91 | 174214 | | | 0.00- 53.03 | 22.34 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.341 | 11.341 (1.240) | 146 | 464343 | 50.0000 | 50.145 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 148 | 294976 | | | 34.18- 94.18 | 63.53 |
| 11.341 | 11.341 (1.240) | 111 | 179559 | | | 10.06- 70.06 | 38.67 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.441 (1.251) | 146 | 476279 | 50.0000 | 50.777 | 80.00- 120.00 | 100.00 |
| 11.441 | 11.441 (1.251) | 148 | 302532 | | | 33.55- 93.55 | 63.52 |
| 11.441 | 11.441 (1.251) | 111 | 174939 | | | 7.98- 67.98 | 36.73 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.585 | 11.585 (1.266) | 91 | 549485 | 50.0000 | 46.261 | 80.00- 120.00 | 100.00 |
| 11.585 | 11.585 (1.266) | 126 | 129626 | | | 0.00- 52.77 | 23.59 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.778 | 11.778 (1.287) | 57 | 525251 | 50.0000 | 41.049 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane (continued) | | | | | | | |
| 11.778 | 11.778 (1.287) | 43 | 486218 | | | 63.59- 123.59 | 92.57 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.735 | 11.735 (1.283) | 134 | 215145 | 50.0000 | 50.186 | 80.00- 120.00 | 100.00 |
| 11.735 | 11.735 (1.283) | 91 | 713912 | | | 310.82- 370.82 | 331.83 |
| 11.735 | 11.735 (1.283) | 92 | 375532 | | | 151.53- 211.53 | 174.55 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.814 (1.291) | 146 | 452503 | 50.0000 | 50.352 | 80.00- 120.00 | 100.00 |
| 11.814 | 11.814 (1.291) | 148 | 289599 | | | 33.00- 93.00 | 64.00 |
| 11.814 | 11.814 (1.291) | 111 | 178519 | | | 10.87- 70.87 | 39.45 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.609 | 12.609 (1.378) | 157 | 283953 | 50.0000 | 53.421 | 80.00- 120.00 | 100.00 |
| 12.609 | 12.609 (1.378) | 75 | 205147 | | | 48.09- 108.09 | 72.25 |
| 12.609 | 12.609 (1.378) | 155 | 218947 | | | 47.89- 107.89 | 77.11 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.406) | 57 | 601582 | 50.0000 | 46.674 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.406) | 43 | 522712 | | | 58.52- 118.52 | 86.89 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.464) | 180 | 454894 | 50.0000 | 51.077 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.464) | 182 | 430067 | | | 64.84- 124.84 | 94.54 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.512 | 13.512 (1.477) | 225 | 341178 | 50.0000 | 52.518 | 80.00- 120.00 | 100.00 |
| 13.512 | 13.512 (1.477) | 223 | 215703 | | | 32.80- 92.80 | 63.22 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.492) | 128 | 98346 | 5.80000 | 5.291 | 80.00- 120.00 | 100.00 |
| 13.648 | 13.648 (1.492) | 127 | 12995 | | | 0.00- 42.72 | 13.21 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.898 | 13.898 (1.519) | 180 | 439601 | 50.0000 | 50.372 | 80.00- 120.00 | 100.00 |
| 13.898 | 13.898 (1.519) | 182 | 418109 | | | 65.07- 125.07 | 95.11 |
| 13.898 | 13.898 (1.519) | 145 | 145832 | | | 4.48- 64.48 | 33.17 |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 15-JUN-2024 08:26
Lab File ID: 3061430.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/14JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE | |
|---|---|---|---|---|---|---|---|
| $ 104 1,2-Dichloroethane-d4 | 1.30215 | 1.19984 | 0.010 | 7.85728 | 30.00000 | Averaged | |
| $ 134 Toluene-d8 | 0.97187 | 0.94971 | 0.010 | 2.28048 | 30.00000 | Averaged | |
| $ 170 4-Bromofluorobenzene | 0.74296 | 0.74663 | 0.010 | -0.49365 | 30.00000 | Averaged | |
| 4 Freon 134a | 0.57786 | 0.60324 | 0.010 | -4.39239 | 30.00000 | Averaged | |
| 5 Propylene | 0.65479 | 0.63496 | 0.010 | 3.02794 | 30.00000 | Averaged | |
| 7 1,1-Difluoroethane | 0.37746 | 0.39047 | 0.010 | -3.44691 | 30.00000 | Averaged | |
| 8 Freon 12 | 1.48055 | 1.51471 | 0.010 | -2.30782 | 30.00000 | Averaged | |
| 9 Chlorodifluoromethane | 0.18527 | 0.17697 | 0.010 | 4.47679 | 30.00000 | Averaged | |
| 10 Freon 114 | 1.30152 | 1.38326 | 0.010 | -6.28051 | 30.00000 | Averaged | |
| 12 Isobutane | 1.38453 | 1.33526 | 0.010 | 3.55855 | 30.00000 | Averaged | |
| 15 Chloromethane | 0.71383 | 0.71516 | 0.010 | -0.18531 | 30.00000 | Averaged | |
| 18 Butane | 0.14312 | 0.12893 | 0.010 | 9.91454 | 30.00000 | Averaged | |
| 19 Vinyl Chloride | 0.69068 | 0.68736 | 0.010 | 0.48130 | 30.00000 | Averaged | |
| 20 1,3-Butadiene | 0.64883 | 0.58816 | 0.010 | 9.35087 | 30.00000 | Averaged | |
| 24 Bromomethane | 0.49355 | 0.54369 | 0.010 | -10.16048 | 30.00000 | Averaged | |
| 30 Chloroethane | 0.33122 | 0.33108 | 0.010 | 0.04077 | 30.00000 | Averaged | |
| 31 Isopentane | 0.94519 | 0.91380 | 0.010 | 3.32055 | 30.00000 | Averaged | |
| 32 Vinyl Bromide | 0.57403 | 0.60902 | 0.010 | -6.09616 | 30.00000 | Averaged | |
| 33 Freon 11 | 1.70564 | 1.73546 | 0.010 | -1.74823 | 30.00000 | Averaged | |
| 34 Dichlorofluoromethane | 1.36006 | 1.30543 | 0.010 | 4.01637 | 30.00000 | Averaged | |
| 35 Pentane | 1.43815 | 1.34749 | 0.010 | 6.30336 | 30.00000 | Averaged | |
| 39 Ethanol | 0.13532 | 0.10579 | 0.010 | 21.82579 | 30.00000 | Averaged | |
| 42 Acrolein | 0.29124 | 0.13053 | 0.010 | 55.18287 | 30.00000 | Averaged | <- |
| 43 Freon 113 | 1.50737 | 1.50635 | 0.010 | 0.06747 | 30.00000 | Averaged | |
| 44 1,1-Dichloroethene | 0.64138 | 0.60696 | 0.010 | 5.36646 | 30.00000 | Averaged | |
| 47 Acetone | 0.36497 | 0.33886 | 0.010 | 7.15475 | 30.00000 | Averaged | |
| 48 Carbon Disulfide | 1.74887 | 1.60246 | 0.010 | 8.37177 | 30.00000 | Averaged | |
| 52 2-Propanol | 1.51737 | 1.30101 | 0.010 | 14.25911 | 30.00000 | Averaged | |
| 54 3-Chloropropene | 0.29464 | 0.26716 | 0.010 | 9.32557 | 30.00000 | Averaged | |
| 57 Acetonitrile | 0.66971 | 0.58621 | 0.010 | 12.46803 | 30.00000 | Averaged | |
| 59 Methylene Chloride | 1.00247 | 0.92292 | 0.010 | 7.93539 | 30.00000 | Averaged | |
| 62 tert-Butyl alcohol | 1.54800 | 1.31584 | 0.010 | 14.99701 | 30.00000 | Averaged | |
| 63 Methyl tert-butyl ether | 1.83005 | 1.67680 | 0.010 | 8.37436 | 30.00000 | Averaged | |
| 64 trans-1,2-Dichloroethene | 0.43073 | 0.40870 | 0.010 | 5.11492 | 30.00000 | Averaged | |
| 66 Acrylonitrile | 0.55703 | 0.50268 | 0.010 | 9.75597 | 30.00000 | Averaged | |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 15-JUN-2024 08:26
Lab File ID: 3061430.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/14JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | MIN %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE | |
|---|---|---|---|---|---|---|---|
| 67 Hexane | 1.34210 | 1.15649 | 0.010 | 13.82990 | 30.00000 | Averaged | |
| 71 1,1-Dichloroethane | 1.24472 | 1.16648 | 0.010 | 6.28588 | 30.00000 | Averaged | |
| 72 Isopropyl ether | 2.98469 | 2.69719 | 0.010 | 9.63220 | 30.00000 | Averaged | |
| 73 Vinyl Acetate | 0.10960 | 0.03103 | 0.010 | 71.69046 | 30.00000 | Averaged | <- |
| 79 Ethyl-tert-butyl ether | 2.57389 | 2.33758 | 0.010 | 9.18093 | 30.00000 | Averaged | |
| 84 2,2-Dichloropropane | 1.22874 | 1.12824 | 0.010 | 8.17878 | 30.00000 | Averaged | |
| 85 cis-1,2-Dichloroethene | 0.44603 | 0.42305 | 0.010 | 5.15136 | 30.00000 | Averaged | |
| 86 2-Butanone | 0.32135 | 0.29536 | 0.010 | 8.08815 | 30.00000 | Averaged | |
| 87 Ethyl Acetate | 0.32139 | 0.26247 | 0.010 | 18.33158 | 30.00000 | Averaged | |
| 89 Tetrahydrofuran | 0.98253 | 0.79074 | 0.010 | 19.51996 | 30.00000 | Averaged | |
| 92 Chloroform | 1.33658 | 1.29359 | 0.010 | 3.21623 | 30.00000 | Averaged | |
| 94 Cyclohexane | 0.89416 | 0.82402 | 0.010 | 7.84468 | 30.00000 | Averaged | |
| 96 1,1,1-Trichloroethane | 1.45774 | 1.37823 | 0.010 | 5.45453 | 30.00000 | Averaged | |
| 97 Carbon Tetrachloride | 1.54543 | 1.53254 | 0.010 | 0.83382 | 30.00000 | Averaged | |
| 99 1,1-Dichloropropene | 0.10070 | 0.10009 | 0.010 | 0.61073 | 30.00000 | Averaged | |
| 101 2,2,4-Trimethylpentane | 4.19325 | 3.87713 | 0.010 | 7.53873 | 30.00000 | Averaged | |
| 102 Benzene | 0.50334 | 0.48195 | 0.010 | 4.24970 | 30.00000 | Averaged | |
| 105 tert-Amyl methyl ether | 0.13527 | 0.13057 | 0.010 | 3.47301 | 30.00000 | Averaged | |
| 106 1,2-Dichloroethane | 0.26256 | 0.25114 | 0.010 | 4.35002 | 30.00000 | Averaged | |
| 107 Heptane | 0.19939 | 0.17867 | 0.010 | 10.38946 | 30.00000 | Averaged | |
| 110 n-Butanol | 0.11444 | 0.09520 | 0.010 | 16.81228 | 30.00000 | Averaged | |
| 111 Trichloroethene | 0.24269 | 0.29495 | 0.010 | -21.53094 | 30.00000 | Averaged | |
| 114 1,2-Dichloropropane | 0.23685 | 0.21576 | 0.010 | 8.90697 | 30.00000 | Averaged | |
| 116 Methyl Methacrylate | 0.20363 | 0.18195 | 0.010 | 10.64673 | 30.00000 | Averaged | |
| 117 1,4-Dioxane | 0.12662 | 0.12202 | 0.010 | 3.62932 | 30.00000 | Averaged | |
| 118 Dibromomethane | 0.23589 | 0.25454 | 0.010 | -7.90653 | 30.00000 | Averaged | |
| 122 Bromodichloromethane | 0.39286 | 0.38665 | 0.010 | 1.57961 | 30.00000 | Averaged | |
| 126 cis-1,3-Dichloropropene | 0.33505 | 0.32016 | 0.010 | 4.44459 | 30.00000 | Averaged | |
| 127 Methylcyclohexane | 0.34474 | 0.32635 | 0.010 | 5.33308 | 30.00000 | Averaged | |
| 131 4-Methyl-2-pentanone | 0.23047 | 0.18652 | 0.010 | 19.07017 | 30.00000 | Averaged | |
| 137 Toluene | 0.69679 | 0.65951 | 0.010 | 5.34959 | 30.00000 | Averaged | |
| 136 Octane | 0.25386 | 0.22316 | 0.010 | 12.09147 | 30.00000 | Averaged | |
| 139 trans-1,3-Dichloropropene | 0.27625 | 0.27020 | 0.010 | 2.18737 | 30.00000 | Averaged | |
| 141 1,1,2-Trichloroethane | 0.23391 | 0.22501 | 0.010 | 3.80478 | 30.00000 | Averaged | |
| 142 Tetrachloroethene | 0.35123 | 0.37928 | 0.010 | -7.98790 | 30.00000 | Averaged | |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 15-JUN-2024 08:26
Lab File ID: 3061430.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/14JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE |
|---|---|---|---|---|---|---|
| 143 2-Hexanone | 0.29346 | 0.26741 | 0.010 | 8.87650 | 30.00000 | Averaged |
| 144 1,3-Dichloropropane | 0.32667 | 0.30491 | 0.010 | 6.66013 | 30.00000 | Averaged |
| 146 Dibromochloromethane | 0.46229 | 0.49620 | 0.010 | -7.33571 | 30.00000 | Averaged |
| 148 1,2-Dibromoethane (EDB) | 0.38337 | 0.38853 | 0.010 | -1.34503 | 30.00000 | Averaged |
| 151 1-Bromo-2-Chloroethane | 0.41790 | 0.39956 | 0.010 | 4.38762 | 30.00000 | Averaged |
| 154 Chlorobenzene | 0.57923 | 0.58090 | 0.010 | -0.28792 | 30.00000 | Averaged |
| 155 Ethyl Benzene | 0.29135 | 0.28739 | 0.010 | 1.35945 | 30.00000 | Averaged |
| 156 Nonane | 0.67669 | 0.62520 | 0.010 | 7.60842 | 30.00000 | Averaged |
| 157 1,1,1,2-Tetrachloroethane | 0.32998 | 0.35367 | 0.010 | -7.17921 | 30.00000 | Averaged |
| 158 m,p-Xylene | 0.36315 | 0.35858 | 0.010 | 1.25793 | 30.00000 | Averaged |
| 164 o-Xylene | 0.34436 | 0.33999 | 0.010 | 1.27037 | 30.00000 | Averaged |
| 165 Styrene | 0.58810 | 0.57526 | 0.010 | 2.18213 | 30.00000 | Averaged |
| 167 Bromoform | 0.46720 | 0.51561 | 0.010 | -10.36042 | 30.00000 | Averaged |
| 168 Cumene | 1.04099 | 1.05166 | 0.010 | -1.02585 | 30.00000 | Averaged |
| 169 Cyclohexanone | 0.41185 | 0.33255 | 0.010 | 19.25369 | 30.00000 | Averaged |
| 175 1,1,2,2-Tetrachloroethane | 0.53993 | 0.40463 | 0.010 | 25.05820 | 30.00000 | Averaged |
| 177 Bromobenzene | 0.36268 | 0.38032 | 0.010 | -4.86299 | 30.00000 | Averaged |
| 178 Propylbenzene | 0.30782 | 0.31128 | 0.010 | -1.12521 | 30.00000 | Averaged |
| 179 1,2,3-Trichloropropane | 0.16387 | 0.15821 | 0.010 | 3.44953 | 30.00000 | Averaged |
| 182 Decane | 0.79666 | 0.66435 | 0.010 | 16.60865 | 30.00000 | Averaged |
| 183 4-Ethyltoluene | 0.33550 | 0.33549 | 0.010 | 0.00537 | 30.00000 | Averaged |
| 184 2-Chlorotoluene | 0.28387 | 0.28130 | 0.010 | 0.90429 | 30.00000 | Averaged |
| 185 1,3,5-Trimethylbenzene | 0.45246 | 0.44986 | 0.010 | 0.57334 | 30.00000 | Averaged |
| 188 alpha Methyl Styrene | 0.47929 | 0.47565 | 0.010 | 0.75750 | 30.00000 | Averaged |
| 189 tert-Butylbenzene | 0.86021 | 0.87371 | 0.010 | -1.56920 | 30.00000 | Averaged |
| 190 1,2,4-Trimethylbenzene | 0.92509 | 0.90168 | 0.010 | 2.52962 | 30.00000 | Averaged |
| 192 sec-Butylbenzene | 0.28157 | 0.28870 | 0.010 | -2.52992 | 30.00000 | Averaged |
| 194 p-Cymene | 1.15152 | 1.15468 | 0.010 | -0.27491 | 30.00000 | Averaged |
| 195 1,3-Dichlorobenzene | 0.68551 | 0.68749 | 0.010 | -0.28967 | 30.00000 | Averaged |
| 196 1,4-Dichlorobenzene | 0.69437 | 0.70517 | 0.010 | -1.55423 | 30.00000 | Averaged |
| 199 alpha-Chlorotoluene | 0.87930 | 0.81355 | 0.010 | 7.47772 | 30.00000 | Averaged |
| 201 Undecane | 0.94724 | 0.77767 | 0.010 | 17.90151 | 30.00000 | Averaged |
| 202 Butylbenzene | 0.31736 | 0.31854 | 0.010 | -0.37214 | 30.00000 | Averaged |
| 204 1,2-Dichlorobenzene | 0.66528 | 0.66996 | 0.010 | -0.70390 | 30.00000 | Averaged |
| 206 1,2-Dibromo-3-chloropropane | 0.39349 | 0.42041 | 0.010 | -6.84222 | 30.00000 | Averaged |
| 207 Dodecane | 0.95417 | 0.89069 | 0.010 | 6.65287 | 30.00000 | Averaged |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 15-JUN-2024 08:26
Lab File ID: 3061430.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/14JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE |
|---|---|---|---|---|---|---|
| 213 1,2,4-Trichlorobenzene | 0.65930 | 0.67350 | 0.010 | -2.15480 | 30.00000 | Averaged |
| 215 Hexachlorobutadiene | 0.48092 | 0.50514 | 0.010 | -5.03568 | 30.00000 | Averaged |
| 216 Naphthalene | 1.37605 | 1.25525 | 0.010 | 8.77928 | 30.00000 | Averaged |
| 222 1,2,3-Trichlorobenzene | 0.64605 | 0.65086 | 0.010 | -0.74520 | 30.00000 | Averaged |

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INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061430.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: jcw
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 94062 | -3.33 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 341260 | -4.19 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 337707 | -4.29 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/14JUN24.b/3061430.d



Date : 15-JUN-2024 08:26

Client ID:

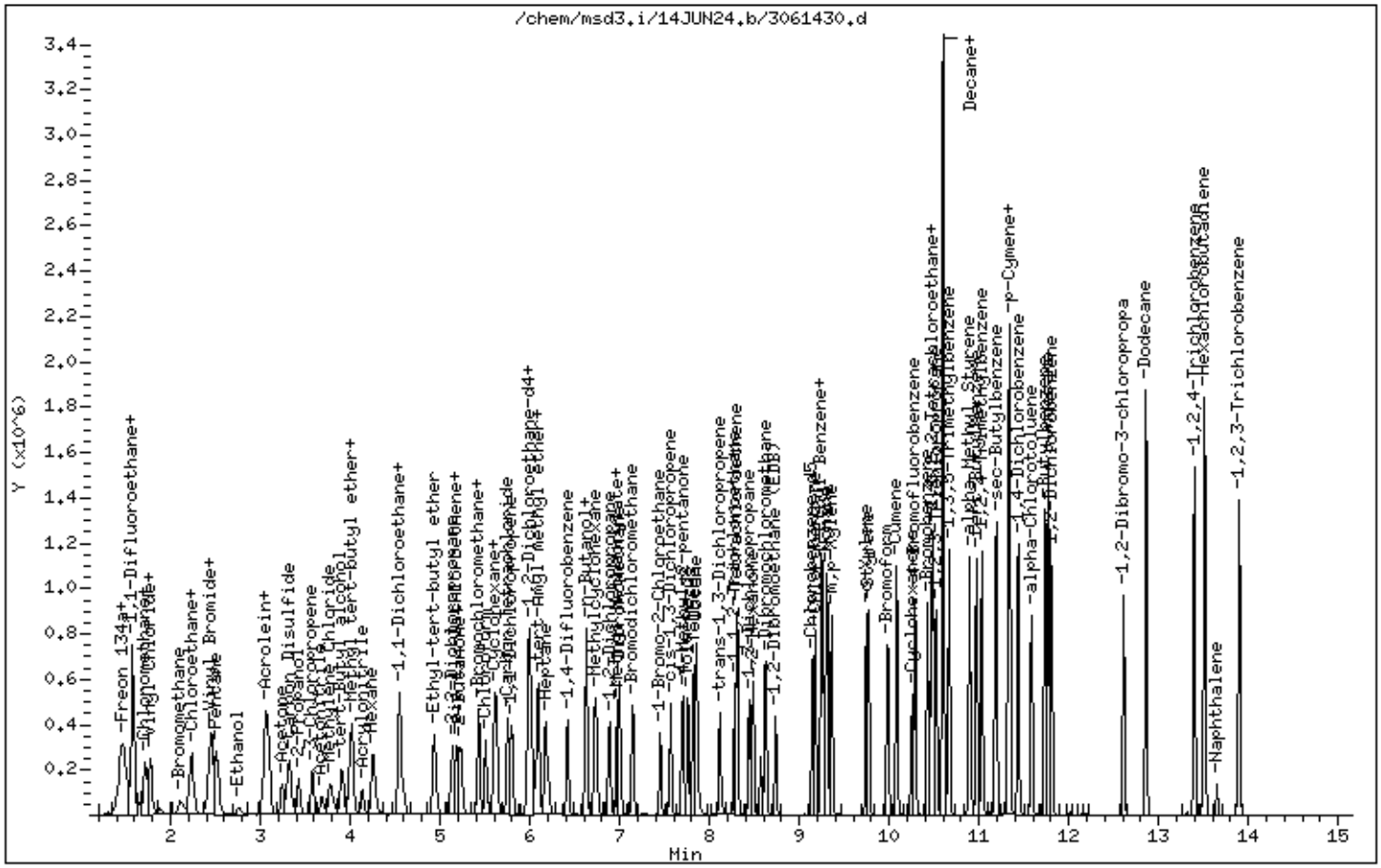
Instrument: msd3.i

Sample Info: 50mL 3018-4465

Operator: jcw

Column phase: RTX-624

Column diameter: 0.25



eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | LCS | | |
| **Lab ID:** | 2406133-25A | **Date/Time Analyzed:** | 6/13/24 12:13 PM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061304a |

| Compound | CAS# | %Recovery |
|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 102 |
| 1,4-Dichlorobenzene | 106-46-7 | 101 |
| Benzene | 71-43-2 | 94 |
| cis-1,2-Dichloroethene | 156-59-2 | 88 |
| Ethyl Benzene | 100-41-4 | 102 |
| m,p-Xylene | 108-38-3 | 100 |
| o-Xylene | 95-47-6 | 100 |
| Toluene | 108-88-3 | 93 |
| trans-1,2-Dichloroethene | 156-60-5 | 88 |
| Trichloroethene | 79-01-6 | 96 |
| Vinyl Chloride | 75-01-4 | 93 |

D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 102 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

* % Recovery is calculated using unrounded analytical results.

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/13JUN24.b/3061304a.d
Lab Smp Id: LCS Client Smp ID: LCS
Inj Date : 13-JUN-2024 12:13
Operator : RT Inst ID: msd3.i
Smp Info : 50mL 3018-4603
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/13JUN24.b/324q0423a.m
Meth Date : 13-Jun-2024 12:26 yrc5 Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 14 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23_cont111224.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 94778 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 73658 | | | 47.79- 107.79 | 77.72 |
| 5.432 | 5.432 (1.000) | 49 | 139660 | | | 131.33- 191.33 | 147.35 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 341342 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 50173 | | | 0.00- 45.65 | 14.70 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 336630 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 167008 | | | 22.92- 82.92 | 49.61 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 112743 | 22.8382 | 22.838 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 62698 | | | 23.17- 83.17 | 55.61 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 321158 | 24.2025 | 24.202 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 34096 | | | 0.00- 41.42 | 10.62 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 219159 | | | 37.54- 97.54 | 68.24 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 254935 | 25.4831 | 25.483 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 279498 | | | 88.49- 148.49 | 109.64 |
| 10.288 | 10.288 (1.124) | 176 | 247489 | | | 66.73- 126.73 | 97.08 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.395 | 1.409 (0.257) | 83 | 108119 | 49.3529 | 49.353 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 101089 | | | 64.17- 124.17 | 93.50 |
| 1.479 | 1.493 (0.272) | 51 | 407127 | | | 365.46- 425.46 | 376.55 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.423 | 1.437 (0.262) | 41 | 112402 | 45.2797 | 45.280 | 80.00- 120.00 | 100.00 |
| 1.423 | 1.437 (0.262) | 42 | 73691 | | | 35.86- 95.86 | 65.56 |
| 1.423 | 1.437 (0.262) | 39 | 80029 | | | 41.66- 101.66 | 71.20 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.270) | 65 | 70017 | 48.9288 | 48.929 | 80.00- 120.00 | 100.00 |
| 1.479 | 1.493 (0.272) | 51 | 407127 | | | 568.10- 628.10 | 581.47 |
| 1.562 | 1.577 (0.288) | 47 | 12464 | | | 0.00- 50.57 | 17.80 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.270) | 85 | 272234 | 48.5013 | 48.501 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 89656 | | | 2.88- 62.88 | 32.93 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.479 | 1.507 (0.272) | 67 | 31563 | 44.9377 | 44.938 | 80.00- 120.00 | 100.00 |
| 1.479 | 1.493 (0.272) | 51 | 407127 | | | 1257.55-1317.55 | 1289.89 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.577 (0.290) | 135 | 248744 | 50.4122 | 50.412 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.577 (0.290) | 137 | 80525 | | | 2.10- 62.10 | 32.37 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.576 | 1.577 (0.290) | 43 | 238924 | 45.5186 | 45.519 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.577 (0.290) | 42 | 75523 | | | 1.69- 61.69 | 31.61 |
| 1.576 | 1.577 (0.290) | 58 | 7637 | | | 0.00- 33.32 | 3.20 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.674 (0.308) | 50 | 129892 | 47.9974 | 47.997 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.674 (0.308) | 52 | 40466 | | | 1.38- 61.38 | 31.15 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.716 (0.316) | 58 | 24608 | 45.3530 | 45.353 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 18 Butane (continued) | | | | | | | |
| 1.716 | 1.716 (0.316) | 43 | 209888 | | | 866.38- 926.38 | 852.93 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.758 (0.324) | 62 | 121304 | 46.3267 | 46.327 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.758 (0.324) | 64 | 39005 | | | 3.10- 63.10 | 32.15 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.772 (0.326) | 54 | 105382 | 42.8417 | 42.842 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.772 (0.326) | 39 | 109288 | | | 78.74- 138.74 | 103.71 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 97120 | 51.9053 | 51.905 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 91398 | | | 64.19- 124.19 | 94.11 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.409) | 64 | 60457 | 48.1463 | 48.146 | 80.00- 120.00 | 100.00 |
| 2.206 | 2.220 (0.406) | 66 | 18410 | | | 2.32- 62.32 | 30.45 |
| 2.220 | 2.220 (0.409) | 49 | 20799 | | | 6.33- 66.33 | 34.40 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 165976 | 46.3191 | 46.319 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 104999 | | | 31.77- 91.77 | 63.26 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.402 (0.442) | 106 | 107659 | 49.4711 | 49.471 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.402 (0.442) | 108 | 101325 | | | 64.21- 124.21 | 94.12 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 310628 | 48.0380 | 48.038 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 204111 | | | 34.93- 94.93 | 65.71 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.458 (0.453) | 67 | 229431 | 44.4967 | 44.497 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 69 | 73557 | | | 1.95- 61.95 | 32.06 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 242152 | 44.4138 | 44.414 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 34486 | | | 0.00- 44.64 | 14.24 |
| 2.514 | 2.514 (0.463) | 72 | 19247 | | | 0.00- 37.90 | 7.95 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 20895 | 40.7294 | 40.729 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.507) | 45 | 53743 | | | 224.40- 284.40 | 257.21 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.053 | 3.054 (0.562) | 55 | 49717 | 45.0276 | 45.028 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 42 Acrolein (continued) | | | | | | | |
| 3.046 | 3.054 (0.561) | 56 | 68073 | | | 108.02- 168.02 | 136.92 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.053 | 3.061 (0.562) | 151 | 272550 | 47.6935 | 47.693 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.054 (0.563) | 153 | 178171 | | | 35.07- 95.07 | 65.37 |
| 3.053 | 3.061 (0.562) | 101 | 303666 | | | 87.45- 147.45 | 111.42 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.089 (0.569) | 96 | 123941 | 50.9724 | 50.972 | 80.00- 120.00 | 100.00 |
| 3.089 | 3.089 (0.569) | 98 | 67310 | | | 33.27- 93.27 | 54.31 |
| 3.089 | 3.089 (0.569) | 61 | 211703 | | | 159.05- 219.05 | 170.81 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.240 | 3.247 (0.596) | 58 | 59221 | 42.8008 | 42.801 | 80.00- 120.00 | 100.00 |
| 3.240 | 3.240 (0.596) | 43 | 207690 | | | 329.45- 389.45 | 350.70 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.326 (0.612) | 76 | 291729 | 44.0002 | 44.000 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.419 | 3.426 (0.629) | 45 | 240432 | 41.7958 | 41.796 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.631) | 43 | 44436 | | | 0.00- 48.18 | 18.48 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.576 | 3.584 (0.658) | 76 | 48998 | 43.8658 | 43.866 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.576 (0.658) | 41 | 175222 | | | 366.80- 426.80 | 357.61 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.677 | 3.677 (0.677) | 41 | 109606 | 43.1697 | 43.170 | 80.00- 120.00 | 100.00 |
| 3.677 | 3.677 (0.677) | 40 | 58672 | | | 22.74- 82.74 | 53.53 |
| 3.677 | 3.677 (0.677) | 38 | 14139 | | | 0.00- 42.52 | 12.90 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.777 (0.695) | 49 | 162559 | 42.7733 | 42.773 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.777 (0.695) | 84 | 92362 | | | 24.90- 84.90 | 56.82 |
| 3.777 | 3.777 (0.695) | 51 | 47935 | | | 0.00- 59.67 | 29.49 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.906 | 3.906 (0.719) | 59 | 259954 | 44.2954 | 44.295 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.906 (0.719) | 41 | 59145 | | | 0.00- 51.85 | 22.75 |
| 3.906 | 3.906 (0.719) | 57 | 25959 | | | 0.00- 40.17 | 9.99 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 3.999 | 3.999 (0.736) | 73 | 314275 | 45.2979 | 45.298 | 80.00- 120.00 | 100.00 |
| 3.999 | 4.006 (0.736) | 57 | 91298 | | | 0.00- 58.72 | 29.05 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 3.999 | 3.999 (0.736) | 41 | 93558 | | | 0.00- 59.38 | 29.77 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 71520 | 43.7981 | 43.798 | 80.00- 120.00 | 100.00 |
| 4.020 | 4.021 (0.740) | 61 | 180588 | | | 232.13- 292.13 | 252.50 |
| 4.020 | 4.028 (0.740) | 96 | 113645 | | | 127.26- 187.26 | 158.90 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.135 (0.761) | 52 | 85414 | 40.4468 | 40.447 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.135 (0.761) | 53 | 101918 | | | 86.45- 146.45 | 119.32 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.250 | 4.250 (0.782) | 57 | 210971 | 41.4640 | 41.464 | 80.00- 120.00 | 100.00 |
| 4.250 | 4.257 (0.782) | 43 | 146801 | | | 40.97- 100.97 | 69.58 |
| 4.250 | 4.257 (0.782) | 86 | 26846 | | | 0.00- 42.68 | 12.72 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.551 (0.838) | 63 | 206463 | 43.7526 | 43.753 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 65 | 64265 | | | 0.47- 60.47 | 31.13 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.543 | 4.551 (0.836) | 45 | 517423 | 45.7277 | 45.728 | 80.00- 120.00 | 100.00 |
| 4.543 | 4.551 (0.836) | 87 | 105390 | | | 0.00- 49.55 | 20.37 |
| 4.551 | 4.551 (0.838) | 59 | 54555 | | | 0.00- 40.42 | 10.54 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.601 | 4.608 (0.847) | 86 | 28003 | 67.3945 | 67.394 | 80.00- 120.00 | 100.00 |
| 4.601 | 4.601 (0.847) | 43 | 432150 | | | 1727.95-1787.95 | 1543.23 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.930 | 4.937 (0.908) | 59 | 443036 | 45.4027 | 45.403 | 80.00- 120.00 | 100.00 |
| 4.937 | 4.937 (0.909) | 87 | 154668 | | | 3.90- 63.90 | 34.91 |
| 4.930 | 4.937 (0.908) | 41 | 87986 | | | 0.00- 49.72 | 19.86 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.138 (0.946) | 77 | 203669 | 43.7219 | 43.722 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.138 (0.946) | 79 | 66244 | | | 2.39- 62.39 | 32.53 |
| 5.138 | 5.138 (0.946) | 97 | 48997 | | | 0.00- 53.57 | 24.06 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.181 | 5.181 (0.954) | 98 | 74339 | 43.9630 | 43.963 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 117066 | | | 125.53- 185.53 | 157.48 |
| 5.181 | 5.181 (0.954) | 61 | 165635 | | | 219.86- 279.86 | 222.81 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.210 | 5.210 (0.959) | 72 | 53020 | 43.5206 | 43.520 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 86 2-Butanone (continued) | | | | | | | |
| 5.231 | 5.231 (0.963) | 43 | 614996 | | | 1138.34-1198.34 | 1159.93 |
| 5.217 | 5.210 (0.960) | 57 | 21627 | | | 10.83- 70.83 | 40.79 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.238 | 5.238 (0.964) | 45 | 51209 | 42.0293 | 42.029 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 61 | 165635 | | | 338.96- 398.96 | 323.45 |
| 5.238 | 5.238 (0.964) | 70 | 26357 | | | 24.53- 84.53 | 51.47 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.424 | 5.424 (0.999) | 42 | 151044 | 40.5500 | 40.550 | 80.00- 120.00 | 100.00 |
| 5.424 | 5.424 (0.999) | 71 | 42425 | | | 0.00- 58.54 | 28.09 |
| 5.424 | 5.424 (0.999) | 72 | 44721 | | | 0.00- 59.59 | 29.61 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.510 | 5.510 (1.014) | 83 | 225099 | 44.4233 | 44.423 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.510 (1.014) | 85 | 146802 | | | 35.77- 95.77 | 65.22 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.604 | 5.604 (1.032) | 84 | 155702 | 45.9316 | 45.932 | 80.00- 120.00 | 100.00 |
| 5.604 | 5.604 (1.032) | 56 | 233515 | | | 125.79- 185.79 | 149.98 |
| 5.604 | 5.604 (1.032) | 41 | 131720 | | | 61.55- 121.55 | 84.60 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.632 | 5.632 (1.037) | 97 | 258120 | 46.7061 | 46.706 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.632 (1.037) | 99 | 165037 | | | 32.84- 92.84 | 63.94 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.754 (1.059) | 119 | 283716 | 48.4247 | 48.425 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.754 (1.059) | 117 | 296793 | | | 75.19- 135.19 | 104.61 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.797 (0.903) | 110 | 64782 | 47.1154 | 47.115 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.797 (0.903) | 75 | 164221 | | | 234.16- 294.16 | 253.50 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.990 | 5.990 (1.103) | 57 | 711713 | 44.7699 | 44.770 | 80.00- 120.00 | 100.00 |
| 5.983 | 5.990 (1.102) | 56 | 237649 | | | 3.09- 63.09 | 33.39 |
| 5.983 | 5.990 (1.102) | 41 | 188499 | | | 0.00- 57.28 | 26.49 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 321537 | 46.7860 | 46.786 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 75705 | | | 0.00- 53.69 | 23.54 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.083 | 6.083 (0.948) | 87 | 86866 | 47.0336 | 47.034 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.083 | 6.083 (0.948) | 73 | 339848 | | | 365.76- 425.76 | 391.23 |
| 6.083 | 6.083 (0.948) | 55 | 109776 | | | 92.58- 152.58 | 126.37 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.098 (0.950) | 62 | 164316 | 45.8347 | 45.835 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.098 (0.950) | 64 | 51985 | | | 1.80- 61.80 | 31.64 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.177 | 6.177 (0.962) | 71 | 122555 | 45.0175 | 45.017 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.177 (0.962) | 43 | 286052 | | | 207.73- 267.73 | 233.41 |
| 6.177 | 6.177 (0.962) | 57 | 138735 | | | 84.83- 144.83 | 113.20 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.032) | 56 | 112703 | 72.1275 | 72.127 | 80.00- 120.00 | 100.00(R) |
| 6.628 | 6.628 (1.032) | 41 | 84374 | | | 47.73- 107.73 | 74.86 |
| 6.628 | 6.628 (1.032) | 43 | 66196 | | | 31.60- 91.60 | 58.73 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 158463 | 47.8216 | 47.822 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 178727 | | | 80.23- 140.23 | 112.79 |
| 6.628 | 6.628 (1.032) | 97 | 102509 | | | 34.78- 94.78 | 64.69 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.886 (1.073) | 63 | 142256 | 43.9888 | 43.989 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.886 (1.073) | 62 | 102333 | | | 40.39- 100.39 | 71.94 |
| 6.886 | 6.886 (1.073) | 41 | 83967 | | | 31.86- 91.86 | 59.03 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.972 | 6.972 (0.762) | 69 | 123051 | 44.8768 | 44.877 | 80.00- 120.00 | 100.00 |
| 6.972 | 6.972 (0.762) | 41 | 207035 | | | 145.81- 205.81 | 168.25 |
| 6.972 | 6.972 (0.762) | 100 | 50335 | | | 10.05- 70.05 | 40.91 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.986 (1.089) | 88 | 82698 | 47.8348 | 47.835 | 80.00- 120.00 | 100.00 |
| 6.986 | 6.986 (1.088) | 58 | 69114 | | | 56.33- 116.33 | 83.57 |
| 6.986 | 6.986 (1.088) | 57 | 25084 | | | 2.08- 62.08 | 30.33 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.000 | 7.008 (0.765) | 174 | 165066 | 51.9686 | 51.969 | 80.00- 120.00 | 100.00 |
| 7.000 | 7.000 (0.765) | 93 | 144576 | | | 62.68- 122.68 | 87.59 |
| 7.000 | 7.000 (0.765) | 95 | 119772 | | | 47.70- 107.70 | 72.56 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.144 | 7.144 (1.113) | 83 | 257685 | 48.0405 | 48.040 | 80.00- 120.00 | 100.00 |
| 7.144 | 7.144 (1.113) | 85 | 164813 | | | 34.96- 94.96 | 63.96 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.566 | 7.566 (1.179) | 75 | 210708 | 46.0601 | 46.060 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.566 (1.179) | 77 | 66242 | | | 1.26- 61.26 | 31.44 |
| 7.566 | 7.566 (1.179) | 39 | 128135 | | | 35.06- 95.06 | 60.81 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.728 | 6.728 (1.048) | 83 | 213143 | 45.2826 | 45.282 | 80.00- 120.00 | 100.00 |
| 6.728 | 6.728 (1.048) | 98 | 97373 | | | 14.83- 74.83 | 45.68 |
| 6.728 | 6.728 (1.048) | 55 | 210244 | | | 71.50- 131.50 | 98.64 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.702 | 7.702 (1.200) | 58 | 132123 | 41.9873 | 41.987 | 80.00- 120.00 | 100.00 |
| 7.702 | 7.702 (1.200) | 43 | 380898 | | | 259.88- 319.88 | 288.29 |
| 7.702 | 7.702 (1.200) | 85 | 49847 | | | 7.58- 67.58 | 37.73 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 440925 | 46.3461 | 46.346 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 255320 | | | 27.89- 87.89 | 57.91 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.853 | 7.853 (1.223) | 57 | 151508 | 43.7117 | 43.712 | 80.00- 120.00 | 100.00 |
| 7.853 | 7.853 (1.223) | 85 | 146157 | | | 63.53- 123.53 | 96.47 |
| 7.853 | 7.853 (1.223) | 43 | 407479 | | | 246.00- 306.00 | 268.95 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.111 | 8.111 (0.886) | 75 | 174002 | 46.7782 | 46.778 | 80.00- 120.00 | 100.00 |
| 8.111 | 8.111 (0.886) | 77 | 56060 | | | 1.83- 61.83 | 32.22 |
| 8.111 | 8.111 (0.886) | 39 | 101583 | | | 31.97- 91.97 | 58.38 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.282 | 8.283 (0.905) | 97 | 152488 | 48.4137 | 48.414 | 80.00- 120.00 | 100.00 |
| 8.282 | 8.283 (0.905) | 99 | 94424 | | | 32.52- 92.52 | 61.92 |
| 8.282 | 8.283 (0.905) | 83 | 132086 | | | 58.90- 118.90 | 86.62 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.311 (0.908) | 166 | 251566 | 53.1926 | 53.192 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.311 (0.908) | 129 | 184589 | | | 45.32- 105.32 | 73.38 |
| 8.311 | 8.311 (0.908) | 131 | 183419 | | | 44.17- 104.17 | 72.91 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.483 | 8.483 (0.927) | 58 | 182156 | 46.0985 | 46.098 | 80.00- 120.00 | 100.00 |
| 8.483 | 8.483 (0.927) | 43 | 382760 | | | 177.32- 237.32 | 210.13 |
| 8.483 | 8.490 (0.927) | 100 | 33252 | | | 0.00- 47.18 | 18.25 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.440 | 8.440 (1.315) | 76 | 206188 | 46.2285 | 46.228 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane (continued) | | | | | | | |
| 8.440 | 8.440 (1.315) | 41 | 172682 | | | 59.72- 119.72 | 83.75 |
| 8.440 | 8.440 (1.315) | 78 | 65732 | | | 3.08- 63.08 | 31.88 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 327094 | 52.5465 | 52.546 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 253104 | | | 47.27- 107.27 | 77.38 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 258151 | 50.0084 | 50.008 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 242896 | | | 64.18- 124.18 | 94.09 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.452 (1.161) | 63 | 264288 | 46.3190 | 46.319 | 80.00- 120.00 | 100.00 |
| 7.452 | 7.452 (1.161) | 65 | 81834 | | | 0.43- 60.43 | 30.96 |
| 7.452 | 7.452 (1.161) | 144 | 31523 | | | 0.00- 40.48 | 11.93 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.003) | 112 | 393978 | 50.5135 | 50.514 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.003) | 114 | 126414 | | | 1.91- 61.91 | 32.09 |
| 9.178 | 9.171 (1.003) | 77 | 201007 | | | 22.97- 82.97 | 51.02 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 199972 | 50.9728 | 50.973 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 612284 | | | 281.09- 341.09 | 306.18 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.307 | 9.307 (1.017) | 43 | 434146 | 47.6470 | 47.647 | 80.00- 120.00 | 100.00 |
| 9.307 | 9.307 (1.017) | 57 | 350775 | | | 50.62- 110.62 | 80.80 |
| 9.307 | 9.307 (1.017) | 85 | 112824 | | | 0.00- 55.65 | 25.99 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.264 | 9.264 (1.013) | 131 | 239093 | 53.8099 | 53.810 | 80.00- 120.00 | 100.00 |
| 9.264 | 9.264 (1.013) | 117 | 157250 | | | 37.10- 97.10 | 65.77 |
| 9.264 | 9.264 (1.013) | 95 | 80866 | | | 4.93- 64.93 | 33.82 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 244176 | 49.9355 | 49.936 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.364 (1.023) | 91 | 478813 | | | 170.33- 230.33 | 196.09 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 232515 | 50.1445 | 50.144 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 481761 | | | 181.23- 241.23 | 207.20 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.772 | 9.772 (1.068) | 104 | 389969 | 49.2456 | 49.246 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.772 | 9.772 (1.068) | 78 | 179515 | | | 17.26- 77.26 | 46.03 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.092) | 173 | 341979 | 54.3601 | 54.360 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.092) | 171 | 176779 | | | 21.45- 81.45 | 51.69 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.088 | 10.088 (1.103) | 105 | 710302 | 50.6740 | 50.674 | 80.00- 120.00 | 100.00 |
| 10.088 | 10.088 (1.103) | 120 | 195461 | | | 0.00- 56.93 | 27.52 |
| 10.088 | 10.088 (1.103) | 51 | 81989 | | | 0.00- 42.24 | 11.54 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.259 | 10.252 (1.121) | 55 | 234185 | 42.2289 | 42.229 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.260 (1.121) | 98 | 83608 | | | 5.15- 65.15 | 35.70 |
| 10.252 | 10.252 (1.121) | 42 | 160651 | | | 41.99- 101.99 | 68.60 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.144) | 83 | 357961 | 49.2363 | 49.236 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.467 (1.144) | 85 | 230717 | | | 34.97- 94.97 | 64.45 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.424 | 10.424 (1.139) | 156 | 254121 | 52.0355 | 52.036 | 80.00- 120.00 | 100.00 |
| 10.424 | 10.424 (1.139) | 158 | 246376 | | | 67.47- 127.47 | 96.95 |
| 10.424 | 10.424 (1.139) | 77 | 320341 | | | 108.68- 168.68 | 126.06 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.489 | 10.489 (1.146) | 120 | 210940 | 50.8928 | 50.893 | 80.00- 120.00 | 100.00 |
| 10.489 | 10.489 (1.146) | 91 | 850945 | | | 383.60- 443.60 | 403.41 |
| 10.489 | 10.489 (1.146) | 105 | 33016 | | | 0.00- 46.14 | 15.65 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.517 (1.150) | 110 | 109153 | 49.4689 | 49.469 | 80.00- 120.00 | 100.00 |
| 10.517 | 10.517 (1.150) | 75 | 374492 | | | 324.28- 384.28 | 343.09 |
| 10.517 | 10.517 (1.150) | 61 | 89729 | | | 57.24- 117.24 | 82.20 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.603 (1.159) | 57 | 461622 | 43.0328 | 43.033 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 71 | 145252 | | | 1.11- 61.11 | 31.47 |
| 10.603 | 10.603 (1.159) | 142 | 21862 | | | 0.00- 34.44 | 4.74 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.603 (1.159) | 120 | 225356 | 49.8837 | 49.884 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 105 | 732083 | | | 298.94- 358.94 | 324.86 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.603 (1.159) | 126 | 198375 | 51.8990 | 51.899 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.603 | 10.603 (1.159) | 91 | 587192 | | | 282.78- 342.78 | 296.00 |
| 10.603 | 10.603 (1.159) | 65 | 84998 | | | 17.33- 77.33 | 42.85 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.668 | 10.668 (1.166) | 120 | 308209 | 50.5887 | 50.589 | 80.00- 120.00 | 100.00 |
| 10.668 | 10.668 (1.166) | 105 | 612888 | | | 172.08- 232.08 | 198.85 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.897 | 10.897 (1.191) | 118 | 327486 | 50.7441 | 50.744 | 80.00- 120.00 | 100.00 |
| 10.897 | 10.897 (1.191) | 103 | 182000 | | | 25.64- 85.64 | 55.57 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.976 (1.200) | 119 | 592852 | 51.1835 | 51.184 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.976 (1.200) | 134 | 149105 | | | 0.00- 55.10 | 25.15 |
| 10.969 | 10.976 (1.199) | 91 | 370221 | | | 34.53- 94.53 | 62.45 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.033 | 11.033 (1.206) | 105 | 619914 | 49.7665 | 49.766 | 80.00- 120.00 | 100.00 |
| 11.033 | 11.033 (1.206) | 120 | 291971 | | | 16.63- 76.63 | 47.10 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.191 | 11.191 (1.223) | 134 | 193860 | 51.1307 | 51.131 | 80.00- 120.00 | 100.00 |
| 11.191 | 11.191 (1.223) | 105 | 890416 | | | 436.99- 496.99 | 459.31 |
| 11.191 | 11.191 (1.223) | 91 | 134347 | | | 41.69- 101.69 | 69.30 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.334 | 11.334 (1.239) | 119 | 803655 | 51.8306 | 51.830 | 80.00- 120.00 | 100.00 |
| 11.334 | 11.334 (1.239) | 134 | 224853 | | | 0.00- 57.62 | 27.98 |
| 11.334 | 11.334 (1.239) | 91 | 177986 | | | 0.00- 53.03 | 22.15 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.341 | 11.341 (1.240) | 146 | 468974 | 50.8070 | 50.807 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 148 | 297046 | | | 34.18- 94.18 | 63.34 |
| 11.341 | 11.341 (1.240) | 111 | 180861 | | | 10.06- 70.06 | 38.57 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.441 (1.251) | 146 | 471912 | 50.4725 | 50.472 | 80.00- 120.00 | 100.00 |
| 11.441 | 11.441 (1.251) | 148 | 299287 | | | 33.55- 93.55 | 63.42 |
| 11.441 | 11.441 (1.251) | 111 | 175491 | | | 7.98- 67.98 | 37.19 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.585 | 11.585 (1.266) | 91 | 562003 | 47.4664 | 47.466 | 80.00- 120.00 | 100.00 |
| 11.585 | 11.585 (1.266) | 126 | 131971 | | | 0.00- 52.77 | 23.48 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.778 | 11.778 (1.287) | 57 | 538656 | 42.2316 | 42.232 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane (continued) | | | | | | | |
| 11.778 | 11.778 (1.287) | 43 | 495183 | | | 63.59- 123.59 | 91.93 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.742 (1.283) | 134 | 219901 | 51.4596 | 51.460 | 80.00- 120.00 | 100.00 |
| 11.735 | 11.735 (1.283) | 91 | 732997 | | | 310.82- 370.82 | 333.33 |
| 11.735 | 11.735 (1.283) | 92 | 388010 | | | 151.53- 211.53 | 176.45 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.814 (1.291) | 146 | 456396 | 50.9476 | 50.948 | 80.00- 120.00 | 100.00 |
| 11.814 | 11.814 (1.291) | 148 | 288121 | | | 33.00- 93.00 | 63.13 |
| 11.814 | 11.814 (1.291) | 111 | 180532 | | | 10.87- 70.87 | 39.56 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.609 | 12.609 (1.378) | 157 | 283866 | 53.5756 | 53.576 | 80.00- 120.00 | 100.00 |
| 12.609 | 12.609 (1.378) | 75 | 206550 | | | 48.09- 108.09 | 72.76 |
| 12.609 | 12.609 (1.378) | 155 | 217931 | | | 47.89- 107.89 | 76.77 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.845 | 12.853 (1.404) | 57 | 585355 | 45.5599 | 45.560 | 80.00- 120.00 | 100.00 |
| 12.845 | 12.853 (1.404) | 43 | 510989 | | | 58.52- 118.52 | 87.30 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.390 | 13.390 (1.463) | 180 | 465259 | 52.4084 | 52.408 | 80.00- 120.00 | 100.00 |
| 13.390 | 13.390 (1.463) | 182 | 443096 | | | 64.84- 124.84 | 95.24 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.497 | 13.504 (1.475) | 225 | 345415 | 53.3402 | 53.340 | 80.00- 120.00 | 100.00 |
| 13.497 | 13.504 (1.475) | 223 | 217558 | | | 32.80- 92.80 | 62.98 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.640 | 13.640 (1.491) | 128 | 111531 | 6.01932 | 6.019 | 80.00- 120.00 | 100.00 |
| 13.633 | 13.640 (1.490) | 127 | 14404 | | | 0.00- 42.72 | 12.91 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.884 | 13.891 (1.518) | 180 | 448340 | 51.5383 | 51.538 | 80.00- 120.00 | 100.00 |
| 13.884 | 13.884 (1.518) | 182 | 426925 | | | 65.07- 125.07 | 95.22 |
| 13.884 | 13.884 (1.518) | 145 | 150153 | | | 4.48- 64.48 | 33.49 |

## QC Flag Legend

R - Spike/Surrogate failed recovery limits.

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061304a.d
Lab Smp Id: LCS
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 13-JUN-2024
Calibration Time: 11:42
Client Smp ID: LCS
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 94691 | 56815 | 132567 | 94778 | 0.09 |
| 108 1,4-Difluorobenze | 348240 | 208944 | 487536 | 341342 | -1.98 |
| 153 Chlorobenzene-d5 | 341662 | 204997 | 478327 | 336630 | -1.47 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 13JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: LCS Client Smp ID: LCS
Level: LOW Operator: RT
Data Type: MS DATA SampleType: LCS
SpikeList File: CntrlDODAT23.spk Quant Type: ISTD
Sublist File: AT23_cont111224.sub
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 4 Freon 134a | 50.000 | 49.353 | 98.71 | 70-130 |
| 5 Propylene | 50.000 | 45.280 | 90.56 | 57-136 |
| 7 1,1-Difluoroethan | 50.000 | 48.929 | 97.86 | 70-130 |
| 8 Freon 12 | 50.000 | 48.501 | 97.00 | 59-128 |
| 9 Chlorodifluoromet | 50.000 | 44.938 | 89.88 | 59-145 |
| 10 Freon 114 | 50.000 | 50.412 | 100.82 | 63-121 |
| 12 Isobutane | 50.000 | 45.519 | 91.04 | 70-130 |
| 15 Chloromethane | 50.000 | 47.997 | 95.99 | 59-132 |
| 18 Butane | 50.000 | 45.353 | 90.71 | 64-129 |
| 19 Vinyl Chloride | 50.000 | 46.327 | 92.65 | 64-127 |
| 20 1,3-Butadiene | 50.000 | 42.842 | 85.68 | 66-134 |
| 24 Bromomethane | 50.000 | 51.905 | 103.81 | 63-134 |
| 30 Chloroethane | 50.000 | 48.146 | 96.29 | 63-127 |
| 31 Isopentane | 50.000 | 46.319 | 92.64 | 59-140 |
| 32 Vinyl Bromide | 50.000 | 49.471 | 98.94 | 71-126 |
| 33 Freon 11 | 50.000 | 48.038 | 96.08 | 62-126 |
| 34 Dichlorofluoromet | 50.000 | 44.497 | 88.99 | 70-130 |
| 35 Pentane | 50.000 | 44.414 | 88.83 | 63-131 |
| 39 Ethanol | 50.000 | 40.729 | 81.46 | 59-125 |
| 42 Acrolein | 57.000 | 45.028 | 79.00 | 62-126 |
| 43 Freon 113 | 50.000 | 47.693 | 95.39 | 66-126 |
| 44 1,1-Dichloroethen | 50.000 | 50.972 | 101.94 | 61-133 |
| 47 Acetone | 50.000 | 42.801 | 85.60 | 58-128 |
| 48 Carbon Disulfide | 50.000 | 44.000 | 88.00 | 57-134 |
| 52 2-Propanol | 50.000 | 41.796 | 83.59 | 52-125 |
| 54 3-Chloropropene | 50.000 | 43.866 | 87.73 | 71-131 |
| 57 Acetonitrile | 50.000 | 43.170 | 86.34 | 63-132 |
| 59 Methylene Chlorid | 50.000 | 42.773 | 85.55 | 62-115 |
| 62 tert-Butyl alcoho | 50.000 | 44.295 | 88.59 | 24-150 |
| 63 Methyl tert-butyl | 50.000 | 45.298 | 90.60 | 66-126 |
| 64 trans-1,2-Dichlor | 50.000 | 43.798 | 87.60 | 67-124 |
| 66 Acrylonitrile | 50.000 | 40.447 | 80.89 | 71-137 |
| 67 Hexane | 50.000 | 41.464 | 82.93 | 63-120 |

| | SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| 71 | 1,1-Dichloroethan | 50.000 | 43.753 | 87.51 | 68-126 |
| 72 | Isopropyl ether | 50.000 | 45.728 | 91.46 | 70-117 |
| 73 | Vinyl Acetate | 50.000 | 67.394 | 134.79 | 56-139 |
| 79 | Ethyl-tert-butyl | 50.000 | 45.403 | 90.81 | 70-130 |
| 84 | 2,2-Dichloropropa | 50.000 | 43.722 | 87.44 | 70-130 |
| 85 | cis-1,2-Dichloroe | 50.000 | 43.963 | 87.93 | 70-121 |
| 86 | 2-Butanone | 50.000 | 43.520 | 87.04 | 67-130 |
| 87 | Ethyl Acetate | 50.000 | 42.029 | 84.06 | 65-128 |
| 89 | Tetrahydrofuran | 50.000 | 40.550 | 81.10 | 64-123 |
| 92 | Chloroform | 50.000 | 44.423 | 88.85 | 68-123 |
| 96 | 1,1,1-Trichloroet | 50.000 | 46.706 | 93.41 | 68-125 |
| 97 | Carbon Tetrachlor | 50.000 | 48.425 | 96.85 | 68-132 |
| 94 | Cyclohexane | 50.000 | 45.932 | 91.86 | 70-117 |
| 99 | 1,1-Dichloroprope | 50.000 | 47.115 | 94.23 | 70-130 |
| 101 | 2,2,4-Trimethylpe | 50.000 | 44.770 | 89.54 | 68-121 |
| 102 | Benzene | 50.000 | 46.786 | 93.57 | 69-119 |
| 106 | 1,2-Dichloroethan | 50.000 | 45.835 | 91.67 | 65-128 |
| 107 | Heptane | 50.000 | 45.017 | 90.03 | 69-123 |
| 110 | n-Butanol | 50.000 | 72.127 | 144.25* | 62-133 |
| 111 | Trichloroethene | 50.000 | 47.822 | 95.64 | 71-123 |
| 127 | Methylcyclohexane | 50.000 | 45.282 | 90.57 | 67-127 |
| 114 | 1,2-Dichloropropa | 50.000 | 43.989 | 87.98 | 69-123 |
| 116 | Methyl Methacryla | 50.000 | 44.877 | 89.75 | 70-128 |
| 117 | 1,4-Dioxane | 50.000 | 47.835 | 95.67 | 71-122 |
| 118 | Dibromomethane | 50.000 | 51.969 | 103.94 | 70-130 |
| 122 | Bromodichlorometh | 50.000 | 48.040 | 96.08 | 72-128 |
| 126 | cis-1,3-Dichlorop | 50.000 | 46.060 | 92.12 | 70-128 |
| 131 | 4-Methyl-2-pentan | 50.000 | 41.987 | 83.97 | 67-130 |
| 136 | Octane | 50.000 | 43.712 | 87.42 | 69-121 |
| 137 | Toluene | 50.000 | 46.346 | 92.69 | 66-119 |
| 139 | trans-1,3-Dichlor | 50.000 | 46.778 | 93.56 | 75-133 |
| 141 | 1,1,2-Trichloroet | 50.000 | 48.414 | 96.83 | 73-119 |
| 142 | Tetrachloroethene | 50.000 | 53.192 | 106.39 | 66-124 |
| 143 | 2-Hexanone | 50.000 | 46.098 | 92.20 | 62-128 |
| 144 | 1,3-Dichloropropa | 50.000 | 46.228 | 92.46 | 62-148 |
| 146 | Dibromochlorometh | 50.000 | 52.546 | 105.09 | 70-130 |
| 148 | 1,2-Dibromoethane | 50.000 | 50.008 | 100.02 | 74-122 |
| 151 | 1-Bromo-2-Chloroe | 50.000 | 46.319 | 92.64 | 70-130 |
| 154 | Chlorobenzene | 50.000 | 50.514 | 101.03 | 70-119 |
| 155 | Ethyl Benzene | 50.000 | 50.973 | 101.95 | 70-124 |
| 156 | Nonane | 50.000 | 47.647 | 95.29 | 63-128 |
| 157 | 1,1,1,2-Tetrachlo | 50.000 | 53.810 | 107.62 | 70-130 |
| 158 | m,p-Xylene | 50.000 | 49.936 | 99.87 | 61-134 |
| 164 | o-Xylene | 50.000 | 50.144 | 100.29 | 67-125 |
| 165 | Styrene | 50.000 | 49.246 | 98.49 | 73-127 |
| 167 | Bromoform | 50.000 | 54.360 | 108.72 | 66-139 |
| 168 | Cumene | 50.000 | 50.674 | 101.35 | 68-124 |

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 175 1,1,2,2-Tetrachlo | 50.000 | 49.236 | 98.47 | 65-127 |
| 177 Bromobenzene | 50.000 | 52.036 | 104.07 | 70-130 |
| 178 Propylbenzene | 50.000 | 50.893 | 101.79 | 69-123 |
| 179 1,2,3-Trichloropr | 50.000 | 49.469 | 98.94 | 76-124 |
| 182 Decane | 50.000 | 43.033 | 86.07 | 70-118 |
| 183 4-Ethyltoluene | 50.000 | 49.884 | 99.77 | 67-129 |
| 184 2-Chlorotoluene | 50.000 | 51.899 | 103.80 | 74-130 |
| 185 1,3,5-Trimethylbe | 50.000 | 50.589 | 101.18 | 67-130 |
| 188 alpha Methyl Styr | 50.000 | 50.744 | 101.49 | 67-128 |
| 189 tert-Butylbenzene | 50.000 | 51.184 | 102.37 | 65-124 |
| 190 1,2,4-Trimethylbe | 50.000 | 49.766 | 99.53 | 66-132 |
| 192 sec-Butylbenzene | 50.000 | 51.131 | 102.26 | 68-125 |
| 194 p-Cymene | 50.000 | 51.830 | 103.66 | 67-130 |
| 195 1,3-Dichlorobenze | 50.000 | 50.807 | 101.61 | 65-130 |
| 196 1,4-Dichlorobenze | 50.000 | 50.472 | 100.95 | 60-131 |
| 199 alpha-Chlorotolue | 50.000 | 47.466 | 94.93 | 50-147 |
| 201 Undecane | 50.000 | 42.232 | 84.46 | 69-123 |
| 202 Butylbenzene | 50.000 | 51.460 | 102.92 | 66-130 |
| 204 1,2-Dichlorobenze | 50.000 | 50.948 | 101.90 | 63-129 |
| 206 1,2-Dibromo-3-chl | 50.000 | 53.576 | 107.15 | 70-130 |
| 207 Dodecane | 50.000 | 45.560 | 91.12 | 62-147 |
| 213 1,2,4-Trichlorobe | 50.000 | 52.408 | 104.82 | 55-142 |
| 215 Hexachlorobutadie | 50.000 | 53.340 | 106.68 | 56-138 |
| 216 Naphthalene | 5.700 | 6.019 | 105.60 | 57-138 |
| 222 1,2,3-Trichlorobe | 50.000 | 51.538 | 103.08 | 55-142 |

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.838 | 91.35 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.202 | 96.81 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.483 | 101.93 | 77-125 |

Data File: /chem/msd3.i/13JUN24.b/3061304a.d

Page 1

Date : 13-JUN-2024 12:13

Client ID: LCS

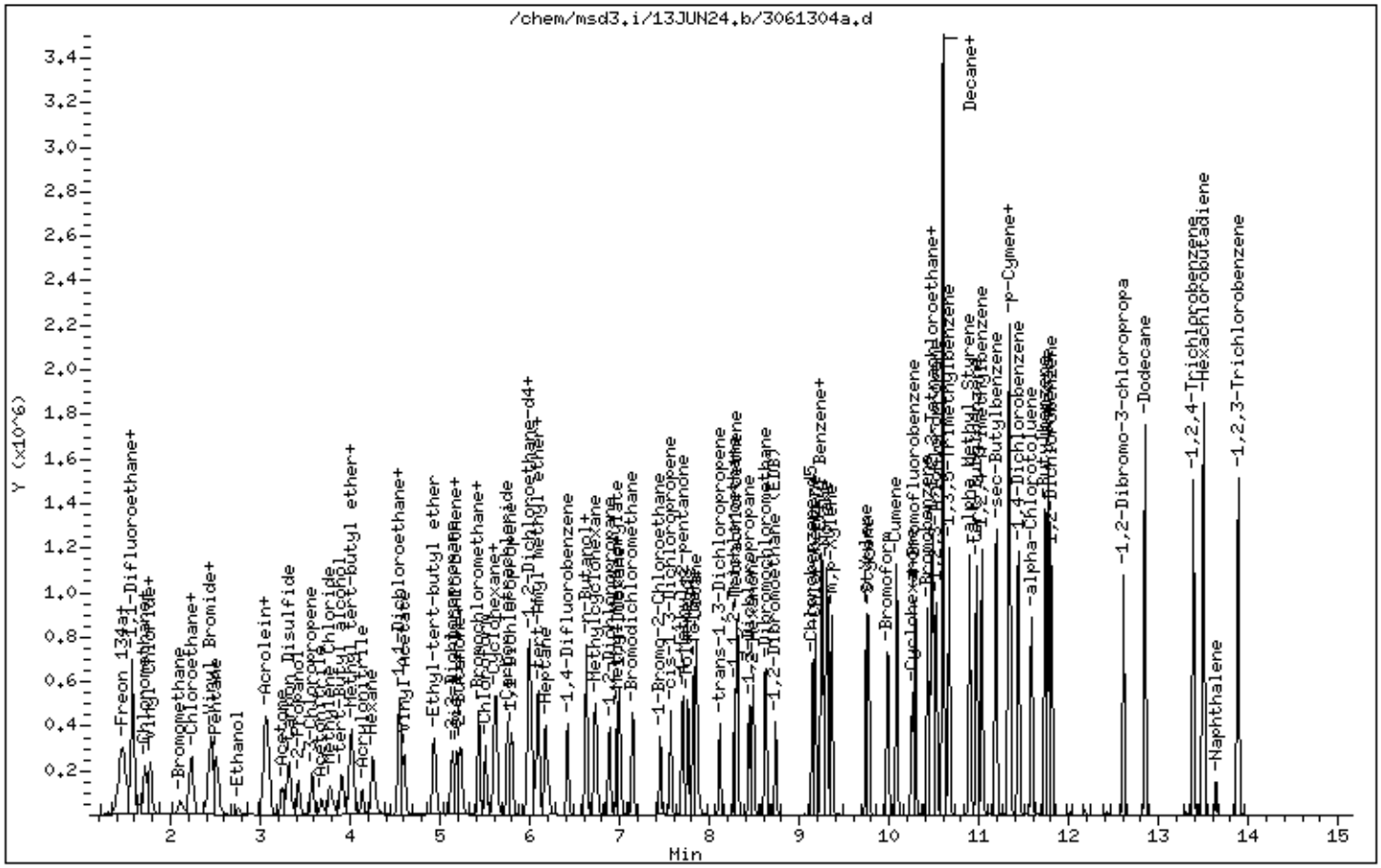
Instrument: msd3.i

Sample Info: 50mL 3018-4603

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



| | | | |
|---|---|---|---|
| **Client ID:** | LCSD | | |
| **Lab ID:** | 2406133-25AA | **Date/Time Analyzed:** | 6/13/24 12:44 PM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061305a |

| Compound | CAS# | %Recovery |
|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 102 |
| 1,4-Dichlorobenzene | 106-46-7 | 100 |
| Benzene | 71-43-2 | 91 |
| cis-1,2-Dichloroethene | 156-59-2 | 88 |
| Ethyl Benzene | 100-41-4 | 101 |
| m,p-Xylene | 108-38-3 | 98 |
| o-Xylene | 95-47-6 | 100 |
| Toluene | 108-88-3 | 90 |
| trans-1,2-Dichloroethene | 156-60-5 | 88 |
| Trichloroethene | 79-01-6 | 93 |
| Vinyl Chloride | 75-01-4 | 91 |

D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 100 |
| Toluene-d8 | 2037-26-5 | 91-110 | 96 |

* % Recovery is calculated using unrounded analytical results.

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/13JUN24.b/3061305a.d
Lab Smp Id: LCSD Client Smp ID: LCSD
Inj Date : 13-JUN-2024 12:44
Operator : RT Inst ID: msd3.i
Smp Info : 50mL 3018-4603
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/13JUN24.b/324q0423a.m
Meth Date : 13-Jun-2024 12:26 yrc5 Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 14 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23_cont111224.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | | CAS #: 74-97-5 | |
| 5.432 | 5.432 (1.000) | 130 | 94751 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 73930 | | | | 47.79- 107.79 | 78.03 |
| 5.432 | 5.432 (1.000) | 49 | 141498 | | | | 131.33- 191.33 | 149.34 |
| * 108 1,4-Difluorobenzene | | | | | | | CAS #: 540-36-3 | |
| 6.420 | 6.420 (1.000) | 114 | 345903 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 50226 | | | | 0.00- 45.65 | 14.52 |
| * 153 Chlorobenzene-d5 | | | | | | | CAS #: 3114-55-4 | |
| 9.149 | 9.149 (1.000) | 117 | 338443 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 169322 | | | | 22.92- 82.92 | 50.03 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | | CAS #: 17060-07-0 | |
| 6.019 | 6.019 (1.108) | 65 | 114006 | 23.1006 | 23.100 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 62279 | | | | 23.17- 83.17 | 54.63 |
| $ 134 Toluene-d8 | | | | | | | CAS #: 2037-26-5 | |
| 7.760 | 7.760 (1.209) | 98 | 323307 | 24.0431 | 24.043 | | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 33899 | | | | 0.00- 41.42 | 10.49 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 219920 | | | 37.54- 97.54 | 68.02 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 250435 | 24.8992 | 24.899 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 280022 | | | 88.49- 148.49 | 111.81 |
| 10.288 | 10.288 (1.124) | 176 | 247604 | | | 66.73- 126.73 | 98.87 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.395 | 1.409 (0.257) | 83 | 107746 | 49.1967 | 49.197 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 100901 | | | 64.17- 124.17 | 93.65 |
| 1.479 | 1.493 (0.272) | 51 | 406197 | | | 365.46- 425.46 | 376.99 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 110887 | 44.6822 | 44.682 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 73192 | | | 35.86- 95.86 | 66.01 |
| 1.423 | 1.437 (0.262) | 39 | 79455 | | | 41.66- 101.66 | 71.65 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.270) | 65 | 67662 | 47.2966 | 47.296 | 80.00- 120.00 | 100.00 |
| 1.479 | 1.493 (0.272) | 51 | 406197 | | | 568.10- 628.10 | 600.33 |
| 1.563 | 1.577 (0.288) | 47 | 14012 | | | 0.00- 50.57 | 20.71 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.270) | 85 | 266502 | 47.4936 | 47.494 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 86697 | | | 2.88- 62.88 | 32.53 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.507 (0.275) | 67 | 30936 | 44.0576 | 44.058 | 80.00- 120.00 | 100.00 |
| 1.479 | 1.493 (0.272) | 51 | 406197 | | | 1257.55-1317.55 | 1313.02 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 245603 | 49.7898 | 49.790 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 78253 | | | 2.10- 62.10 | 31.86 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.577 | 1.577 (0.290) | 43 | 232370 | 44.2826 | 44.283 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 42 | 75110 | | | 1.69- 61.69 | 32.32 |
| 1.577 | 1.577 (0.290) | 58 | 7355 | | | 0.00- 33.32 | 3.17 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.674 (0.308) | 50 | 129115 | 47.7239 | 47.724 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.674 (0.308) | 52 | 41087 | | | 1.38- 61.38 | 31.82 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.716 (0.316) | 58 | 24936 | 45.9706 | 45.971 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 18 Butane (continued) | | | | | | | |
| 1.716 | 1.716 (0.316) | 43 | 208485 | | | 866.38- 926.38 | 836.08 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.758 (0.324) | 62 | 118960 | 45.4444 | 45.444 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.758 (0.324) | 64 | 39866 | | | 3.10- 63.10 | 33.51 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.772 (0.326) | 54 | 105068 | 42.7263 | 42.726 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.772 (0.326) | 39 | 110164 | | | 78.74- 138.74 | 104.85 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 96450 | 51.5619 | 51.562 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 90718 | | | 64.19- 124.19 | 94.06 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.409) | 64 | 56718 | 45.1815 | 45.182 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.409) | 66 | 17880 | | | 2.32- 62.32 | 31.52 |
| 2.220 | 2.220 (0.409) | 49 | 20747 | | | 6.33- 66.33 | 36.58 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 165773 | 46.2756 | 46.276 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 103695 | | | 31.77- 91.77 | 62.55 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.402 (0.442) | 106 | 105831 | 48.6450 | 48.645 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.402 (0.442) | 108 | 99526 | | | 64.21- 124.21 | 94.04 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 307646 | 47.5904 | 47.590 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 201190 | | | 34.93- 94.93 | 65.40 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.458 (0.453) | 67 | 226849 | 44.0085 | 44.008 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 69 | 72613 | | | 1.95- 61.95 | 32.01 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 238094 | 43.6819 | 43.682 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 35729 | | | 0.00- 44.64 | 15.01 |
| 2.514 | 2.514 (0.463) | 72 | 19737 | | | 0.00- 37.90 | 8.29 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 20395 | 39.7661 | 39.766 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.507) | 45 | 52430 | | | 224.40- 284.40 | 257.07 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.053 | 3.054 (0.562) | 55 | 47957 | 43.4460 | 43.446 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 42 Acrolein (continued) | | | | | | | |
| 3.053 | 3.054 (0.562) | 56 | 70350 | | | 108.02- 168.02 | 146.69 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 273724 | 47.9126 | 47.912 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.054 (0.563) | 153 | 177564 | | | 35.07- 95.07 | 64.87 |
| 3.061 | 3.061 (0.563) | 101 | 302870 | | | 87.45- 147.45 | 110.65 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.089 (0.569) | 96 | 124060 | 51.0359 | 51.036 | 80.00- 120.00 | 100.00 |
| 3.089 | 3.089 (0.569) | 98 | 65078 | | | 33.27- 93.27 | 52.46 |
| 3.089 | 3.089 (0.569) | 61 | 216222 | | | 159.05- 219.05 | 174.29 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.240 | 3.247 (0.596) | 58 | 59513 | 43.0241 | 43.024 | 80.00- 120.00 | 100.00 |
| 3.240 | 3.240 (0.596) | 43 | 205044 | | | 329.45- 389.45 | 344.54 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.326 (0.612) | 76 | 287443 | 43.3661 | 43.366 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.631) | 45 | 239287 | 41.6086 | 41.608 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.631) | 43 | 45091 | | | 0.00- 48.18 | 18.84 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.584 | 3.584 (0.660) | 76 | 47968 | 42.9559 | 42.956 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.576 (0.658) | 41 | 173046 | | | 366.80- 426.80 | 360.75 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.677 (0.678) | 41 | 100091 | 39.4333 | 39.433 | 80.00- 120.00 | 100.00 |
| 3.684 | 3.677 (0.678) | 40 | 58245 | | | 22.74- 82.74 | 58.19 |
| 3.677 | 3.677 (0.677) | 38 | 13084 | | | 0.00- 42.52 | 13.07 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.777 (0.695) | 49 | 160444 | 42.2289 | 42.229 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.777 (0.695) | 84 | 91747 | | | 24.90- 84.90 | 57.18 |
| 3.784 | 3.777 (0.697) | 51 | 49376 | | | 0.00- 59.67 | 30.77 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.906 | 3.906 (0.719) | 59 | 261462 | 44.5651 | 44.565 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.906 (0.719) | 41 | 60439 | | | 0.00- 51.85 | 23.12 |
| 3.906 | 3.906 (0.719) | 57 | 27642 | | | 0.00- 40.17 | 10.57 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 3.999 | 3.999 (0.736) | 73 | 314038 | 45.2767 | 45.277 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.738) | 57 | 89982 | | | 0.00- 58.72 | 28.65 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 3.999 | 3.999 (0.736) | 41 | 90369 | | | 0.00- 59.38 | 28.78 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 71634 | 43.8804 | 43.880 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.021 (0.742) | 61 | 177245 | | | 232.13- 292.13 | 247.43 |
| 4.028 | 4.028 (0.742) | 96 | 110570 | | | 127.26- 187.26 | 154.35 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.135 (0.761) | 52 | 86046 | 40.7577 | 40.758 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.135 (0.761) | 53 | 101322 | | | 86.45- 146.45 | 117.75 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.250 (0.784) | 57 | 208893 | 41.0673 | 41.067 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.257 (0.784) | 43 | 145853 | | | 40.97- 100.97 | 69.82 |
| 4.250 | 4.257 (0.782) | 86 | 26986 | | | 0.00- 42.68 | 12.92 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.551 (0.838) | 63 | 203728 | 43.1853 | 43.185 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 65 | 62235 | | | 0.47- 60.47 | 30.55 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.551 | 4.551 (0.838) | 45 | 512232 | 45.2819 | 45.282 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 87 | 105627 | | | 0.00- 49.55 | 20.62 |
| 4.551 | 4.551 (0.838) | 59 | 54694 | | | 0.00- 40.42 | 10.68 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.601 | 4.608 (0.847) | 86 | 27028 | 65.0665 | 65.066 | 80.00- 120.00 | 100.00 |
| 4.601 | 4.601 (0.847) | 43 | 432256 | | | 1727.95-1787.95 | 1599.29 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.937 (0.909) | 59 | 439214 | 45.0239 | 45.024 | 80.00- 120.00 | 100.00 |
| 4.937 | 4.937 (0.909) | 87 | 152472 | | | 3.90- 63.90 | 34.71 |
| 4.937 | 4.937 (0.909) | 41 | 88469 | | | 0.00- 49.72 | 20.14 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.138 (0.946) | 77 | 203873 | 43.7782 | 43.778 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.138 (0.946) | 79 | 65506 | | | 2.39- 62.39 | 32.13 |
| 5.138 | 5.138 (0.946) | 97 | 49255 | | | 0.00- 53.57 | 24.16 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.181 | 5.181 (0.954) | 98 | 74703 | 44.1909 | 44.191 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 116242 | | | 125.53- 185.53 | 155.61 |
| 5.181 | 5.181 (0.954) | 61 | 179349 | | | 219.86- 279.86 | 240.08 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.210 (0.960) | 72 | 52093 | 42.7718 | 42.772 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 86 2-Butanone (continued) | | | | | | | |
| 5.231 | 5.231 (0.963) | 43 | 609452 | | | 1138.34-1198.34 | 1169.93 |
| 5.217 | 5.210 (0.960) | 57 | 21590 | | | 10.83- 70.83 | 41.45 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.238 | 5.238 (0.964) | 45 | 49509 | 40.6456 | 40.646 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 61 | 179349 | | | 338.96- 398.96 | 362.26 |
| 5.238 | 5.238 (0.964) | 70 | 25982 | | | 24.53- 84.53 | 52.48 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.424 | 5.424 (0.999) | 42 | 150541 | 40.4265 | 40.426 | 80.00- 120.00 | 100.00 |
| 5.424 | 5.424 (0.999) | 71 | 41819 | | | 0.00- 58.54 | 27.78 |
| 5.424 | 5.424 (0.999) | 72 | 45006 | | | 0.00- 59.59 | 29.90 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.510 | 5.510 (1.014) | 83 | 223239 | 44.0688 | 44.069 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.510 (1.014) | 85 | 145094 | | | 35.77- 95.77 | 64.99 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.604 | 5.604 (1.032) | 84 | 154172 | 45.4933 | 45.493 | 80.00- 120.00 | 100.00 |
| 5.604 | 5.604 (1.032) | 56 | 231603 | | | 125.79- 185.79 | 150.22 |
| 5.604 | 5.604 (1.032) | 41 | 132311 | | | 61.55- 121.55 | 85.82 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.632 | 5.632 (1.037) | 97 | 253590 | 45.8995 | 45.899 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.632 (1.037) | 99 | 163697 | | | 32.84- 92.84 | 64.55 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.754 (1.059) | 119 | 280804 | 47.9414 | 47.941 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.754 (1.059) | 117 | 291535 | | | 75.19- 135.19 | 103.82 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.797 (0.903) | 110 | 64505 | 46.2953 | 46.295 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.797 (0.903) | 75 | 162702 | | | 234.16- 294.16 | 252.23 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.990 | 5.990 (1.103) | 57 | 714271 | 44.9436 | 44.944 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (1.103) | 56 | 236686 | | | 3.09- 63.09 | 33.14 |
| 5.990 | 5.990 (1.103) | 41 | 186032 | | | 0.00- 57.28 | 26.05 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 315751 | 45.3383 | 45.338 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 75033 | | | 0.00- 53.69 | 23.76 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.083 | 6.083 (0.948) | 87 | 87062 | 46.5182 | 46.518 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.083 | 6.083 (0.948) | 73 | 339291 | | | 365.76- 425.76 | 389.71 |
| 6.083 | 6.083 (0.948) | 55 | 109273 | | | 92.58- 152.58 | 125.51 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.098 (0.950) | 62 | 163709 | 45.0632 | 45.063 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.098 (0.950) | 64 | 50793 | | | 1.80- 61.80 | 31.03 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.177 | 6.177 (0.962) | 71 | 122157 | 44.2796 | 44.280 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.177 (0.962) | 43 | 283854 | | | 207.73- 267.73 | 232.37 |
| 6.177 | 6.177 (0.962) | 57 | 142035 | | | 84.83- 144.83 | 116.27 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.032) | 56 | 112972 | 71.3463 | 71.346 | 80.00- 120.00 | 100.00(R) |
| 6.628 | 6.628 (1.032) | 41 | 84009 | | | 47.73- 107.73 | 74.36 |
| 6.628 | 6.628 (1.032) | 43 | 65841 | | | 31.60- 91.60 | 58.28 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 156621 | 46.6424 | 46.642 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 177747 | | | 80.23- 140.23 | 113.49 |
| 6.628 | 6.628 (1.032) | 97 | 101497 | | | 34.78- 94.78 | 64.80 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.886 (1.073) | 63 | 141307 | 43.1192 | 43.119 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.886 (1.073) | 62 | 100344 | | | 40.39- 100.39 | 71.01 |
| 6.886 | 6.886 (1.073) | 41 | 82970 | | | 31.86- 91.86 | 58.72 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.972 | 6.972 (0.762) | 69 | 123989 | 44.9767 | 44.977 | 80.00- 120.00 | 100.00 |
| 6.972 | 6.972 (0.762) | 41 | 204324 | | | 145.81- 205.81 | 164.79 |
| 6.972 | 6.972 (0.762) | 100 | 51159 | | | 10.05- 70.05 | 41.26 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.986 (1.089) | 88 | 82820 | 47.2737 | 47.274 | 80.00- 120.00 | 100.00 |
| 6.986 | 6.986 (1.088) | 58 | 68541 | | | 56.33- 116.33 | 82.76 |
| 6.986 | 6.986 (1.088) | 57 | 24925 | | | 2.08- 62.08 | 30.10 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.008 (0.766) | 174 | 163806 | 51.2957 | 51.296 | 80.00- 120.00 | 100.00 |
| 7.000 | 7.000 (0.765) | 93 | 142042 | | | 62.68- 122.68 | 86.71 |
| 7.000 | 7.000 (0.765) | 95 | 119652 | | | 47.70- 107.70 | 73.04 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.144 | 7.144 (1.113) | 83 | 252014 | 46.3637 | 46.364 | 80.00- 120.00 | 100.00 |
| 7.144 | 7.144 (1.113) | 85 | 162370 | | | 34.96- 94.96 | 64.43 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.566 | 7.566 (1.179) | 75 | 209216 | 45.1309 | 45.131 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.566 (1.179) | 77 | 66977 | | | 1.26- 61.26 | 32.01 |
| 7.566 | 7.566 (1.179) | 39 | 128433 | | | 35.06- 95.06 | 61.39 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.728 | 6.728 (1.048) | 83 | 212057 | 44.4578 | 44.458 | 80.00- 120.00 | 100.00 |
| 6.728 | 6.728 (1.048) | 98 | 97951 | | | 14.83- 74.83 | 46.19 |
| 6.728 | 6.728 (1.048) | 55 | 209629 | | | 71.50- 131.50 | 98.86 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.702 | 7.702 (1.200) | 58 | 131474 | 41.2301 | 41.230 | 80.00- 120.00 | 100.00 |
| 7.702 | 7.702 (1.200) | 43 | 379709 | | | 259.88- 319.88 | 288.81 |
| 7.702 | 7.702 (1.200) | 85 | 49498 | | | 7.58- 67.58 | 37.65 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 434240 | 45.0416 | 45.042 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 254780 | | | 27.89- 87.89 | 58.67 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.853 | 7.853 (1.223) | 57 | 149724 | 42.6275 | 42.627 | 80.00- 120.00 | 100.00 |
| 7.853 | 7.853 (1.223) | 85 | 144800 | | | 63.53- 123.53 | 96.71 |
| 7.853 | 7.853 (1.223) | 43 | 404776 | | | 246.00- 306.00 | 270.35 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.111 | 8.111 (0.886) | 75 | 174208 | 46.5827 | 46.583 | 80.00- 120.00 | 100.00 |
| 8.111 | 8.111 (0.886) | 77 | 56442 | | | 1.83- 61.83 | 32.40 |
| 8.111 | 8.111 (0.886) | 39 | 98660 | | | 31.97- 91.97 | 56.63 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.283 | 8.283 (0.905) | 97 | 151474 | 47.8342 | 47.834 | 80.00- 120.00 | 100.00 |
| 8.283 | 8.283 (0.905) | 99 | 93209 | | | 32.52- 92.52 | 61.53 |
| 8.283 | 8.283 (0.905) | 83 | 131463 | | | 58.90- 118.90 | 86.79 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.311 (0.908) | 166 | 249394 | 52.4508 | 52.451 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.311 (0.908) | 129 | 183345 | | | 45.32- 105.32 | 73.52 |
| 8.311 | 8.311 (0.908) | 131 | 180003 | | | 44.17- 104.17 | 72.18 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.483 | 8.483 (0.927) | 58 | 183117 | 46.0935 | 46.093 | 80.00- 120.00 | 100.00 |
| 8.483 | 8.483 (0.927) | 43 | 378987 | | | 177.32- 237.32 | 206.96 |
| 8.490 | 8.490 (0.928) | 100 | 33138 | | | 0.00- 47.18 | 18.10 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.440 | 8.440 (1.315) | 76 | 203400 | 45.0021 | 45.002 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane (continued) | | | | | | | |
| 8.440 | 8.440 (1.315) | 41 | 168857 | | | 59.72- 119.72 | 83.02 |
| 8.440 | 8.440 (1.315) | 78 | 67557 | | | 3.08- 63.08 | 33.21 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 324160 | 51.7962 | 51.796 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 252132 | | | 47.27- 107.27 | 77.78 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 256568 | 49.4355 | 49.436 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 239996 | | | 64.18- 124.18 | 93.54 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.452 (1.161) | 63 | 265730 | 45.9577 | 45.958 | 80.00- 120.00 | 100.00 |
| 7.452 | 7.452 (1.161) | 65 | 80755 | | | 0.43- 60.43 | 30.39 |
| 7.452 | 7.452 (1.161) | 144 | 31153 | | | 0.00- 40.48 | 11.72 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.003) | 112 | 390041 | 49.7408 | 49.741 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.003) | 114 | 124789 | | | 1.91- 61.91 | 31.99 |
| 9.178 | 9.171 (1.003) | 77 | 196007 | | | 22.97- 82.97 | 50.25 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 198477 | 50.3207 | 50.321 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 604342 | | | 281.09- 341.09 | 304.49 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.307 | 9.307 (1.017) | 43 | 432624 | 47.2256 | 47.226 | 80.00- 120.00 | 100.00 |
| 9.307 | 9.307 (1.017) | 57 | 351927 | | | 50.62- 110.62 | 81.35 |
| 9.307 | 9.307 (1.017) | 85 | 113859 | | | 0.00- 55.65 | 26.32 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.264 | 9.264 (1.013) | 131 | 235858 | 52.7975 | 52.797 | 80.00- 120.00 | 100.00 |
| 9.264 | 9.264 (1.013) | 117 | 156200 | | | 37.10- 97.10 | 66.23 |
| 9.264 | 9.264 (1.013) | 95 | 78266 | | | 4.93- 64.93 | 33.18 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 241059 | 49.0340 | 49.034 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 473965 | | | 170.33- 230.33 | 196.62 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 233580 | 50.1043 | 50.104 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 478432 | | | 181.23- 241.23 | 204.83 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.772 | 9.772 (1.068) | 104 | 385379 | 48.4053 | 48.405 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.772 | 9.772 (1.068) | 78 | 179050 | | | 17.26- 77.26 | 46.46 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.092) | 173 | 339941 | 53.7467 | 53.747 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.092) | 171 | 174931 | | | 21.45- 81.45 | 51.46 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.088 | 10.088 (1.103) | 105 | 707301 | 50.1896 | 50.190 | 80.00- 120.00 | 100.00 |
| 10.088 | 10.088 (1.103) | 120 | 191674 | | | 0.00- 56.93 | 27.10 |
| 10.088 | 10.088 (1.103) | 51 | 81120 | | | 0.00- 42.24 | 11.47 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.259 | 10.252 (1.121) | 55 | 229784 | 41.2134 | 41.213 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.260 (1.121) | 98 | 83987 | | | 5.15- 65.15 | 36.55 |
| 10.259 | 10.252 (1.121) | 42 | 160936 | | | 41.99- 101.99 | 70.04 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.144) | 83 | 357103 | 48.8552 | 48.855 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.467 (1.144) | 85 | 228748 | | | 34.97- 94.97 | 64.06 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.424 | 10.424 (1.139) | 156 | 250540 | 51.0274 | 51.027 | 80.00- 120.00 | 100.00 |
| 10.424 | 10.424 (1.139) | 158 | 244420 | | | 67.47- 127.47 | 97.56 |
| 10.424 | 10.424 (1.139) | 77 | 321489 | | | 108.68- 168.68 | 128.32 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.489 | 10.489 (1.146) | 120 | 209668 | 50.3149 | 50.315 | 80.00- 120.00 | 100.00 |
| 10.489 | 10.489 (1.146) | 91 | 849774 | | | 383.60- 443.60 | 405.30 |
| 10.489 | 10.489 (1.146) | 105 | 32042 | | | 0.00- 46.14 | 15.28 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.517 (1.150) | 110 | 108129 | 48.7423 | 48.742 | 80.00- 120.00 | 100.00 |
| 10.517 | 10.517 (1.150) | 75 | 370111 | | | 324.28- 384.28 | 342.29 |
| 10.517 | 10.517 (1.150) | 61 | 88798 | | | 57.24- 117.24 | 82.12 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.603 (1.159) | 57 | 458336 | 42.4976 | 42.498 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 71 | 144007 | | | 1.11- 61.11 | 31.42 |
| 10.603 | 10.603 (1.159) | 142 | 21807 | | | 0.00- 34.44 | 4.76 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.603 (1.159) | 120 | 222797 | 49.0530 | 49.053 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 105 | 729442 | | | 298.94- 358.94 | 327.40 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.603 (1.159) | 126 | 194617 | 50.6431 | 50.643 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.603 | 10.603 (1.159) | 91 | 582439 | | | 282.78- 342.78 | 299.27 |
| 10.603 | 10.603 (1.159) | 65 | 84460 | | | 17.33- 77.33 | 43.40 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.668 | 10.668 (1.166) | 120 | 307090 | 50.1350 | 50.135 | 80.00- 120.00 | 100.00 |
| 10.668 | 10.668 (1.166) | 105 | 614728 | | | 172.08- 232.08 | 200.18 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.897 | 10.897 (1.191) | 118 | 325726 | 50.2010 | 50.201 | 80.00- 120.00 | 100.00 |
| 10.897 | 10.897 (1.191) | 103 | 178976 | | | 25.64- 85.64 | 54.95 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.976 (1.200) | 119 | 585902 | 50.3126 | 50.312 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.976 (1.200) | 134 | 148215 | | | 0.00- 55.10 | 25.30 |
| 10.969 | 10.976 (1.199) | 91 | 366404 | | | 34.53- 94.53 | 62.54 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.033 | 11.033 (1.206) | 105 | 618692 | 49.4023 | 49.402 | 80.00- 120.00 | 100.00 |
| 11.033 | 11.033 (1.206) | 120 | 292491 | | | 16.63- 76.63 | 47.28 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.191 | 11.191 (1.223) | 134 | 194091 | 50.9174 | 50.917 | 80.00- 120.00 | 100.00 |
| 11.191 | 11.191 (1.223) | 105 | 887473 | | | 436.99- 496.99 | 457.25 |
| 11.191 | 11.191 (1.223) | 91 | 134098 | | | 41.69- 101.69 | 69.09 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.334 | 11.334 (1.239) | 119 | 797366 | 51.1495 | 51.149 | 80.00- 120.00 | 100.00 |
| 11.334 | 11.334 (1.239) | 134 | 222085 | | | 0.00- 57.62 | 27.85 |
| 11.334 | 11.334 (1.239) | 91 | 176902 | | | 0.00- 53.03 | 22.19 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.341 | 11.341 (1.240) | 146 | 466791 | 50.2996 | 50.300 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 148 | 293176 | | | 34.18- 94.18 | 62.81 |
| 11.341 | 11.341 (1.240) | 111 | 179053 | | | 10.06- 70.06 | 38.36 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.441 (1.251) | 146 | 470651 | 50.0680 | 50.068 | 80.00- 120.00 | 100.00 |
| 11.441 | 11.441 (1.251) | 148 | 297664 | | | 33.55- 93.55 | 63.25 |
| 11.441 | 11.441 (1.251) | 111 | 172958 | | | 7.98- 67.98 | 36.75 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.585 | 11.585 (1.266) | 91 | 566248 | 47.5687 | 47.569 | 80.00- 120.00 | 100.00 |
| 11.585 | 11.585 (1.266) | 126 | 131984 | | | 0.00- 52.77 | 23.31 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.778 | 11.778 (1.287) | 57 | 535858 | 41.7871 | 41.787 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane (continued) | | | | | | | |
| 11.778 | 11.778 (1.287) | 43 | 493828 | | | 63.59- 123.59 | 92.16 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.742 (1.283) | 134 | 217801 | 50.6951 | 50.695 | 80.00- 120.00 | 100.00 |
| 11.735 | 11.735 (1.283) | 91 | 728599 | | | 310.82- 370.82 | 334.53 |
| 11.735 | 11.735 (1.283) | 92 | 384956 | | | 151.53- 211.53 | 176.75 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.814 (1.291) | 146 | 448924 | 49.8451 | 49.845 | 80.00- 120.00 | 100.00 |
| 11.814 | 11.814 (1.291) | 148 | 285443 | | | 33.00- 93.00 | 63.58 |
| 11.814 | 11.814 (1.291) | 111 | 179979 | | | 10.87- 70.87 | 40.09 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.609 | 12.609 (1.378) | 157 | 284690 | 53.4433 | 53.443 | 80.00- 120.00 | 100.00 |
| 12.609 | 12.609 (1.378) | 75 | 206894 | | | 48.09- 108.09 | 72.67 |
| 12.609 | 12.609 (1.378) | 155 | 218023 | | | 47.89- 107.89 | 76.58 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.853 | 12.853 (1.405) | 57 | 611362 | 47.3292 | 47.329 | 80.00- 120.00 | 100.00 |
| 12.853 | 12.853 (1.405) | 43 | 531708 | | | 58.52- 118.52 | 86.97 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.390 | 13.390 (1.463) | 180 | 473999 | 53.1068 | 53.107 | 80.00- 120.00 | 100.00 |
| 13.390 | 13.390 (1.463) | 182 | 452738 | | | 64.84- 124.84 | 95.51 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.504 | 13.504 (1.476) | 225 | 348550 | 53.5359 | 53.536 | 80.00- 120.00 | 100.00 |
| 13.504 | 13.504 (1.476) | 223 | 220670 | | | 32.80- 92.80 | 63.31 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.640 | 13.640 (1.491) | 128 | 112811 | 6.05579 | 6.056 | 80.00- 120.00 | 100.00 |
| 13.640 | 13.640 (1.491) | 127 | 14350 | | | 0.00- 42.72 | 12.72 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.884 | 13.891 (1.518) | 180 | 462958 | 52.9336 | 52.934 | 80.00- 120.00 | 100.00 |
| 13.884 | 13.884 (1.518) | 182 | 441320 | | | 65.07- 125.07 | 95.33 |
| 13.884 | 13.884 (1.518) | 145 | 154228 | | | 4.48- 64.48 | 33.31 |

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061305a.d
Lab Smp Id: LCSD
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 13-JUN-2024
Calibration Time: 11:42
Client Smp ID: LCSD
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 94691 | 56815 | 132567 | 94751 | 0.06 |
| 108 1,4-Difluorobenze | 348240 | 208944 | 487536 | 345903 | -0.67 |
| 153 Chlorobenzene-d5 | 341662 | 204997 | 478327 | 338443 | -0.94 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 13-Jun-2024 13:17

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 13JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: LCSD Client Smp ID: LCSD
Level: LOW Operator: RT
Data Type: MS DATA SampleType: LCSD
SpikeList File: CntrlDODAT23.spk Quant Type: ISTD
Sublist File: AT23_cont111224.sub
Method File: /chem/msd3.i/13JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 4 Freon 134a | 50.000 | 49.197 | 98.39 | 70-130 |
| 5 Propylene | 50.000 | 44.682 | 89.36 | 57-136 |
| 7 1,1-Difluoroethan | 50.000 | 47.296 | 94.59 | 70-130 |
| 8 Freon 12 | 50.000 | 47.494 | 94.99 | 59-128 |
| 9 Chlorodifluoromet | 50.000 | 44.058 | 88.12 | 59-145 |
| 10 Freon 114 | 50.000 | 49.790 | 99.58 | 63-121 |
| 12 Isobutane | 50.000 | 44.283 | 88.57 | 70-130 |
| 15 Chloromethane | 50.000 | 47.724 | 95.45 | 59-132 |
| 18 Butane | 50.000 | 45.971 | 91.94 | 64-129 |
| 19 Vinyl Chloride | 50.000 | 45.444 | 90.89 | 64-127 |
| 20 1,3-Butadiene | 50.000 | 42.726 | 85.45 | 66-134 |
| 24 Bromomethane | 50.000 | 51.562 | 103.12 | 63-134 |
| 30 Chloroethane | 50.000 | 45.182 | 90.36 | 63-127 |
| 31 Isopentane | 50.000 | 46.276 | 92.55 | 59-140 |
| 32 Vinyl Bromide | 50.000 | 48.645 | 97.29 | 71-126 |
| 33 Freon 11 | 50.000 | 47.590 | 95.18 | 62-126 |
| 34 Dichlorofluoromet | 50.000 | 44.008 | 88.02 | 70-130 |
| 35 Pentane | 50.000 | 43.682 | 87.36 | 63-131 |
| 39 Ethanol | 50.000 | 39.766 | 79.53 | 59-125 |
| 42 Acrolein | 57.000 | 43.446 | 76.22 | 62-126 |
| 43 Freon 113 | 50.000 | 47.912 | 95.83 | 66-126 |
| 44 1,1-Dichloroethen | 50.000 | 51.036 | 102.07 | 61-133 |
| 47 Acetone | 50.000 | 43.024 | 86.05 | 58-128 |
| 48 Carbon Disulfide | 50.000 | 43.366 | 86.73 | 57-134 |
| 52 2-Propanol | 50.000 | 41.608 | 83.22 | 52-125 |
| 54 3-Chloropropene | 50.000 | 42.956 | 85.91 | 71-131 |
| 57 Acetonitrile | 50.000 | 39.433 | 78.87 | 63-132 |
| 59 Methylene Chlorid | 50.000 | 42.229 | 84.46 | 62-115 |
| 62 tert-Butyl alcoho | 50.000 | 44.565 | 89.13 | 24-150 |
| 63 Methyl tert-butyl | 50.000 | 45.277 | 90.55 | 66-126 |
| 64 trans-1,2-Dichlor | 50.000 | 43.880 | 87.76 | 67-124 |
| 66 Acrylonitrile | 50.000 | 40.758 | 81.52 | 71-137 |
| 67 Hexane | 50.000 | 41.067 | 82.13 | 63-120 |

| | SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| 71 | 1,1-Dichloroethan | 50.000 | 43.185 | 86.37 | 68-126 |
| 72 | Isopropyl ether | 50.000 | 45.282 | 90.56 | 70-117 |
| 73 | Vinyl Acetate | 50.000 | 65.066 | 130.13 | 56-139 |
| 79 | Ethyl-tert-butyl | 50.000 | 45.024 | 90.05 | 70-130 |
| 84 | 2,2-Dichloropropa | 50.000 | 43.778 | 87.56 | 70-130 |
| 85 | cis-1,2-Dichloroe | 50.000 | 44.191 | 88.38 | 70-121 |
| 86 | 2-Butanone | 50.000 | 42.772 | 85.54 | 67-130 |
| 87 | Ethyl Acetate | 50.000 | 40.646 | 81.29 | 65-128 |
| 89 | Tetrahydrofuran | 50.000 | 40.426 | 80.85 | 64-123 |
| 92 | Chloroform | 50.000 | 44.069 | 88.14 | 68-123 |
| 96 | 1,1,1-Trichloroet | 50.000 | 45.899 | 91.80 | 68-125 |
| 97 | Carbon Tetrachlor | 50.000 | 47.941 | 95.88 | 68-132 |
| 94 | Cyclohexane | 50.000 | 45.493 | 90.99 | 70-117 |
| 99 | 1,1-Dichloroprope | 50.000 | 46.295 | 92.59 | 70-130 |
| 101 | 2,2,4-Trimethylpe | 50.000 | 44.944 | 89.89 | 68-121 |
| 102 | Benzene | 50.000 | 45.338 | 90.68 | 69-119 |
| 106 | 1,2-Dichloroethan | 50.000 | 45.063 | 90.13 | 65-128 |
| 107 | Heptane | 50.000 | 44.280 | 88.56 | 69-123 |
| 110 | n-Butanol | 50.000 | 71.346 | 142.69* | 62-133 |
| 111 | Trichloroethene | 50.000 | 46.642 | 93.28 | 71-123 |
| 127 | Methylcyclohexane | 50.000 | 44.458 | 88.92 | 67-127 |
| 114 | 1,2-Dichloropropa | 50.000 | 43.119 | 86.24 | 69-123 |
| 116 | Methyl Methacryla | 50.000 | 44.977 | 89.95 | 70-128 |
| 117 | 1,4-Dioxane | 50.000 | 47.274 | 94.55 | 71-122 |
| 118 | Dibromomethane | 50.000 | 51.296 | 102.59 | 70-130 |
| 122 | Bromodichlorometh | 50.000 | 46.364 | 92.73 | 72-128 |
| 126 | cis-1,3-Dichlorop | 50.000 | 45.131 | 90.26 | 70-128 |
| 131 | 4-Methyl-2-pentan | 50.000 | 41.230 | 82.46 | 67-130 |
| 136 | Octane | 50.000 | 42.627 | 85.25 | 69-121 |
| 137 | Toluene | 50.000 | 45.042 | 90.08 | 66-119 |
| 139 | trans-1,3-Dichlor | 50.000 | 46.583 | 93.17 | 75-133 |
| 141 | 1,1,2-Trichloroet | 50.000 | 47.834 | 95.67 | 73-119 |
| 142 | Tetrachloroethene | 50.000 | 52.451 | 104.90 | 66-124 |
| 143 | 2-Hexanone | 50.000 | 46.093 | 92.19 | 62-128 |
| 144 | 1,3-Dichloropropa | 50.000 | 45.002 | 90.00 | 62-148 |
| 146 | Dibromochlorometh | 50.000 | 51.796 | 103.59 | 70-130 |
| 148 | 1,2-Dibromoethane | 50.000 | 49.436 | 98.87 | 74-122 |
| 151 | 1-Bromo-2-Chloroe | 50.000 | 45.958 | 91.92 | 70-130 |
| 154 | Chlorobenzene | 50.000 | 49.741 | 99.48 | 70-119 |
| 155 | Ethyl Benzene | 50.000 | 50.321 | 100.64 | 70-124 |
| 156 | Nonane | 50.000 | 47.226 | 94.45 | 63-128 |
| 157 | 1,1,1,2-Tetrachlo | 50.000 | 52.797 | 105.59 | 70-130 |
| 158 | m,p-Xylene | 50.000 | 49.034 | 98.07 | 61-134 |
| 164 | o-Xylene | 50.000 | 50.104 | 100.21 | 67-125 |
| 165 | Styrene | 50.000 | 48.405 | 96.81 | 73-127 |
| 167 | Bromoform | 50.000 | 53.747 | 107.49 | 66-139 |
| 168 | Cumene | 50.000 | 50.190 | 100.38 | 68-124 |

| | SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| 175 | 1,1,2,2-Tetrachlo | 50.000 | 48.855 | 97.71 | 65-127 |
| 177 | Bromobenzene | 50.000 | 51.027 | 102.05 | 70-130 |
| 178 | Propylbenzene | 50.000 | 50.315 | 100.63 | 69-123 |
| 179 | 1,2,3-Trichloropr | 50.000 | 48.742 | 97.48 | 76-124 |
| 182 | Decane | 50.000 | 42.498 | 85.00 | 70-118 |
| 183 | 4-Ethyltoluene | 50.000 | 49.053 | 98.11 | 67-129 |
| 184 | 2-Chlorotoluene | 50.000 | 50.643 | 101.29 | 74-130 |
| 185 | 1,3,5-Trimethylbe | 50.000 | 50.135 | 100.27 | 67-130 |
| 188 | alpha Methyl Styr | 50.000 | 50.201 | 100.40 | 67-128 |
| 189 | tert-Butylbenzene | 50.000 | 50.312 | 100.63 | 65-124 |
| 190 | 1,2,4-Trimethylbe | 50.000 | 49.402 | 98.80 | 66-132 |
| 192 | sec-Butylbenzene | 50.000 | 50.917 | 101.83 | 68-125 |
| 194 | p-Cymene | 50.000 | 51.149 | 102.30 | 67-130 |
| 195 | 1,3-Dichlorobenze | 50.000 | 50.300 | 100.60 | 65-130 |
| 196 | 1,4-Dichlorobenze | 50.000 | 50.068 | 100.14 | 60-131 |
| 199 | alpha-Chlorotolue | 50.000 | 47.569 | 95.14 | 50-147 |
| 201 | Undecane | 50.000 | 41.787 | 83.57 | 69-123 |
| 202 | Butylbenzene | 50.000 | 50.695 | 101.39 | 66-130 |
| 204 | 1,2-Dichlorobenze | 50.000 | 49.845 | 99.69 | 63-129 |
| 206 | 1,2-Dibromo-3-chl | 50.000 | 53.443 | 106.89 | 70-130 |
| 207 | Dodecane | 50.000 | 47.329 | 94.66 | 62-147 |
| 213 | 1,2,4-Trichlorobe | 50.000 | 53.107 | 106.21 | 55-142 |
| 215 | Hexachlorobutadie | 50.000 | 53.536 | 107.07 | 56-138 |
| 216 | Naphthalene | 5.700 | 6.056 | 106.24 | 57-138 |
| 222 | 1,2,3-Trichlorobe | 50.000 | 52.934 | 105.87 | 55-142 |

| | SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| $ 104 | 1,2-Dichloroethan | 25.000 | 23.100 | 92.40 | 68-132 |
| $ 134 | Toluene-d8 | 25.000 | 24.043 | 96.17 | 91-110 |
| $ 170 | 4-Bromofluorobenz | 25.000 | 24.899 | 99.60 | 77-125 |

Data File: /chem/msd3.i/13JUN24.b/3061305a.d

Page 1

Date : 13-JUN-2024 12:44

Client ID: LCSD

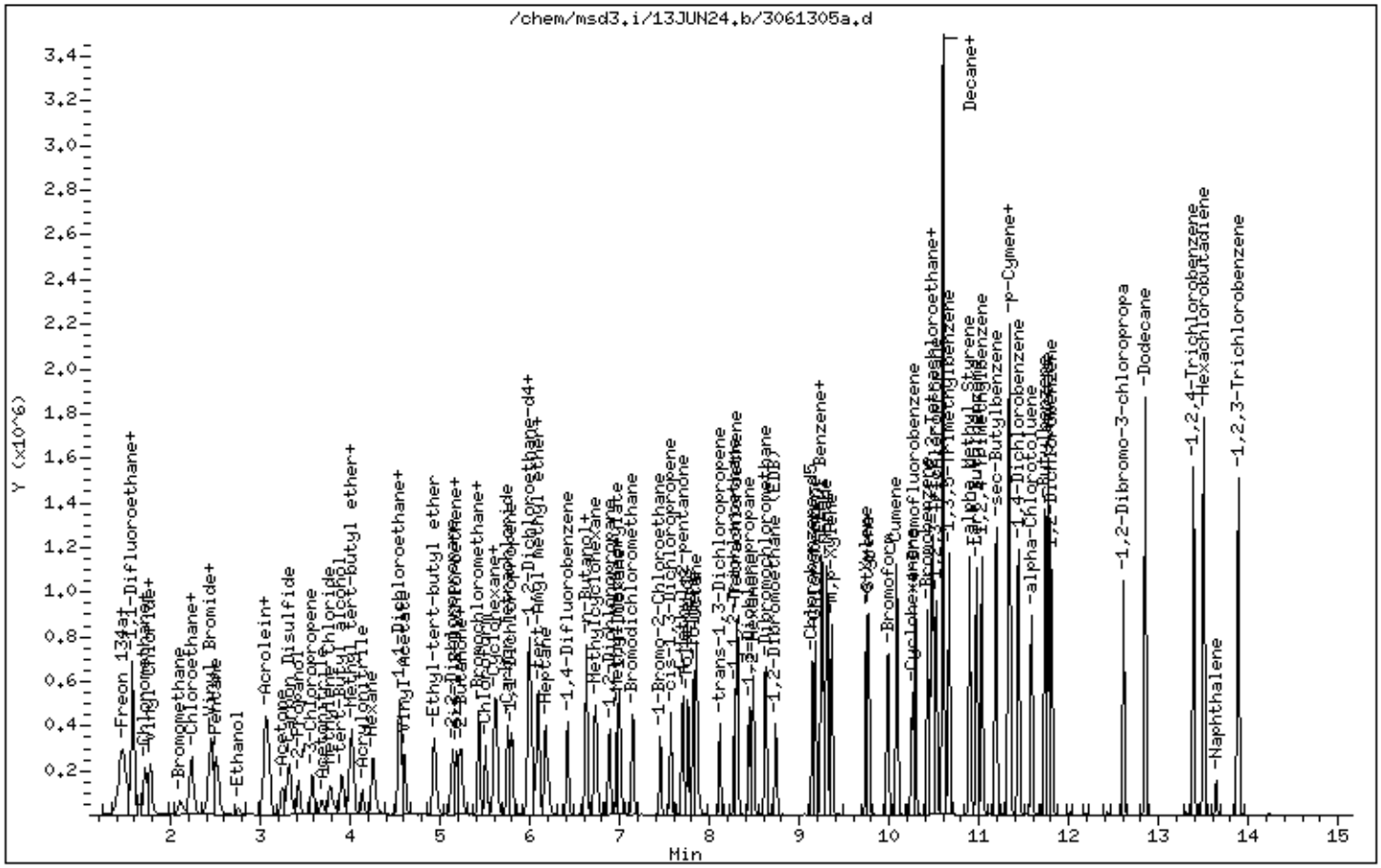
Instrument: msd3.i

Sample Info: 50mL 3018-4603

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



| | | | |
|---|---|---|---|
| **Client ID:** | LCS | | |
| **Lab ID:** | 2406133-25B | **Date/Time Analyzed:** | 6/14/24 12:33 PM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061404a |

| Compound | CAS# | %Recovery |
|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 101 |
| 1,4-Dichlorobenzene | 106-46-7 | 100 |
| Benzene | 71-43-2 | 93 |
| cis-1,2-Dichloroethene | 156-59-2 | 90 |
| Ethyl Benzene | 100-41-4 | 100 |
| m,p-Xylene | 108-38-3 | 99 |
| o-Xylene | 95-47-6 | 100 |
| Toluene | 108-88-3 | 92 |
| trans-1,2-Dichloroethene | 156-60-5 | 89 |
| Trichloroethene | 79-01-6 | 96 |
| Vinyl Chloride | 75-01-4 | 93 |

D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 100 |
| Toluene-d8 | 2037-26-5 | 91-110 | 97 |

* % Recovery is calculated using unrounded analytical results.

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061404a.d
Lab Smp Id: LCS Client Smp ID: LCS
Inj Date : 14-JUN-2024 12:33
Operator : RT Inst ID: msd3.i
Smp Info : 50mL 3018-4603
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 14-Jun-2024 12:32 yrc5 Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 14 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23_cont111224.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | | CAS #: 74-97-5 | |
| 5.432 | 5.432 (1.000) | 130 | 98163 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 76519 | | | | 47.79- 107.79 | 77.95 |
| 5.432 | 5.432 (1.000) | 49 | 143897 | | | | 131.33- 191.33 | 146.59 |
| * 108 1,4-Difluorobenzene | | | | | | | CAS #: 540-36-3 | |
| 6.420 | 6.420 (1.000) | 114 | 353455 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 51438 | | | | 0.00- 45.65 | 14.55 |
| * 153 Chlorobenzene-d5 | | | | | | | CAS #: 3114-55-4 | |
| 9.149 | 9.149 (1.000) | 117 | 348308 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 174545 | | | | 22.92- 82.92 | 50.11 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | | CAS #: 17060-07-0 | |
| 6.019 | 6.019 (1.108) | 65 | 115014 | 22.4948 | 22.495 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 64862 | | | | 23.17- 83.17 | 56.39 |
| $ 134 Toluene-d8 | | | | | | | CAS #: 2037-26-5 | |
| 7.760 | 7.760 (1.209) | 98 | 332007 | 24.1626 | 24.162 | | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 35724 | | | | 0.00- 41.42 | 10.76 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 224051 | | | 37.54- 97.54 | 67.48 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 260008 | 25.1188 | 25.119 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 289356 | | | 88.49- 148.49 | 111.29 |
| 10.288 | 10.288 (1.124) | 176 | 252843 | | | 66.73- 126.73 | 97.24 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 111377 | 49.0870 | 49.087 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 104564 | | | 64.17- 124.17 | 93.88 |
| 1.479 | 1.492 (0.272) | 51 | 418212 | | | 365.46- 425.46 | 375.49 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 112842 | 43.8895 | 43.889 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 76185 | | | 35.86- 95.86 | 67.51 |
| 1.437 | 1.437 (0.264) | 39 | 82126 | | | 41.66- 101.66 | 72.78 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.451 | 1.464 (0.267) | 65 | 71378 | 48.1598 | 48.160 | 80.00- 120.00 | 100.00 |
| 1.479 | 1.492 (0.272) | 51 | 418212 | | | 568.10- 628.10 | 585.91 |
| 1.577 | 1.576 (0.290) | 47 | 13599 | | | 0.00- 50.57 | 19.05 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.464 (0.270) | 85 | 277865 | 47.7974 | 47.797 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.464 (0.270) | 87 | 90687 | | | 2.88- 62.88 | 32.64 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.492 (0.275) | 67 | 31775 | 43.6795 | 43.680 | 80.00- 120.00 | 100.00 |
| 1.479 | 1.492 (0.272) | 51 | 418212 | | | 1257.55-1317.55 | 1316.17 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.576 (0.290) | 135 | 255627 | 50.0207 | 50.021 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.576 (0.290) | 137 | 82860 | | | 2.10- 62.10 | 32.41 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.577 | 1.590 (0.290) | 43 | 241892 | 44.4949 | 44.495 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.590 (0.290) | 42 | 77258 | | | 1.69- 61.69 | 31.94 |
| 1.577 | 1.576 (0.290) | 58 | 8111 | | | 0.00- 33.32 | 3.35 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.674 (0.308) | 50 | 131716 | 46.9931 | 46.993 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.674 (0.308) | 52 | 42195 | | | 1.38- 61.38 | 32.03 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.716 (0.316) | 58 | 25587 | 45.5312 | 45.531 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 18 Butane (continued) | | | | | | | |
| 1.716 | 1.716 (0.316) | 43 | 214769 | | | 866.38- 926.38 | 839.37 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.758 (0.324) | 62 | 125563 | 46.2996 | 46.300 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.758 (0.324) | 64 | 41041 | | | 3.10- 63.10 | 32.69 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.772 (0.326) | 54 | 108226 | 42.4807 | 42.481 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.772 (0.326) | 39 | 114842 | | | 78.74- 138.74 | 106.11 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 100307 | 51.7600 | 51.760 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 94650 | | | 64.19- 124.19 | 94.36 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.409) | 64 | 58514 | 44.9920 | 44.992 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.409) | 66 | 19103 | | | 2.32- 62.32 | 32.65 |
| 2.220 | 2.220 (0.409) | 49 | 21390 | | | 6.33- 66.33 | 36.56 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 168841 | 45.4938 | 45.494 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 108629 | | | 31.77- 91.77 | 64.34 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.402 (0.442) | 106 | 110153 | 48.8717 | 48.872 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.402 (0.442) | 108 | 103678 | | | 64.21- 124.21 | 94.12 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 320681 | 47.8825 | 47.882 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 207725 | | | 34.93- 94.93 | 64.78 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.458 (0.453) | 67 | 236239 | 44.2371 | 44.237 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 69 | 74686 | | | 1.95- 61.95 | 31.61 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 249286 | 44.1456 | 44.146 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 36396 | | | 0.00- 44.64 | 14.60 |
| 2.514 | 2.514 (0.463) | 72 | 21544 | | | 0.00- 37.90 | 8.64 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 21377 | 40.2321 | 40.232 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.507) | 45 | 54691 | | | 224.40- 284.40 | 255.84 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.053 | 3.053 (0.562) | 55 | 49096 | 42.9319 | 42.932 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 42 Acrolein (continued) | | | | | | | |
| 3.053 | 3.053 (0.562) | 56 | 70568 | | | 108.02- 168.02 | 143.73 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 282885 | 47.7950 | 47.795 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 183006 | | | 35.07- 95.07 | 64.69 |
| 3.061 | 3.061 (0.563) | 101 | 313049 | | | 87.45- 147.45 | 110.66 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.096 (0.569) | 96 | 126726 | 50.3206 | 50.320 | 80.00- 120.00 | 100.00 |
| 3.089 | 3.089 (0.569) | 98 | 68324 | | | 33.27- 93.27 | 53.91 |
| 3.089 | 3.089 (0.569) | 61 | 194156 | | | 159.05- 219.05 | 153.21 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.240 | 3.247 (0.596) | 58 | 61309 | 42.7819 | 42.782 | 80.00- 120.00 | 100.00 |
| 3.240 | 3.240 (0.596) | 43 | 211568 | | | 329.45- 389.45 | 345.08 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.326 (0.612) | 76 | 301370 | 43.8869 | 43.887 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.631) | 45 | 246123 | 41.3097 | 41.310 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.631) | 43 | 45088 | | | 0.00- 48.18 | 18.32 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.576 | 3.576 (0.658) | 76 | 50005 | 43.2236 | 43.224 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.576 (0.658) | 41 | 180285 | | | 366.80- 426.80 | 360.53 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.678) | 41 | 115508 | 43.9254 | 43.925 | 80.00- 120.00 | 100.00 |
| 3.684 | 3.684 (0.678) | 40 | 60767 | | | 22.74- 82.74 | 52.61 |
| 3.677 | 3.677 (0.677) | 38 | 13424 | | | 0.00- 42.52 | 11.62 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.777 (0.695) | 49 | 165802 | 42.1223 | 42.122 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.777 (0.695) | 84 | 94840 | | | 24.90- 84.90 | 57.20 |
| 3.777 | 3.777 (0.695) | 51 | 51294 | | | 0.00- 59.67 | 30.94 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.906 | 3.913 (0.719) | 59 | 270991 | 44.5838 | 44.584 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.906 (0.719) | 41 | 62989 | | | 0.00- 51.85 | 23.24 |
| 3.906 | 3.906 (0.719) | 57 | 28879 | | | 0.00- 40.17 | 10.66 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 3.999 | 3.999 (0.736) | 73 | 323686 | 45.0456 | 45.046 | 80.00- 120.00 | 100.00 |
| 3.999 | 3.999 (0.736) | 57 | 91824 | | | 0.00- 58.72 | 28.37 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 3.999 | 3.999 (0.736) | 41 | 91685 | | | 0.00- 59.38 | 28.33 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 74942 | 44.3111 | 44.311 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.742) | 61 | 185118 | | | 232.13- 292.13 | 247.02 |
| 4.028 | 4.028 (0.742) | 96 | 117817 | | | 127.26- 187.26 | 157.21 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.135 (0.761) | 52 | 91248 | 41.7195 | 41.719 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.135 (0.761) | 53 | 107428 | | | 86.45- 146.45 | 117.73 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.784) | 57 | 218167 | 41.3997 | 41.400 | 80.00- 120.00 | 100.00 |
| 4.250 | 4.257 (0.782) | 43 | 151645 | | | 40.97- 100.97 | 69.51 |
| 4.250 | 4.257 (0.782) | 86 | 28348 | | | 0.00- 42.68 | 12.99 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.550 (0.838) | 63 | 212868 | 43.5544 | 43.554 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.550 (0.838) | 65 | 65677 | | | 0.47- 60.47 | 30.85 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.543 | 4.550 (0.836) | 45 | 530433 | 45.2610 | 45.261 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.550 (0.838) | 87 | 107572 | | | 0.00- 49.55 | 20.28 |
| 4.551 | 4.550 (0.838) | 59 | 55574 | | | 0.00- 40.42 | 10.48 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.601 | 4.608 (0.847) | 86 | 28685 | 66.6553 | 66.655 | 80.00- 120.00 | 100.00 |
| 4.601 | 4.601 (0.847) | 43 | 448310 | | | 1727.95-1787.95 | 1562.87 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.937 (0.909) | 59 | 453245 | 44.8472 | 44.847 | 80.00- 120.00 | 100.00 |
| 4.937 | 4.937 (0.909) | 87 | 159356 | | | 3.90- 63.90 | 35.16 |
| 4.937 | 4.937 (0.909) | 41 | 89612 | | | 0.00- 49.72 | 19.77 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.138 (0.946) | 77 | 209065 | 43.3326 | 43.333 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.138 (0.946) | 79 | 67415 | | | 2.39- 62.39 | 32.25 |
| 5.138 | 5.138 (0.946) | 97 | 49822 | | | 0.00- 53.57 | 23.83 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.181 | 5.181 (0.954) | 98 | 78477 | 44.8098 | 44.810 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 121502 | | | 125.53- 185.53 | 154.82 |
| 5.181 | 5.181 (0.954) | 61 | 169016 | | | 219.86- 279.86 | 215.37 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.960) | 72 | 54911 | 43.5185 | 43.518 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 86 2-Butanone (continued) | | | | | | | |
| 5.231 | 5.231 (0.963) | 43 | 625973 | | | 1138.34-1198.34 | 1139.98 |
| 5.217 | 5.217 (0.960) | 57 | 22231 | | | 10.83- 70.83 | 40.49 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.238 | 5.238 (0.964) | 45 | 51693 | 40.9636 | 40.964 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 61 | 169016 | | | 338.96- 398.96 | 326.96 |
| 5.238 | 5.238 (0.964) | 70 | 27719 | | | 24.53- 84.53 | 53.62 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.424 | 5.424 (0.999) | 42 | 156194 | 40.4866 | 40.487 | 80.00- 120.00 | 100.00 |
| 5.424 | 5.424 (0.999) | 71 | 43941 | | | 0.00- 58.54 | 28.13 |
| 5.424 | 5.424 (0.999) | 72 | 46566 | | | 0.00- 59.59 | 29.81 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.510 | 5.510 (1.014) | 83 | 232021 | 44.2104 | 44.210 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.510 (1.014) | 85 | 152136 | | | 35.77- 95.77 | 65.57 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.033) | 84 | 160231 | 45.6377 | 45.638 | 80.00- 120.00 | 100.00 |
| 5.604 | 5.603 (1.032) | 56 | 242031 | | | 125.79- 185.79 | 151.05 |
| 5.604 | 5.603 (1.032) | 41 | 135420 | | | 61.55- 121.55 | 84.52 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.632 | 5.632 (1.037) | 97 | 264437 | 46.1991 | 46.199 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.632 (1.037) | 99 | 170874 | | | 32.84- 92.84 | 64.62 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.754 (1.059) | 119 | 290911 | 47.9406 | 47.940 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.754 (1.059) | 117 | 302266 | | | 75.19- 135.19 | 103.90 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.797 (0.903) | 110 | 66803 | 46.9202 | 46.920 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.797 (0.903) | 75 | 169160 | | | 234.16- 294.16 | 253.22 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.990 | 5.990 (1.103) | 57 | 735584 | 44.6759 | 44.676 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.983 (1.103) | 56 | 245237 | | | 3.09- 63.09 | 33.34 |
| 5.990 | 5.983 (1.103) | 41 | 196704 | | | 0.00- 57.28 | 26.74 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 330020 | 46.3747 | 46.375 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 79341 | | | 0.00- 53.69 | 24.04 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.083 | 6.083 (0.948) | 87 | 88840 | 46.4540 | 46.454 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.083 | 6.083 (0.948) | 73 | 352627 | | | 365.76- 425.76 | 396.92 |
| 6.083 | 6.083 (0.948) | 55 | 112701 | | | 92.58- 152.58 | 126.86 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.098 (0.950) | 62 | 169923 | 45.7743 | 45.774 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.098 (0.950) | 64 | 53493 | | | 1.80- 61.80 | 31.48 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.177 | 6.176 (0.962) | 71 | 126503 | 44.8752 | 44.875 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.176 (0.962) | 43 | 291849 | | | 207.73- 267.73 | 230.71 |
| 6.177 | 6.176 (0.962) | 57 | 145675 | | | 84.83- 144.83 | 115.16 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.032) | 56 | 116664 | 72.1037 | 72.104 | 80.00- 120.00 | 100.00(R) |
| 6.628 | 6.628 (1.032) | 41 | 84449 | | | 47.73- 107.73 | 72.39 |
| 6.628 | 6.628 (1.032) | 43 | 71717 | | | 31.60- 91.60 | 61.47 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 164106 | 47.8273 | 47.827 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 184212 | | | 80.23- 140.23 | 112.25 |
| 6.628 | 6.628 (1.032) | 97 | 106443 | | | 34.78- 94.78 | 64.86 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.886 (1.073) | 63 | 147577 | 44.0703 | 44.070 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.886 (1.073) | 62 | 104953 | | | 40.39- 100.39 | 71.12 |
| 6.886 | 6.886 (1.073) | 41 | 85570 | | | 31.86- 91.86 | 57.98 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.972 | 6.972 (0.762) | 69 | 126785 | 44.6883 | 44.688 | 80.00- 120.00 | 100.00 |
| 6.972 | 6.972 (0.762) | 41 | 212890 | | | 145.81- 205.81 | 167.91 |
| 6.972 | 6.972 (0.762) | 100 | 51801 | | | 10.05- 70.05 | 40.86 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.089) | 88 | 86057 | 48.0718 | 48.072 | 80.00- 120.00 | 100.00 |
| 6.986 | 6.993 (1.088) | 58 | 70494 | | | 56.33- 116.33 | 81.92 |
| 6.986 | 6.993 (1.088) | 57 | 26272 | | | 2.08- 62.08 | 30.53 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.007 (0.766) | 174 | 170973 | 52.0236 | 52.024 | 80.00- 120.00 | 100.00 |
| 7.000 | 7.000 (0.765) | 93 | 147853 | | | 62.68- 122.68 | 86.48 |
| 7.000 | 7.000 (0.765) | 95 | 122276 | | | 47.70- 107.70 | 71.52 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.144 | 7.144 (1.113) | 83 | 261073 | 47.0041 | 47.004 | 80.00- 120.00 | 100.00 |
| 7.144 | 7.144 (1.113) | 85 | 167952 | | | 34.96- 94.96 | 64.33 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.566 | 7.566 (1.179) | 75 | 218482 | 46.1227 | 46.123 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.566 (1.179) | 77 | 69564 | | | 1.26- 61.26 | 31.84 |
| 7.566 | 7.566 (1.179) | 39 | 129796 | | | 35.06- 95.06 | 59.41 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.728 | 6.728 (1.048) | 83 | 222961 | 45.7451 | 45.745 | 80.00- 120.00 | 100.00 |
| 6.728 | 6.728 (1.048) | 98 | 100388 | | | 14.83- 74.83 | 45.02 |
| 6.728 | 6.728 (1.048) | 55 | 216407 | | | 71.50- 131.50 | 97.06 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.702 | 7.702 (1.200) | 58 | 135761 | 41.6648 | 41.665 | 80.00- 120.00 | 100.00 |
| 7.702 | 7.702 (1.200) | 43 | 395238 | | | 259.88- 319.88 | 291.13 |
| 7.702 | 7.702 (1.200) | 85 | 52340 | | | 7.58- 67.58 | 38.55 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 453033 | 45.9869 | 45.987 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 264959 | | | 27.89- 87.89 | 58.49 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.853 | 7.853 (1.223) | 57 | 155756 | 43.3973 | 43.397 | 80.00- 120.00 | 100.00 |
| 7.853 | 7.853 (1.223) | 85 | 150811 | | | 63.53- 123.53 | 96.83 |
| 7.853 | 7.853 (1.223) | 43 | 417055 | | | 246.00- 306.00 | 267.76 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.111 | 8.111 (0.886) | 75 | 182374 | 47.3851 | 47.385 | 80.00- 120.00 | 100.00 |
| 8.111 | 8.111 (0.886) | 77 | 58499 | | | 1.83- 61.83 | 32.08 |
| 8.111 | 8.111 (0.886) | 39 | 102306 | | | 31.97- 91.97 | 56.10 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.283 | 8.282 (0.905) | 97 | 156708 | 48.0854 | 48.085 | 80.00- 120.00 | 100.00 |
| 8.283 | 8.282 (0.905) | 99 | 97748 | | | 32.52- 92.52 | 62.38 |
| 8.283 | 8.282 (0.905) | 83 | 135866 | | | 58.90- 118.90 | 86.70 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.311 (0.908) | 166 | 258516 | 52.8294 | 52.829 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.311 (0.908) | 129 | 189433 | | | 45.32- 105.32 | 73.28 |
| 8.311 | 8.311 (0.908) | 131 | 187217 | | | 44.17- 104.17 | 72.42 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.483 | 8.483 (0.927) | 58 | 188468 | 46.0968 | 46.097 | 80.00- 120.00 | 100.00 |
| 8.483 | 8.483 (0.927) | 43 | 388426 | | | 177.32- 237.32 | 206.10 |
| 8.483 | 8.490 (0.927) | 100 | 34084 | | | 0.00- 47.18 | 18.08 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.440 | 8.440 (1.315) | 76 | 211255 | 45.7413 | 45.741 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane (continued) | | | | | | | |
| 8.440 | 8.440 (1.315) | 41 | 178350 | | | 59.72- 119.72 | 84.42 |
| 8.440 | 8.440 (1.315) | 78 | 69384 | | | 3.08- 63.08 | 32.84 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 333895 | 51.8407 | 51.841 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 260407 | | | 47.27- 107.27 | 77.99 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 265557 | 49.7183 | 49.718 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 251724 | | | 64.18- 124.18 | 94.79 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.452 (1.161) | 63 | 273709 | 46.3262 | 46.326 | 80.00- 120.00 | 100.00 |
| 7.452 | 7.452 (1.161) | 65 | 83584 | | | 0.43- 60.43 | 30.54 |
| 7.452 | 7.452 (1.161) | 144 | 31716 | | | 0.00- 40.48 | 11.59 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.003) | 112 | 407479 | 50.4929 | 50.493 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.003) | 114 | 129859 | | | 1.91- 61.91 | 31.87 |
| 9.178 | 9.178 (1.003) | 77 | 207150 | | | 22.97- 82.97 | 50.84 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 202826 | 49.9669 | 49.967 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 627935 | | | 281.09- 341.09 | 309.59 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.307 | 9.307 (1.017) | 43 | 443140 | 47.0035 | 47.003 | 80.00- 120.00 | 100.00 |
| 9.307 | 9.307 (1.017) | 57 | 365996 | | | 50.62- 110.62 | 82.59 |
| 9.307 | 9.307 (1.017) | 85 | 117135 | | | 0.00- 55.65 | 26.43 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.264 | 9.264 (1.013) | 131 | 242597 | 52.7679 | 52.768 | 80.00- 120.00 | 100.00 |
| 9.264 | 9.264 (1.013) | 117 | 160256 | | | 37.10- 97.10 | 66.06 |
| 9.264 | 9.264 (1.013) | 95 | 81152 | | | 4.93- 64.93 | 33.45 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 250535 | 49.5182 | 49.518 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.364 (1.023) | 91 | 488303 | | | 170.33- 230.33 | 194.90 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 238780 | 49.7691 | 49.769 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 495640 | | | 181.23- 241.23 | 207.57 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.772 | 9.772 (1.068) | 104 | 400137 | 48.8355 | 48.835 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.772 | 9.772 (1.068) | 78 | 185869 | | | 17.26- 77.26 | 46.45 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.980 | 9.987 (1.091) | 173 | 353478 | 54.3041 | 54.304 | 80.00- 120.00 | 100.00 |
| 9.980 | 9.987 (1.091) | 171 | 180728 | | | 21.45- 81.45 | 51.13 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.088 | 10.088 (1.103) | 105 | 730647 | 50.3778 | 50.378 | 80.00- 120.00 | 100.00 |
| 10.088 | 10.088 (1.103) | 120 | 200077 | | | 0.00- 56.93 | 27.38 |
| 10.088 | 10.088 (1.103) | 51 | 83902 | | | 0.00- 42.24 | 11.48 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.252 | 10.252 (1.121) | 55 | 237963 | 41.4715 | 41.471 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.259 (1.121) | 98 | 87964 | | | 5.15- 65.15 | 36.97 |
| 10.252 | 10.252 (1.121) | 42 | 163860 | | | 41.99- 101.99 | 68.86 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.144) | 83 | 368336 | 48.9647 | 48.965 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.467 (1.144) | 85 | 240017 | | | 34.97- 94.97 | 65.16 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.424 | 10.424 (1.139) | 156 | 259071 | 51.2705 | 51.270 | 80.00- 120.00 | 100.00 |
| 10.424 | 10.424 (1.139) | 158 | 255297 | | | 67.47- 127.47 | 98.54 |
| 10.424 | 10.424 (1.139) | 77 | 329702 | | | 108.68- 168.68 | 127.26 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.489 | 10.489 (1.146) | 120 | 218466 | 50.9413 | 50.941 | 80.00- 120.00 | 100.00 |
| 10.489 | 10.489 (1.146) | 91 | 869261 | | | 383.60- 443.60 | 397.89 |
| 10.489 | 10.489 (1.146) | 105 | 33193 | | | 0.00- 46.14 | 15.19 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.517 (1.150) | 110 | 110861 | 48.5584 | 48.558 | 80.00- 120.00 | 100.00 |
| 10.517 | 10.517 (1.150) | 75 | 383134 | | | 324.28- 384.28 | 345.60 |
| 10.517 | 10.517 (1.150) | 61 | 91245 | | | 57.24- 117.24 | 82.31 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.603 (1.159) | 57 | 470117 | 42.3554 | 42.355 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 71 | 148906 | | | 1.11- 61.11 | 31.67 |
| 10.603 | 10.603 (1.159) | 142 | 22302 | | | 0.00- 34.44 | 4.74 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.603 (1.159) | 120 | 231665 | 49.5609 | 49.561 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 105 | 749444 | | | 298.94- 358.94 | 323.50 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.603 (1.159) | 126 | 201300 | 50.8985 | 50.898 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.603 | 10.603 (1.159) | 91 | 602205 | | | 282.78- 342.78 | 299.16 |
| 10.603 | 10.603 (1.159) | 65 | 87030 | | | 17.33- 77.33 | 43.23 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.668 | 10.668 (1.166) | 120 | 312942 | 49.6434 | 49.643 | 80.00- 120.00 | 100.00 |
| 10.668 | 10.668 (1.166) | 105 | 632004 | | | 172.08- 232.08 | 201.96 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.897 | 10.897 (1.191) | 118 | 335901 | 50.3030 | 50.303 | 80.00- 120.00 | 100.00 |
| 10.897 | 10.897 (1.191) | 103 | 188355 | | | 25.64- 85.64 | 56.07 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.976 (1.200) | 119 | 602667 | 50.2864 | 50.286 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.976 (1.200) | 134 | 153401 | | | 0.00- 55.10 | 25.45 |
| 10.969 | 10.976 (1.199) | 91 | 376512 | | | 34.53- 94.53 | 62.47 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.033 | 11.033 (1.206) | 105 | 637555 | 49.4666 | 49.467 | 80.00- 120.00 | 100.00 |
| 11.033 | 11.033 (1.206) | 120 | 302151 | | | 16.63- 76.63 | 47.39 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.191 | 11.191 (1.223) | 134 | 198367 | 50.5652 | 50.565 | 80.00- 120.00 | 100.00 |
| 11.191 | 11.191 (1.223) | 105 | 915128 | | | 436.99- 496.99 | 461.33 |
| 11.191 | 11.191 (1.223) | 91 | 138749 | | | 41.69- 101.69 | 69.95 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.334 | 11.334 (1.239) | 119 | 821580 | 51.2101 | 51.210 | 80.00- 120.00 | 100.00 |
| 11.334 | 11.334 (1.239) | 134 | 229482 | | | 0.00- 57.62 | 27.93 |
| 11.334 | 11.334 (1.239) | 91 | 178866 | | | 0.00- 53.03 | 21.77 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.341 | 11.341 (1.240) | 146 | 476989 | 49.9427 | 49.943 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 148 | 306125 | | | 34.18- 94.18 | 64.18 |
| 11.341 | 11.341 (1.240) | 111 | 184782 | | | 10.06- 70.06 | 38.74 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.441 (1.251) | 146 | 483513 | 49.9794 | 49.979 | 80.00- 120.00 | 100.00 |
| 11.441 | 11.441 (1.251) | 148 | 308495 | | | 33.55- 93.55 | 63.80 |
| 11.441 | 11.441 (1.251) | 111 | 179939 | | | 7.98- 67.98 | 37.21 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.585 | 11.585 (1.266) | 91 | 575089 | 46.9431 | 46.943 | 80.00- 120.00 | 100.00 |
| 11.585 | 11.585 (1.266) | 126 | 136891 | | | 0.00- 52.77 | 23.80 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.778 | 11.778 (1.287) | 57 | 545948 | 41.3682 | 41.368 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane (continued) | | | | | | | |
| 11.778 | 11.778 (1.287) | 43 | 503270 | | | 63.59- 123.59 | 92.18 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.742 (1.283) | 134 | 224992 | 50.8857 | 50.886 | 80.00- 120.00 | 100.00 |
| 11.735 | 11.735 (1.283) | 91 | 745724 | | | 310.82- 370.82 | 331.44 |
| 11.735 | 11.735 (1.283) | 92 | 395618 | | | 151.53- 211.53 | 175.84 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.814 (1.291) | 146 | 460661 | 49.6996 | 49.700 | 80.00- 120.00 | 100.00 |
| 11.814 | 11.814 (1.291) | 148 | 294573 | | | 33.00- 93.00 | 63.95 |
| 11.814 | 11.814 (1.291) | 111 | 184045 | | | 10.87- 70.87 | 39.95 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.609 | 12.609 (1.378) | 157 | 288948 | 52.7063 | 52.706 | 80.00- 120.00 | 100.00 |
| 12.609 | 12.609 (1.378) | 75 | 210121 | | | 48.09- 108.09 | 72.72 |
| 12.609 | 12.609 (1.378) | 155 | 223743 | | | 47.89- 107.89 | 77.43 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.845 | 12.845 (1.404) | 57 | 613441 | 46.1451 | 46.145 | 80.00- 120.00 | 100.00 |
| 12.845 | 12.845 (1.404) | 43 | 533008 | | | 58.52- 118.52 | 86.89 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.390 | 13.383 (1.463) | 180 | 478685 | 52.1129 | 52.113 | 80.00- 120.00 | 100.00 |
| 13.390 | 13.383 (1.463) | 182 | 454965 | | | 64.84- 124.84 | 95.04 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.497 | 13.497 (1.475) | 225 | 357989 | 53.4284 | 53.428 | 80.00- 120.00 | 100.00 |
| 13.497 | 13.497 (1.475) | 223 | 223684 | | | 32.80- 92.80 | 62.48 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.640 | 13.633 (1.491) | 128 | 112768 | 5.88203 | 5.882 | 80.00- 120.00 | 100.00 |
| 13.640 | 13.633 (1.491) | 127 | 14206 | | | 0.00- 42.72 | 12.60 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.884 | 13.884 (1.518) | 180 | 468521 | 52.0525 | 52.052 | 80.00- 120.00 | 100.00 |
| 13.884 | 13.884 (1.518) | 182 | 445974 | | | 65.07- 125.07 | 95.19 |
| 13.884 | 13.884 (1.518) | 145 | 154087 | | | 4.48- 64.48 | 32.89 |

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061404a.d
Lab Smp Id: LCS
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Client Smp ID: LCS
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 98163 | 0.89 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 353455 | -0.77 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 348308 | -1.28 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: LCS Client Smp ID: LCS
Level: LOW Operator: RT
Data Type: MS DATA SampleType: LCS
SpikeList File: CntrlDODAT23.spk Quant Type: ISTD
Sublist File: AT23_cont111224.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 4 Freon 134a | 50.000 | 49.087 | 98.17 | 70-130 |
| 5 Propylene | 50.000 | 43.889 | 87.78 | 57-136 |
| 7 1,1-Difluoroethan | 50.000 | 48.160 | 96.32 | 70-130 |
| 8 Freon 12 | 50.000 | 47.797 | 95.59 | 59-128 |
| 9 Chlorodifluoromet | 50.000 | 43.680 | 87.36 | 59-145 |
| 10 Freon 114 | 50.000 | 50.021 | 100.04 | 63-121 |
| 12 Isobutane | 50.000 | 44.495 | 88.99 | 70-130 |
| 15 Chloromethane | 50.000 | 46.993 | 93.99 | 59-132 |
| 18 Butane | 50.000 | 45.531 | 91.06 | 64-129 |
| 19 Vinyl Chloride | 50.000 | 46.300 | 92.60 | 64-127 |
| 20 1,3-Butadiene | 50.000 | 42.481 | 84.96 | 66-134 |
| 24 Bromomethane | 50.000 | 51.760 | 103.52 | 63-134 |
| 30 Chloroethane | 50.000 | 44.992 | 89.98 | 63-127 |
| 31 Isopentane | 50.000 | 45.494 | 90.99 | 59-140 |
| 32 Vinyl Bromide | 50.000 | 48.872 | 97.74 | 71-126 |
| 33 Freon 11 | 50.000 | 47.882 | 95.77 | 62-126 |
| 34 Dichlorofluoromet | 50.000 | 44.237 | 88.47 | 70-130 |
| 35 Pentane | 50.000 | 44.146 | 88.29 | 63-131 |
| 39 Ethanol | 50.000 | 40.232 | 80.46 | 59-125 |
| 42 Acrolein | 57.000 | 42.932 | 75.32 | 62-126 |
| 43 Freon 113 | 50.000 | 47.795 | 95.59 | 66-126 |
| 44 1,1-Dichloroethen | 50.000 | 50.320 | 100.64 | 61-133 |
| 47 Acetone | 50.000 | 42.782 | 85.56 | 58-128 |
| 48 Carbon Disulfide | 50.000 | 43.887 | 87.77 | 57-134 |
| 52 2-Propanol | 50.000 | 41.310 | 82.62 | 52-125 |
| 54 3-Chloropropene | 50.000 | 43.224 | 86.45 | 71-131 |
| 57 Acetonitrile | 50.000 | 43.925 | 87.85 | 63-132 |
| 59 Methylene Chlorid | 50.000 | 42.122 | 84.24 | 62-115 |
| 62 tert-Butyl alcoho | 50.000 | 44.584 | 89.17 | 24-150 |
| 63 Methyl tert-butyl | 50.000 | 45.046 | 90.09 | 66-126 |
| 64 trans-1,2-Dichlor | 50.000 | 44.311 | 88.62 | 67-124 |
| 66 Acrylonitrile | 50.000 | 41.719 | 83.44 | 71-137 |
| 67 Hexane | 50.000 | 41.400 | 82.80 | 63-120 |

| SPIKE | COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| 71 | 1,1-Dichloroethan | 50.000 | 43.554 | 87.11 | 68-126 |
| 72 | Isopropyl ether | 50.000 | 45.261 | 90.52 | 70-117 |
| 73 | Vinyl Acetate | 50.000 | 66.655 | 133.31 | 56-139 |
| 79 | Ethyl-tert-butyl | 50.000 | 44.847 | 89.69 | 70-130 |
| 84 | 2,2-Dichloropropa | 50.000 | 43.333 | 86.67 | 70-130 |
| 85 | cis-1,2-Dichloroe | 50.000 | 44.810 | 89.62 | 70-121 |
| 86 | 2-Butanone | 50.000 | 43.518 | 87.04 | 67-130 |
| 87 | Ethyl Acetate | 50.000 | 40.964 | 81.93 | 65-128 |
| 89 | Tetrahydrofuran | 50.000 | 40.487 | 80.97 | 64-123 |
| 92 | Chloroform | 50.000 | 44.210 | 88.42 | 68-123 |
| 96 | 1,1,1-Trichloroet | 50.000 | 46.199 | 92.40 | 68-125 |
| 97 | Carbon Tetrachlor | 50.000 | 47.940 | 95.88 | 68-132 |
| 94 | Cyclohexane | 50.000 | 45.638 | 91.28 | 70-117 |
| 99 | 1,1-Dichloroprope | 50.000 | 46.920 | 93.84 | 70-130 |
| 101 | 2,2,4-Trimethylpe | 50.000 | 44.676 | 89.35 | 68-121 |
| 102 | Benzene | 50.000 | 46.375 | 92.75 | 69-119 |
| 106 | 1,2-Dichloroethan | 50.000 | 45.774 | 91.55 | 65-128 |
| 107 | Heptane | 50.000 | 44.875 | 89.75 | 69-123 |
| 110 | n-Butanol | 50.000 | 72.104 | 144.21* | 62-133 |
| 111 | Trichloroethene | 50.000 | 47.827 | 95.65 | 71-123 |
| 127 | Methylcyclohexane | 50.000 | 45.745 | 91.49 | 67-127 |
| 114 | 1,2-Dichloropropa | 50.000 | 44.070 | 88.14 | 69-123 |
| 116 | Methyl Methacryla | 50.000 | 44.688 | 89.38 | 70-128 |
| 117 | 1,4-Dioxane | 50.000 | 48.072 | 96.14 | 71-122 |
| 118 | Dibromomethane | 50.000 | 52.024 | 104.05 | 70-130 |
| 122 | Bromodichlorometh | 50.000 | 47.004 | 94.01 | 72-128 |
| 126 | cis-1,3-Dichlorop | 50.000 | 46.123 | 92.25 | 70-128 |
| 131 | 4-Methyl-2-pentan | 50.000 | 41.665 | 83.33 | 67-130 |
| 136 | Octane | 50.000 | 43.397 | 86.79 | 69-121 |
| 137 | Toluene | 50.000 | 45.987 | 91.97 | 66-119 |
| 139 | trans-1,3-Dichlor | 50.000 | 47.385 | 94.77 | 75-133 |
| 141 | 1,1,2-Trichloroet | 50.000 | 48.085 | 96.17 | 73-119 |
| 142 | Tetrachloroethene | 50.000 | 52.829 | 105.66 | 66-124 |
| 143 | 2-Hexanone | 50.000 | 46.097 | 92.19 | 62-128 |
| 144 | 1,3-Dichloropropa | 50.000 | 45.741 | 91.48 | 62-148 |
| 146 | Dibromochlorometh | 50.000 | 51.841 | 103.68 | 70-130 |
| 148 | 1,2-Dibromoethane | 50.000 | 49.718 | 99.44 | 74-122 |
| 151 | 1-Bromo-2-Chloroe | 50.000 | 46.326 | 92.65 | 70-130 |
| 154 | Chlorobenzene | 50.000 | 50.493 | 100.99 | 70-119 |
| 155 | Ethyl Benzene | 50.000 | 49.967 | 99.93 | 70-124 |
| 156 | Nonane | 50.000 | 47.003 | 94.01 | 63-128 |
| 157 | 1,1,1,2-Tetrachlo | 50.000 | 52.768 | 105.54 | 70-130 |
| 158 | m,p-Xylene | 50.000 | 49.518 | 99.04 | 61-134 |
| 164 | o-Xylene | 50.000 | 49.769 | 99.54 | 67-125 |
| 165 | Styrene | 50.000 | 48.835 | 97.67 | 73-127 |
| 167 | Bromoform | 50.000 | 54.304 | 108.61 | 66-139 |
| 168 | Cumene | 50.000 | 50.378 | 100.76 | 68-124 |

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 175 1,1,2,2-Tetrachlo | 50.000 | 48.965 | 97.93 | 65-127 |
| 177 Bromobenzene | 50.000 | 51.270 | 102.54 | 70-130 |
| 178 Propylbenzene | 50.000 | 50.941 | 101.88 | 69-123 |
| 179 1,2,3-Trichloropr | 50.000 | 48.558 | 97.12 | 76-124 |
| 182 Decane | 50.000 | 42.355 | 84.71 | 70-118 |
| 183 4-Ethyltoluene | 50.000 | 49.561 | 99.12 | 67-129 |
| 184 2-Chlorotoluene | 50.000 | 50.898 | 101.80 | 74-130 |
| 185 1,3,5-Trimethylbe | 50.000 | 49.643 | 99.29 | 67-130 |
| 188 alpha Methyl Styr | 50.000 | 50.303 | 100.61 | 67-128 |
| 189 tert-Butylbenzene | 50.000 | 50.286 | 100.57 | 65-124 |
| 190 1,2,4-Trimethylbe | 50.000 | 49.467 | 98.93 | 66-132 |
| 192 sec-Butylbenzene | 50.000 | 50.565 | 101.13 | 68-125 |
| 194 p-Cymene | 50.000 | 51.210 | 102.42 | 67-130 |
| 195 1,3-Dichlorobenze | 50.000 | 49.943 | 99.89 | 65-130 |
| 196 1,4-Dichlorobenze | 50.000 | 49.979 | 99.96 | 60-131 |
| 199 alpha-Chlorotolue | 50.000 | 46.943 | 93.89 | 50-147 |
| 201 Undecane | 50.000 | 41.368 | 82.74 | 69-123 |
| 202 Butylbenzene | 50.000 | 50.886 | 101.77 | 66-130 |
| 204 1,2-Dichlorobenze | 50.000 | 49.700 | 99.40 | 63-129 |
| 206 1,2-Dibromo-3-chl | 50.000 | 52.706 | 105.41 | 70-130 |
| 207 Dodecane | 50.000 | 46.145 | 92.29 | 62-147 |
| 213 1,2,4-Trichlorobe | 50.000 | 52.113 | 104.23 | 55-142 |
| 215 Hexachlorobutadie | 50.000 | 53.428 | 106.86 | 56-138 |
| 216 Naphthalene | 5.700 | 5.882 | 103.19 | 57-138 |
| 222 1,2,3-Trichlorobe | 50.000 | 52.052 | 104.10 | 55-142 |

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.495 | 89.98 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 24.162 | 96.65 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.119 | 100.48 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061404a.d

Page 1

Date : 14-JUN-2024 12:33

Client ID: LCS

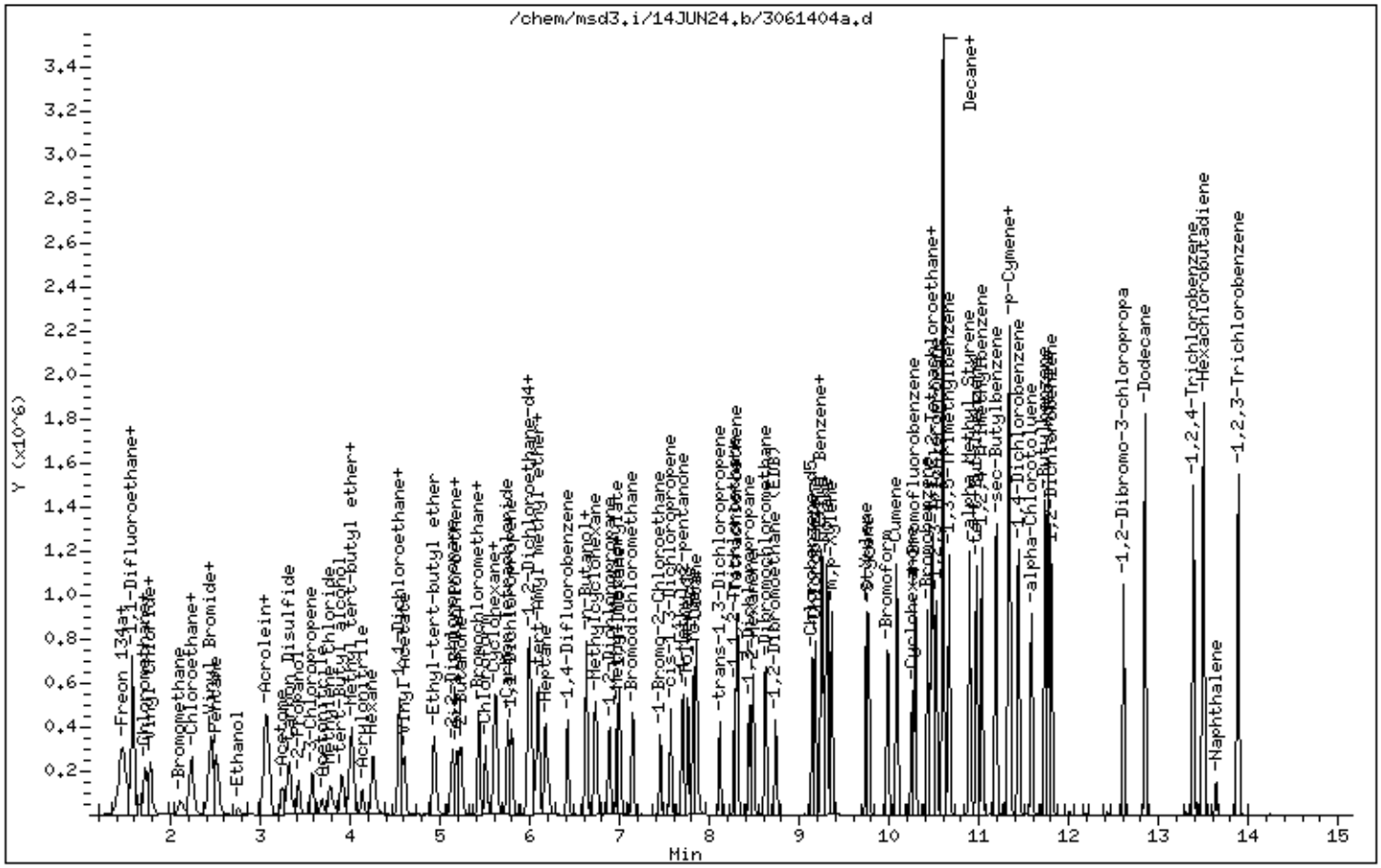
Instrument: msd3.i

Sample Info: 50mL 3018-4603

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | LCSD | | |
| **Lab ID:** | 2406133-25BB | **Date/Time Analyzed:** | 6/14/24 01:04 PM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061405a |

| Compound | CAS# | %Recovery |
|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 86 |
| 1,4-Dichlorobenzene | 106-46-7 | 99 |
| Benzene | 71-43-2 | 92 |
| cis-1,2-Dichloroethene | 156-59-2 | 88 |
| Ethyl Benzene | 100-41-4 | 100 |
| m,p-Xylene | 108-38-3 | 98 |
| o-Xylene | 95-47-6 | 98 |
| Toluene | 108-88-3 | 91 |
| trans-1,2-Dichloroethene | 156-60-5 | 89 |
| Trichloroethene | 79-01-6 | 94 |
| Vinyl Chloride | 75-01-4 | 93 |

D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 68-132 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 77-125 | 101 |
| Toluene-d8 | 2037-26-5 | 91-110 | 96 |

* % Recovery is calculated using unrounded analytical results.

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/14JUN24.b/3061405a.d
Lab Smp Id: LCSD Client Smp ID: LCSD
Inj Date : 14-JUN-2024 13:04
Operator : RT Inst ID: msd3.i
Smp Info : 50mL 3018-4603
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/14JUN24.b/324q0423a.m
Meth Date : 14-Jun-2024 12:32 yrc5 Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 14 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23_cont111224.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 96328 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 75074 | | | 47.79- 107.79 | 77.94 |
| 5.432 | 5.432 (1.000) | 49 | 144153 | | | 131.33- 191.33 | 149.65 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 353186 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 51690 | | | 0.00- 45.65 | 14.64 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 347473 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 176087 | | | 22.92- 82.92 | 50.68 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 116011 | 23.1220 | 23.122 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 64095 | | | 23.17- 83.17 | 55.25 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 329011 | 23.9628 | 23.963 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 35208 | | | 0.00- 41.42 | 10.70 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 224905 | | | 37.54- 97.54 | 68.36 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 260359 | 25.2131 | 25.213 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 285904 | | | 88.49- 148.49 | 109.81 |
| 10.288 | 10.288 (1.124) | 176 | 252579 | | | 66.73- 126.73 | 97.01 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.395 | 1.409 (0.257) | 83 | 109431 | 49.1480 | 49.148 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 102328 | | | 64.17- 124.17 | 93.51 |
| 1.479 | 1.492 (0.272) | 51 | 415517 | | | 365.46- 425.46 | 379.71 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 113100 | 44.8278 | 44.828 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 75356 | | | 35.86- 95.86 | 66.63 |
| 1.437 | 1.437 (0.264) | 39 | 80213 | | | 41.66- 101.66 | 70.92 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.464 (0.270) | 65 | 70517 | 48.4853 | 48.485 | 80.00- 120.00 | 100.00 |
| 1.479 | 1.492 (0.272) | 51 | 415517 | | | 568.10- 628.10 | 589.24 |
| 1.577 | 1.576 (0.290) | 47 | 12671 | | | 0.00- 50.57 | 17.97 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.464 (0.270) | 85 | 269796 | 47.2935 | 47.293 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.464 (0.270) | 87 | 88180 | | | 2.88- 62.88 | 32.68 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.492 (0.275) | 67 | 31241 | 43.7636 | 43.764 | 80.00- 120.00 | 100.00 |
| 1.479 | 1.492 (0.272) | 51 | 415517 | | | 1257.55-1317.55 | 1330.04 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.576 (0.290) | 135 | 250153 | 49.8820 | 49.882 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.576 (0.290) | 137 | 79804 | | | 2.10- 62.10 | 31.90 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.591 | 1.590 (0.293) | 43 | 237897 | 44.5937 | 44.594 | 80.00- 120.00 | 100.00 |
| 1.591 | 1.590 (0.293) | 42 | 75770 | | | 1.69- 61.69 | 31.85 |
| 1.577 | 1.576 (0.290) | 58 | 7756 | | | 0.00- 33.32 | 3.26 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.674 (0.308) | 50 | 131081 | 47.6574 | 47.657 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.674 (0.308) | 52 | 41265 | | | 1.38- 61.38 | 31.48 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.716 (0.316) | 58 | 25081 | 45.4810 | 45.481 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 18 Butane (continued) | | | | | | | |
| 1.716 | 1.716 (0.316) | 43 | 211975 | | | 866.38- 926.38 | 845.16 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.758 (0.324) | 62 | 123354 | 46.3515 | 46.352 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.758 (0.324) | 64 | 40495 | | | 3.10- 63.10 | 32.83 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.772 (0.326) | 54 | 107240 | 42.8956 | 42.896 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.772 (0.326) | 39 | 112789 | | | 78.74- 138.74 | 105.17 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 100401 | 52.7954 | 52.795 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 93905 | | | 64.19- 124.19 | 93.53 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.409) | 64 | 58902 | 46.1531 | 46.153 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.409) | 66 | 18189 | | | 2.32- 62.32 | 30.88 |
| 2.220 | 2.220 (0.409) | 49 | 20770 | | | 6.33- 66.33 | 35.26 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 167416 | 45.9692 | 45.969 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 106046 | | | 31.77- 91.77 | 63.34 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.416 | 2.402 (0.445) | 106 | 108955 | 49.2611 | 49.261 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.402 (0.442) | 108 | 101988 | | | 64.21- 124.21 | 93.61 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 313082 | 47.6384 | 47.638 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 204404 | | | 34.93- 94.93 | 65.29 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.458 (0.453) | 67 | 232764 | 44.4167 | 44.417 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 69 | 73721 | | | 1.95- 61.95 | 31.67 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 244008 | 44.0340 | 44.034 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 35898 | | | 0.00- 44.64 | 14.71 |
| 2.514 | 2.514 (0.463) | 72 | 20116 | | | 0.00- 37.90 | 8.24 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 21022 | 40.3176 | 40.318 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.507) | 45 | 54018 | | | 224.40- 284.40 | 256.96 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.054 | 3.053 (0.562) | 55 | 49264 | 43.8994 | 43.899 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 42 Acrolein (continued) | | | | | | | |
| 3.054 | 3.053 (0.562) | 56 | 68124 | | | 108.02- 168.02 | 138.28 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 277248 | 47.7349 | 47.735 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 181105 | | | 35.07- 95.07 | 65.32 |
| 3.061 | 3.061 (0.563) | 101 | 309339 | | | 87.45- 147.45 | 111.57 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.096 (0.569) | 96 | 106619 | 43.1430 | 43.143 | 80.00- 120.00 | 100.00 |
| 3.089 | 3.089 (0.569) | 98 | 67372 | | | 33.27- 93.27 | 63.19 |
| 3.089 | 3.089 (0.569) | 61 | 190055 | | | 159.05- 219.05 | 178.26 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.240 | 3.247 (0.596) | 58 | 61015 | 43.3879 | 43.388 | 80.00- 120.00 | 100.00 |
| 3.240 | 3.240 (0.596) | 43 | 209212 | | | 329.45- 389.45 | 342.89 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.326 (0.612) | 76 | 296008 | 43.9272 | 43.927 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.631) | 45 | 244801 | 41.8705 | 41.870 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.631) | 43 | 44506 | | | 0.00- 48.18 | 18.18 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.576 | 3.576 (0.658) | 76 | 49997 | 44.0399 | 44.040 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.576 (0.658) | 41 | 175938 | | | 366.80- 426.80 | 351.90 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.678) | 41 | 114344 | 44.3111 | 44.311 | 80.00- 120.00 | 100.00 |
| 3.684 | 3.684 (0.678) | 40 | 59938 | | | 22.74- 82.74 | 52.42 |
| 3.684 | 3.677 (0.678) | 38 | 14167 | | | 0.00- 42.52 | 12.39 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.777 (0.695) | 49 | 163201 | 42.2513 | 42.251 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.777 (0.695) | 84 | 95708 | | | 24.90- 84.90 | 58.64 |
| 3.777 | 3.777 (0.695) | 51 | 49430 | | | 0.00- 59.67 | 30.29 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.906 | 3.913 (0.719) | 59 | 266423 | 44.6673 | 44.667 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.906 (0.719) | 41 | 60737 | | | 0.00- 51.85 | 22.80 |
| 3.913 | 3.906 (0.720) | 57 | 28693 | | | 0.00- 40.17 | 10.77 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 3.999 | 3.999 (0.736) | 73 | 321737 | 45.6273 | 45.627 | 80.00- 120.00 | 100.00 |
| 3.999 | 3.999 (0.736) | 57 | 92619 | | | 0.00- 58.72 | 28.79 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 3.999 | 3.999 (0.736) | 41 | 91976 | | | 0.00- 59.38 | 28.59 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 73592 | 44.3418 | 44.342 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.742) | 61 | 184244 | | | 232.13- 292.13 | 250.36 |
| 4.028 | 4.028 (0.742) | 96 | 115445 | | | 127.26- 187.26 | 156.87 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.135 (0.761) | 52 | 89881 | 41.8773 | 41.877 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.135 (0.761) | 53 | 104120 | | | 86.45- 146.45 | 115.84 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.784) | 57 | 213715 | 41.3274 | 41.327 | 80.00- 120.00 | 100.00 |
| 4.250 | 4.257 (0.782) | 43 | 147538 | | | 40.97- 100.97 | 69.03 |
| 4.250 | 4.257 (0.782) | 86 | 28311 | | | 0.00- 42.68 | 13.25 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.550 (0.838) | 63 | 211026 | 44.0000 | 44.000 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.550 (0.839) | 65 | 64998 | | | 0.47- 60.47 | 30.80 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.551 | 4.550 (0.838) | 45 | 523787 | 45.5453 | 45.545 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.550 (0.838) | 87 | 107225 | | | 0.00- 49.55 | 20.47 |
| 4.551 | 4.550 (0.838) | 59 | 55635 | | | 0.00- 40.42 | 10.62 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.601 | 4.608 (0.847) | 86 | 27804 | 65.8388 | 65.839 | 80.00- 120.00 | 100.00 |
| 4.601 | 4.601 (0.847) | 43 | 441032 | | | 1727.95-1787.95 | 1586.22 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.937 (0.909) | 59 | 451743 | 45.5501 | 45.550 | 80.00- 120.00 | 100.00 |
| 4.937 | 4.937 (0.909) | 87 | 156517 | | | 3.90- 63.90 | 34.65 |
| 4.937 | 4.937 (0.909) | 41 | 89475 | | | 0.00- 49.72 | 19.81 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.138 (0.946) | 77 | 208252 | 43.9864 | 43.986 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.138 (0.946) | 79 | 66450 | | | 2.39- 62.39 | 31.91 |
| 5.138 | 5.138 (0.946) | 97 | 49951 | | | 0.00- 53.57 | 23.99 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.181 | 5.181 (0.954) | 98 | 75950 | 44.1930 | 44.193 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 118251 | | | 125.53- 185.53 | 155.70 |
| 5.181 | 5.181 (0.954) | 61 | 177278 | | | 219.86- 279.86 | 233.41 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.960) | 72 | 54708 | 44.1835 | 44.184 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 86 2-Butanone (continued) | | | | | | | |
| 5.238 | 5.231 (0.964) | 43 | 624690 | | | 1138.34-1198.34 | 1141.86 |
| 5.217 | 5.217 (0.960) | 57 | 22178 | | | 10.83- 70.83 | 40.54 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.238 | 5.238 (0.964) | 45 | 51561 | 41.6373 | 41.637 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 61 | 177278 | | | 338.96- 398.96 | 343.82 |
| 5.238 | 5.238 (0.964) | 70 | 26815 | | | 24.53- 84.53 | 52.01 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.424 | 5.424 (0.999) | 42 | 155527 | 41.0817 | 41.082 | 80.00- 120.00 | 100.00 |
| 5.424 | 5.424 (0.999) | 71 | 43358 | | | 0.00- 58.54 | 27.88 |
| 5.424 | 5.424 (0.999) | 72 | 45538 | | | 0.00- 59.59 | 29.28 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.510 | 5.510 (1.014) | 83 | 227900 | 44.2524 | 44.252 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.510 (1.014) | 85 | 149583 | | | 35.77- 95.77 | 65.64 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.604 | 5.611 (1.032) | 84 | 159979 | 46.4340 | 46.434 | 80.00- 120.00 | 100.00 |
| 5.604 | 5.603 (1.032) | 56 | 239763 | | | 125.79- 185.79 | 149.87 |
| 5.604 | 5.603 (1.032) | 41 | 132872 | | | 61.55- 121.55 | 83.06 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.632 | 5.632 (1.037) | 97 | 260853 | 46.4411 | 46.441 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.632 (1.037) | 99 | 166614 | | | 32.84- 92.84 | 63.87 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.754 (1.059) | 119 | 285908 | 48.0137 | 48.014 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.754 (1.059) | 117 | 298911 | | | 75.19- 135.19 | 104.55 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.797 (0.903) | 110 | 65464 | 46.0147 | 46.015 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.797 (0.903) | 75 | 166291 | | | 234.16- 294.16 | 254.02 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.990 | 5.990 (1.103) | 57 | 734763 | 45.4762 | 45.476 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.983 (1.103) | 56 | 244258 | | | 3.09- 63.09 | 33.24 |
| 5.990 | 5.983 (1.103) | 41 | 191574 | | | 0.00- 57.28 | 26.07 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 326374 | 45.8973 | 45.897 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 77377 | | | 0.00- 53.69 | 23.71 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.083 | 6.083 (0.948) | 87 | 89700 | 46.9394 | 46.939 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.083 | 6.083 (0.948) | 73 | 348564 | | | 365.76- 425.76 | 388.59 |
| 6.083 | 6.083 (0.948) | 55 | 111162 | | | 92.58- 152.58 | 123.93 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.098 (0.950) | 62 | 165284 | 44.5586 | 44.558 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.098 (0.950) | 64 | 52786 | | | 1.80- 61.80 | 31.94 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.177 | 6.176 (0.962) | 71 | 125515 | 44.5586 | 44.559 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.176 (0.962) | 43 | 288056 | | | 207.73- 267.73 | 229.50 |
| 6.177 | 6.176 (0.962) | 57 | 146162 | | | 84.83- 144.83 | 116.45 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.032) | 56 | 114368 | 70.7385 | 70.738 | 80.00- 120.00 | 100.00(R) |
| 6.628 | 6.628 (1.032) | 41 | 84932 | | | 47.73- 107.73 | 74.26 |
| 6.628 | 6.628 (1.032) | 43 | 69451 | | | 31.60- 91.60 | 60.73 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 161446 | 47.0879 | 47.088 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 181297 | | | 80.23- 140.23 | 112.30 |
| 6.628 | 6.628 (1.032) | 97 | 104289 | | | 34.78- 94.78 | 64.60 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.886 (1.073) | 63 | 145605 | 43.5145 | 43.514 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.886 (1.073) | 62 | 103052 | | | 40.39- 100.39 | 70.78 |
| 6.886 | 6.886 (1.073) | 41 | 84328 | | | 31.86- 91.86 | 57.92 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.972 | 6.972 (0.762) | 69 | 126804 | 44.8024 | 44.802 | 80.00- 120.00 | 100.00 |
| 6.972 | 6.972 (0.762) | 41 | 207615 | | | 145.81- 205.81 | 163.73 |
| 6.972 | 6.972 (0.762) | 100 | 53395 | | | 10.05- 70.05 | 42.11 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.089) | 88 | 85066 | 47.5545 | 47.554 | 80.00- 120.00 | 100.00 |
| 6.986 | 6.993 (1.088) | 58 | 69994 | | | 56.33- 116.33 | 82.28 |
| 6.993 | 6.993 (1.089) | 57 | 24734 | | | 2.08- 62.08 | 29.08 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.008 | 7.007 (0.766) | 174 | 166954 | 50.9228 | 50.923 | 80.00- 120.00 | 100.00 |
| 7.000 | 7.000 (0.765) | 93 | 144940 | | | 62.68- 122.68 | 86.81 |
| 7.000 | 7.000 (0.765) | 95 | 121590 | | | 47.70- 107.70 | 72.83 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.144 | 7.144 (1.113) | 83 | 259144 | 46.6923 | 46.692 | 80.00- 120.00 | 100.00 |
| 7.144 | 7.144 (1.113) | 85 | 167451 | | | 34.96- 94.96 | 64.62 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.566 | 7.566 (1.179) | 75 | 214233 | 45.2602 | 45.260 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.566 (1.179) | 77 | 68613 | | | 1.26- 61.26 | 32.03 |
| 7.566 | 7.566 (1.179) | 39 | 127681 | | | 35.06- 95.06 | 59.60 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.728 | 6.728 (1.048) | 83 | 220098 | 45.1921 | 45.192 | 80.00- 120.00 | 100.00 |
| 6.735 | 6.728 (1.049) | 98 | 100762 | | | 14.83- 74.83 | 45.78 |
| 6.728 | 6.728 (1.048) | 55 | 215621 | | | 71.50- 131.50 | 97.97 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.702 | 7.702 (1.200) | 58 | 135476 | 41.6090 | 41.609 | 80.00- 120.00 | 100.00 |
| 7.702 | 7.702 (1.200) | 43 | 385386 | | | 259.88- 319.88 | 284.47 |
| 7.702 | 7.702 (1.200) | 85 | 51257 | | | 7.58- 67.58 | 37.83 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 447202 | 45.4295 | 45.430 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 261126 | | | 27.89- 87.89 | 58.39 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.853 | 7.853 (1.223) | 57 | 152641 | 42.5618 | 42.562 | 80.00- 120.00 | 100.00 |
| 7.853 | 7.853 (1.223) | 85 | 147692 | | | 63.53- 123.53 | 96.76 |
| 7.853 | 7.853 (1.223) | 43 | 413916 | | | 246.00- 306.00 | 271.17 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.111 | 8.111 (0.886) | 75 | 179458 | 46.7395 | 46.739 | 80.00- 120.00 | 100.00 |
| 8.111 | 8.111 (0.886) | 77 | 58178 | | | 1.83- 61.83 | 32.42 |
| 8.111 | 8.111 (0.886) | 39 | 101127 | | | 31.97- 91.97 | 56.35 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.283 | 8.282 (0.905) | 97 | 155996 | 47.9820 | 47.982 | 80.00- 120.00 | 100.00 |
| 8.283 | 8.282 (0.905) | 99 | 96023 | | | 32.52- 92.52 | 61.55 |
| 8.283 | 8.282 (0.905) | 83 | 133809 | | | 58.90- 118.90 | 85.78 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.311 (0.908) | 166 | 254981 | 52.2322 | 52.232 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.311 (0.908) | 129 | 188639 | | | 45.32- 105.32 | 73.98 |
| 8.311 | 8.311 (0.908) | 131 | 184628 | | | 44.17- 104.17 | 72.41 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.483 | 8.483 (0.927) | 58 | 187258 | 45.9109 | 45.911 | 80.00- 120.00 | 100.00 |
| 8.483 | 8.483 (0.927) | 43 | 384261 | | | 177.32- 237.32 | 205.20 |
| 8.483 | 8.490 (0.927) | 100 | 34104 | | | 0.00- 47.18 | 18.21 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.440 | 8.440 (1.315) | 76 | 210876 | 45.6940 | 45.694 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane (continued) | | | | | | | |
| 8.440 | 8.440 (1.315) | 41 | 172432 | | | 59.72- 119.72 | 81.77 |
| 8.440 | 8.440 (1.315) | 78 | 67262 | | | 3.08- 63.08 | 31.90 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 328053 | 51.0560 | 51.056 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 254894 | | | 47.27- 107.27 | 77.70 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 260136 | 48.8204 | 48.820 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 247017 | | | 64.18- 124.18 | 94.96 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.452 (1.161) | 63 | 270604 | 45.8355 | 45.836 | 80.00- 120.00 | 100.00 |
| 7.452 | 7.452 (1.161) | 65 | 82315 | | | 0.43- 60.43 | 30.42 |
| 7.452 | 7.452 (1.161) | 144 | 31589 | | | 0.00- 40.48 | 11.67 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.003) | 112 | 400802 | 49.7848 | 49.785 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.003) | 114 | 127789 | | | 1.91- 61.91 | 31.88 |
| 9.178 | 9.178 (1.003) | 77 | 200641 | | | 22.97- 82.97 | 50.06 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 201737 | 49.8180 | 49.818 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 622433 | | | 281.09- 341.09 | 308.54 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.307 | 9.307 (1.017) | 43 | 434584 | 46.2067 | 46.207 | 80.00- 120.00 | 100.00 |
| 9.307 | 9.307 (1.017) | 57 | 355213 | | | 50.62- 110.62 | 81.74 |
| 9.307 | 9.307 (1.017) | 85 | 117186 | | | 0.00- 55.65 | 26.97 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.264 | 9.264 (1.013) | 131 | 240455 | 52.4277 | 52.428 | 80.00- 120.00 | 100.00 |
| 9.264 | 9.264 (1.013) | 117 | 160176 | | | 37.10- 97.10 | 66.61 |
| 9.264 | 9.264 (1.013) | 95 | 80110 | | | 4.93- 64.93 | 33.32 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 248200 | 49.1745 | 49.174 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 481811 | | | 170.33- 230.33 | 194.12 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 234562 | 49.0074 | 49.007 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 490802 | | | 181.23- 241.23 | 209.24 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.772 | 9.772 (1.068) | 104 | 398055 | 48.6981 | 48.698 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.772 | 9.772 (1.068) | 78 | 181886 | | | 17.26- 77.26 | 45.69 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.092) | 173 | 346705 | 53.3916 | 53.392 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.092) | 171 | 178581 | | | 21.45- 81.45 | 51.51 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.088 | 10.088 (1.103) | 105 | 722579 | 49.9413 | 49.941 | 80.00- 120.00 | 100.00 |
| 10.088 | 10.088 (1.103) | 120 | 199003 | | | 0.00- 56.93 | 27.54 |
| 10.088 | 10.088 (1.103) | 51 | 82934 | | | 0.00- 42.24 | 11.48 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.252 | 10.252 (1.121) | 55 | 235627 | 41.1631 | 41.163 | 80.00- 120.00 | 100.00 |
| 10.260 | 10.259 (1.121) | 98 | 88355 | | | 5.15- 65.15 | 37.50 |
| 10.252 | 10.252 (1.121) | 42 | 160010 | | | 41.99- 101.99 | 67.91 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.144) | 83 | 363308 | 48.4124 | 48.412 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.467 (1.144) | 85 | 236122 | | | 34.97- 94.97 | 64.99 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.424 | 10.424 (1.139) | 156 | 257499 | 51.0819 | 51.082 | 80.00- 120.00 | 100.00 |
| 10.424 | 10.424 (1.139) | 158 | 250497 | | | 67.47- 127.47 | 97.28 |
| 10.424 | 10.424 (1.139) | 77 | 328846 | | | 108.68- 168.68 | 127.71 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.489 | 10.489 (1.146) | 120 | 214906 | 50.2317 | 50.232 | 80.00- 120.00 | 100.00 |
| 10.489 | 10.489 (1.146) | 91 | 859180 | | | 383.60- 443.60 | 399.79 |
| 10.489 | 10.489 (1.146) | 105 | 33181 | | | 0.00- 46.14 | 15.44 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.517 (1.150) | 110 | 112306 | 49.3096 | 49.310 | 80.00- 120.00 | 100.00 |
| 10.517 | 10.517 (1.150) | 75 | 379984 | | | 324.28- 384.28 | 338.35 |
| 10.517 | 10.517 (1.150) | 61 | 90694 | | | 57.24- 117.24 | 80.76 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.603 (1.159) | 57 | 467699 | 42.2388 | 42.239 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 71 | 147220 | | | 1.11- 61.11 | 31.48 |
| 10.603 | 10.603 (1.159) | 142 | 21633 | | | 0.00- 34.44 | 4.63 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.603 (1.159) | 120 | 228511 | 49.0036 | 49.004 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 105 | 740417 | | | 298.94- 358.94 | 324.02 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.603 (1.159) | 126 | 197566 | 50.0744 | 50.074 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.603 | 10.603 (1.159) | 91 | 596170 | | | 282.78- 342.78 | 301.76 |
| 10.603 | 10.603 (1.159) | 65 | 85465 | | | 17.33- 77.33 | 43.26 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.668 | 10.668 (1.166) | 120 | 312181 | 49.6417 | 49.642 | 80.00- 120.00 | 100.00 |
| 10.668 | 10.668 (1.166) | 105 | 624998 | | | 172.08- 232.08 | 200.20 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.897 | 10.897 (1.191) | 118 | 335661 | 50.3878 | 50.388 | 80.00- 120.00 | 100.00 |
| 10.897 | 10.897 (1.191) | 103 | 186008 | | | 25.64- 85.64 | 55.42 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.976 (1.200) | 119 | 596976 | 49.9313 | 49.931 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.976 (1.200) | 134 | 151897 | | | 0.00- 55.10 | 25.44 |
| 10.976 | 10.976 (1.200) | 91 | 376335 | | | 34.53- 94.53 | 63.04 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.033 | 11.033 (1.206) | 105 | 633081 | 49.2376 | 49.238 | 80.00- 120.00 | 100.00 |
| 11.033 | 11.033 (1.206) | 120 | 297358 | | | 16.63- 76.63 | 46.97 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.191 | 11.191 (1.223) | 134 | 198231 | 50.6520 | 50.652 | 80.00- 120.00 | 100.00 |
| 11.191 | 11.191 (1.223) | 105 | 905007 | | | 436.99- 496.99 | 456.54 |
| 11.191 | 11.191 (1.223) | 91 | 134997 | | | 41.69- 101.69 | 68.10 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.334 | 11.334 (1.239) | 119 | 814129 | 50.8676 | 50.868 | 80.00- 120.00 | 100.00 |
| 11.334 | 11.334 (1.239) | 134 | 225708 | | | 0.00- 57.62 | 27.72 |
| 11.334 | 11.334 (1.239) | 91 | 179869 | | | 0.00- 53.03 | 22.09 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.341 | 11.341 (1.240) | 146 | 472582 | 49.6002 | 49.600 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 148 | 299257 | | | 34.18- 94.18 | 63.32 |
| 11.341 | 11.341 (1.240) | 111 | 179907 | | | 10.06- 70.06 | 38.07 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.441 (1.251) | 146 | 479546 | 49.6885 | 49.688 | 80.00- 120.00 | 100.00 |
| 11.441 | 11.441 (1.251) | 148 | 304576 | | | 33.55- 93.55 | 63.51 |
| 11.441 | 11.441 (1.251) | 111 | 177520 | | | 7.98- 67.98 | 37.02 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.585 | 11.585 (1.266) | 91 | 572628 | 46.8546 | 46.854 | 80.00- 120.00 | 100.00 |
| 11.585 | 11.585 (1.266) | 126 | 135635 | | | 0.00- 52.77 | 23.69 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.778 | 11.778 (1.287) | 57 | 542356 | 41.1947 | 41.195 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane (continued) | | | | | | | |
| 11.778 | 11.778 (1.287) | 43 | 495373 | | | 63.59- 123.59 | 91.34 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.742 (1.283) | 134 | 222873 | 50.5276 | 50.528 | 80.00- 120.00 | 100.00 |
| 11.735 | 11.735 (1.283) | 91 | 740556 | | | 310.82- 370.82 | 332.28 |
| 11.735 | 11.735 (1.283) | 92 | 390278 | | | 151.53- 211.53 | 175.11 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.814 (1.291) | 146 | 456468 | 49.3656 | 49.366 | 80.00- 120.00 | 100.00 |
| 11.814 | 11.814 (1.291) | 148 | 290123 | | | 33.00- 93.00 | 63.56 |
| 11.814 | 11.814 (1.291) | 111 | 180990 | | | 10.87- 70.87 | 39.65 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.609 | 12.609 (1.378) | 157 | 288724 | 52.7920 | 52.792 | 80.00- 120.00 | 100.00 |
| 12.609 | 12.609 (1.378) | 75 | 209466 | | | 48.09- 108.09 | 72.55 |
| 12.609 | 12.609 (1.378) | 155 | 225366 | | | 47.89- 107.89 | 78.06 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.853 | 12.845 (1.405) | 57 | 626779 | 47.2617 | 47.262 | 80.00- 120.00 | 100.00 |
| 12.853 | 12.845 (1.405) | 43 | 537767 | | | 58.52- 118.52 | 85.80 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.390 | 13.383 (1.463) | 180 | 478803 | 52.2510 | 52.251 | 80.00- 120.00 | 100.00 |
| 13.390 | 13.383 (1.463) | 182 | 457527 | | | 64.84- 124.84 | 95.56 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.504 | 13.497 (1.476) | 225 | 355981 | 53.2564 | 53.256 | 80.00- 120.00 | 100.00 |
| 13.504 | 13.497 (1.476) | 223 | 225065 | | | 32.80- 92.80 | 63.22 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.640 | 13.633 (1.491) | 128 | 113084 | 5.91269 | 5.913 | 80.00- 120.00 | 100.00 |
| 13.640 | 13.633 (1.491) | 127 | 15412 | | | 0.00- 42.72 | 13.63 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.884 (1.518) | 180 | 473263 | 52.7057 | 52.706 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.884 (1.518) | 182 | 449065 | | | 65.07- 125.07 | 94.89 |
| 13.884 | 13.884 (1.518) | 145 | 155039 | | | 4.48- 64.48 | 32.76 |

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061405a.d
Lab Smp Id: LCSD
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 14-JUN-2024
Calibration Time: 12:02
Client Smp ID: LCSD
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 97298 | 58379 | 136217 | 96328 | -1.00 |
| 108 1,4-Difluorobenze | 356185 | 213711 | 498659 | 353186 | -0.84 |
| 153 Chlorobenzene-d5 | 352841 | 211705 | 493977 | 347473 | -1.52 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 14JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: LCSD Client Smp ID: LCSD
Level: LOW Operator: RT
Data Type: MS DATA SampleType: LCSD
SpikeList File: CntrlDODAT23.spk Quant Type: ISTD
Sublist File: AT23_cont111224.sub
Method File: /chem/msd3.i/14JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 4 Freon 134a | 50.000 | 49.148 | 98.30 | 70-130 |
| 5 Propylene | 50.000 | 44.828 | 89.66 | 57-136 |
| 7 1,1-Difluoroethan | 50.000 | 48.485 | 96.97 | 70-130 |
| 8 Freon 12 | 50.000 | 47.293 | 94.59 | 59-128 |
| 9 Chlorodifluoromet | 50.000 | 43.764 | 87.53 | 59-145 |
| 10 Freon 114 | 50.000 | 49.882 | 99.76 | 63-121 |
| 12 Isobutane | 50.000 | 44.594 | 89.19 | 70-130 |
| 15 Chloromethane | 50.000 | 47.657 | 95.31 | 59-132 |
| 18 Butane | 50.000 | 45.481 | 90.96 | 64-129 |
| 19 Vinyl Chloride | 50.000 | 46.352 | 92.70 | 64-127 |
| 20 1,3-Butadiene | 50.000 | 42.896 | 85.79 | 66-134 |
| 24 Bromomethane | 50.000 | 52.795 | 105.59 | 63-134 |
| 30 Chloroethane | 50.000 | 46.153 | 92.31 | 63-127 |
| 31 Isopentane | 50.000 | 45.969 | 91.94 | 59-140 |
| 32 Vinyl Bromide | 50.000 | 49.261 | 98.52 | 71-126 |
| 33 Freon 11 | 50.000 | 47.638 | 95.28 | 62-126 |
| 34 Dichlorofluoromet | 50.000 | 44.417 | 88.83 | 70-130 |
| 35 Pentane | 50.000 | 44.034 | 88.07 | 63-131 |
| 39 Ethanol | 50.000 | 40.318 | 80.64 | 59-125 |
| 42 Acrolein | 57.000 | 43.899 | 77.02 | 62-126 |
| 43 Freon 113 | 50.000 | 47.735 | 95.47 | 66-126 |
| 44 1,1-Dichloroethen | 50.000 | 43.143 | 86.29 | 61-133 |
| 47 Acetone | 50.000 | 43.388 | 86.78 | 58-128 |
| 48 Carbon Disulfide | 50.000 | 43.927 | 87.85 | 57-134 |
| 52 2-Propanol | 50.000 | 41.870 | 83.74 | 52-125 |
| 54 3-Chloropropene | 50.000 | 44.040 | 88.08 | 71-131 |
| 57 Acetonitrile | 50.000 | 44.311 | 88.62 | 63-132 |
| 59 Methylene Chlorid | 50.000 | 42.251 | 84.50 | 62-115 |
| 62 tert-Butyl alcoho | 50.000 | 44.667 | 89.33 | 24-150 |
| 63 Methyl tert-butyl | 50.000 | 45.627 | 91.25 | 66-126 |
| 64 trans-1,2-Dichlor | 50.000 | 44.342 | 88.68 | 67-124 |
| 66 Acrylonitrile | 50.000 | 41.877 | 83.75 | 71-137 |
| 67 Hexane | 50.000 | 41.327 | 82.65 | 63-120 |

| | SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| 71 | 1,1-Dichloroethan | 50.000 | 44.000 | 88.00 | 68-126 |
| 72 | Isopropyl ether | 50.000 | 45.545 | 91.09 | 70-117 |
| 73 | Vinyl Acetate | 50.000 | 65.839 | 131.68 | 56-139 |
| 79 | Ethyl-tert-butyl | 50.000 | 45.550 | 91.10 | 70-130 |
| 84 | 2,2-Dichloropropa | 50.000 | 43.986 | 87.97 | 70-130 |
| 85 | cis-1,2-Dichloroe | 50.000 | 44.193 | 88.39 | 70-121 |
| 86 | 2-Butanone | 50.000 | 44.184 | 88.37 | 67-130 |
| 87 | Ethyl Acetate | 50.000 | 41.637 | 83.27 | 65-128 |
| 89 | Tetrahydrofuran | 50.000 | 41.082 | 82.16 | 64-123 |
| 92 | Chloroform | 50.000 | 44.252 | 88.50 | 68-123 |
| 96 | 1,1,1-Trichloroet | 50.000 | 46.441 | 92.88 | 68-125 |
| 97 | Carbon Tetrachlor | 50.000 | 48.014 | 96.03 | 68-132 |
| 94 | Cyclohexane | 50.000 | 46.434 | 92.87 | 70-117 |
| 99 | 1,1-Dichloroprope | 50.000 | 46.015 | 92.03 | 70-130 |
| 101 | 2,2,4-Trimethylpe | 50.000 | 45.476 | 90.95 | 68-121 |
| 102 | Benzene | 50.000 | 45.897 | 91.79 | 69-119 |
| 106 | 1,2-Dichloroethan | 50.000 | 44.558 | 89.12 | 65-128 |
| 107 | Heptane | 50.000 | 44.559 | 89.12 | 69-123 |
| 110 | n-Butanol | 50.000 | 70.738 | 141.48* | 62-133 |
| 111 | Trichloroethene | 50.000 | 47.088 | 94.18 | 71-123 |
| 127 | Methylcyclohexane | 50.000 | 45.192 | 90.38 | 67-127 |
| 114 | 1,2-Dichloropropa | 50.000 | 43.514 | 87.03 | 69-123 |
| 116 | Methyl Methacryla | 50.000 | 44.802 | 89.60 | 70-128 |
| 117 | 1,4-Dioxane | 50.000 | 47.554 | 95.11 | 71-122 |
| 118 | Dibromomethane | 50.000 | 50.923 | 101.85 | 70-130 |
| 122 | Bromodichlorometh | 50.000 | 46.692 | 93.38 | 72-128 |
| 126 | cis-1,3-Dichlorop | 50.000 | 45.260 | 90.52 | 70-128 |
| 131 | 4-Methyl-2-pentan | 50.000 | 41.609 | 83.22 | 67-130 |
| 136 | Octane | 50.000 | 42.562 | 85.12 | 69-121 |
| 137 | Toluene | 50.000 | 45.430 | 90.86 | 66-119 |
| 139 | trans-1,3-Dichlor | 50.000 | 46.739 | 93.48 | 75-133 |
| 141 | 1,1,2-Trichloroet | 50.000 | 47.982 | 95.96 | 73-119 |
| 142 | Tetrachloroethene | 50.000 | 52.232 | 104.46 | 66-124 |
| 143 | 2-Hexanone | 50.000 | 45.911 | 91.82 | 62-128 |
| 144 | 1,3-Dichloropropa | 50.000 | 45.694 | 91.39 | 62-148 |
| 146 | Dibromochlorometh | 50.000 | 51.056 | 102.11 | 70-130 |
| 148 | 1,2-Dibromoethane | 50.000 | 48.820 | 97.64 | 74-122 |
| 151 | 1-Bromo-2-Chloroe | 50.000 | 45.836 | 91.67 | 70-130 |
| 154 | Chlorobenzene | 50.000 | 49.785 | 99.57 | 70-119 |
| 155 | Ethyl Benzene | 50.000 | 49.818 | 99.64 | 70-124 |
| 156 | Nonane | 50.000 | 46.207 | 92.41 | 63-128 |
| 157 | 1,1,1,2-Tetrachlo | 50.000 | 52.428 | 104.86 | 70-130 |
| 158 | m,p-Xylene | 50.000 | 49.174 | 98.35 | 61-134 |
| 164 | o-Xylene | 50.000 | 49.007 | 98.01 | 67-125 |
| 165 | Styrene | 50.000 | 48.698 | 97.40 | 73-127 |
| 167 | Bromoform | 50.000 | 53.392 | 106.78 | 66-139 |
| 168 | Cumene | 50.000 | 49.941 | 99.88 | 68-124 |

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 175 1,1,2,2-Tetrachlo | 50.000 | 48.412 | 96.82 | 65-127 |
| 177 Bromobenzene | 50.000 | 51.082 | 102.16 | 70-130 |
| 178 Propylbenzene | 50.000 | 50.232 | 100.46 | 69-123 |
| 179 1,2,3-Trichloropr | 50.000 | 49.310 | 98.62 | 76-124 |
| 182 Decane | 50.000 | 42.239 | 84.48 | 70-118 |
| 183 4-Ethyltoluene | 50.000 | 49.004 | 98.01 | 67-129 |
| 184 2-Chlorotoluene | 50.000 | 50.074 | 100.15 | 74-130 |
| 185 1,3,5-Trimethylbe | 50.000 | 49.642 | 99.28 | 67-130 |
| 188 alpha Methyl Styr | 50.000 | 50.388 | 100.78 | 67-128 |
| 189 tert-Butylbenzene | 50.000 | 49.931 | 99.86 | 65-124 |
| 190 1,2,4-Trimethylbe | 50.000 | 49.238 | 98.48 | 66-132 |
| 192 sec-Butylbenzene | 50.000 | 50.652 | 101.30 | 68-125 |
| 194 p-Cymene | 50.000 | 50.868 | 101.74 | 67-130 |
| 195 1,3-Dichlorobenze | 50.000 | 49.600 | 99.20 | 65-130 |
| 196 1,4-Dichlorobenze | 50.000 | 49.688 | 99.38 | 60-131 |
| 199 alpha-Chlorotolue | 50.000 | 46.854 | 93.71 | 50-147 |
| 201 Undecane | 50.000 | 41.195 | 82.39 | 69-123 |
| 202 Butylbenzene | 50.000 | 50.528 | 101.06 | 66-130 |
| 204 1,2-Dichlorobenze | 50.000 | 49.366 | 98.73 | 63-129 |
| 206 1,2-Dibromo-3-chl | 50.000 | 52.792 | 105.58 | 70-130 |
| 207 Dodecane | 50.000 | 47.262 | 94.52 | 62-147 |
| 213 1,2,4-Trichlorobe | 50.000 | 52.251 | 104.50 | 55-142 |
| 215 Hexachlorobutadie | 50.000 | 53.256 | 106.51 | 56-138 |
| 216 Naphthalene | 5.700 | 5.913 | 103.73 | 57-138 |
| 222 1,2,3-Trichlorobe | 50.000 | 52.706 | 105.41 | 55-142 |

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 23.122 | 92.49 | 68-132 |
| $ 134 Toluene-d8 | 25.000 | 23.963 | 95.85 | 91-110 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.213 | 100.85 | 77-125 |

Data File: /chem/msd3.i/14JUN24.b/3061405a.d

Page 1

Date : 14-JUN-2024 13:04

Client ID: LCSD

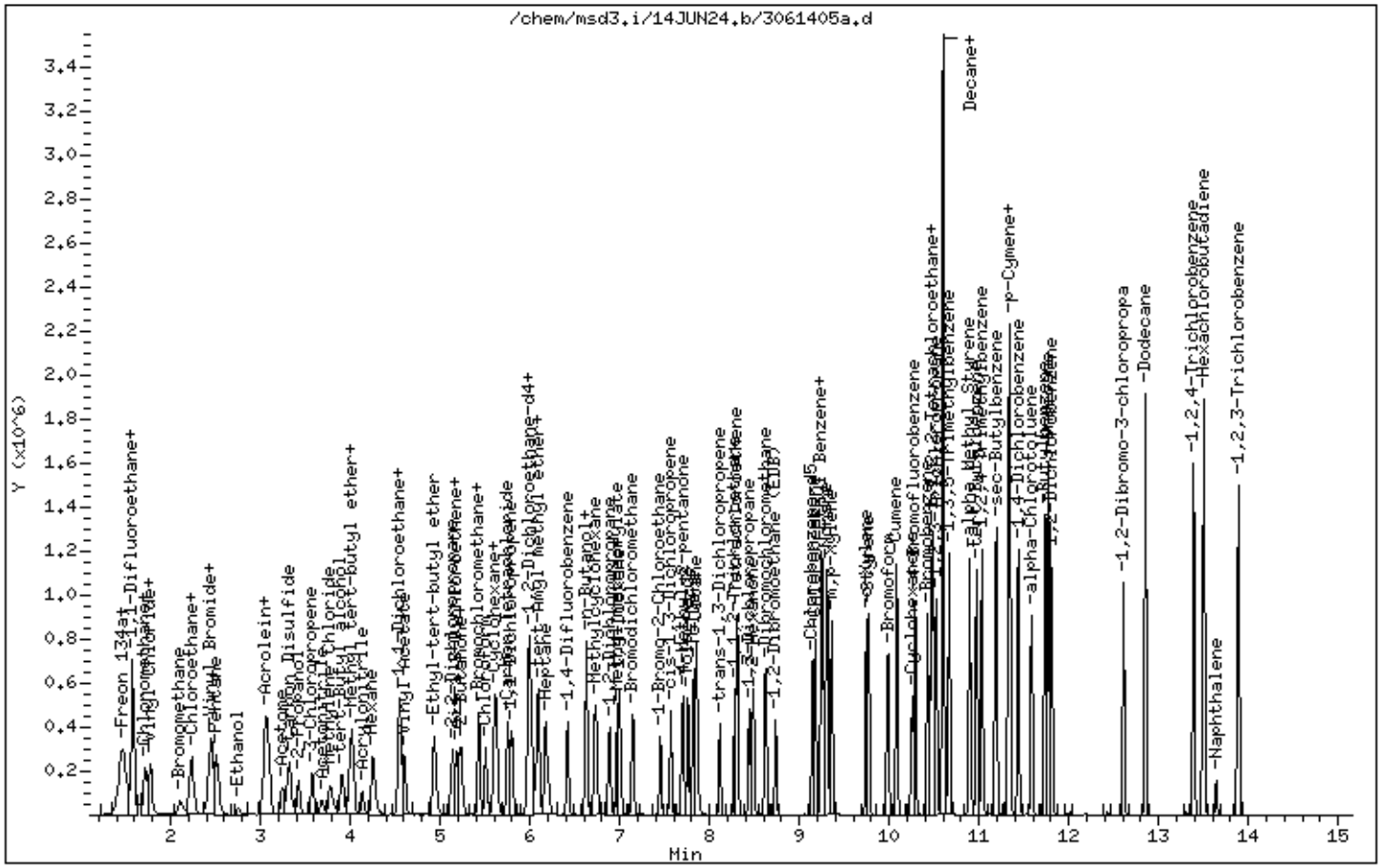
Instrument: msd3.i

Sample Info: 50mL 3018-4603

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



z

# MSD3

| BFB Tune Verification: (176/174): (141888/145408) x 100 =97.60 | | | |
|---|---|---|---|
| | 3169-901 | Exp. Date: | 4/4/2025 |
| BCM | | 94691 | |
| 1,4-DFB | | 348240 | |
| CB-d5 | | 341662 | |

| Verified CCV vs. ICAL midpoint (-40%): | RT/Mjs |
|---|---|
| Method: | 324Q0423a.m |

| | | | | | |
|---|---|---|---|---|---|
| Method TO-15/TO-14 | | | | | |
| SOP# 6 | | | | | |
| Vacuum: | NA | | | | |
| Surrogate # 3169-901 | | Exp Date: | 4/4/2025 | | |
| CCV | 3018-4465 | Exp Date: | 7/22/2024 | LCS | 3018-4603 | Exp Date | 7/31/2024 |
| CCV SP 1 # | | Exp Date: | | LCS Sp #1 | | Exp Date | |
| CCV SP 2 # | | Exp Date: | | LCS Sp #2 | | Exp Date | |
| CCV SP 3# | | Exp Date: | | LCS Sp #3 | | Exp Date | |
| CCV SP 4# | | Exp Date: | | | | | |

| Use | File # | Enter/Scan Sample IDs | Canister# | Cart Pos. | Pressure | Amount | DF | Verify Load | Loaded Init. | Date Analyzed | Time | Review Init | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| √ | 3061301 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | RT/Mjs | RT | 06/13/24 | 1017 | RT/Mjs | |
| √ | 3061302 | BFB Tune Check | 3169-901 | 12 | 36ng | 50mL | 1.00 | RT/Mjs | RT | 06/13/24 | 1048 | RT/Mjs | Exp. 4/4/25. |
| √ | 3061303 | CCV | 3018-4465 | 13 | 50ppbv (200ppbv) | 50mL | 1.00 | RT/Mjs | RT | 06/13/24 | 1142 | RT/Mjs | Exp. 7/22/24. 1 out |
| √ | 3061304 | LCS | 3018-4603 | 14 | 50ppbv (200ppbv) | 50mL | 1.00 | RT/Mjs | RT | 06/13/24 | 1213 | RT/Mjs | Exp. 7/31/24. 2 out AT-23, |
| √ | 3061305 | LCSD | 3018-4603 | 14 | 50ppbv (200ppbv) | 50mL | 1.00 | RT/Mjs | RT | 06/13/24 | 1244 | RT/Mjs | Exp. 7/31/24. RPD ok. |
| √ | 3061306 | Lab Blank | N1876 | 12 | Humid | 200mL | 1.00 | RT/Mjs | RT | 06/13/24 | 1319 | RT/Mjs | |
| √ | 3061307 | 2406116-12A | N3423 | 1 | 8.6 Hg->10.1 psi | 200mL | 2.36 | ACE | RT | 06/13/24 | 1445 | ACE | |
| √ | 3061308 | 2406116-13A | N1980 | 2 | 6.5 Hg->10 psi | 200mL | 2.14 | ACE | RT | 06/13/24 | 1520 | ACE | |
| √ | 3061309 | 2406116-14A | 1L2731 | 3 | 5.9 Hg->10 psi | 200mL | 2.09 | ACE | RT | 06/13/24 | 1555 | ACE | |
| √ | 3061310 | 2406116-15A | 1L4715 | 4 | 8.6 Hg->9.9 psi | 200mL | 2.34 | ACE | RT | 06/13/24 | 1630 | ACE | |
| √ | 3061311 | 2406116-19A | N5657 | 5 | 8 Hg->10 psi | 200mL | 2.29 | ACE | RT | 06/13/24 | 1705 | ACE | |
| √ | 3061312 | 2406116-20A | N6268 | 6 | 6.1 Hg->10.1 psi | 200mL | 2.12 | ACE | RT | 06/13/24 | 1741 | ACE | |
| √ | 3061313 | 2406116-20AA | N6268 | 6 | 6.1 Hg->10.1 psi | 200mL | 2.12 | ACE | RT | 06/13/24 | 1816 | ACE | DupAnB |
| √ | 3061314 | 2406116-16A | B2132 | 7 | 8.2 Hg->10 psi | 55mL | 8.41 | ACE | RT | 06/13/24 | 1847 | ACE | dil TC; Matrix |
| √ | 3061315 | System Blank | N1876 | 9 | Humid | 200mL | 1.00 | ACE | RT | 06/13/24 | 1922 | ACE | leg validation 8+9 |
| √ | 3061316 | 2406116-17A | N6708 | 10 | 8.2 Hg->9.8 psi | 155mL | 2.96 | ACE | RT | 06/13/24 | 1956 | ACE | dil NTC; Matrix; "E"Isopentane(NTC)<400 |
| √ | 3061317 | 2406116-18A | 1L4805 | 11 | 7.6 Hg->10 psi | 20mL | 22.5 | ACE | RT | 06/13/24 | 2027 | ACE | dil NTC; Matrix; "E"NTCs<400 |
| √ | 3061318 | System Blank | N1876 | 7 | Humid | 200mL | 1.00 | RT/LD | ACE | 06/13/24 | 2231 | RT/LD | |
| √ | 3061319 | 2406181-09A | N6704 | 1 | 6.5 Hg->9.9 psi | 200mL | 2.14 | RT/LD | ACE | 06/13/24 | 2306 | RT/LD | |
| √ | 3061320 | 2406181-08A | O0798 | 2 | 9.2 Hg->9.9 psi | 100mL | 4.83 | RT/LD | ACE | 06/13/24 | 2339 | RT/LD | dil TC |
| √ | 3061321 | 2406181-12A | N3815 | 3 | 5.9 Hg->10 psi | 65mL | 6.44 | RT/LD | ACE | 06/14/24 | 0011 | RT/LD | dil TC |
| √ | 3061322 | 2406181-15A | 3023 | 4 | 7.3 Hg->9.9 psi | 65mL | 6.80 | RT/LD | ACE | 06/14/24 | 0042 | RT/LD | dil TC |
| √ | 3061323 | 2406181-11A | 1L3963 | 5 | 5.9 Hg->10 psi | 20mL | 20.9 | RT/LD | ACE | 06/14/24 | 0113 | RT/LD | dil TC |
| √ | 3061324 | 2406181-14A | N2592 | 6 | 6.7 Hg->10.1 psi | 20mL | 21.7 | RT/LD | ACE | 06/14/24 | 0143 | RT/LD | dil TC |

Mjs 6/14/24

| Use | File # | Enter/Scan Sample IDs | Canister# | Cart Pos. | Pressure | Amount | DF | Verify Load | Loaded Init. | Date Analyzed | Time | Review Init | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| √ | 3061325 | 2406133-01A | N7505 | 8 | 6.3 Hg->9.9 psi | 200mL | 2.12 | RT/LD | ACE | 06/14/24 | 0218 | RT/LD | |
| √ | 3061326 | 2406133-02A | 1L4701 | 9 | 29.8 Hg->9.9 psi | 200mL | 251 | RT/LD | ACE | 06/14/24 | 0253 | RT/LD | |
| √ | 3061327 | 2406133-03A | N8282 | 10 | 6.3 Hg->9.9 psi | 45mL | 9.41 | RT/LD | ACE | 06/14/24 | 0324 | RT/LD | dil Tc |
| √ | 3061328 | 2406133-06A | S1463 | 11 | 6.7 Hg->8.1 psi | 200mL | 2.00 | RT/LD | ACE | 06/14/24 | 0359 | RT/LD | |
| √ | 3061329 | 2406133-05A | N3414 | 12 | 7.1 Hg->9.9 psi | 200mL | 2.19 | RT/LD | ACE | 06/14/24 | 0435 | RT/LD | |
| √ | 3061330 | 2406133-05AA | N3414 | 12 | 7.1 Hg->9.9 psi | 200mL | 2.19 | RT/LD | ACE | 06/14/24 | 0510 | RT/LD | DupAnB |
| √ | 3061331 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | RT/LD | RT | 06/14/24 | 0811 | RT/LD | |
| √ | 3061332 | CCV | 3018-4465 | 13 | 50ppbv (200ppbv) | 50mL | 1.00 | RT/LD | RT | 06/14/24 | 0842 | RT/LD | |

RT/LD 6/14/24

z

MSD3

| BFB Tune Verification: (176/174): (144064/147200) x 100 =97.86 | | | |
|---|---|---|---|
| | 3169-901 | Exp. Date: | 4/4/2025 |
| BCM | | 97298 | |
| 1,4-DFB | | 356185 | |
| CB-d5 | | 352841 | |

| Verified CCV vs. ICAL midpoint (-40%): | RT/LD |
|---|---|
| Method: 324Q0423a.m | |

| | | Method TO-15/TO-14 | | | | | |
|---|---|---|---|---|---|---|---|
| | | SOP# 6 | | | | | |
| | | Vacuum: | NA | | | | |
| Surrogate # 3169-901 | | Exp Date: | 4/4/2025 | | | | |
| CCV | 3018-4465 | Exp Date: | 7/22/2024 | LCS | 3018-4603 | Exp Date | 7/31/2024 |
| CCV SP 1 # | | Exp Date: | | LCS Sp #1 | | Exp Date | |
| CCV SP 2 # | | Exp Date: | | LCS Sp #2 | | Exp Date | |
| CCV SP 3# | | Exp Date: | | LCS Sp #3 | | Exp Date | |
| CCV SP 4# | | Exp Date: | | | | | |

| Use | File # | Enter/Scan Sample IDs | Canister# | Cart Pos. | Pressure | Amount | DF | Verify Lead | Loaded Init. | Date Analyzed | Time | Review Init | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| √ | 3061401 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | RT/LD | RT | 06/14/24 | 1043 | RT/LD | |
| √ | 3061402 | BFB Tune Check | 3169-901 | 12 | 36ng | 50mL | 1.00 | RT/LD | RT | 06/14/24 | 1114 | RT/LD | Exp. 4/4/25. |
| √ | 3061403 | CCV | 3018-4465 | 13 | 50ppbv (200ppbv) | 50mL | 1.00 | RT/LD | RT | 06/14/24 | 1202 | RT/LD | Exp. 7/22/24. 2 out |
| √ | 3061404 | LCS | 3018-4603 | 14 | 50ppbv (200ppbv) | 50mL | 1.00 | RT/LD | RT | 06/14/24 | 1233 | RT/LD | Exp. 7/31/24. 2 out AT23 |
| √ | 3061405 | LCSD | 3018-4603 | 14 | 50ppbv (200ppbv) | 50mL | 1.00 | RT/LD | RT | 06/14/24 | 1304 | RT/LD | Exp. 7/31/24. RPD OK. |
| √ | 3061406 | Lab Blank | 34424 | 11 | Humid | 200mL | 1.00 | RT/LD | RT | 06/14/24 | 1340 | RT/LD | |
| √ | 3061407 | 2406160-01A | O1014 | 1 | 6.1 Hg->10 psi | 200mL | 2.11 | ACE | RT | 06/14/24 | 1513 | ACE | |
| √ | 3061408 | 2406160-01AA | O1014 | 1 | 6.1 Hg->10 psi | 200mL | 2.11 | ACE | RT | 06/14/24 | 1548 | ACE | Dup AnB |
| √ | 3061409 | 2406133-04A | N8353 | 2 | 8.6 Hg->10 psi | 200mL | 2.36 | ACE | RT | 06/14/24 | 1624 | ACE | |
| √ | 3061410 | 2406133-04AA | N8353 | 2 | 8.6 Hg->10 psi | 200mL | 2.36 | ACE | RT | 06/14/24 | 1659 | ACE | DupAnB |
| √ | 3061411 | 2406133-07A | N7562 | 3 | 5.1 Hg->9.7 psi | 40mL | 10.0 | ACE | RT | 06/14/24 | 1730 | ACE | dil TC |
| √ | 3061412 | 2406133-08A | N5475 | 4 | 7.6 Hg->10 psi | 200mL | 2.25 | ACE | RT | 06/14/24 | 1805 | ACE | |
| √ | 3061413 | 2406133-09A | N5166 | 5 | 9.8 Hg->10 psi | 200mL | 2.50 | ACE | RT | 06/14/24 | 1840 | ACE | |
| √ | 3061414 | 2406133-10A | N2678 | 6 | 11.2 Hg->10 psi | 45mL | 11.9 | ACE | RT | 06/14/24 | 1911 | ACE | dil TC |
| √ | 3061415 | 2406133-11A | 1L1792 | 7 | 15.5 Hg->9.9 psi | 200mL | 3.46 | ACE | RT | 06/14/24 | 1946 | ACE | "E"Carbon Disulfide(NTC)<400 |
| √ | 3061416 | 2406133-12A | N7793 | 8 | 11.4 Hg->10 psi | 200mL | 2.71 | ACE | RT | 06/14/24 | 2021 | ACE | |
| √ | 3061417 | 2406133-13A | N5605 | 9 | 7.3 Hg->9.8 psi | 200mL | 2.20 | ACE | RT | 06/14/24 | 2056 | ACE | |
| √ | 3061418 | 2406165B-03A | N7502 | 1 | 6.7 Hg->10.1 psi | 200mL | 2.17 | jcw | ACE | 06/14/24 | 2252 | jcw | |
| √ | 3061419 | 2406165B-04A | N6881 | 2 | 5.9 Hg->10 psi | 200mL | 2.09 | jcw | ACE | 06/14/24 | 2327 | jcw | |
| √ | 3061420 | 2406133-14A | 1L4700 | 3 | 8.2 Hg->9.9 psi | 200mL | 2.30 | jcw | ACE | 06/15/24 | 0002 | jcw | |
| √ | 3061421 | 2406133-15A | N7285 | 4 | 8.6 Hg->9.8 psi | 200mL | 2.34 | jcw | ACE | 06/15/24 | 0037 | jcw | |
| √ | 3061422 | 2406133-16A | N8419 | 5 | 8.8 Hg->10 psi | 200mL | 2.38 | jcw | ACE | 06/15/24 | 0112 | jcw | |
| √ | 3061423 | 2406133-17A | N8082 | 6 | 9.6 Hg->10.3 psi | 200mL | 2.50 | jcw | ACE | 06/15/24 | 0147 | jcw | |
| √ | 3061424 | 2406133-18A | B2546 | 7 | 9 Hg->9.7 psi | 200mL | 2.37 | jcw | ACE | 06/15/24 | 0222 | jcw | |
| √ | 3061425 | 2406133-19A | N8317 | 8 | 8.4 Hg->9.8 psi | 200mL | 2.31 | jcw | ACE | 06/15/24 | 0257 | jcw | |
| √ | 3061426 | 2406133-20A | 1L4761 | 9 | 7.6 Hg->10 psi | 200mL | 2.25 | jcw | ACE | 06/15/24 | 0332 | jcw | |
| √ | 3061427 | 2406133-21A | N5169 | 10 | 8.2 Hg->9.7 psi | 200mL | 2.28 | jcw | ACE | 06/15/24 | 0407 | jcw | |
| √ | 3061428 | 2406133-22A | O0248 | 11 | 6.7 Hg->9.6 psi | 200mL | 2.13 | jcw | ACE | 06/15/24 | 0442 | jcw | |
| √ | 3061429 | System Blank | N1876 | 1 | Humid | 200mL | 1.00 | jcw | jcw | 06/15/24 | 0754 | jcw | |
| √ | 3061430 | CCV | 3018-4465 | 13 | 50ppbv (200ppbv) | 50mL | 1.00 | jcw | jcw | 06/15/24 | 0826 | jcw | Exp. 7/22/24. 2 out AT23 |

Reviewed by*: HW Date: 06/15/24

*Must be an independent reviewer

US32TAR1

Data file : /chem/msd3.i/23APR24.b/3042306.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 23-APR-2024 20:30
Operator : DF Inst ID: msd3.i
Smp Info : 50mL 3329-901;BFB Tune Check
Misc Info : 36ng
Comment :
Method : /chem/msd3.i/23APR24.b/bfb30.m
Meth Date : 17-Aug-2023 11:53 p5fl Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 12 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.00000 | Dilution Factor |
| Uf | 1.00000 | ng unit correction factor |
| Vf | 1.00000 | Volumetric correction factor |

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL ( ug/L) | FINAL ( PPBV) | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT | DLT RT | MASS | RESPONSE | | | TARGET RANGE | RATIO |
| 1 bfb | | | | | | | CAS #: 460-00-4 | |
| 10.295 | 10.331 | -0.036 | 95 | 199040 | | | 100.00- 100.00 | 100.00 |
| 10.295 | 9.729 | 0.566 | 50 | 45477 | | | 8.00- 40.00 | 22.85 |
| 10.295 | 9.729 | 0.566 | 75 | 90602 | | | 30.00- 66.00 | 45.52 |
| 10.295 | 9.729 | 0.566 | 96 | 13140 | | | 5.00- 9.00 | 6.60 |
| 10.295 | 9.729 | 0.566 | 173 | 1817 | | | 0.00- 1.99 | 1.07 |
| 10.295 | 9.729 | 0.566 | 174 | 169365 | | | 50.01- 120.00 | 85.09 |
| 10.295 | 9.729 | 0.566 | 175 | 12601 | | | 4.00- 9.00 | 7.44 |
| 10.295 | 9.729 | 0.566 | 176 | 164074 | | | 93.00- 101.00 | 96.88 |
| 10.295 | 9.729 | 0.566 | 177 | 10508 | | | 5.00- 9.00 | 6.40 |

Data File: /chem/msd3.i/23APR24.b/3042306.d



Date : 23-APR-2024 20:30

Client ID: BFB

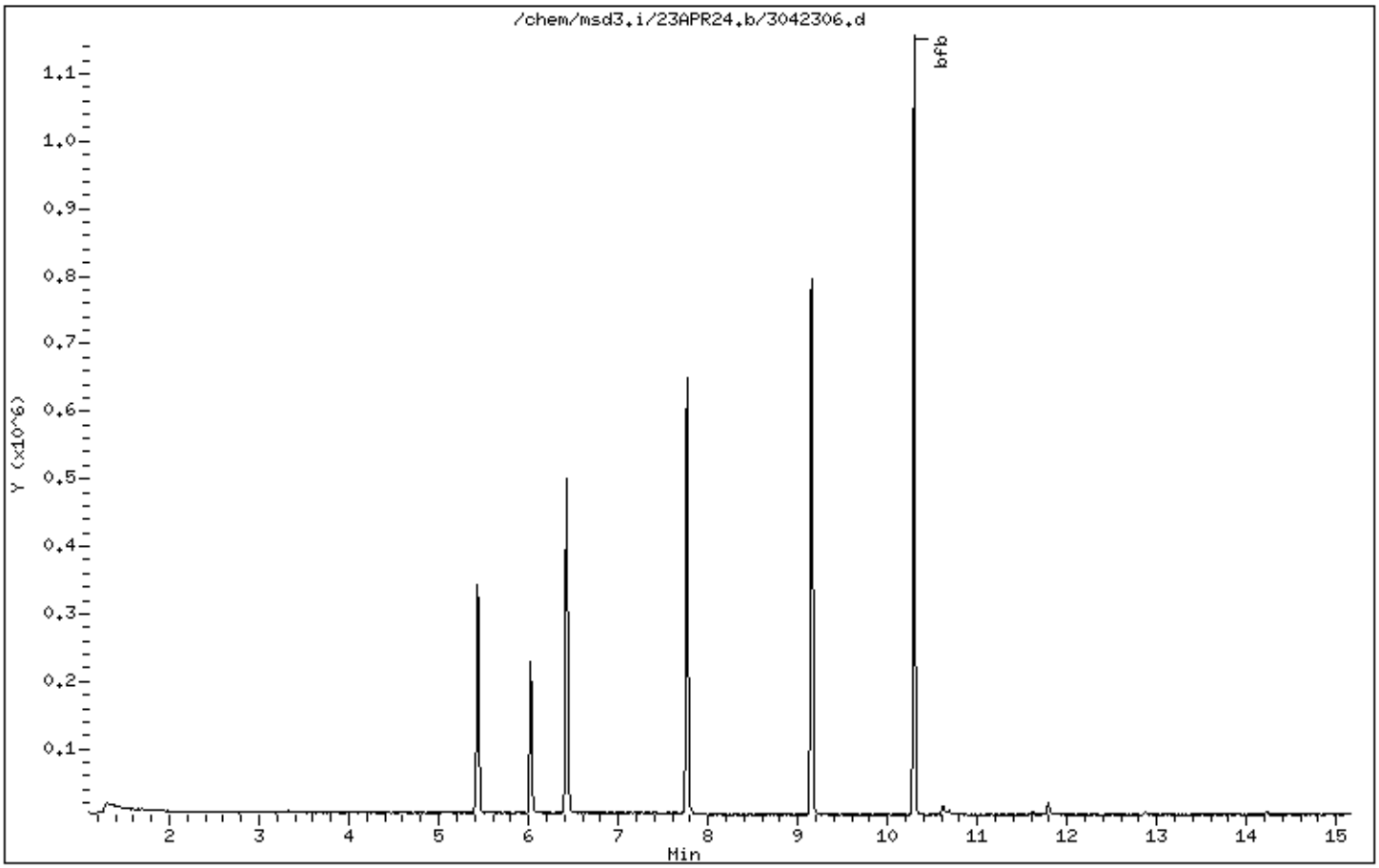
Instrument: msd3.i

Sample Info: 50mL 3329-901;BFB Tune Check

Operator: DF

Column phase:

Column diameter: 2.00



Data File: /chem/msd3.i/23APR24.b/3042306.d

Date : 23-APR-2024 20:30

Client ID: BFB

Instrument: msd3.i

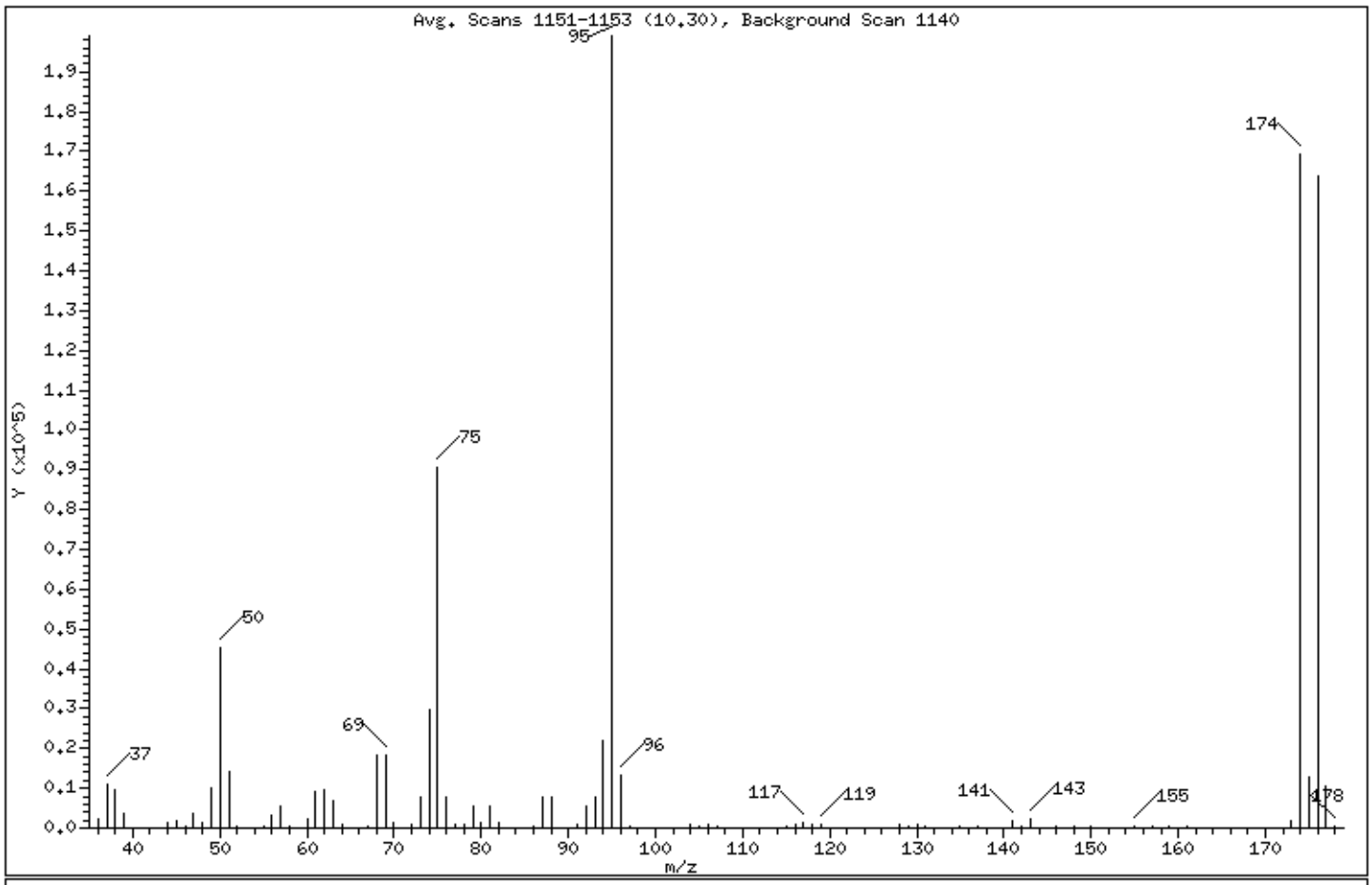
Sample Info: 50mL 3329-901;BFB Tune Check

Operator: DF

Column phase:

Column diameter: 2.00

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 8.00 - 40.00% of mass 95 | 22.85 |
| 75 | 30.00 - 66.00% of mass 95 | 45.52 |
| 96 | 5.00 - 9.00% of mass 95 | 6.60 |
| 173 | Less than 1.99% of mass 174 | 0.91 ( 1.07) |
| 174 | 50.01 - 120.00% of mass 95 | 85.09 |
| 175 | 4.00 - 9.00% of mass 174 | 6.33 ( 7.44) |
| 176 | 93.00 - 101.00% of mass 174 | 82.43 ( 96.88) |
| 177 | 5.00 - 9.00% of mass 176 | 5.28 ( 6.40) |

Date : 23-APR-2024 20:30

Client ID: BFB Instrument: msd3.i

Sample Info: 50mL 3329-901;BFB Tune Check

Operator: DF

Column phase: Column diameter: 2.00

Data File: 3042306.d
Spectrum: Avg. Scans 1151-1153 (10.30), Background Scan 1140
Location of Maximum: 95.00
Number of points: 97

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 2248 | 65.00 | 67 | 95.00 | 199040 | 141.00 | 1979 |
| 37.00 | 10947 | 67.00 | 593 | 96.00 | 13140 | 142.00 | 324 |
| 38.00 | 9761 | 68.00 | 18200 | 97.00 | 458 | 143.00 | 2184 |
| 39.00 | 3800 | 69.00 | 18520 | 103.00 | 69 | 144.00 | 69 |
| 40.00 | 143 | 70.00 | 1561 | 104.00 | 934 | 145.00 | 76 |
| 41.00 | 101 | 71.00 | 68 | 105.00 | 314 | 146.00 | 414 |
| 43.00 | 121 | 72.00 | 1014 | 106.00 | 915 | 147.00 | 90 |
| 44.00 | 1194 | 73.00 | 7795 | 107.00 | 252 | 148.00 | 578 |
| 45.00 | 1921 | 74.00 | 29848 | 111.00 | 164 | 149.00 | 81 |
| 46.00 | 275 | 75.00 | 90600 | 113.00 | 92 | 150.00 | 301 |
| 47.00 | 3755 | 76.00 | 7674 | 115.00 | 265 | 153.00 | 165 |
| 48.00 | 1582 | 77.00 | 1098 | 116.00 | 733 | 154.00 | 73 |
| 49.00 | 9904 | 78.00 | 832 | 117.00 | 1243 | 155.00 | 563 |
| 50.00 | 45472 | 79.00 | 5287 | 118.00 | 861 | 157.00 | 398 |
| 51.00 | 13981 | 80.00 | 1510 | 119.00 | 967 | 159.00 | 297 |
| 52.00 | 671 | 81.00 | 5463 | 124.00 | 142 | 161.00 | 280 |
| 55.00 | 542 | 82.00 | 1174 | 126.00 | 76 | 173.00 | 1817 |
| 56.00 | 3278 | 83.00 | 158 | 128.00 | 786 | 174.00 | 169344 |
| 57.00 | 5649 | 86.00 | 397 | 129.00 | 399 | 175.00 | 12601 |
| 58.00 | 303 | 87.00 | 7926 | 130.00 | 768 | 176.00 | 164032 |
| 60.00 | 2175 | 88.00 | 7557 | 131.00 | 348 | 177.00 | 10508 |
| 61.00 | 9261 | 91.00 | 746 | 135.00 | 439 | 178.00 | 333 |
| 62.00 | 9605 | 92.00 | 5416 | 137.00 | 390 | | |
| 63.00 | 7034 | 93.00 | 7925 | 139.00 | 70 | | |
| 64.00 | 755 | 94.00 | 21992 | 140.00 | 146 | | |

US32TAR1

Data file : /chem/msd3.i/24APR24.b/3042402.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 24-APR-2024 10:57
Operator : jrf Inst ID: msd3.i
Smp Info : 50mL 3329-901;BFB Tune Check
Misc Info : 36ng
Comment :
Method : /chem/msd3.i/24APR24.b/bfb30.m
Meth Date : 17-Aug-2023 11:53 p5fl Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 2 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: AIR

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.00000 | Dilution Factor |
| Uf | 1.00000 | ng unit correction factor |
| Vf | 1.00000 | Volumetric correction factor |

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL ( ug/L) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT | DLT RT | MASS | RESPONSE | | | | |
| 1 bfb | | | | | | | CAS #: 460-00-4 | |
| 10.295 | 10.331 | -0.036 | 95 | 185237 | | | 100.00- 100.00 | 100.00 |
| 10.295 | 9.729 | 0.566 | 50 | 42533 | | | 8.00- 40.00 | 22.96 |
| 10.295 | 9.729 | 0.566 | 75 | 85218 | | | 30.00- 66.00 | 46.00 |
| 10.295 | 9.729 | 0.566 | 96 | 12370 | | | 5.00- 9.00 | 6.68 |
| 10.295 | 9.729 | 0.566 | 173 | 1500 | | | 0.00- 1.99 | 0.95 |
| 10.295 | 9.729 | 0.566 | 174 | 157717 | | | 50.01- 120.00 | 85.14 |
| 10.295 | 9.729 | 0.566 | 175 | 11725 | | | 4.00- 9.00 | 7.43 |
| 10.295 | 9.729 | 0.566 | 176 | 153250 | | | 93.00- 101.00 | 97.17 |
| 10.295 | 9.729 | 0.566 | 177 | 9906 | | | 5.00- 9.00 | 6.46 |

Data File: /chem/msd3.i/24APR24.b/3042402.d



Date : 24-APR-2024 10:57

Client ID: BFB

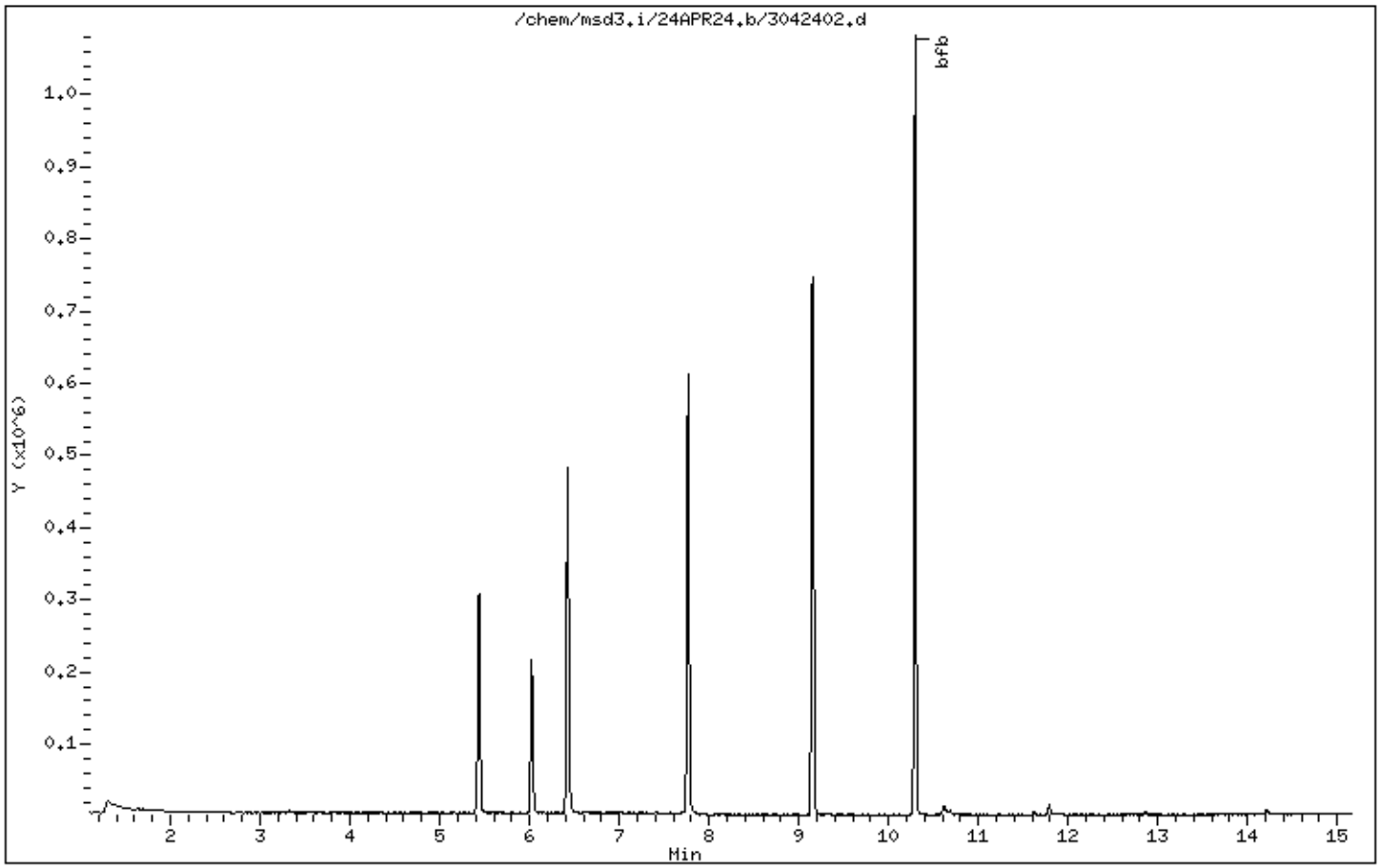
Instrument: msd3.i

Sample Info: 50mL 3329-901;BFB Tune Check

Operator: jrf

Column phase:

Column diameter: 2.00



Data File: /chem/msd3.i/24APR24.b/3042402.d

Date : 24-APR-2024 10:57

Client ID: BFB

Instrument: msd3.i

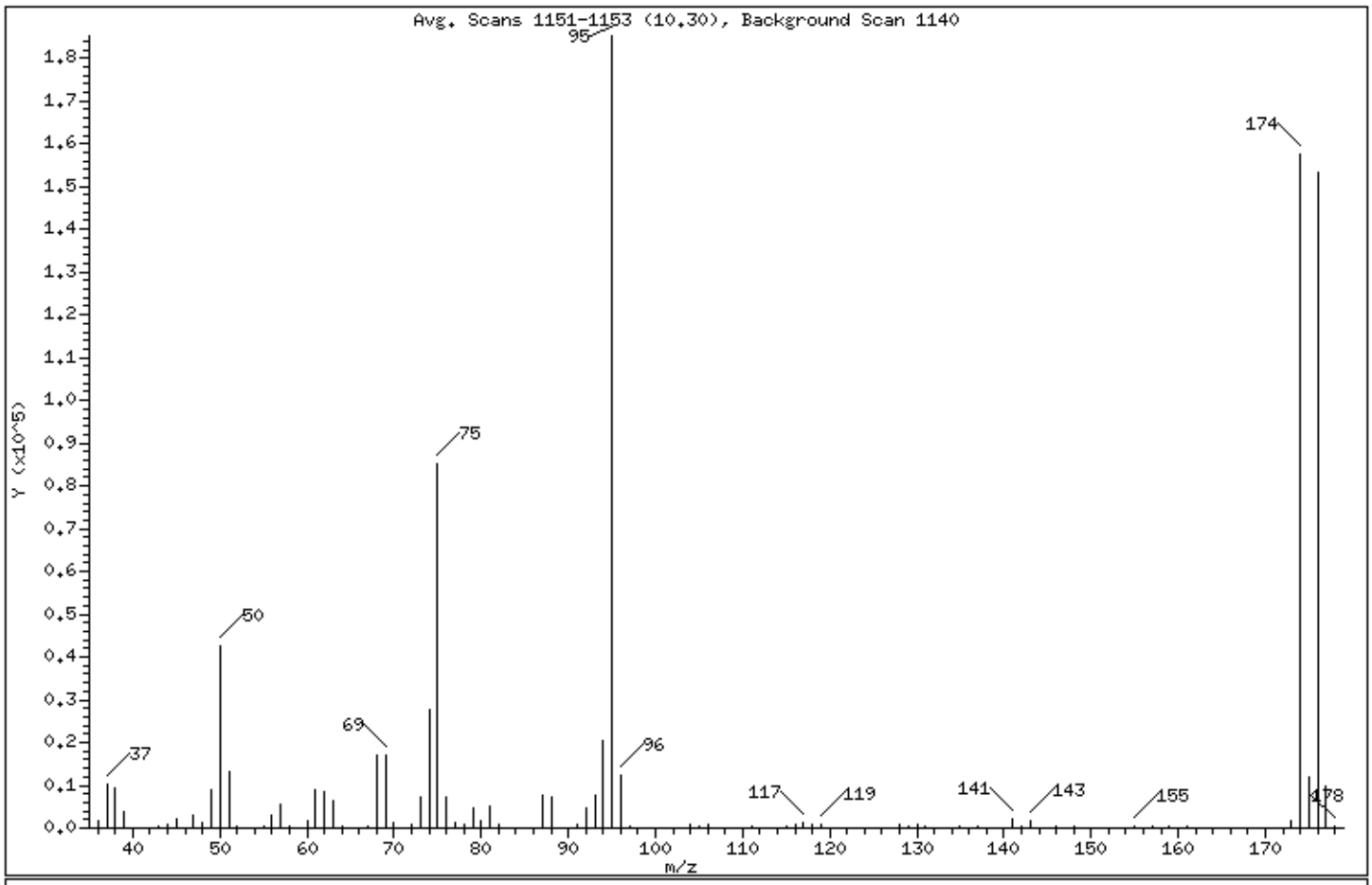
Sample Info: 50mL 3329-901;BFB Tune Check

Operator: jrf

Column phase:

Column diameter: 2.00

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 8.00 - 40.00% of mass 95 | 22.96 |
| 75 | 30.00 - 66.00% of mass 95 | 46.00 |
| 96 | 5.00 - 9.00% of mass 95 | 6.68 |
| 173 | Less than 1.99% of mass 174 | 0.81 ( 0.95) |
| 174 | 50.01 - 120.00% of mass 95 | 85.14 |
| 175 | 4.00 - 9.00% of mass 174 | 6.33 ( 7.43) |
| 176 | 93.00 - 101.00% of mass 174 | 82.73 ( 97.17) |
| 177 | 5.00 - 9.00% of mass 176 | 5.35 ( 6.46) |

Date : 24-APR-2024 10:57

Client ID: BFB Instrument: msd3.i

Sample Info: 50mL 3329-901;BFB Tune Check

Operator: jrf

Column phase: Column diameter: 2.00

Data File: 3042402.d
Spectrum: Avg. Scans 1151-1153 (10.30), Background Scan 1140
Location of Maximum: 95.00
Number of points: 92

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 1739 | 64.00 | 603 | 94.00 | 20528 | 141.00 | 1952 |
| 37.00 | 10411 | 65.00 | 80 | 95.00 | 185216 | 142.00 | 299 |
| 38.00 | 9447 | 67.00 | 596 | 96.00 | 12370 | 143.00 | 1905 |
| 39.00 | 3760 | 68.00 | 17040 | 97.00 | 437 | 145.00 | 84 |
| 40.00 | 190 | 69.00 | 17216 | 104.00 | 790 | 146.00 | 328 |
| 41.00 | 56 | 70.00 | 1376 | 105.00 | 316 | 147.00 | 77 |
| 43.00 | 238 | 72.00 | 957 | 106.00 | 729 | 148.00 | 478 |
| 44.00 | 1047 | 73.00 | 7221 | 107.00 | 173 | 150.00 | 204 |
| 45.00 | 2058 | 74.00 | 27528 | 110.00 | 72 | 153.00 | 71 |
| 46.00 | 161 | 75.00 | 85216 | 111.00 | 229 | 155.00 | 475 |
| 47.00 | 3104 | 76.00 | 7234 | 113.00 | 165 | 157.00 | 395 |
| 48.00 | 1422 | 77.00 | 1141 | 115.00 | 249 | 159.00 | 277 |
| 49.00 | 9041 | 78.00 | 808 | 116.00 | 755 | 161.00 | 282 |
| 50.00 | 42528 | 79.00 | 4799 | 117.00 | 1113 | 172.00 | 100 |
| 51.00 | 13274 | 80.00 | 1498 | 118.00 | 785 | 173.00 | 1500 |
| 52.00 | 609 | 81.00 | 5021 | 119.00 | 890 | 174.00 | 157696 |
| 55.00 | 549 | 82.00 | 1055 | 124.00 | 70 | 175.00 | 11725 |
| 56.00 | 3169 | 83.00 | 144 | 128.00 | 823 | 176.00 | 153216 |
| 57.00 | 5557 | 86.00 | 180 | 129.00 | 383 | 177.00 | 9906 |
| 58.00 | 319 | 87.00 | 7475 | 130.00 | 728 | 178.00 | 350 |
| 60.00 | 1906 | 88.00 | 7254 | 131.00 | 280 | | |
| 61.00 | 9093 | 91.00 | 816 | 135.00 | 366 | | |
| 62.00 | 8516 | 92.00 | 4857 | 137.00 | 352 | | |
| 63.00 | 6336 | 93.00 | 7615 | 140.00 | 70 | | |

US32TAR1

Data file : /chem/msd3.i/13JUN24.b/3061302.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 13-JUN-2024 10:48
Operator : RT Inst ID: msd3.i
Smp Info : 50mL 3169-901;BFB Tune Check
Misc Info : 36ng
Comment :
Method : /chem/msd3.i/13JUN24.b/bfb30.m
Meth Date : 12-Jun-2024 11:47 z8dr Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 12 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.00000 | Dilution Factor |
| Uf | 1.00000 | ng unit correction factor |
| Vf | 1.00000 | Volumetric correction factor |

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL ( ug/L) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT | DLT RT | MASS | RESPONSE | | | | |
| 1 bfb | | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.331 | -0.043 | 95 | 164586 | | | 100.00- 100.00 | 100.00 |
| 10.288 | 10.331 | -0.043 | 50 | 35992 | | | 8.00- 40.00 | 21.87 |
| 10.288 | 10.331 | -0.043 | 75 | 74802 | | | 30.00- 66.00 | 45.45 |
| 10.288 | 10.331 | -0.043 | 96 | 10787 | | | 5.00- 9.00 | 6.55 |
| 10.288 | 10.331 | -0.043 | 173 | 1393 | | | 0.00- 1.99 | 0.96 |
| 10.288 | 10.331 | -0.043 | 174 | 145432 | | | 50.01- 120.00 | 88.36 |
| 10.288 | 10.331 | -0.043 | 175 | 10857 | | | 4.00- 9.00 | 7.47 |
| 10.288 | 10.331 | -0.043 | 176 | 141946 | | | 93.00- 101.00 | 97.60 |
| 10.288 | 10.331 | -0.043 | 177 | 9552 | | | 5.00- 9.00 | 6.73 |

Data File: /chem/msd3.i/13JUN24.b/3061302.d

Page 1

Date : 13-JUN-2024 10:48

Client ID: BFB

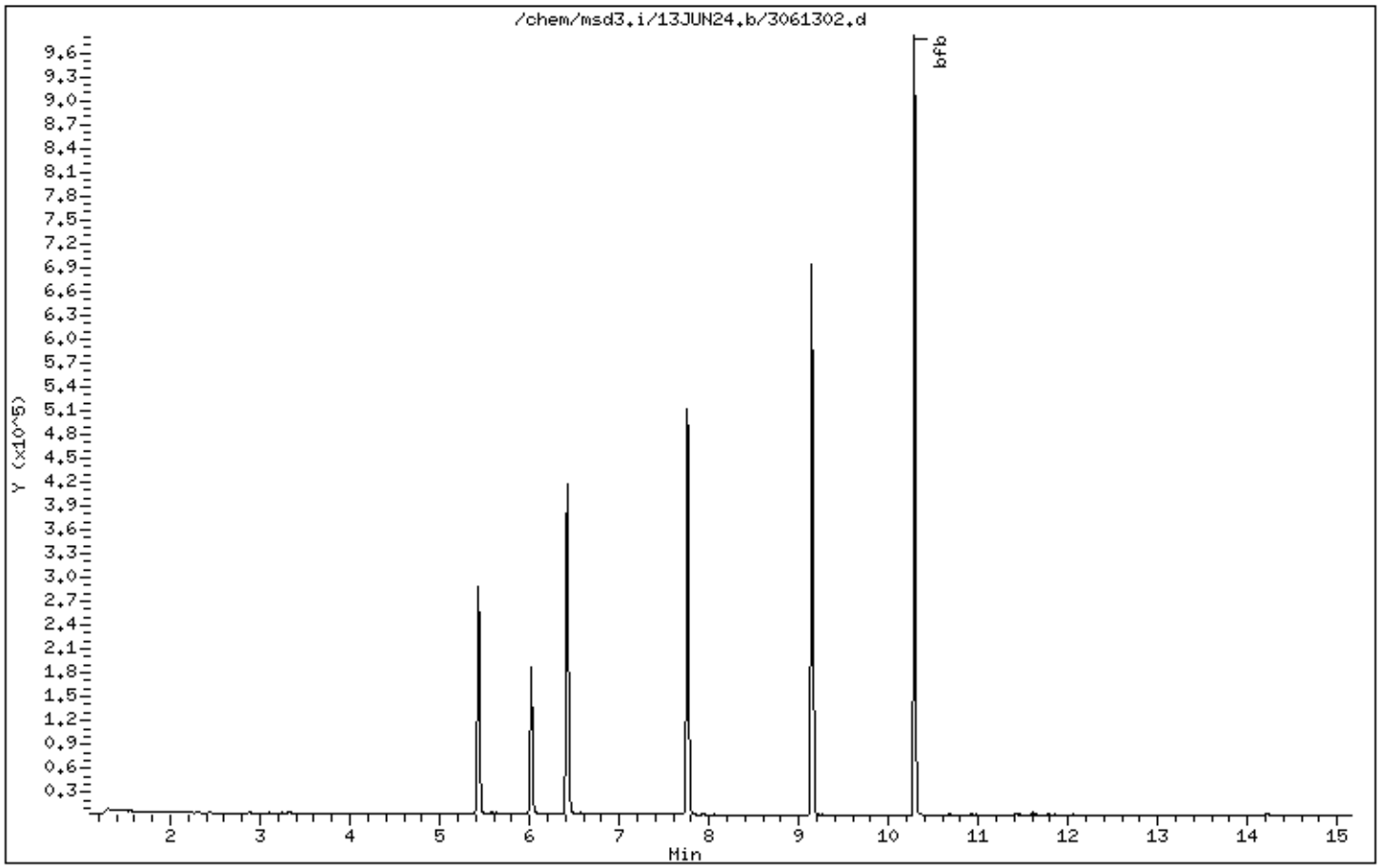
Instrument: msd3.i

Sample Info: 50mL 3169-901;BFB Tune Check

Operator: RT

Column phase:

Column diameter: 2.00



Data File: /chem/msd3.i/13JUN24.b/3061302.d

Date : 13-JUN-2024 10:48

Client ID: BFB

Instrument: msd3.i

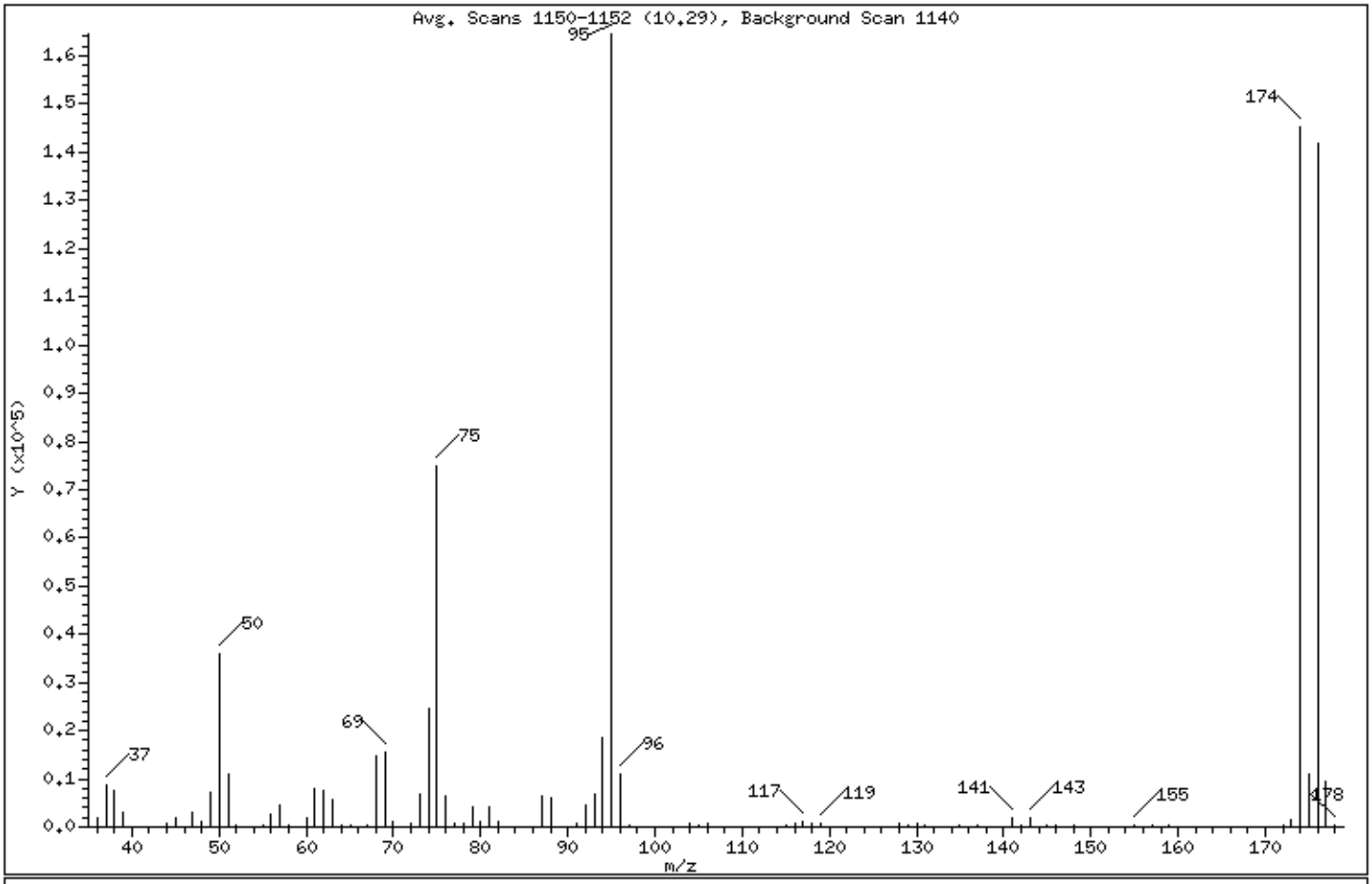
Sample Info: 50mL 3169-901;BFB Tune Check

Operator: RT

Column phase:

Column diameter: 2.00

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 8.00 - 40.00% of mass 95 | 21.87 |
| 75 | 30.00 - 66.00% of mass 95 | 45.45 |
| 96 | 5.00 - 9.00% of mass 95 | 6.55 |
| 173 | Less than 1.99% of mass 174 | 0.85 ( 0.96) |
| 174 | 50.01 - 120.00% of mass 95 | 88.36 |
| 175 | 4.00 - 9.00% of mass 174 | 6.60 ( 7.47) |
| 176 | 93.00 - 101.00% of mass 174 | 86.24 ( 97.60) |
| 177 | 5.00 - 9.00% of mass 176 | 5.80 ( 6.73) |

Date : 13-JUN-2024 10:48

Client ID: BFB Instrument: msd3.i

Sample Info: 50mL 3169-901;BFB Tune Check

Operator: RT

Column phase: Column diameter: 2.00

Data File: 3061302.d
Spectrum: Avg. Scans 1150-1152 (10.29), Background Scan 1140
Location of Maximum: 95.00
Number of points: 90

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 1862 | 63.00 | 5512 | 91.00 | 631 | 137.00 | 331 |
| 37.00 | 8731 | 64.00 | 524 | 92.00 | 4594 | 141.00 | 1791 |
| 38.00 | 7679 | 65.00 | 290 | 93.00 | 6848 | 142.00 | 291 |
| 39.00 | 3121 | 67.00 | 459 | 94.00 | 18408 | 143.00 | 1734 |
| 40.00 | 128 | 68.00 | 14910 | 95.00 | 164544 | 145.00 | 302 |
| 41.00 | 72 | 69.00 | 15329 | 96.00 | 10787 | 146.00 | 286 |
| 43.00 | 76 | 70.00 | 1176 | 97.00 | 346 | 147.00 | 91 |
| 44.00 | 922 | 72.00 | 762 | 104.00 | 718 | 148.00 | 507 |
| 45.00 | 1800 | 73.00 | 6682 | 105.00 | 306 | 150.00 | 160 |
| 46.00 | 161 | 74.00 | 24408 | 106.00 | 686 | 154.00 | 70 |
| 47.00 | 3066 | 75.00 | 74800 | 107.00 | 139 | 155.00 | 442 |
| 48.00 | 1180 | 76.00 | 6566 | 111.00 | 73 | 157.00 | 358 |
| 49.00 | 7373 | 77.00 | 906 | 115.00 | 272 | 159.00 | 204 |
| 50.00 | 35992 | 78.00 | 630 | 116.00 | 625 | 161.00 | 179 |
| 51.00 | 11053 | 79.00 | 4134 | 117.00 | 1134 | 172.00 | 459 |
| 52.00 | 497 | 80.00 | 1322 | 118.00 | 642 | 173.00 | 1393 |
| 55.00 | 555 | 81.00 | 4154 | 119.00 | 892 | 174.00 | 145408 |
| 56.00 | 2714 | 82.00 | 956 | 124.00 | 66 | 175.00 | 10857 |
| 57.00 | 4657 | 83.00 | 161 | 128.00 | 648 | 176.00 | 141888 |
| 58.00 | 281 | 86.00 | 184 | 129.00 | 422 | 177.00 | 9552 |
| 60.00 | 1812 | 87.00 | 6597 | 130.00 | 670 | 178.00 | 194 |
| 61.00 | 7942 | 88.00 | 6067 | 131.00 | 277 | | |
| 62.00 | 7412 | 89.00 | 70 | 135.00 | 343 | | |

US32TAR1

Data file : /chem/msd3.i/14JUN24.b/3061402.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 14-JUN-2024 11:14
Operator : RT Inst ID: msd3.i
Smp Info : 50mL 3169-901;BFB Tune Check
Misc Info : 36ng
Comment :
Method : /chem/msd3.i/14JUN24.b/bfb30.m
Meth Date : 12-Jun-2024 11:47 z8dr Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 12 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.00000 | Dilution Factor |
| Uf | 1.00000 | ng unit correction factor |
| Vf | 1.00000 | Volumetric correction factor |

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL ( ug/L) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| 1 bfb | | | | | | | CAS #: 460-00-4 | |
| 10.288 | 10.331 | -0.043 | 95 | 165418 | | | 100.00- 100.00 | 100.00 |
| 10.288 | 10.331 | -0.043 | 50 | 34840 | | | 8.00- 40.00 | 21.06 |
| 10.288 | 10.331 | -0.043 | 75 | 75610 | | | 30.00- 66.00 | 45.71 |
| 10.288 | 10.331 | -0.043 | 96 | 10952 | | | 5.00- 9.00 | 6.62 |
| 10.288 | 10.331 | -0.043 | 173 | 1002 | | | 0.00- 1.99 | 0.68 |
| 10.288 | 10.331 | -0.043 | 174 | 147258 | | | 50.01- 120.00 | 89.02 |
| 10.288 | 10.331 | -0.043 | 175 | 10676 | | | 4.00- 9.00 | 7.25 |
| 10.288 | 10.331 | -0.043 | 176 | 144096 | | | 93.00- 101.00 | 97.85 |
| 10.288 | 10.331 | -0.043 | 177 | 9289 | | | 5.00- 9.00 | 6.45 |

Data File: /chem/msd3.i/14JUN24.b/3061402.d



Date : 14-JUN-2024 11:14

Client ID: BFB

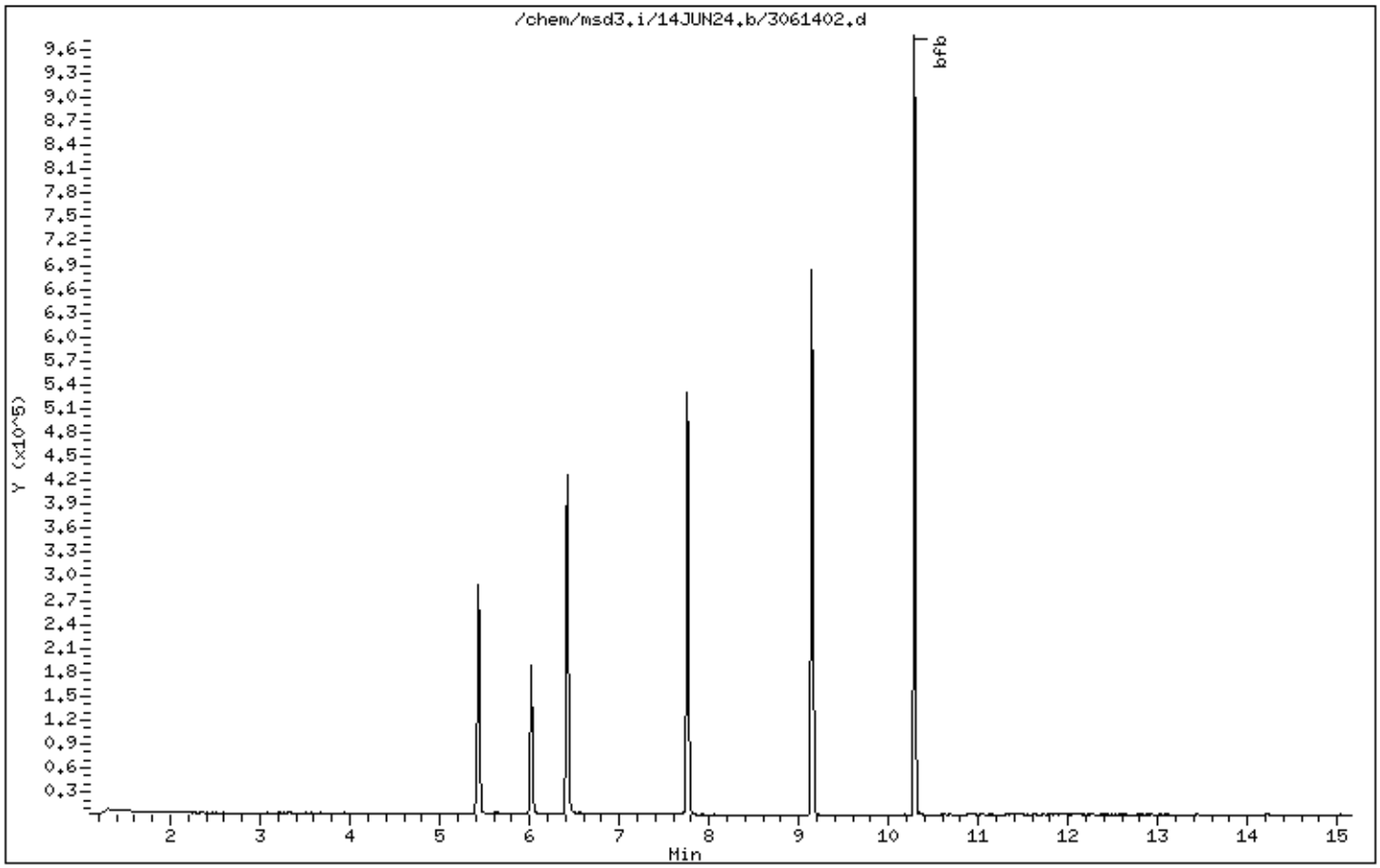
Instrument: msd3.i

Sample Info: 50mL 3169-901;BFB Tune Check

Operator: RT

Column phase:

Column diameter: 2.00



Data File: /chem/msd3.i/14JUN24.b/3061402.d

Date : 14-JUN-2024 11:14

Client ID: BFB

Instrument: msd3.i

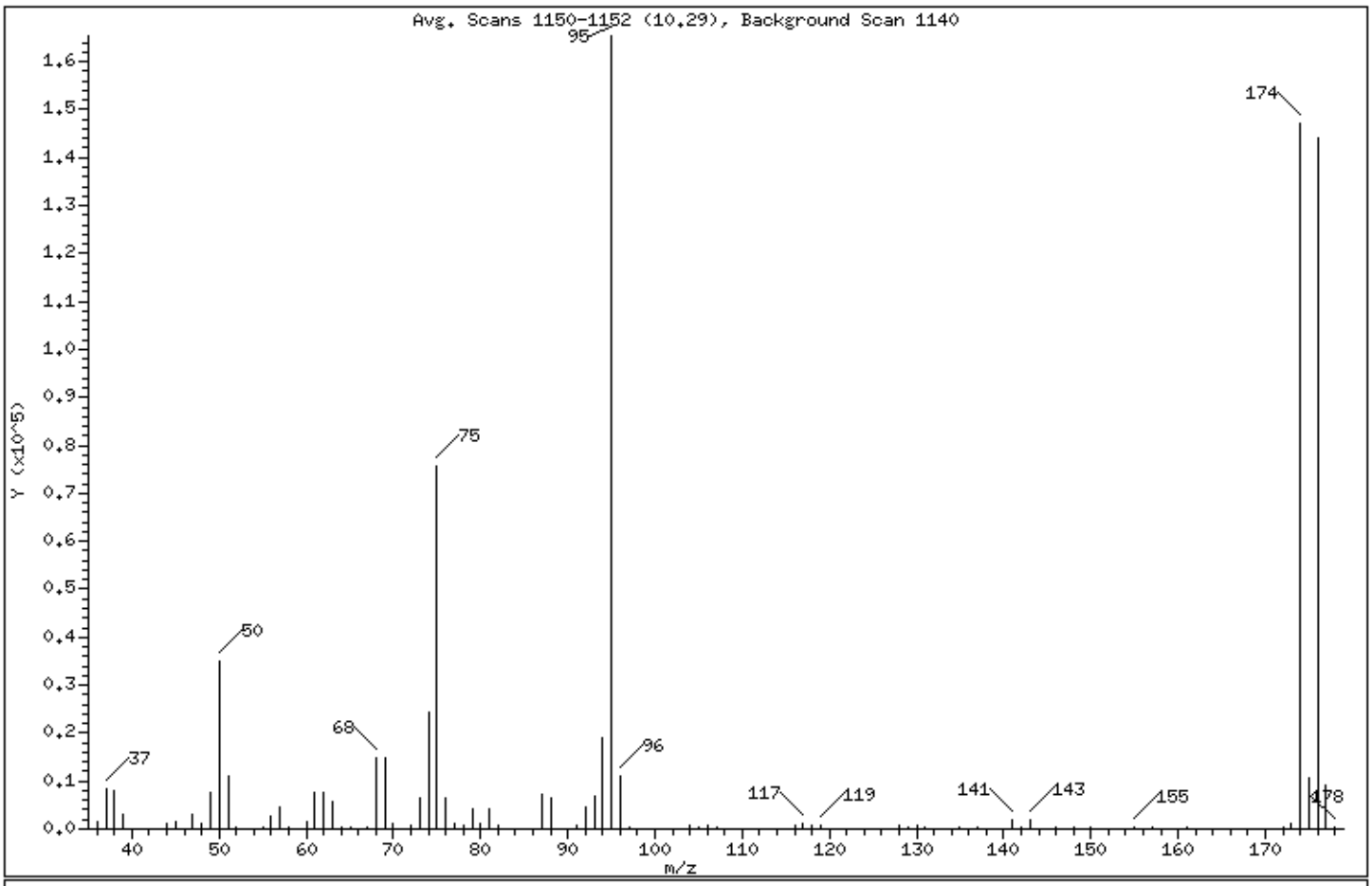
Sample Info: 50mL 3169-901;BFB Tune Check

Operator: RT

Column phase:

Column diameter: 2.00

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 8.00 - 40.00% of mass 95 | 21.06 |
| 75 | 30.00 - 66.00% of mass 95 | 45.71 |
| 96 | 5.00 - 9.00% of mass 95 | 6.62 |
| 173 | Less than 1.99% of mass 174 | 0.61 ( 0.68) |
| 174 | 50.01 - 120.00% of mass 95 | 89.02 |
| 175 | 4.00 - 9.00% of mass 174 | 6.45 ( 7.25) |
| 176 | 93.00 - 101.00% of mass 174 | 87.11 ( 97.85) |
| 177 | 5.00 - 9.00% of mass 176 | 5.62 ( 6.45) |

Date : 14-JUN-2024 11:14

Client ID: BFB Instrument: msd3.i

Sample Info: 50mL 3169-901;BFB Tune Check

Operator: RT

Column phase: Column diameter: 2.00

Data File: 3061402.d
Spectrum: Avg. Scans 1150-1152 (10.29), Background Scan 1140
Location of Maximum: 95.00
Number of points: 88

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 1656 | 64.00 | 569 | 94.00 | 19104 | 143.00 | 1766 |
| 37.00 | 8506 | 65.00 | 246 | 95.00 | 165376 | 144.00 | 75 |
| 38.00 | 7796 | 67.00 | 471 | 96.00 | 10952 | 145.00 | 71 |
| 39.00 | 3006 | 68.00 | 14862 | 97.00 | 388 | 146.00 | 295 |
| 40.00 | 83 | 69.00 | 14862 | 104.00 | 685 | 148.00 | 466 |
| 43.00 | 142 | 70.00 | 1164 | 105.00 | 261 | 149.00 | 69 |
| 44.00 | 1033 | 72.00 | 891 | 106.00 | 730 | 150.00 | 230 |
| 45.00 | 1692 | 73.00 | 6631 | 107.00 | 219 | 153.00 | 85 |
| 46.00 | 163 | 74.00 | 24472 | 111.00 | 71 | 155.00 | 466 |
| 47.00 | 3006 | 75.00 | 75608 | 113.00 | 163 | 157.00 | 389 |
| 48.00 | 1151 | 76.00 | 6437 | 115.00 | 84 | 159.00 | 181 |
| 49.00 | 7456 | 77.00 | 1029 | 116.00 | 620 | 161.00 | 215 |
| 50.00 | 34840 | 78.00 | 625 | 117.00 | 1035 | 172.00 | 409 |
| 51.00 | 10894 | 79.00 | 4127 | 118.00 | 639 | 173.00 | 1002 |
| 52.00 | 540 | 80.00 | 1222 | 119.00 | 946 | 174.00 | 147200 |
| 55.00 | 497 | 81.00 | 4221 | 128.00 | 617 | 175.00 | 10676 |
| 56.00 | 2695 | 82.00 | 905 | 129.00 | 372 | 176.00 | 144064 |
| 57.00 | 4611 | 86.00 | 172 | 130.00 | 650 | 177.00 | 9289 |
| 58.00 | 271 | 87.00 | 7262 | 131.00 | 307 | 178.00 | 328 |
| 60.00 | 1464 | 88.00 | 6397 | 135.00 | 326 | | |
| 61.00 | 7592 | 91.00 | 719 | 137.00 | 278 | | |
| 62.00 | 7490 | 92.00 | 4521 | 141.00 | 1802 | | |
| 63.00 | 5683 | 93.00 | 6657 | 142.00 | 268 | | |

# Shipping/Receiving Documents

eurofins | Air Toxics

# Eurofins Air Toxics Sample Receipt Confirmation Cover Page

Thank you for choosing Eurofins Air Toxics (EATL). We have received your samples and have listed any Sample Receipt Descrepancies below.

In order to expedite analysis and reporting, please review the attached information for accuracy.

For corrections call: **Air Toxics, Ltd. at 916-985-1000**

EATL will proceed with the analysis as specified on the Chain of Custody (COC) and Sample Receipt Summary page.

**Please note** : The Sample Receipt Confirmation, including the total workorder charge, is subject to change upon secondary review. Our aim is to provide a confirmation to you in a timely manner. Sample Receipt Discrepancies, if any, may not include discrepancies regarding sample receipt pressure(s). Additionally, the COC will be provided with the final report.

The following discrepancies have been observed:

The Chain of Custody (COC) information for sample T1AMF-SV019_May24 did not match the information on the canister with regard to canister barcode. The sample labeled 1L4781 on the COC is labeled as 1L4761 on the canister. Unless otherwise notified, Eurofins Air Toxics will proceed with the analysis using the information on the canister to process and report the sample.

**180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630**

**(916) 985-1000 .FAX (916) 985-1020**
**Hours 6:30 A.M to 5:30 P.M. PST**

# Analysis Request / Canister Chain of Custody

eurofins | Air Toxics

Eurofins Environment Testing Northern California, LLC
180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Workorder #: 2406133

**Instructions**

If no TAT is marked, EATL will proceed with Standard TAT



Client: Parsons
Site Name: Titan 1-A
Project Manager: Carrie Ross
Sampler:

Project Name: Titan 1-A Semi-Annual GW and SV sampling
Project #:
PO#:

**Turnaround Time (Specify Below)**
Standard X Rush ____ (Surcharges will apply, per availability)
Samples received after 3PM PST are considered to be received on the following workday.
Requested Date (mm/dd/yy):
OR Number of Days:

| Lab ID | Field Sample Identification (Location) | Canister Barcode # | Flow Controller Barcode # | Start Sampling Information | | Stop Sampling Information | | Requested Analyses | Canister Vacuum/Pressure | | Lab Use Only | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Date | Time | Date | Time | TO-15 | Initial (in "Hg) | Final (in "Hg) | Receipt (in "Hg) | Final (in psi) Gas: N2 / He |
| 01A | T1AMF-SV018_May24 | IL3753 | 25492 | 5/24/24 | 1051 | 5/28/24 | 1057 | X | -26 | -5 | | |
| 02A | T1AMF-SV021_May24 | IL4720 | 22351 | | 1202 | | 1223 | X | -30 | -30 | | |
| 03A | T1AMF-SV001_May24 | IL4497 | 22390 | | 1319 | | 1329 | X | -28 | -5 | | |
| 04A | T1AMF-SV033_May24 | IL4654 | 22535 | | 1443 | | 1452 | X | -28 | -5 | | |
| 05A | T1AMF-SV023_May24 | IL3147 | 22526 | 5/29/24 | 0857 | 5/29/24 | 0902 | X | -26 | -5 | | |
| 06A | T1AMF-SV023_May24_FD | LC273 | 20946 | | 0857 | | 0903 | X | -26 | -5 | | |
| 07A | T1AMF-SV024_May24 | IL4004 | 22399 | | 1054 | | 1102 | X | -29 | -1 | | |
| 08A | T1AMF-SV026_May24 | IL1877 | 24618 | | 1211 | | 1220 | X | -26 | -5 | | |
| 09A | T1AMF-SV026_May24 | FD IL3309 | 21824 | | 1211 | | 1220 | X | -28 | -5 | | |
| 10A | T1AMF-SV022_May24 | IL2975 | 30295 | | 1310 | | 1315 | X | -26 | -5 | | |
| 11A | T1AMF-SV020_May24 | IL1792 | 24633 | | 1445 | | 1505 | X | -22 | -17 | | |
| 12A | T1AMF-SV028_May24 | IL4129 | 316XX4 | | 1617 | | 1625 | X | -28 | -5 | | |

Special Instructions/Notes:
Please have analytical results sent to: Mark.Rigby@parsons.com, Carrie.Ross@parsons.us, Sandra.Dekis-fuentes@parsons.us

| Relinquished by: (Signature/Affiliation) | Date | Time | Received by: (Signature/Affiliation) | Date | Time |
|---|---|---|---|---|---|
| Arnold Imantol | 6/3/24 | 1750 | Matthew Sherman | 6/3/24 | 1808 |
| Relinquished by: (Signature/Affiliation) | Date | Time | Received by: (Signature/Affiliation) | Date | Time |
| Relinquished by: (Signature/Affiliation) | Date | Time | Received by: (Signature/Affiliation) | Date | Time |

Shipper Name: HD
Custody Seals Intact? Yes No (None) — Lab Use Only
Condition:

**Sample Transportation Notice:** Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

# Analysis Request / Canister Chain of Custody

eurofins | Air Toxics

Eurofins Environment Testing Northern California, LLC
180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Workorder #: 2406133

Instructions

If no TAT is marked, EATL will proceed with Standard TAT



Client: Parsons
Site Name: Titan 1-A
Project Manager: Carrie Ross
Sampler:

Project Name: Titan 1A Semi-Annual GW and SV Sampling
Project #:
PO#:

Turnaround Time (Specify Below)
Standard ____ Rush ____ (Surcharges will apply, per availability)
Samples received after 3PM PST are considered to be received on the following workday
Requested Date (mm/dd/yy):
OR Number of Days:

| Lab ID | Field Sample Identification (Location) | Canister Barcode # | Flow Controller Barcode # | Start Sampling Information Date | Start Sampling Information Time | Stop Sampling Information Date | Stop Sampling Information Time | Requested Analyses: TO-15 | | | | Canister Vacuum/Pressure: Initial (in "Hg) | Final (in "Hg) | Lab Use Only: Receipt (in "Hg) | Final (in psi) Gas: N2 / He |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13A | TIAMF-SV007_May24 | IL3343 | 20298 | 5/30/24 | 0903 | 5/30/24 | 0911 | X | | | | -27 | -5 | | |
| 14A | TIAMF-SV006_May24 | IL4700 | 21437 | | 1020 | | 1028 | X | | | | -27 | -5 | | |
| 15A | TIAMF-SV016_May24 | IL3746 | 25379 | | 1130 | | 1137 | X | | | | -28 | -5 | | |
| 16A | TIAMF-SV008_May24 | IL4533 | 24506 | | 1246 | | 1251 | X | | | | -27 | -5 | | |
| 17A | TIAMF-SV005B_May24 | IL4299 | 21482 | | 1455 | | 1504 | X | | | | -30 | -5 | | |
| 18A | TIAMF-SV004_May24 | IL2206 | 20141 | | 1618 | | 1626 | X | | | | -26 | -5 | | |
| 19A | TIAMF-SV025_May24 | IL4524 | 22506 | 5/31/24 | 0902 | 5/31/24 | 0907 | X | | | | -26 | -5 | | |
| 20A | TIAMF-SV019_May24 | IL4781 | 25509 | | 1004 | | 1009 | X | | | | -27 | -5 | | |
| 21A | TIAMF-SV002_May24 | IL3314 | 25377 | | 1121 | | 1128 | X | | | | -28 | -5 | | |
| 22A | TIAMF-SV015B_May24 | IL2881 | 25371 | | 1310 | | 1315 | X | | | | <-30 | -25 | | |

Special Instructions/Notes:
Please have analytical results sent to Mark.Rigby@parsons.com, Carrie.Ross@parsons.us, Sandra.Delasfuentes@parsons.us

| Relinquished by: (Signature/Affiliation) | Date | Time | Received by: (Signature/Affiliation) | Date | Time |
|---|---|---|---|---|---|
| Arnold [signature] | 6/3/24 | 1750 | MATTHEW SHERMAN [signature] | 6/3/24 | 1808 |
| | | | | | |
| | | | | | |

Lab Use Only

Shipper Name: HD
Custody Seals Intact? Yes No None
Condition:

**Sample Transportation Notice:** Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

eurofins | Air Toxics

# SAMPLE RECEIPT SUMMARY

## WORKORDER 2406133

**Client**

Mr. Mark Rigby
PARSONS GOVERNMENT SERVICES INC.
10235 So. South Jordan Gateway
Suite 300
South Jordan, UT 84095
**Sales Rep:** KD

**Phone**

801-572-5999

**Fax**

801-572-9069

**Date Promised:** 06/17/24
**Date Completed:**
**Date Received:** 6/3/24
**PO#:** PO-0015539
**Project#:** Titan 1-A Semi -Annual GW and SV samplin
**Total $:** $ 5,450.00
**Logged By:** LL

| Fraction | Sample # | Analysis | Collected | Receipt Vac./Pres. | Amount$ |
|---|---|---|---|---|---|
| 01A | T1AMF-SV018_May24 | TO-15 | 5/28/2024 | 6.3 "Hg | $145.00 |
| 02A(cancelled | T1AMF-SV021_May24 | TO-15 | 5/28/2024 | 29.8 "Hg | $0.00 |
| 03A | T1AMF-SV001_May24 | TO-15 | 5/28/2024 | 6.3 "Hg | $145.00 |
| 04A | T1AMF-SV033_May24 | TO-15 | 5/28/2024 | 8.6 "Hg | $145.00 |
| 05A | T1AMF-SV023_May24 | TO-15 | 5/29/2024 | 7.1 "Hg | $145.00 |
| 06A | T1AMF-SV023_May24_FD | TO-15 | 5/29/2024 | 6.7 "Hg | $145.00 |
| 07A | T1AMF-SV024_May24 | TO-15 | 5/29/2024 | 5.1 "Hg | $145.00 |
| 08A | T1AMF-SV026_May24 | TO-15 | 5/29/2024 | 7.6 "Hg | $145.00 |
| 09A | T1AMF-SV026_May24_FD | TO-15 | 5/29/2024 | 9.8 "Hg | $145.00 |
| 10A | T1AMF-SV022_May24 | TO-15 | 5/29/2024 | 11.2 "Hg | $145.00 |
| 11A | T1AMF-SV020_May24 | TO-15 | 5/29/2024 | 15.5 "Hg | $145.00 |
| 12A | T1AMF-SV017B_May24 | TO-15 | 5/29/2024 | 11.4 "Hg | $145.00 |
| 13A | T1AMF-SV007_May24 | TO-15 | 5/30/2024 | 7.3 "Hg | $145.00 |
| 14A | T1AMF-SV006_May24 | TO-15 | 5/30/2024 | 8.2 "Hg | $145.00 |
| 15A | T1AMF-SV016_May24 | TO-15 | 5/30/2024 | 8.6 "Hg | $145.00 |
| 16A | T1AMF-SV008_May24 | TO-15 | 5/30/2024 | 8.8 "Hg | $145.00 |
| 17A | T1AMF-SV005B_May24 | TO-15 | 5/30/2024 | 9.6 "Hg | $145.00 |
| 18A | T1AMF-SV004_May24 | TO-15 | 5/30/2024 | 9 "Hg | $145.00 |
| 19A | T1AMF-SV025_May24 | TO-15 | 5/31/2024 | 8.4 "Hg | $145.00 |
| 20A | T1AMF-SV019_May24 | TO-15 | 5/31/2024 | 7.6 "Hg | $145.00 |

**Note:** Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: Titan 1A Soil Vapor/28661

**BILL TO:** Mr. Mark Rigby
PARSONS GOVERNMENT SERVICES INC.
10235 So. South Jordan Gateway
Suite 300
South Jordan, UT 84095

Analysis Code: TO-14A

**REMARKS:** Full Project Name: Titan 1-A Semi -Annual GW and SV sampling

**TERMS:**

Reporting Method: TO-15 (DoD) (Sh)-Parsons (Titan 1A)

eurofins | Air Toxics

# SAMPLE RECEIPT SUMMARY Continued

**Client**

Mr. Mark Rigby
PARSONS GOVERNMENT SERVICES INC.
10235 So. South Jordan Gateway
Suite 300
South Jordan, UT 84095
**Sales Rep:** KD

**Phone**

801-572-5999

**Fax**

801-572-9069

**Date Promised:** 06/17/24
**Date Completed:**
**Date Received:** 6/3/24
**PO#:** PO-0015539
**Project#:** Titan 1-A Semi -Annual GW and SV samplin
**Total $:** $ 5,450.00
**Logged By:** LL

| Fraction | Sample # | Analysis | Collected | Receipt Vac./Pres. | Amount$ |
|---|---|---|---|---|---|
| 21A | T1AMF-SV002_May24 | TO-15 | 5/31/2024 | 8.2 "Hg | $145.00 |
| 22A | T1AMF-SV015B_May24 | TO-15 | 5/31/2024 | 6.7 "Hg | $145.00 |

| | | |
|---|---|---|
| Misc. Charges | 1 Liter Summa Canister (22) @ $40.00 each., Shipment 162019 | $880.00 |
| | Soil Gas Manifold (21) @ $40.00 each., Shipment 162019 | $840.00 |
| | SERWM Fee (22) @ $2.50 each. | $55.00 |
| | Client Specific EDD (22) @ $10.00 each. | $220.00 |
| | eCVP (22) @ $10.00 each. | $220.00 |
| | Fitting w/ Pink Ferrule (38) @ $5.00 each. | $190.00 |

**Note:** Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: Titan 1A Soil Vapor/28661

**BILL TO:** Mr. Mark Rigby
PARSONS GOVERNMENT SERVICES INC.
10235 So. South Jordan Gateway
Suite 300
South Jordan, UT 84095

Analysis Code: TO-14A

**REMARKS:** Full Project Name: Titan 1-A Semi -Annual GW and SV sampling

**TERMS:**

Reporting Method: TO-15 (DoD) (Sh)-Parsons (Titan 1A)

# Sample Discrepancy Report

**Identification**

**Initiated By:** LL **Project ID:**28661 **PM**: BSW **Date:** 6/10/2024 **Discrepancy Type:** ☒ **1.** ☒ **2.** ☐ **3.**

**Workorder(s) affected:2406133** **Sample(s) affected:** 20A;02A and 11A

## 1. Sample Receipt Discrepancies

**Narration Not Required:**

1.1. ☐ Sample container (cartridge/tube) was received broken, however sample was intact.
1.2. ☐ No brass cap on canister.
1.3. ☐ Date of Collection noted on first sample, but no arrow down to indicate all samples.
1.4. ☐ Sampling year not documented on COC but noted on sample tag.
1.5. ☐ Sorbent Sample received outside method required temperature of 2°C to 6°C but less than 6°C.

**Notify Lab for further determination:**

1.6. ☐ Tedlar bag received with minimal volume.

**Narration Required in Lab Narrative and Sample Confirmation:**

1.7. ☐ COC was not filled out in ink.
1.8. ☐ COC improperly relinquished / received.
☐Signature missing ☐date missing ☐time missing.
1.9. ☐ Sample ID on tags do not match the COC.
1.10. ☒ Can numbers do not match the COC.
1.11. ☐ Sampling date discrepancy.
1.12. ☐ Custody Seal on the outside of the container was ☐ broken / ☐ improperly placed (check one).
1.13. ☐ ID-none on the sample Tag/Blank.
1.14. ☐ Other (describe below).

Initials: _____Date:_____

**Describe the Discrepancy:** 1.10 - 20A

## 2. Sample Receipt/Screening Discrepancies requiring PM notification

*Document on Cover Page of Sample Receipt Confirmation and in Receiving Notes of Lab Narrative*

**If Section II. is filled out PM must be notified within 24 hrs of initiation**

2.1. ☐ COC was not received with samples.
2.2. ☐ Analysis method(s) is ☐ not specified / ☐ incorrectly specified (check one) on the COC.
2.3. ☐ Incorrect sampling media / container for analysis requested.
2.4. ☐ Number of samples on the COC does not match the number of samples that were received.
2.5. ☐ Samples were received expired.
2.6. ☐ Sampling date is not documented for ☐ *some* / ☐ *any* samples (check one).
2.7. ☐ Sample received with amount of $H_2O$ in the Tedlar Bag.
2.8. ☐ Sample cannot be analyzed. Container was ☐ received broken / ☐ leaking / ☐ flat / ☐ defective.
2.9. ☐ Tedlar bag / canister received emitting a strong odor; Sample ☐ can / ☐ cannot (check one) be analyzed.
2.10. ☐ Sorbent samples -sampling volume was not provided.
2.11. ☐ Flow controller used – canister samples received at ambient or under pressure.
2.12. ☐ Canister was at ambient pressure at time of pressurization and (check all that apply):
☐ Canister valve was open.
☐ Brass nut was loose/not present.
☐ Sample can be analyzed.
☐ Sample cannot be analyzed.
2.13. ☐ Canister sample received with a vacuum difference >5.0"Hg between the receipt vac. and the final recorded vac. on the COC.
☐ Canister passed leak check in lab <2psi, no evidence sample was compromised.
☐ Canister failed lab leak check, canister found to be leaking. Canister sample compromised.
2.14. ☒ Canister sample received at >15"Hg (*not* identified as a Trip/Field Blank).
2.15. ☐ Canister Trip Blank received at low vacuum (<25"Hg).
2.16. ☐ Sorbent Sample received outside method required temperature of 2°C to 6°C; ☐ ice / ☐ blue ice (check one) was present. A temp. Blank ☐ was / ☐ was not present (check one).
2.17. ☐ Other (describe below).

**Initials:** jyw **Date:** 6/13/2024 **Notify Receiving:** ☐ **Notify PM:** ☐

**Describe the Discrepancy:** 2.14-02A and 11A

## *3.* Lab Discrepancies requiring Team Leader/PM notification

*Document in Analytical Notes of Lab Narrative*

**If Section III. is filled out PM must be notified within 24 hrs of initiation**

3.1. ☐ Tedlar Bag found to be leaking at the time of analysis; sample ☐ can / ☐ cannot (check one) be analyzed.

3.2. ☐ Tedlar Bag found to be flat/low volume; sample cannot be analyzed.

3.3. ☐ Samples received with insufficient time to analyze prior to expiration.

3.4. ☐ Canister found to be leaking at the time of analysis.

3.5. ☐ Sample loss due to instrument malfunction / broken glassware.

3.6. ☐ Low/high surrogate recoveries noted in QC/sample(s) for extractable samples.

3.7. ☐ Reporting Limit was raised.

3.8. ☐ Post weight > Pre weight in field/lab Blank for PM10/TSP samples.

3.9. ☐ Sample Trip Blank has a reportable level(s) of target compound(s) present. Re-analysis confirmed the initial result.

3.10. ☐ Other (describe below).

**Initials:** _____ **Date:** _____ **Notify Receiving:** ☐ **Notify PM:** ☐ _____

**Team Lead Initials:** _____ **Date:** _____

**Describe the Discrepancy:** _____

_____

_____

**How Does this Affect Client:** _____

_____

_____

**Project Manager Use Only**

**Project Manager Notification** ☒ **Section 2 Complete** ☐ **Section 3 Complete**

**Action:**

☐ It is not necessary to notify the client. Narrate the discrepancy in Receiving Notes/Analytical Notes of Lab Narrative.

PM Initials:_____ Date: _____

☒ Client notification required. See attached client contact / email, or comments below:

Client Notification:

PM Initials:BSW Person notified: Mark Rigby Date: 6/13/2024

☐ Waiting for Client Reply

Comments: **Cancel 02A, proceed with 11A**

_____

☐ Notify Lab Name: _____ Date: _____ **Notify Receiving:** ☐

☐ **Additional notifications attached.**

**Additional Comments:**

_____

# Other Records

Dilution Factor = $\frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{\text{14.7psi + Final Pressure (psi)}}{\text{14.7psi –[Init. Pressure (“Hg))*(14.7psi/30”Hg)]}}$

Dilution Factor = $\frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{\text{14.7psi + Final Pressure (psi)}}{\text{14.7psi +Initial Pressure (psi)}}$

| Initial Vacuum (" of Hg) | 2 psi | 5 psi | 10 psi | 15 psi |
|---|---|---|---|---|
| 0.0 | **1.14** | 1.34 | **1.68** | 2.02 |
| 0.2 | **1.14** | 1.35 | **1.69** | 2.03 |
| 0.4 | **1.15** | 1.36 | **1.70** | 2.05 |
| 0.5 | **1.16** | 1.36 | **1.71** | 2.05 |
| 0.6 | **1.16** | 1.37 | **1.71** | 2.06 |
| 0.8 | **1.17** | 1.38 | **1.73** | 2.08 |
| 1.0 | **1.18** | 1.39 | **1.74** | 2.09 |
| 1.2 | **1.18** | 1.40 | **1.75** | 2.10 |
| 1.4 | **1.19** | 1.40 | **1.76** | 2.12 |
| 1.5 | **1.20** | 1.41 | **1.77** | 2.13 |
| 1.6 | **1.20** | 1.42 | **1.77** | 2.13 |
| 1.8 | **1.21** | 1.42 | **1.79** | 2.15 |
| 2.0 | **1.22** | 1.44 | **1.80** | 2.16 |
| 2.2 | **1.23** | 1.45 | **1.81** | 2.18 |
| 2.4 | **1.23** | 1.46 | **1.83** | 2.20 |
| 2.5 | **1.24** | 1.46 | **1.83** | 2.20 |
| 2.6 | **1.24** | 1.47 | **1.84** | 2.21 |
| 2.8 | **1.25** | 1.48 | **1.85** | 2.23 |
| 3.0 | **1.26** | 1.49 | **1.87** | 2.24 |
| 3.2 | **1.27** | 1.50 | **1.88** | 2.26 |
| 3.4 | **1.28** | 1.51 | **1.90** | 2.28 |
| 3.5 | **1.29** | 1.52 | **1.90** | 2.29 |
| 3.6 | **1.29** | 1.52 | **1.91** | 2.30 |
| 3.8 | **1.30** | 1.53 | **1.92** | 2.31 |
| 4.0 | **1.31** | 1.55 | **1.94** | 2.33 |
| 4.2 | **1.32** | 1.56 | **1.95** | 2.35 |
| 4.4 | **1.33** | 1.57 | **1.97** | 2.37 |
| 4.5 | **1.34** | 1.58 | **1.98** | 2.38 |
| 4.6 | **1.34** | 1.58 | **1.98** | 2.39 |
| 4.8 | **1.35** | 1.60 | **2.00** | 2.40 |
| 5.0 | **1.36** | 1.61 | **2.02** | 2.42 |
| 5.2 | **1.37** | 1.62 | **2.03** | 2.44 |
| 5.4 | **1.39** | 1.63 | **2.05** | 2.46 |
| 5.5 | **1.39** | 1.64 | **2.06** | 2.47 |
| 5.6 | **1.40** | 1.65 | **2.07** | 2.48 |
| 5.8 | **1.41** | 1.66 | **2.08** | 2.50 |
| 6.0 | **1.42** | 1.68 | **2.10** | 2.52 |
| 6.2 | **1.43** | 1.69 | **2.12** | 2.55 |
| 6.4 | **1.44** | 1.70 | **2.14** | 2.57 |
| 6.5 | **1.45** | 1.71 | **2.15** | 2.58 |
| 6.6 | **1.46** | 1.72 | **2.15** | 2.59 |
| 6.8 | **1.47** | 1.73 | **2.17** | 2.61 |
| 7.0 | **1.48** | 1.75 | **2.19** | 2.64 |
| 7.2 | **1.49** | 1.76 | **2.21** | 2.66 |
| 7.4 | **1.51** | 1.78 | **2.23** | 2.68 |
| 7.5 | **1.51** | 1.79 | **2.24** | 2.69 |
| 7.6 | **1.52** | 1.79 | **2.25** | 2.70 |

| Initial Vacuum (" of Hg) | 2 psi | 5 psi | 10 psi | 15 psi |
|---|---|---|---|---|
| 7.7 | **1.53** | 1.80 | **2.26** | 2.72 |
| 7.8 | **1.54** | 1.81 | **2.27** | 2.73 |
| 8.0 | **1.55** | 1.83 | **2.29** | 2.76 |
| 8.2 | **1.56** | 1.84 | **2.31** | 2.78 |
| 8.4 | **1.58** | 1.86 | **2.33** | 2.81 |
| 8.5 | **1.59** | 1.87 | **2.34** | 2.82 |
| 8.6 | **1.59** | 1.88 | **2.36** | 2.83 |
| 8.8 | **1.61** | 1.90 | **2.38** | 2.86 |
| 9.0 | **1.62** | 1.91 | **2.40** | 2.89 |
| 9.2 | **1.64** | 1.93 | **2.42** | 2.91 |
| 9.4 | **1.65** | 1.95 | **2.45** | 2.94 |
| 9.5 | **1.66** | 1.96 | **2.46** | 2.96 |
| 9.6 | **1.67** | 1.97 | **2.47** | 2.97 |
| 9.8 | **1.69** | 1.99 | **2.50** | 3.00 |
| 10.0 | **1.70** | 2.01 | **2.52** | 3.03 |
| 10.2 | **1.72** | 2.03 | **2.55** | 3.06 |
| 10.4 | **1.74** | 2.05 | **2.57** | 3.09 |
| 10.5 | **1.75** | 2.06 | **2.59** | 3.11 |
| 10.6 | **1.76** | 2.07 | **2.60** | 3.12 |
| 10.8 | **1.78** | 2.09 | **2.63** | 3.16 |
| 11.0 | **1.79** | 2.12 | **2.65** | 3.19 |
| 11.2 | **1.81** | 2.14 | **2.68** | 3.22 |
| 11.4 | **1.83** | 2.16 | **2.71** | 3.26 |
| 11.5 | **1.84** | 2.17 | **2.72** | 3.28 |
| 11.6 | **1.85** | 2.18 | **2.74** | 3.29 |
| 11.8 | **1.87** | 2.21 | **2.77** | 3.33 |
| 12.0 | **1.89** | 2.23 | **2.80** | 3.37 |
| 12.2 | **1.91** | 2.26 | **2.83** | 3.40 |
| 12.4 | **1.94** | 2.28 | **2.86** | 3.44 |
| 12.5 | **1.95** | 2.30 | **2.88** | 3.46 |
| 12.6 | **1.96** | 2.31 | **2.90** | 3.48 |
| 12.8 | **1.98** | 2.34 | **2.93** | 3.52 |
| 13.0 | **2.00** | 2.36 | **2.97** | 3.56 |
| 13.2 | **2.03** | 2.39 | **3.00** | 3.61 |
| 13.4 | **2.05** | 2.42 | **3.04** | 3.65 |
| 13.5 | **2.07** | 2.44 | **3.06** | 3.67 |
| 13.6 | **2.08** | 2.45 | **3.07** | 3.70 |
| 13.8 | **2.10** | 2.48 | **3.11** | 3.74 |
| 14.0 | **2.13** | 2.51 | **3.15** | 3.79 |
| 14.2 | **2.16** | 2.54 | **3.19** | 3.84 |
| 14.4 | **2.18** | 2.58 | **3.23** | 3.88 |
| 14.5 | **2.20** | 2.59 | **3.25** | 3.91 |
| 14.6 | **2.21** | 2.61 | **3.27** | 3.94 |
| 14.8 | **2.24** | 2.64 | **3.32** | 3.99 |
| 15.0 | **2.27** | 2.68 | **3.36** | 4.04 |
| 15.2 | **2.30** | 2.72 | **3.41** | 4.10 |
| 15.4 | **2.33** | 2.75 | **3.45** | 4.15 |

| Initial Vacuum (" of Hg) | 2 psi | 5 psi | 10 psi | 15 psi |
|---|---|---|---|---|
| 15.5 | **2.35** | 2.77 | **3.48** | 4.18 |
| 15.6 | **2.37** | 2.79 | **3.50** | 4.21 |
| 15.8 | **2.40** | 2.83 | **3.55** | 4.27 |
| 16.0 | **2.43** | 2.87 | **3.60** | 4.33 |
| 16.2 | **2.47** | 2.91 | **3.65** | 4.39 |
| 16.4 | **2.51** | 2.96 | **3.71** | 4.46 |
| 16.5 | **2.52** | 2.98 | **3.73** | 4.49 |
| 16.6 | **2.54** | 3.00 | **3.76** | 4.52 |
| 16.8 | **2.58** | 3.05 | **3.82** | 4.59 |
| 17.0 | **2.62** | 3.09 | **3.88** | 4.66 |
| 17.2 | **2.66** | 3.14 | **3.94** | 4.74 |
| 17.4 | **2.70** | 3.19 | **4.00** | 4.81 |
| 17.5 | **2.73** | 3.22 | **4.03** | 4.85 |
| 17.6 | **2.75** | 3.24 | **4.07** | 4.89 |
| 17.8 | **2.79** | 3.30 | **4.13** | 4.97 |
| 18.0 | **2.84** | 3.35 | **4.20** | 5.05 |
| 18.2 | **2.89** | 3.41 | **4.27** | 5.14 |
| 18.4 | **2.94** | 3.47 | **4.35** | 5.22 |
| 18.5 | **2.96** | 3.50 | **4.38** | 5.27 |
| 18.6 | **2.99** | 3.53 | **4.42** | 5.32 |
| 18.8 | **3.04** | 3.59 | **4.50** | 5.41 |
| 19.0 | **3.10** | 3.65 | **4.58** | 5.51 |
| 19.2 | **3.16** | 3.72 | **4.67** | 5.61 |
| 19.4 | **3.22** | 3.79 | **4.76** | 5.72 |
| 19.5 | **3.25** | 3.83 | **4.80** | 5.77 |
| 19.6 | **3.28** | 3.87 | **4.85** | 5.83 |
| 19.8 | **3.34** | 3.94 | **4.94** | 5.94 |
| 20.0 | **3.41** | 4.02 | **5.04** | 6.06 |
| 20.2 | **3.48** | 4.10 | **5.14** | 6.18 |
| 20.4 | **3.55** | 4.19 | **5.25** | 6.31 |
| 20.5 | **3.59** | 4.23 | **5.31** | 6.38 |
| 20.6 | **3.63** | 4.28 | **5.36** | 6.45 |
| 20.8 | **3.70** | 4.37 | **5.48** | 6.59 |
| 21.0 | **3.79** | 4.47 | **5.60** | 6.73 |
| 21.2 | **3.87** | 4.57 | **5.73** | 6.89 |
| 21.4 | **3.96** | 4.67 | **5.86** | 7.05 |
| 21.5 | **4.01** | 4.73 | **5.93** | 7.13 |
| 21.6 | **4.06** | 4.79 | **6.00** | 7.22 |
| 21.8 | **4.16** | 4.90 | **6.15** | 7.39 |
| 22.0 | **4.26** | 5.03 | **6.30** | 7.58 |
| 22.4 | **4.48** | 5.29 | **6.63** | 7.98 |

| Initial Vacuum (" of Hg) | 2 psi | 5 psi | 10 psi | 15 psi |
|---|---|---|---|---|
| 22.5 | **4.54** | 5.36 | **6.72** | 8.08 |
| 22.6 | **4.61** | 5.43 | **6.81** | 8.19 |
| 22.8 | **4.73** | 5.58 | **7.00** | 8.42 |
| 23.0 | **4.87** | 5.74 | **7.20** | 8.66 |
| 23.2 | **5.01** | 5.91 | **7.41** | 8.91 |
| 23.4 | **5.16** | 6.09 | **7.64** | 9.18 |
| 23.5 | **5.24** | 6.19 | **7.76** | 9.32 |
| 23.6 | **5.33** | 6.28 | **7.88** | 9.47 |
| 23.8 | **5.50** | 6.48 | **8.13** | 9.78 |
| 24.0 | **5.68** | 6.70 | **8.40** | 10.10 |
| 24.2 | **5.88** | 6.93 | **8.69** | 10.45 |
| 24.4 | **6.09** | 7.18 | **9.00** | 10.82 |
| 24.5 | **6.20** | 7.31 | **9.17** | 11.02 |
| 24.6 | **6.31** | 7.45 | **9.33** | 11.22 |
| 24.8 | **6.55** | 7.73 | **9.69** | 11.66 |
| 25.0 | **6.82** | 8.04 | **10.08** | 12.12 |
| 25.2 | **7.10** | 8.38 | **10.50** | 12.63 |
| 25.4 | **7.41** | 8.74 | **10.96** | 13.18 |
| 25.5 | **7.57** | 8.93 | **11.20** | 13.47 |
| 25.6 | **7.75** | 9.14 | **11.46** | 13.78 |
| 25.8 | **8.11** | 9.57 | **12.00** | 14.43 |
| 26.0 | **8.52** | 10.05 | **12.60** | 15.15 |
| 26.2 | **8.97** | 10.58 | **13.27** | 15.95 |
| 26.4 | **9.47** | 11.17 | **14.00** | 16.84 |
| 26.5 | **9.74** | 11.49 | **14.40** | 17.32 |
| 26.6 | **10.02** | 11.82 | **14.83** | 17.83 |
| 26.8 | **10.65** | 12.56 | **15.75** | 18.94 |
| 27.0 | **11.36** | 13.40 | **16.80** | 20.20 |
| 27.2 | **12.17** | 14.36 | **18.00** | 21.65 |
| 27.4 | **13.11** | 15.46 | **19.39** | 23.31 |
| 27.5 | **13.63** | 16.08 | **20.16** | 24.24 |
| 27.6 | **14.20** | 16.75 | **21.00** | 25.26 |
| 27.8 | **15.49** | 18.27 | **22.91** | 27.55 |
| 28.0 | **17.04** | 20.10 | **25.20** | 30.31 |
| 28.2 | **18.93** | 22.34 | **28.00** | 33.67 |
| 28.4 | **21.30** | 25.13 | **31.51** | 37.88 |
| 28.5 | **22.72** | 26.80 | **33.61** | 40.41 |
| 28.6 | **24.34** | 28.72 | **36.01** | 43.29 |
| 28.8 | **28.40** | 33.50 | **42.01** | 50.51 |
| 29.0 | **34.08** | 40.20 | **50.41** | 60.61 |

eurofins | Air Toxics

**Method:TO-15 (DoD) (Sh)-Parsons (Titan 1A)**

| CAS Number | Compound | Rpt. Limit(ppbv) |
|---|---|---|
| 75-35-4 | 1,1-Dichloroethene | 0.5 |
| 106-46-7 | 1,4-Dichlorobenzene | 0.5 |
| 71-43-2 | Benzene | 0.5 |
| 156-59-2 | cis-1,2-Dichloroethene | 0.5 |
| 100-41-4 | Ethyl Benzene | 0.5 |
| 108-38-3 | m,p-Xylene | 1.0 |
| 95-47-6 | o-Xylene | 0.5 |
| 108-88-3 | Toluene | 1.0 |
| 156-60-5 | trans-1,2-Dichloroethene | 0.5 |
| 79-01-6 | Trichloroethene | 0.5 |
| 75-01-4 | Vinyl Chloride | 0.5 |

| | Surrogate | Method Limits |
|---|---|---|
| 17060-07-0 | 1,2-Dichloroethane-d4 | 70-130 |
| 460-00-4 | 4-Bromofluorobenzene | 70-130 |
| 2037-26-5 | Toluene-d8 | 70-130 |

# 1Q 2024 TO-15 QUAD DoD Limit of Detections (LODs)
## Effective 04-01-2024

| CAS # | Analyte | Molecular Weight (MW) | LOD (ppbv) | LOQ (ppbv) | LOD (ug/m3) | LOQ (ug/m3) |
|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | 133.42 | 0.45 | 0.5 | 2.45558 | 2.72843 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 167.86 | 0.45 | 0.5 | 3.08945 | 3.43272 |
| 79-00-5 | 1,1,2-Trichloroethane | 133.42 | 0.45 | 0.5 | 2.45558 | 2.72843 |
| 75-34-3 | 1,1-Dichloroethane | 98.97 | 0.45 | 0.5 | 1.82153 | 2.02393 |
| 75-35-4 | 1,1-Dichloroethene | 96.95 | 0.45 | 0.5 | 1.78436 | 1.98262 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 181.46 | 1.5 | 2 | 11.13252 | 14.84335 |
| 95-63-6 | 1,2,4-Trimethylbenzene | 120.19 | 0.45 | 2 | 2.21209 | 9.83149 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 187.88 | 0.45 | 0.5 | 3.45791 | 3.84213 |
| 95-50-1 | 1,2-Dichlorobenzene | 147.01 | 0.45 | 0.5 | 2.70571 | 3.00634 |
| 107-06-2 | 1,2-Dichloroethane | 98.96 | 0.45 | 0.5 | 1.82135 | 2.02372 |
| 78-87-5 | 1,2-Dichloropropane | 112.99 | 0.45 | 0.5 | 2.07957 | 2.31063 |
| 108-67-8 | 1,3,5-Trimethylbenzene | 120.19 | 0.45 | 2 | 2.21209 | 9.83149 |
| 106-99-0 | 1,3-Butadiene | 54.09 | 0.45 | 0.5 | 0.99552 | 1.10613 |
| 541-73-1 | 1,3-Dichlorobenzene | 147.01 | 0.45 | 0.5 | 2.70571 | 3.00634 |
| 106-46-7 | 1,4-Dichlorobenzene | 147.01 | 0.45 | 0.5 | 2.70571 | 3.00634 |
| 123-91-1 | 1,4-Dioxane | 88.11 | 1.5 | 2 | 5.40552 | 7.20736 |
| 540-84-1 | 2,2,4-Trimethylpentane | 114.22 | 0.45 | 0.5 | 2.10221 | 2.33579 |
| 78-93-3 | 2-Butanone | 72.11 | 1.5 | 2 | 4.42393 | 5.89857 |
| 591-78-6 | 2-Hexanone | 100.16 | 1.5 | 2 | 6.14479 | 8.19305 |
| 67-63-0 | 2-Propanol | 60.09 | 1.5 | 2 | 3.68650 | 4.91534 |
| 107-05-1 | 3-Chloropropene | 76.53 | 1.5 | 2 | 4.69509 | 6.26012 |
| 622-96-8 | 4-Ethyltoluene | 120.19 | 0.45 | 0.5 | 2.21209 | 2.45787 |
| 108-10-1 | 4-Methyl-2-pentanone | 100.16 | 0.45 | 0.5 | 1.84344 | 2.04826 |
| 67-64-1 | Acetone | 58.08 | 4 | 5 | 9.50184 | 11.87730 |
| 100-44-7 | alpha-Chlorotoluene | 126.58 | 0.45 | 0.5 | 2.32969 | 2.58855 |
| 71-43-2 | Benzene | 78.11 | 0.45 | 0.5 | 1.43761 | 1.59734 |
| 75-27-4 | Bromodichloromethane | 163.83 | 0.45 | 0.5 | 3.01528 | 3.35031 |
| 75-25-2 | Bromoform | 252.77 | 0.45 | 0.5 | 4.65221 | 5.16912 |
| 74-83-9 | Bromomethane | 94.95 | 1.5 | 5 | 5.82515 | 19.41718 |
| 75-15-0 | Carbon Disulfide | 76.14 | 1.5 | 2 | 4.67117 | 6.22822 |
| 56-23-5 | Carbon Tetrachloride | 153.84 | 0.45 | 0.5 | 2.83141 | 3.14601 |
| 108-90-7 | Chlorobenzene | 112.56 | 0.45 | 0.5 | 2.07166 | 2.30184 |
| 75-00-3 | Chloroethane | 64.52 | 1.5 | 2 | 3.95828 | 5.27771 |
| 67-66-3 | Chloroform | 119.39 | 0.45 | 0.5 | 2.19736 | 2.44151 |
| 74-87-3 | Chloromethane | 50.49 | 1.5 | 5 | 3.09755 | 10.32515 |
| 156-59-2 | cis-1,2-Dichloroethene | 96.94 | 0.45 | 0.5 | 1.78417 | 1.98241 |
| 10061-01-5 | cis-1,3-Dichloropropene | 110.97 | 0.45 | 0.5 | 2.04239 | 2.26933 |
| 98-82-8 | Cumene | 120.19 | 0.45 | 0.5 | 2.21209 | 2.45787 |
| 110-82-7 | Cyclohexane | 84.16 | 0.45 | 0.5 | 1.54896 | 1.72106 |
| 124-48-1 | Dibromochloromethane | 208.28 | 0.45 | 0.5 | 3.83337 | 4.25930 |
| 64-17-5 | Ethanol | 46.07 | 4 | 5 | 7.53701 | 9.42127 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 100-41-4 | Ethyl Benzene | 106.16 | 0.45 | 0.5 | 1.95387 | 2.17096 |
| 75-69-4 | Freon 11 | 137.38 | 0.45 | 0.5 | 2.52847 | 2.80941 |
| 76-13-1 | Freon 113 | 187.39 | 0.45 | 0.5 | 3.44890 | 3.83211 |
| 76-14-2 | Freon 114 | 170.93 | 0.45 | 0.5 | 3.14595 | 3.49550 |
| 75-71-8 | Freon 12 | 120.92 | 0.45 | 0.5 | 2.22552 | 2.47280 |
| 142-82-5 | Heptane | 100.2 | 0.45 | 2 | 1.84417 | 8.19632 |
| 87-68-3 | Hexachlorobutadiene | 260.76 | 1.5 | 2 | 15.99755 | 21.33006 |
| 110-54-3 | Hexane | 86.17 | 0.45 | 0.5 | 1.58595 | 1.76217 |
| 108-38-3 | m,p-Xylene | 106.17 | 0.45 | 1 | 1.95405 | 4.34233 |
| 1634-04-4 | Methyl tert-butyl ether | 88.15 | 1.5 | 2 | 5.40798 | 7.21063 |
| 75-09-2 | Methylene Chloride | 84.94 | 1.5 | 5 | 5.21104 | 17.37014 |
| 91-20-3 | Naphthalene | 128.17 | 0.2 | 1 | 1.04843 | 5.24213 |
| 95-47-6 | o-Xylene | 106.17 | 0.45 | 0.5 | 1.95405 | 2.17117 |
| 103-65-1 | Propylbenzene | 120.19 | 0.45 | 0.5 | 2.21209 | 2.45787 |
| 115-07-1 | Propylene | 42.08 | 1.5 | 2 | 2.58160 | 3.44213 |
| 100-42-5 | Styrene | 104.14 | 0.45 | 0.5 | 1.91669 | 2.12965 |
| 127-18-4 | Tetrachloroethene | 165.85 | 0.45 | 0.5 | 3.05245 | 3.39162 |
| 109-99-9 | Tetrahydrofuran | 72.1 | 0.45 | 0.5 | 1.32699 | 1.47444 |
| 108-88-3 | Toluene | 92.13 | 0.45 | 1 | 1.69564 | 3.76810 |
| 156-60-5 | trans-1,2-Dichloroethene | 96.94 | 0.45 | 0.5 | 1.78417 | 1.98241 |
| 10061-02-6 | trans-1,3-Dichloropropene | 110.97 | 0.45 | 0.5 | 2.04239 | 2.26933 |
| 79-01-6 | Trichloroethene | 131.39 | 0.45 | 0.5 | 2.41822 | 2.68691 |
| 108-05-4 | Vinyl Acetate | 86.09 | 1.5 | 2 | 5.28160 | 7.04213 |
| 75-01-4 | Vinyl Chloride | 62.5 | 0.45 | 0.5 | 1.15031 | 1.27812 |

**Extra Compounds**

| CAS # | Analyte | Molecular Weight (MW) | LOD (ppbv) | LOQ (ppbv) | LOD (ug/m3) | LOQ (ug/m3) |
|---|---|---|---|---|---|---|
| 95-49-8 | 2-Chlorotoluene | 126.59 | 1.5 | 2 | 7.76626 | 10.35501 |
| 106-97-8 | Butane | 58.12 | 1.5 | 2 | 3.56564 | 4.75419 |
| 104-51-8 | Butyl Benzene | 134.22 | 0.45 | 0.5 | 2.47031 | 2.74479 |
| 111-84-2 | Nonane | 128.26 | 1.5 | 2 | 7.86871 | 10.49162 |
| 109-66-0 | n-Pentane | 72.15 | 1.5 | 2 | 4.42638 | 5.90184 |
| 111-65-9 | Octane | 114.22 | 1.5 | 2 | 7.00736 | 9.34315 |
| 135-98-8 | sec-Butylbenzene | 134.22 | 0.45 | 0.5 | 2.47031 | 2.74479 |
| 75-65-0 | tert-Butyl Alcohol | 74.12 | 1.5 | 2 | 4.54724 | 6.06299 |
| 98-06-6 | tert-Butyl Benzene | 134.22 | 1.5 | 2 | 8.23436 | 10.97914 |

ppbv - part per billion by volume
Concentration (ug/m3) = Concentration (ppbv)*MW/24.45
Instrument IDs - msd3, msd91, msda, msdj, msdp

## Table 42. Method RSK-175 Water Matrix

| CAS ID | Analyte | N Records | Mean | Standard Deviation | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|---|
| 74-86-2 | Acetylene | 719 | 99.6 | 9.8 | 70 | 129 |
| 106-97-8 | Butane | 262 | 97.3 | 7.3 | 75 | 119 |
| 124-38-9 | Carbon dioxide | 441 | 100.8 | 6.9 | 80 | 122 |
| 74-84-0 | Ethane | 2240 | 102.6 | 9.6 | 74 | 131 |
| 74-85-1 | Ethylene | 2284 | 102.5 | 10.2 | 72 | 133 |
| 75-28-5 | Isobutane | 267 | 97.6 | 6.6 | 78 | 117 |
| 74-82-8 | Methane | 2459 | 99.2 | 8.7 | 73 | 125 |
| 74-98-6 | Propane | 900 | 98.1 | 8.2 | 74 | 123 |

## Table 43. Method TO-15 Gas Matrix

| CAS ID | Analyte | N Records | Mean | Standard Deviation | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1344 | 97.9 | 10.5 | 67 | 129 |
| 71-55-6 | 1,1,1-Trichloroethane | 5436 | 96.7 | 9.5 | 68 | 125 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5273 | 95.9 | 10.4 | 65 | 127 |
| 79-00-5 | 1,1,2-Trichloroethane | 5332 | 95.9 | 7.7 | 73 | 119 |
| 76-13-1 | 1,1,2-Trifluoro-1,2,2-trichloroethane [Freon-113] | 5351 | 96.1 | 10 | 66 | 126 |
| 75-34-3 | 1,1-Dichloroethane | 5422 | 97 | 9.7 | 68 | 126 |
| 75-35-4 | 1,1-Dichloroethene | 3503 | 97.3 | 11.9 | 61 | 133 |
| 96-18-4 | 1,2,3-Trichloropropane | 465 | 99.6 | 8 | 76 | 124 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 4545 | 98.5 | 14.5 | 55 | 142 |
| 95-63-6 | 1,2,4-Trimethylbenzene | 4699 | 99.2 | 11.1 | 66 | 132 |

## Table 43. Method TO-15 Gas Matrix

| CAS ID | Analyte | N Records | Mean | Standard Deviation | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|---|
| 106-93-4 | 1,2-Dibromoethane | 4655 | 98.2 | 7.9 | 74 | 122 |
| 76-14-2 | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 4572 | 92.4 | 9.7 | 63 | 121 |
| 95-50-1 | 1,2-Dichlorobenzene | 4739 | 95.7 | 11 | 63 | 129 |
| 107-06-2 | 1,2-Dichloroethane | 5467 | 96.8 | 10.5 | 65 | 128 |
| 78-87-5 | 1,2-Dichloropropane | 4729 | 95.7 | 8.9 | 69 | 123 |
| 108-67-8 | 1,3,5-Trimethylbenzene | 4679 | 98.3 | 10.4 | 67 | 130 |
| 106-99-0 | 1,3-Butadiene | 3167 | 99.8 | 11.4 | 66 | 134 |
| 541-73-1 | 1,3-Dichlorobenzene | 4737 | 97.1 | 10.9 | 65 | 130 |
| 142-28-9 | 1,3-Dichloropropane | 165 | 105.2 | 14.4 | 62 | 148 |
| 542-75-6 | 1,3-Dichloropropene | 560 | 100.7 | 8.1 | 77 | 125 |
| 106-46-7 | 1,4-Dichlorobenzene | 4719 | 95.8 | 11.8 | 60 | 131 |
| 123-91-1 | 1,4-Dioxane | 2656 | 96.5 | 8.6 | 71 | 122 |
| 540-84-1 | 2,2,4-Trimethylpentane [Isooctane] | 3008 | 94.3 | 8.8 | 68 | 121 |
| 78-93-3 | 2-Butanone [MEK] | 4635 | 98.4 | 10.4 | 67 | 130 |
| 95-49-8 | 2-Chlorotoluene | 1092 | 101.9 | 9.2 | 74 | 130 |
| 591-78-6 | 2-Hexanone | 4600 | 95.4 | 11 | 62 | 128 |
| 67-63-0 | 2-Propanol [Isopropyl alcohol] | 3069 | 88.4 | 12.3 | 52 | 125 |
| 622-96-8 | 4-Ethyltoluene | 4673 | 97.9 | 10.3 | 67 | 129 |
| 108-10-1 | 4-Methyl-2-pentanone [MIBK] | 4646 | 98.5 | 10.5 | 67 | 130 |
| 67-64-1 | Acetone | 4600 | 92.7 | 11.6 | 58 | 128 |
| 75-05-8 | Acetonitrile | 1999 | 97.3 | 11.6 | 63 | 132 |
| 107-02-8 | Acrolein [Propenal] | 2469 | 93.8 | 10.6 | 62 | 126 |
| 107-13-1 | Acrylonitrile | 2105 | 103.7 | 10.9 | 71 | 137 |
| 107-05-1 | Allyl chloride | 2980 | 101.1 | 10.1 | 71 | 131 |

## Table 43. Method TO-15 Gas Matrix

| CAS ID | Analyte | N Records | Mean | Standard Deviation | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|---|
| 98-83-9 | alpha-Methylstyrene | 1976 | 97.3 | 10.2 | 67 | 128 |
| 71-43-2 | Benzene | 5436 | 93.8 | 8.4 | 69 | 119 |
| 100-44-7 | Benzyl chloride | 4419 | 98.7 | 16.2 | 50 | 147 |
| 75-27-4 | Bromodichloromethane | 4682 | 99.9 | 9.3 | 72 | 128 |
| 75-25-2 | Bromoform | 4638 | 102.3 | 12.1 | 66 | 139 |
| 74-83-9 | Bromomethane | 2657 | 98.6 | 11.8 | 63 | 134 |
| 106-97-8 | Butane | 587 | 96.2 | 10.9 | 64 | 129 |
| 75-15-0 | Carbon disulfide | 4756 | 95.6 | 12.7 | 57 | 134 |
| 56-23-5 | Carbon tetrachloride | 4202 | 99.6 | 10.7 | 68 | 132 |
| 108-90-7 | Chlorobenzene | 4652 | 94.5 | 8 | 70 | 119 |
| 124-48-1 | Chlorodibromomethane | 4628 | 99.9 | 10 | 70 | 130 |
| 75-45-6 | Chlorodifluoromethane | 559 | 102.1 | 14.3 | 59 | 145 |
| 75-00-3 | Chloroethane | 5370 | 94.7 | 10.6 | 63 | 127 |
| 67-66-3 | Chloroform | 5481 | 95.3 | 9.3 | 68 | 123 |
| 74-87-3 | Chloromethane | 4540 | 95.2 | 12.2 | 59 | 132 |
| 156-59-2 | cis-1,2-Dichloroethene | 5320 | 95.6 | 8.4 | 70 | 121 |
| 10061-01-5 | cis-1,3-Dichloropropene | 4691 | 98.8 | 9.7 | 70 | 128 |
| 110-82-7 | Cyclohexane | 3178 | 93.5 | 7.7 | 70 | 117 |
| 124-18-5 | Decane | 1982 | 93.8 | 7.9 | 70 | 118 |
| 75-71-8 | Dichlorodifluoromethane [Freon-12] | 5307 | 93.6 | 11.5 | 59 | 128 |
| 108-20-3 | Diisopropyl ether | 2309 | 93.5 | 8 | 70 | 117 |
| 64-17-5 | Ethanol | 2981 | 91.8 | 11.1 | 59 | 125 |
| 141-78-6 | Ethyl acetate | 2835 | 96.4 | 10.5 | 65 | 128 |
| 100-41-4 | Ethylbenzene | 5420 | 96.8 | 9 | 70 | 124 |
| 142-82-5 | Heptane | 3163 | 95.7 | 8.9 | 69 | 123 |

## Table 43. Method TO-15 Gas Matrix

| CAS ID | Analyte | N Records | Mean | Standard Deviation | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|---|
| 87-68-3 | Hexachlorobutadiene | 4551 | 96.7 | 13.7 | 56 | 138 |
| 110-54-3 | Hexane | 3150 | 91.6 | 9.5 | 63 | 120 |
| 98-82-8 | Isopropylbenzene | 3022 | 95.6 | 9.3 | 68 | 124 |
| 179601-23-1 | m/p-Xylene [3/4-Xylene] | 5019 | 97.3 | 12.3 | 61 | 134 |
| 80-62-6 | Methyl methacrylate | 3037 | 98.9 | 9.7 | 70 | 128 |
| 1634-04-4 | Methyl tert-butyl ether [MTBE] | 4681 | 95.5 | 10 | 66 | 126 |
| 75-09-2 | Methylene chloride | 5314 | 88.8 | 8.9 | 62 | 115 |
| 71-36-3 | n-Butyl alcohol | 1981 | 97.5 | 11.7 | 62 | 133 |
| 104-51-8 | n-Butylbenzene | 2656 | 97.7 | 10.6 | 66 | 130 |
| 112-40-3 | n-DoDecane | 1932 | 104.4 | 14.1 | 62 | 147 |
| 103-65-1 | n-Propylbenzene | 2570 | 95.7 | 9 | 69 | 123 |
| 91-20-3 | Naphthalene | 2439 | 97.5 | 13.4 | 57 | 138 |
| 111-84-2 | Nonane | 2617 | 95.4 | 10.8 | 63 | 128 |
| 95-47-6 | o-Xylene | 5334 | 96.3 | 9.7 | 67 | 125 |
| 111-65-9 | Octane | 2514 | 95 | 8.7 | 69 | 121 |
| 99-87-6 | p-Isopropyltoluene [p-Cymene] | 2694 | 98.1 | 10.5 | 67 | 130 |
| 109-66-0 | Pentane | 712 | 96.7 | 11.3 | 63 | 131 |
| 115-07-1 | Propene | 3193 | 96.6 | 13.3 | 57 | 136 |
| 135-98-8 | sec-Butylbenzene | 2665 | 96.4 | 9.6 | 68 | 125 |
| 100-42-5 | Styrene | 4735 | 100.1 | 9 | 73 | 127 |
| 75-65-0 | tert-Butyl alcohol | 2997 | 86.8 | 20.9 | 24 | 150 |
| 98-06-6 | tert-Butylbenzene | 2710 | 94.3 | 9.8 | 65 | 124 |
| 127-18-4 | Tetrachloroethene | 5432 | 95.2 | 9.7 | 66 | 124 |
| 109-99-9 | Tetrahydrofuran | 3192 | 93.7 | 9.8 | 64 | 123 |
| 108-88-3 | Toluene | 5406 | 92.7 | 8.8 | 66 | 119 |
| 156-60-5 | trans-1,2-Dichloroethene | 5411 | 95.5 | 9.5 | 67 | 124 |

| Table 43. Method TO-15 Gas Matrix | | | | | | |
|---|---|---|---|---|---|---|
| **CAS ID** | **Analyte** | **N Records** | **Mean** | **Standard Deviation** | **Lower Control Limit** | **Upper Control Limit** |
| 10061-02-6 | trans-1,3-Dichloropropene | 4621 | 104 | 9.6 | 75 | 133 |
| 79-01-6 | Trichloroethene | 5478 | 96.7 | 8.7 | 71 | 123 |
| 75-69-4 | Trichlorofluoromethane [Freon-11] | 5376 | 93.7 | 10.6 | 62 | 126 |
| 1120-21-4 | Undecane | 1976 | 96.1 | 9 | 69 | 123 |
| 108-05-4 | Vinyl acetate | 4599 | 97.4 | 13.7 | 56 | 139 |
| 593-60-2 | Vinyl bromide | 1054 | 98.4 | 9.2 | 71 | 126 |
| 75-01-4 | Vinyl chloride | 5445 | 95.1 | 10.4 | 64 | 127 |

# Eurofins AirToxics

## TO-14A_TO-15 QUAD SURR CLs valid to 11-12-2024 (msd3, msd16, msd91, msda, msdj, msdp) - SURR

**Effective Dates 05/12/24 - 11/12/24**
**Data Point Analysis Dates 11/12/23 - 05/12/24**

| Compound Name | Upper Control Limit(%) | Lower Control Limit(%) | Upper Warning Limit(%) | Lower Warning Limit(%) | Upper ME Limit(%) | Lower Me Limit(%) |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 132 | 68 | 121 | 79 | 142 | 58 |
| 4-Bromofluorobenzene | 125 | 77 | 117 | 85 | 133 | 69 |
| Toluene-d8 | 110 | 91 | 107 | 94 | 113 | 88 |

**Default control limits of 20% or 180% are used for generated limits which fall outside this criteria.**

| Eurofins Environment Testing Northern California, LLC | Data Review Checklist | | | |
|---|---|---|---|---|
| **Workorder #** 2406133 | Form F1.27 | Revision #21 | Revision Date: 05/01/23 | Page 1 of 2 |

| S1 | S2 | S3 | S4 | D | ***Section 1* – Spec Out** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Initials/Instrument/Date** | **S1:** MSD-3 RT 6/13/24 | **S2:** MSD-3 RT 6/14/24 | **S3:** | **S4:** |
| ✓ | ✓ | | | | Project Identification (PID), Project Requirements Table (PRT), Daily QC and ICAL met Criteria | | | | |
| ✓ | ✓ | | | ✓ | Method Name: 324904 23a. 324904 23a- | | | | |
| ✓ | ✓ | | | | Lumen QC and ICAL evaluation (ref. SOP/Method) report initialed and in folder | | | | |
| ✓ | ✓ | | | | Manual Integrations included and approved | | | | |
| ✓ | ✓ | | | ✓ | Chain of Custody verified for special comments/notes and analyses requested (add comments below) | | | | |
| ✓ | ✓ | | | | Non-standard Target sublist verified (MDL, LOD, RL, control limits, etc.) | | | | |
| ✓ | ✓ | | | | Verified standard expiration dates | | | | |

**Profile, analyses, reporting, special notes and unusual circumstances:** S1: 1 out ccv, 2 out lcs. LB: 06c
S1: 2 out ccv, 2 out LCS. LB: 06a.

| A1 | A2 | A3 | A4 | D | ***Section 2* – Sample Analysis** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Initials/Date** | **A1:** RT 6/14/24 | **A2:** | **A3:** JW 6/15/24 | **A4:** |
| ✓ | ✓ | ✓ | | ✓ | IS/Surr Recoveries, Dilution Factors, Load Volumes, leg(s) of instrument, Initial/Final Pressures, Canister #s Verified and dilution ranges are met per SOP (ex. Over-ranged/overdiluted). Method Transfer Dilutions Verified. | | | | |
| NA | NA | NA | | NA | **a)** Tedlar Bag IDs verified against COC **b)** Tedlar Bag ID confirmed with loading sequence/leg(s) of instrument | | | | |
| M | M | M | | ✓ | Manual Integrations/Bag or Can Dilution Forms/Re-pressurization Forms/Bag-Can Transfer Forms present (circle all that apply) | | | | |
| ✓ | ✓ | ✓ | | | 12/24 Hr clock time & Hold Time met for all samples | | | | |
| ✓ | ✓ | NA | | ✓ | Re-analysis of sample(s) has been evaluated for comparability and/or sample(s) has/have been checked for trends (Inf/Eff), field dups/trip blanks, samples following bad loads on auto samplers have been verified (system blks, confirmation runs) | | | | |
| ✓ | ✓ | ✓ | | ✓ | All runs have been evaluated for potential carry-over (TPHg/non-Target/over-range compounds/ etc.) | | | | |
| ✓ | ✓ | ✓ | | ✓ | All runs have been evaluated using method default parent sublists prior to any client specific sublists. | | | | |

**Analytical and special notes:** A1: 01A, 02A, 05A, 06A full loads, 03A dil TC FD 05A/06A OK
A2: 04A, 07A+18A dil TC; 08A, 09A, 11A-13A full loads; Dup Aug B 04A/AA OK; FD 08A/09A OK
A3: 01AA-22A - Full loads

| D1 | D2 | D3 | D4 | T | 3T | ***Section 3* – Target Data Reduction** | **Technical Review Needed? Circle one: Yes/No** | | **T:** | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **Initials/Instrument/ Date** | **D1:** GJ 6/17/24 | **D2:** | **D3:** | **D4:** |
| NA | | | | | | CAR # *(if applicable)* | | | | |
| ✓ | | | | | | Spectra Verified *(documentation of spectral defense included if applicable)* | | | | |
| ✓ | | | | | | Calibration history evaluated. Verify QC files. | | | | |
| NA | | | | | | TICs resemble reference spectra/ TICs between sample dups. are consistent *(if applicable)* | | | | |
| ✓ | | | | | | Lab Narrative is correct | | | | |
| NA | | | | | | TPH/NMOC calculations complete and included in folder | | | | |

**Special notes:**

| A | 3T | ***Section 4*- Atlas Data Entry** | **Lumen verified and included in folder** | **Circle one: Yes/No** |
|---|---|---|---|---|
| | | **Initials/Date:** GJ 6/17/24 | **3rd Tier:** *(needed only for DOD or per client request)* | |
| ✓ | | Sample Discrepancy Report (SDR) complete and approved *(if applicable)* | | |
| NA | | Manually entered results are checked | | |
| ✓ | | At least one result per sample is verified against Target quant sheets | | |
| ✓ | | Appropriate data qualifier flags are applied | | |
| ✓ | | Final Invoice is correct/ Final PDF report, COC and EDD reviewed and correct | | |

**Special Notes:**

Note (1) *Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply*
*Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects*

| **Workorder # :** | | | | **Reason for Reissue:** |
|---|---|---|---|---|
| | | | | |
| | | | | |
| **W** | **T** | **3T** | **Q** | |
| | | | | Reissue Request form Present |
| | | | | Client or QA or Lab contact present with reason for reissue |
| | | | | Review all affected data |
| | | | | Report header has correct R1, R2 etc |
| | | | | The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested) |
| | | | | Date for Reissue in Report Header matches date in Lab Narrative |
| | | | | Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc) |
| | | | | Corrective Action issued - # |
| | | | | The reissued workorder has been approved by a Group Lead, QA Manager or a Technical Director |
| ***Additional Comments:*** | | | | |
| | | | | |
| | | | | |
| | | | | |

| **Write Up** (Initials/Date) | **Tech Review** (Initials/Date) | ***3rd Tier Review** ** 3rd Tier Report Review is for DoD & Client Specific projects only* (Initials/Date) | **QA Review** (Initials/Date) |
|---|---|---|---|
| | | | |

| **Workorder # :** | | | | **Reason for Reissue:** |
|---|---|---|---|---|
| | | | | |
| | | | | |
| **W** | **T** | **3T** | **Q** | |
| | | | | Reissue Request form Present |
| | | | | Client or QA or Lab contact present with reason for reissue |
| | | | | Review all affected data |
| | | | | Report header has correct R1, R2 etc |
| | | | | The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested) |
| | | | | Date for Reissue in Report Header matches date in Lab Narrative |
| | | | | Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc) |
| | | | | Corrective Action issued - # |
| | | | | The reissued workorder has been approved by a Group Lead, QA Manager or a Technical Director |
| ***Additional Comments:*** | | | | |
| | | | | |
| | | | | |
| | | | | |

| **Write Up** (Initials/Date) | **Tech Review** (Initials/Date) | ***3rd Tier Review** ** 3rd Tier Report Review is for DoD & Client Specific projects only* (Initials/Date) | **QA Review** (Initials/Date) |
|---|---|---|---|
| | | | |

Note (1) *Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply*
*Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects*

Not Applicable




# Electronic Comprehensive Validation Package (eCVP)

*Vera Belitsky* Vera Belitsky 07-12-2024

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eurofins | Air Toxics

# WORK ORDER #: 2406264R2

Work Order Summary

| | | | |
|---|---|---|---|
| **CLIENT:** | Mr. Mark Rigby<br>PARSONS GOVERNMENT SERVICES INC.<br>10235 So. South Jordan Gateway<br>Suite 300<br>South Jordan, UT 84095 | **BILL TO:** | Mr. Mark Rigby<br>PARSONS GOVERNMENT SERVICES INC.<br>10235 So. South Jordan Gateway<br>Suite 300 |
| **PHONE:** | 801-572-5999 | **P.O. #** | 0015539 |
| **FAX:** | 801-572-9069 | **PROJECT #** | J09CA1108-01 Titan 1A Semi Annual Groundwater |
| **DATE RECEIVED:** | 06/06/2024 | **CONTACT:** | Brian Whittaker |
| **DATE COMPLETED:** | 06/20/2024 | | |
| **DATE REISSUED:** | 07/10/2024 | | |

| FRACTION # | NAME | TEST | RECEIPT VAC./PRES. | FINAL PRESSURE |
|---|---|---|---|---|
| 01A | T1AMF-SV003_JUN24 | TO-15 | 7.6 "Hg | 9.9 psi |
| 02A | T1AMF-SV010_JUN24 | TO-15 | 4.5 "Hg | 9.8 psi |
| 03A | T1AMF-SV027_JUN24 | TO-15 | 15.1 "Hg | 10 psi |
| 04A | T1AMF-SV028_JUN24 | TO-15 | 6.5 "Hg | 10 psi |
| 05A | T1AMF-SV028_JUN24_FD | TO-15 | 7.8 "Hg | 9.9 psi |
| 05AA | T1AMF-SV028_JUN24_FD Lab Duplicate | TO-15 | 7.8 "Hg | 9.9 psi |
| 06A | T1AMF-SV029_JUN24 | TO-15 | 22.2 "Hg | 10 psi |
| 07A | T1AMF-SV030_JUN24 | TO-15 | 5.7 "Hg | 10 psi |
| 08A | T1AMF-SV031_JUN24 | TO-15 | 14.5 "Hg | 10 psi |
| 09A | T1AMF-SV009B_JUN24 | TO-15 | 8 "Hg | 10 psi |
| 10A | T1AMF-SV032B_JUN24 | TO-15 | 6.9 "Hg | 9.9 psi |
| 11A | T1AMF-SV032A_JUN24 | TO-15 | 8.8 "Hg | 9.9 psi |
| 12A | T1AMF-SV034_JUN24 | TO-15 | 8.8 "Hg | 10 psi |
| 13A | T1AMF-SV035_JUN24 | TO-15 | 6.1 "Hg | 9.9 psi |
| 14A | T1AMF-SV035_JUN24_FD | TO-15 | 6.7 "Hg | 9.9 psi |
| 15A | Lab Blank | TO-15 | NA | NA |
| 16A | CCV | TO-15 | NA | NA |
| 16B | CCV | TO-15 | NA | NA |
| 17A | LCS | TO-15 | NA | NA |
| 17AA | LCSD | TO-15 | NA | NA |

CERTIFIED BY: Heidi Hayes DATE: 07/12/24

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000

**LABORATORY NARRATIVE**
**DoD QSM - TO-15**
**PARSONS GOVERNMENT SERVICES INC.**
**Workorder# 2406264R2**

Fourteen 1 Liter Summa Canister samples were received on June 06, 2024. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Please note the following narratives are project specific therefore may or may not be applicable to the associated sample set:

1) A Limit of Detection (LOD) and Method Detection Limit (MDL) study are not maintained for Total Xylenes and non-standard compounds.

2) Total Xylenes concentration is calculated by summing the individual concentrations of m,p-Xylene and o-Xylene.

3) Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

**Receiving Notes**

Samples T1AMF-SV027_JUN24 and T1AMF-SV029_JUN24 were received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits.

The Work Order was reissued on July 8, 2024 to revise sample identification per client request.

The Work Order was reissued on July 11, 2024 to revise sample identification per client request.

**Analytical Notes**

A DoD QSM waiver has been established and approved between Eurofins Air Toxics and the client. A copy of the waiver is available upon request.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

Samples were analyzed in one analytical batch on MSD-3 on 06/19/24. The initial continuing calibration verification (CCV) for the batch is reported as lab fraction 16A and the ending CCV is reported as lab fraction 16B.

Dilution was performed on sample T1AMF-SV032A_JUN24 due to the presence of high level target species.

Samples were received by courier, therefore shipping documents are not applicable.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

| Table 1 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Client Sample ID | Lab Sample ID | Date Collected | Date Received | Date Extracted | Sample Holding Time (Days) | Date Analyzed | Sample Extract Holding Time (Days) | Sample Condition |
| T1AMF-SV003_JUN24 | 2406264R2-01A | 06/03/2024 | 06/06/2024 | NA | None | 06/19/2024 | NA | GOOD |
| T1AMF-SV010_JUN24 | 2406264R2-02A | 06/03/2024 | 06/06/2024 | NA | None | 06/19/2024 | NA | GOOD |
| T1AMF-SV027_JUN24 | 2406264R2-03A | 06/03/2024 | 06/06/2024 | NA | None | 06/19/2024 | NA | GOOD |
| T1AMF-SV028_JUN24 | 2406264R2-04A | 06/03/2024 | 06/06/2024 | NA | None | 06/19/2024 | NA | GOOD |
| T1AMF-SV028_JUN24_FD | 2406264R2-05A | 06/03/2024 | 06/06/2024 | NA | None | 06/19/2024 | NA | GOOD |
| T1AMF-SV028_JUN24_FD Lab Duplicate | 2406264R2-05AA | 06/03/2024 | 06/06/2024 | NA | None | 06/19/2024 | NA | GOOD |
| T1AMF-SV029_JUN24 | 2406264R2-06A | 06/03/2024 | 06/06/2024 | NA | None | 06/19/2024 | NA | GOOD |
| T1AMF-SV030_JUN24 | 2406264R2-07A | 06/03/2024 | 06/06/2024 | NA | None | 06/20/2024 | NA | GOOD |
| T1AMF-SV031_JUN24 | 2406264R2-08A | 06/03/2024 | 06/06/2024 | NA | None | 06/20/2024 | NA | GOOD |
| T1AMF-SV009B_JUN24 | 2406264R2-09A | 06/06/2024 | 06/06/2024 | NA | None | 06/20/2024 | NA | GOOD |
| T1AMF-SV032B_JUN24 | 2406264R2-10A | 06/06/2024 | 06/06/2024 | NA | None | 06/20/2024 | NA | GOOD |
| T1AMF-SV032A_JUN24 | 2406264R2-11A | 06/06/2024 | 06/06/2024 | NA | None | 06/20/2024 | NA | GOOD |
| T1AMF-SV034_JUN24 | 2406264R2-12A | 06/06/2024 | 06/06/2024 | NA | None | 06/20/2024 | NA | GOOD |
| T1AMF-SV035_JUN24 | 2406264R2-13A | 06/06/2024 | 06/06/2024 | NA | None | 06/20/2024 | NA | GOOD |
| T1AMF-SV035_JUN24_FD | 2406264R2-14A | 06/06/2024 | 06/06/2024 | NA | None | 06/20/2024 | NA | GOOD |
| Lab Blank | 2406264R2-15A | NA | NA | NA | NA | 06/19/2024 | NA | GOOD |
| CCV | 2406264R2-16A | NA | NA | NA | NA | 06/19/2024 | NA | GOOD |
| CCV | 2406264R2-16B | NA | NA | NA | NA | 06/20/2024 | NA | GOOD |
| LCS | 2406264R2-17A | NA | NA | NA | NA | 06/19/2024 | NA | GOOD |
| LCSD | 2406264R2-17AA | NA | NA | NA | NA | 06/19/2024 | NA | GOOD |

# Sample Results and Raw Data

EPA METHOD TO-15 GC/MS FULL SCAN
Titan 1A Semi Annual Groundwater

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| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV003_JUN24 | | |
| **Lab ID:** | 2406264R2-01A | **Date/Time Analyzed:** | 6/19/24 06:15 PM |
| **Date/Time Collected:** | 6/3/24 12:33 PM | **Dilution Factor:** | 2.24 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061913 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.3 | 4.0 | 4.4 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.3 | 6.1 | 6.7 | Not Detected U |
| Benzene | 71-43-2 | 0.84 | 3.2 | 3.6 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.97 | 4.0 | 4.4 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.4 | 4.9 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.70 | 4.4 | 9.7 | 1.4 J |
| o-Xylene | 95-47-6 | 1.2 | 4.4 | 4.9 | Not Detected U |
| Toluene | 108-88-3 | 1.0 | 3.8 | 8.4 | 1.5 J |
| trans-1,2-Dichloroethene | 156-60-5 | 2.0 | 4.0 | 4.4 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.8 | 5.4 | 6.0 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.4 | 2.6 | 2.9 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 102 |
| Toluene-d8 | 2037-26-5 | 70-130 | 99 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061913.d
Lab Smp Id: 2406264-01A
Inj Date : 19-JUN-2024 18:15
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N6185
Misc Info : 7.6 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 6
Dil Factor: 2.24000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.432 (1.000) | 130 | 89474 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 69897 | | | 47.79- 107.79 | 78.12 |
| 5.432 | 5.432 (1.000) | 49 | 134240 | | | 131.33- 191.33 | 150.03 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.107) | 65 | 107510 | 23.0691 | 23.069 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.107) | 67 | 55956 | | | 23.17- 83.17 | 52.05 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 320369 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 46204 | | | 0.00- 45.65 | 14.42 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 307132 | 24.6607 | 24.661 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 33098 | | | 0.00- 41.42 | 10.78 |
| 7.760 | 7.760 (1.209) | 100 | 207339 | | | 37.54- 97.54 | 67.51 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 1595 | 0.17863 | 0.4001 | 80.00- 120.00 | 100.00(a) |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 137 Toluene (continued) | | | | | | | |
| 7.824 | 7.824 (1.219) | 92 | 918 | | | 27.89- 87.89 | 57.55 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 335941 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 168902 | | | 22.92- 82.92 | 50.28 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 699 | 0.14324 | 0.3209 | 80.00- 120.00 | 100.00(a) |
| 9.364 | 9.364 (1.023) | 91 | 1498 | | | 170.33- 230.33 | 214.31 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 254097 | 25.4514 | 25.451 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 277906 | | | 88.49- 148.49 | 109.37 |
| 10.288 | 10.288 (1.124) | 176 | 247283 | | | 66.73- 126.73 | 97.32 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061913.d
Lab Smp Id: 2406264-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 7.6 Hg->9.9 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 89474 | -0.60 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 320369 | -2.26 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 335941 | 3.35 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:37

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-01A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 7.6 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 23.069 | 92.28 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.661 | 98.64 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.451 | 101.81 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061913.d



Date : 19-JUN-2024 18:15

Client ID:

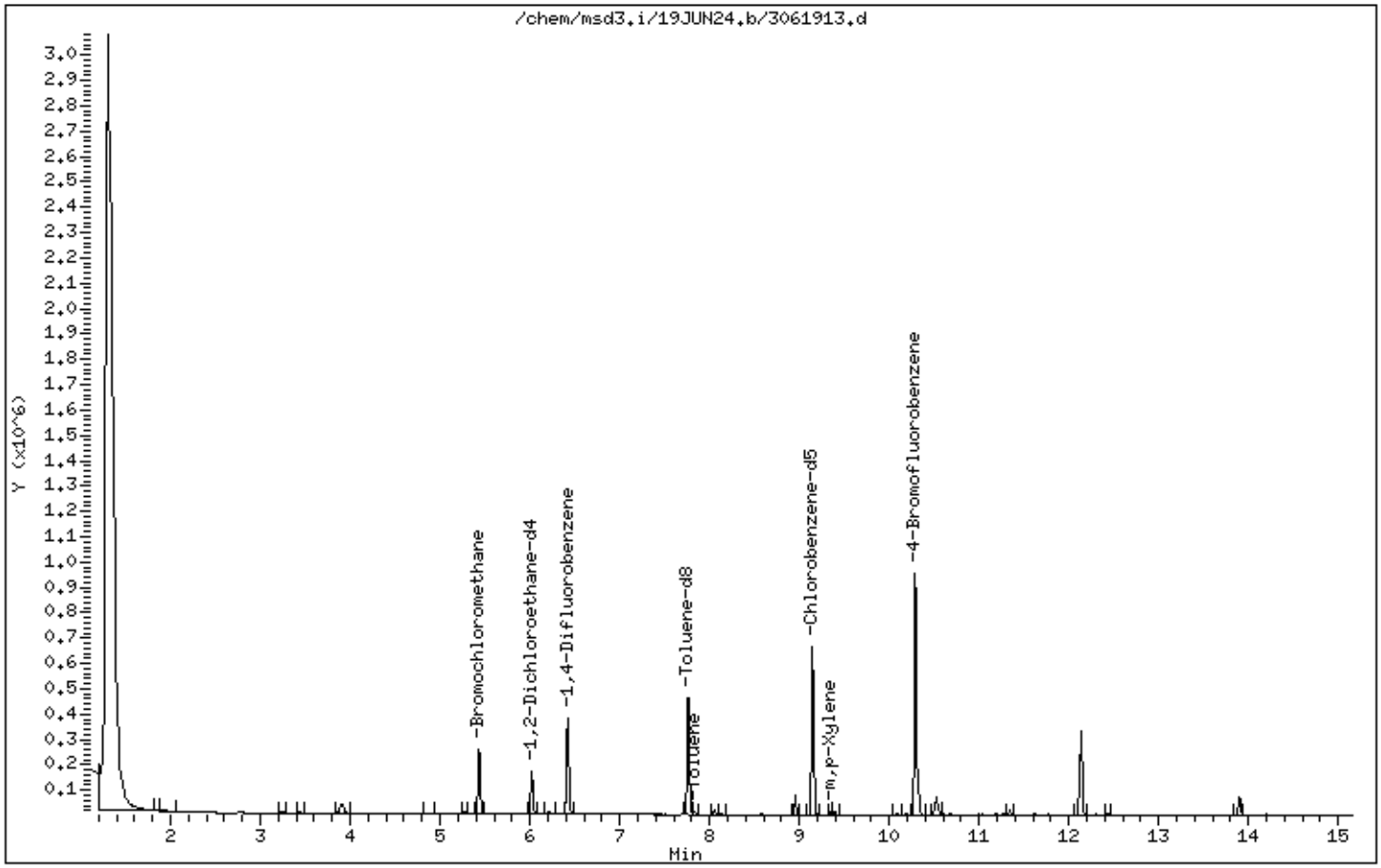
Instrument: msd3.i

Sample Info: 200mL N6185

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061913.d

Date : 19-JUN-2024 18:15

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6185

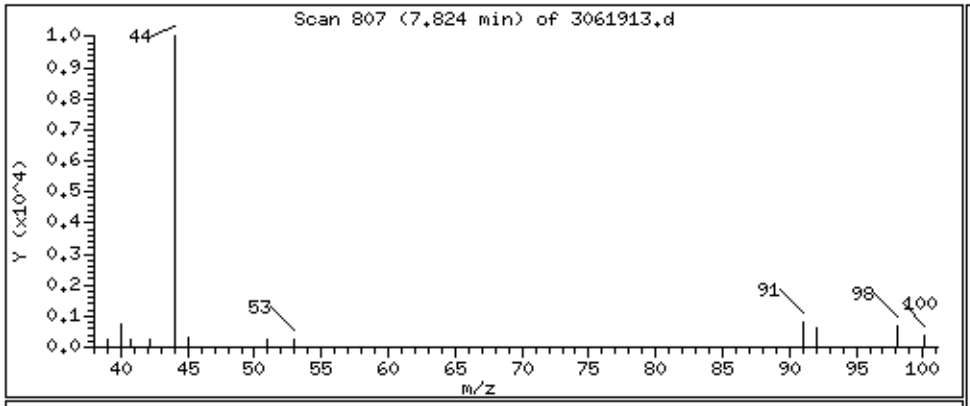
Operator: ACE

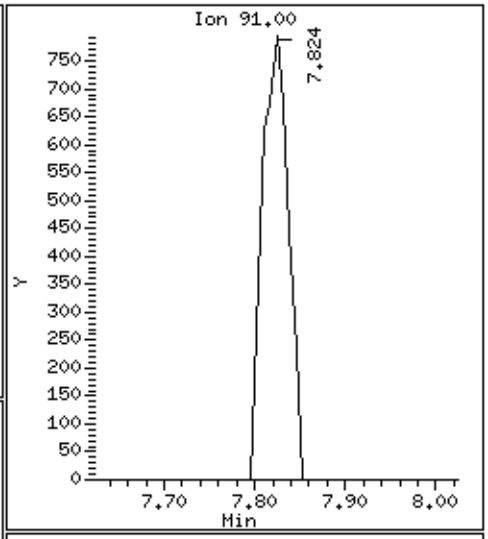
Column phase: RTX-624

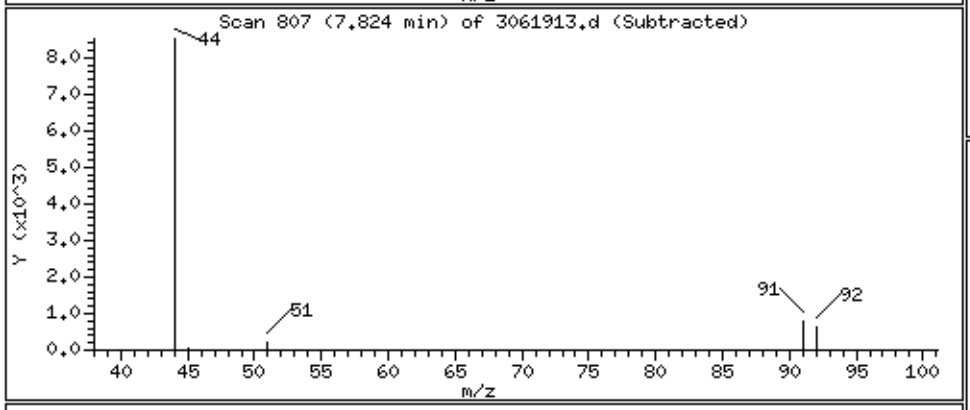
Column diameter: 0.25

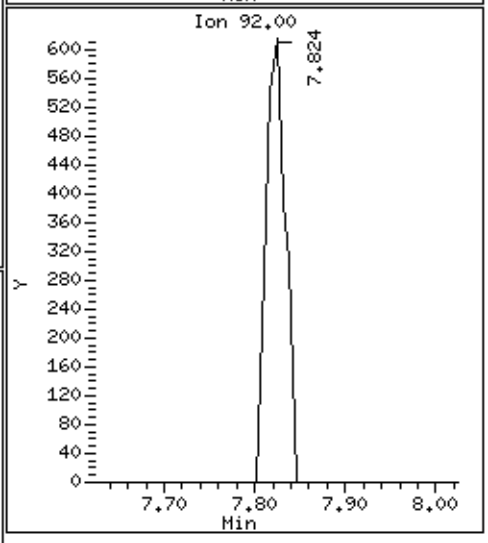
137 Toluene

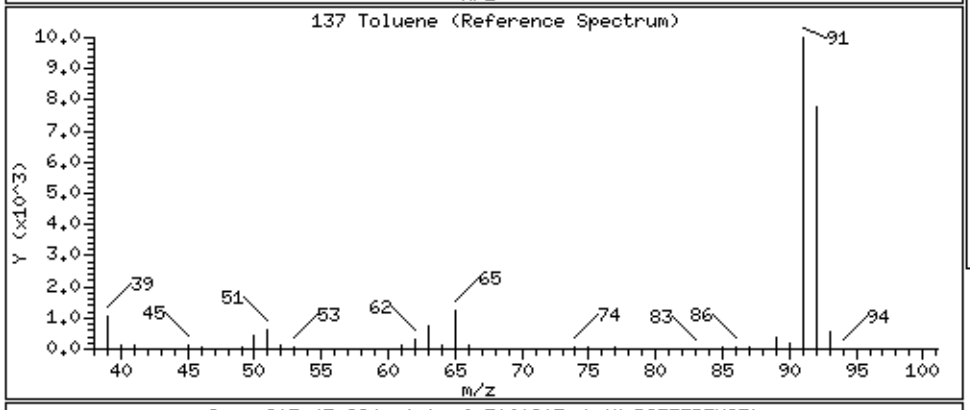
Concentration: 0.4001 PPBV

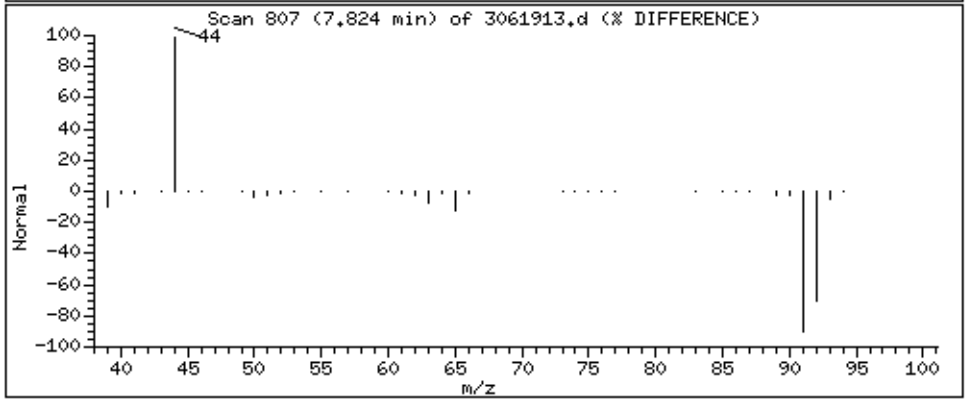


Data File: /chem/msd3.i/19JUN24.b/3061913.d

Date : 19-JUN-2024 18:15

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6185

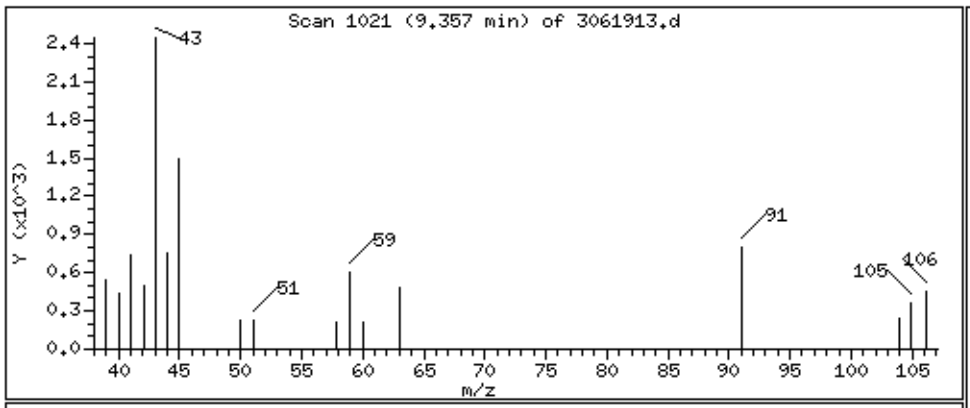
Operator: ACE

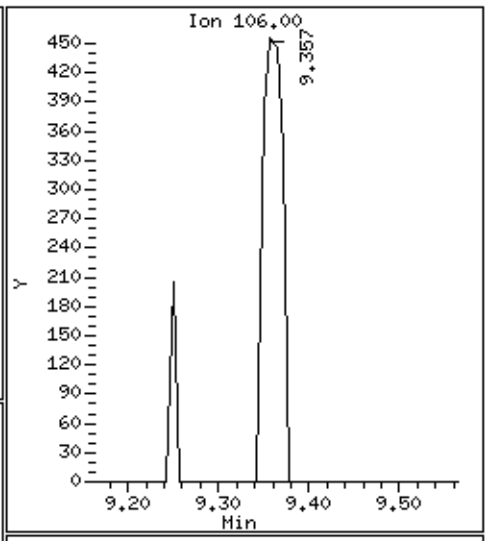
Column phase: RTX-624

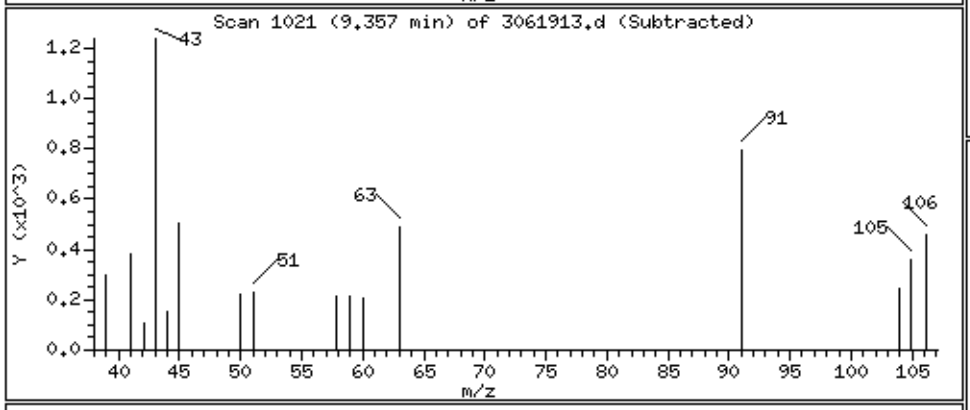
Column diameter: 0.25

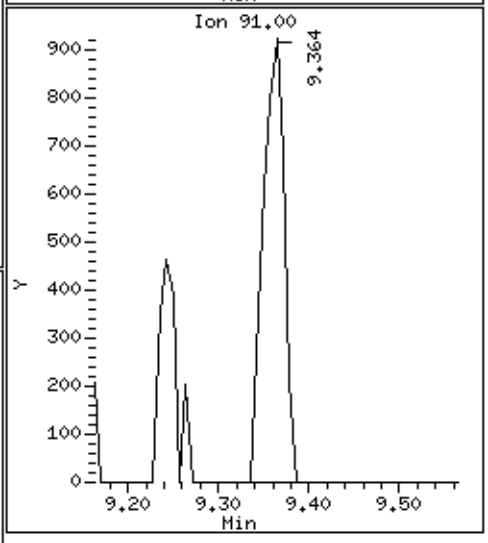
158 m,p-Xylene

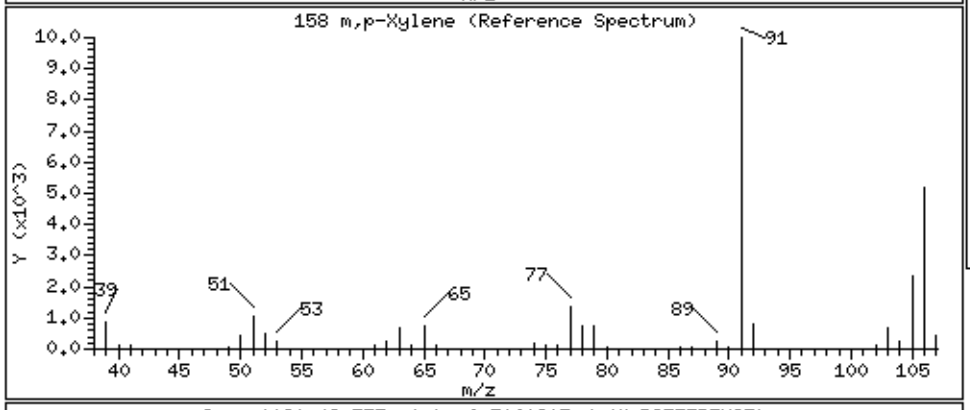
Concentration: 0.3209 PPBV

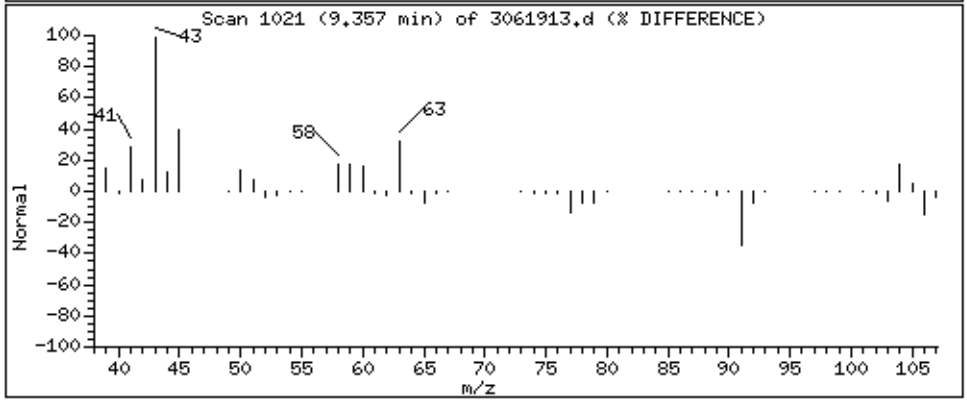


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV010_JUN24 | | |
| **Lab ID:** | 2406264R2-02A | **Date/Time Analyzed:** | 6/19/24 06:50 PM |
| **Date/Time Collected:** | 6/3/24 11:30 AM | **Dilution Factor:** | 1.96 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061914 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.0 | 3.5 | 3.9 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.0 | 5.3 | 5.9 | Not Detected U |
| Benzene | 71-43-2 | 0.74 | 2.8 | 3.1 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.84 | 3.5 | 3.9 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.0 | 3.8 | 4.2 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.61 | 3.8 | 8.5 | 1.2 J |
| o-Xylene | 95-47-6 | 1.0 | 3.8 | 4.2 | Not Detected U |
| Toluene | 108-88-3 | 0.92 | 3.3 | 7.4 | 1.0 J |
| trans-1,2-Dichloroethene | 156-60-5 | 1.8 | 3.5 | 3.9 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.6 | 4.7 | 5.3 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.1 | 2.2 | 2.5 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 102 |
| Toluene-d8 | 2037-26-5 | 70-130 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061914.d
Lab Smp Id: 2406264-02A
Inj Date : 19-JUN-2024 18:50
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N6191
Misc Info : 4.5 Hg->9.8 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 7
Dil Factor: 1.96000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | | CAS #: 74-97-5 | |
| 5.432 | 5.432 (1.000) | 130 | 92424 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 71247 | | | | 47.79- 107.79 | 77.09 |
| 5.432 | 5.432 (1.000) | 49 | 136332 | | | | 131.33- 191.33 | 147.51 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | | CAS #: 17060-07-0 | |
| 6.019 | 6.019 (1.108) | 65 | 109555 | 22.7576 | | 22.758 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 55783 | | | | 23.17- 83.17 | 50.92 |
| * 108 1,4-Difluorobenzene | | | | | | | CAS #: 540-36-3 | |
| 6.420 | 6.420 (1.000) | 114 | 324896 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 47821 | | | | 0.00- 45.65 | 14.72 |
| $ 134 Toluene-d8 | | | | | | | CAS #: 2037-26-5 | |
| 7.760 | 7.760 (1.209) | 98 | 310457 | 24.5803 | | 24.580 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 32971 | | | | 0.00- 41.42 | 10.62 |
| 7.760 | 7.760 (1.209) | 100 | 208334 | | | | 37.54- 97.54 | 67.11 |
| 137 Toluene | | | | | | | CAS #: 108-88-3 | |
| 7.824 | 7.824 (1.219) | 91 | 1294 | 0.14290 | | 0.2801 | 80.00- 120.00 | 100.00(a) |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 137 Toluene (continued) | | | | | | | |
| 7.831 | 7.824 (1.220) | 92 | 637 | | | 27.89- 87.89 | 49.23 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 343029 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 167788 | | | 22.92- 82.92 | 48.91 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 688 | 0.13808 | 0.2706 | 80.00- 120.00 | 100.00(a) |
| 9.364 | 9.364 (1.023) | 91 | 1465 | | | 170.33- 230.33 | 212.94 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 259829 | 25.4878 | 25.488 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 281398 | | | 88.49- 148.49 | 108.30 |
| 10.288 | 10.288 (1.124) | 176 | 249508 | | | 66.73- 126.73 | 96.03 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061914.d
Lab Smp Id: 2406264-02A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 4.5 Hg->9.8 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 92424 | 2.68 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 324896 | -0.87 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 343029 | 5.54 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:37

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-02A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 4.5 Hg->9.8 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.758 | 91.03 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.580 | 98.32 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.488 | 101.95 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061914.d



Date : 19-JUN-2024 18:50

Client ID:

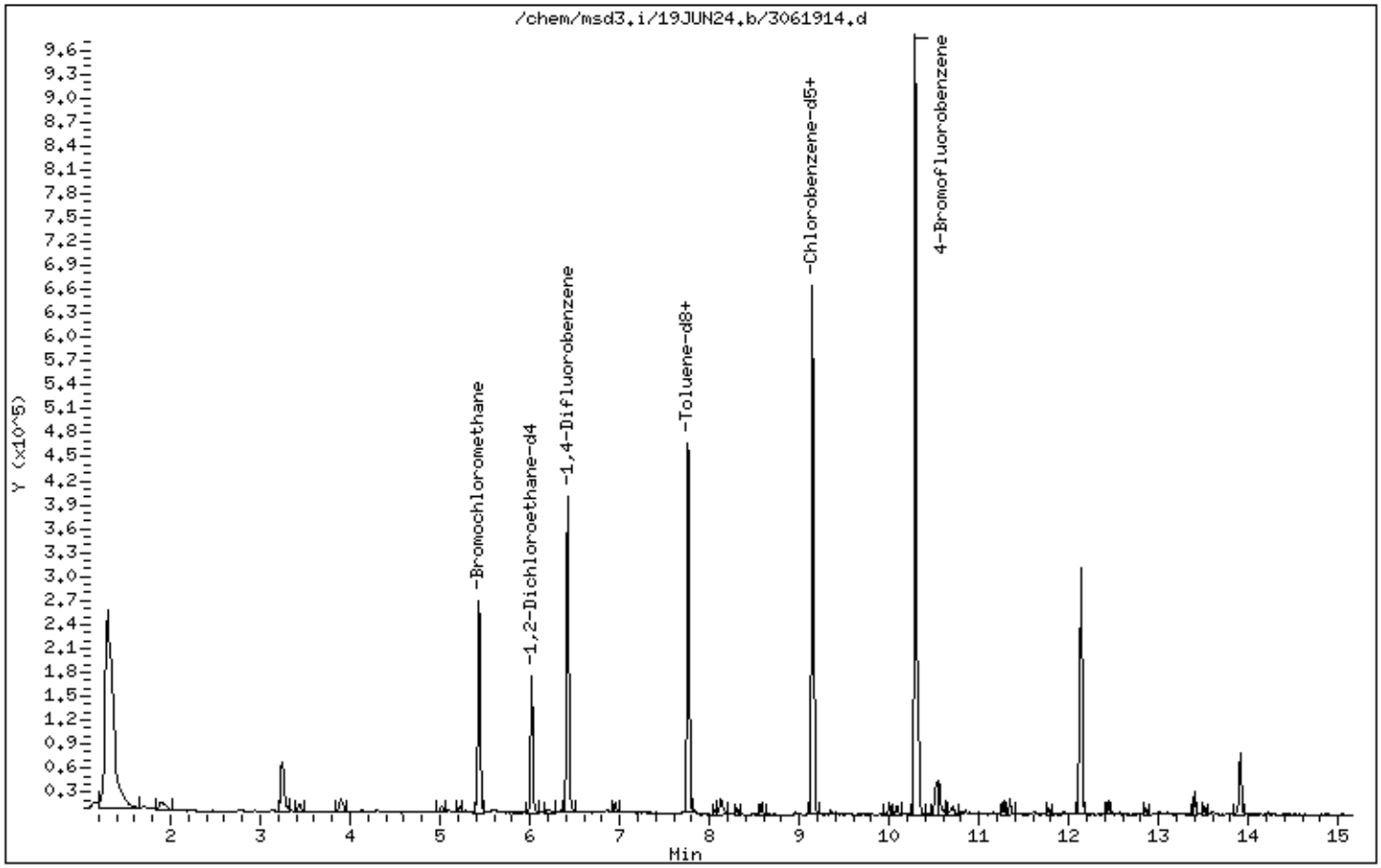
Instrument: msd3.i

Sample Info: 200mL N6191

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061914.d

Date : 19-JUN-2024 18:50

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6191

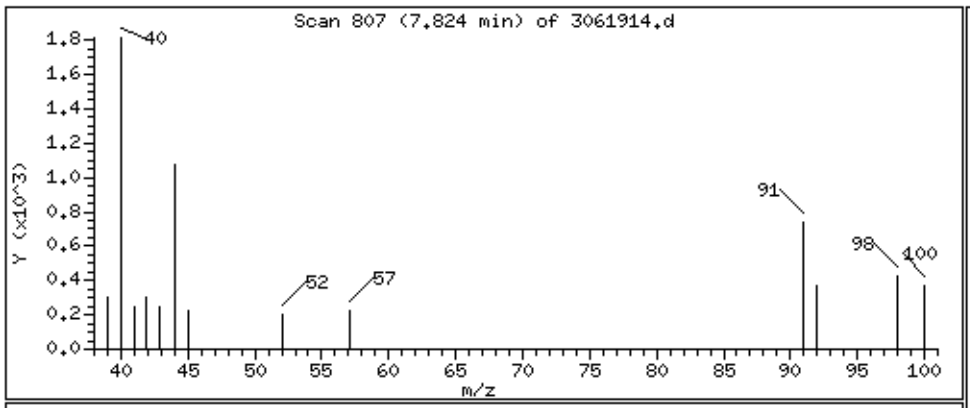
Operator: ACE

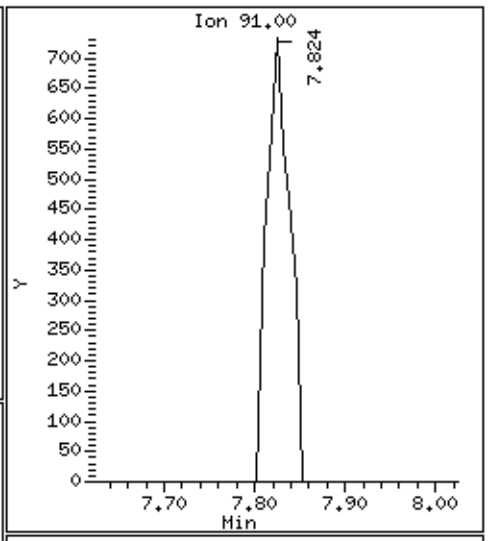
Column phase: RTX-624

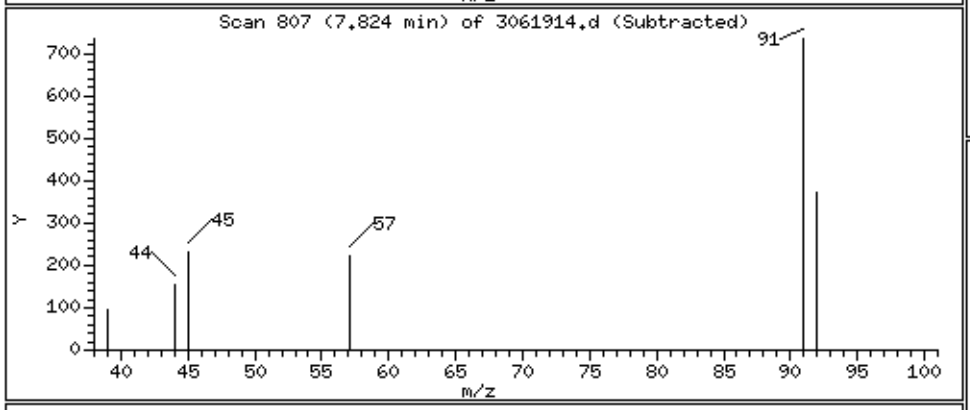
Column diameter: 0.25

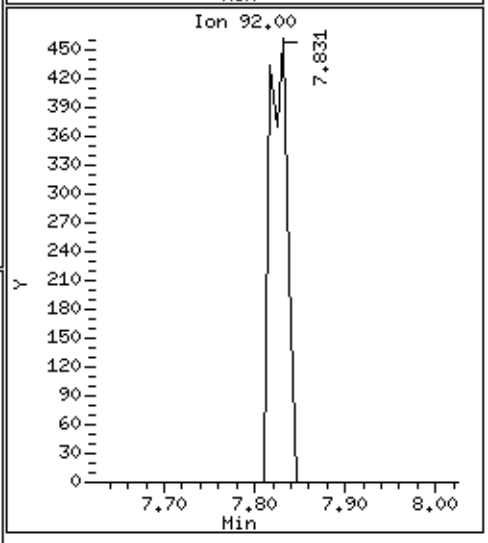
137 Toluene

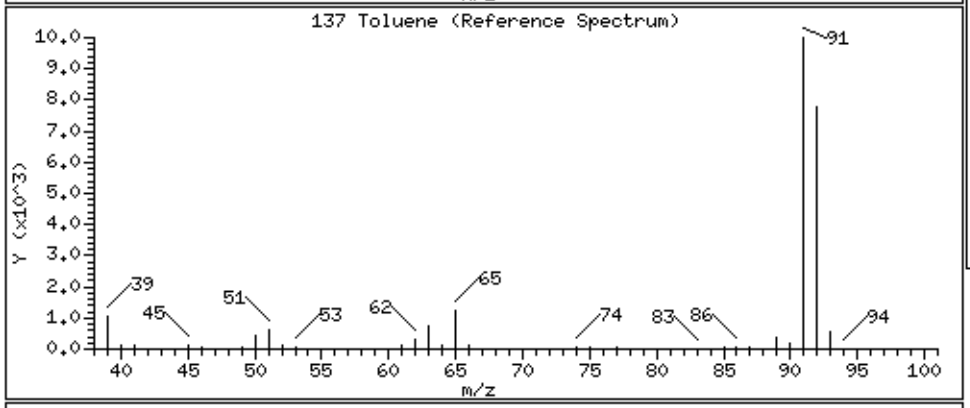
Concentration: 0.2801 PPBV

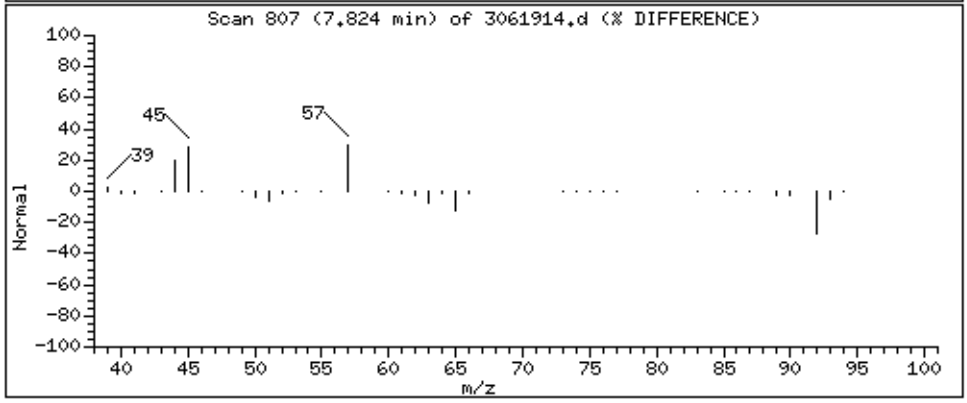


Data File: /chem/msd3.i/19JUN24.b/3061914.d

Date : 19-JUN-2024 18:50

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6191

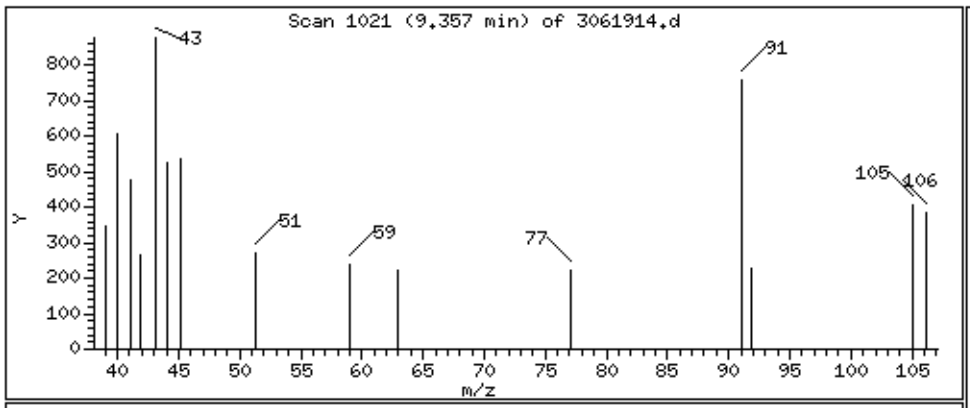
Operator: ACE

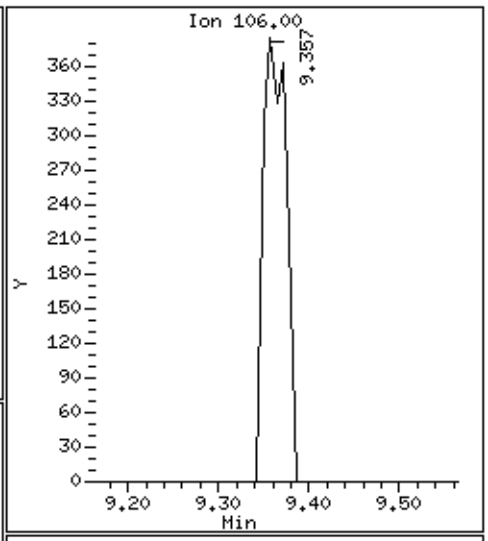
Column phase: RTX-624

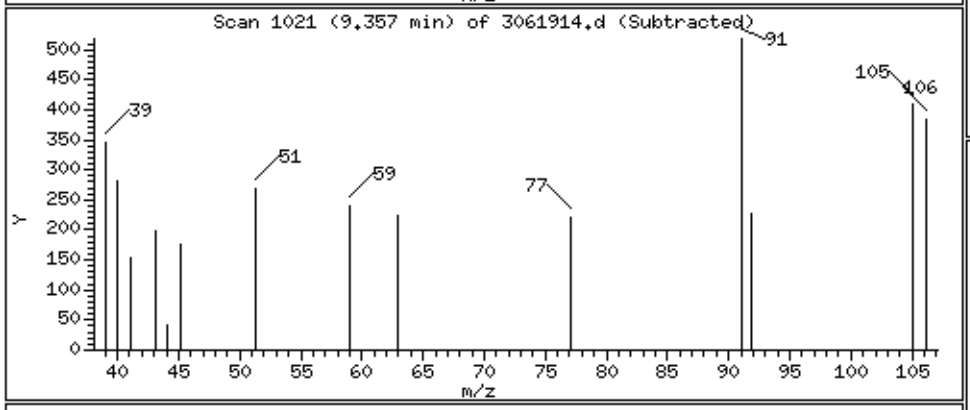
Column diameter: 0.25

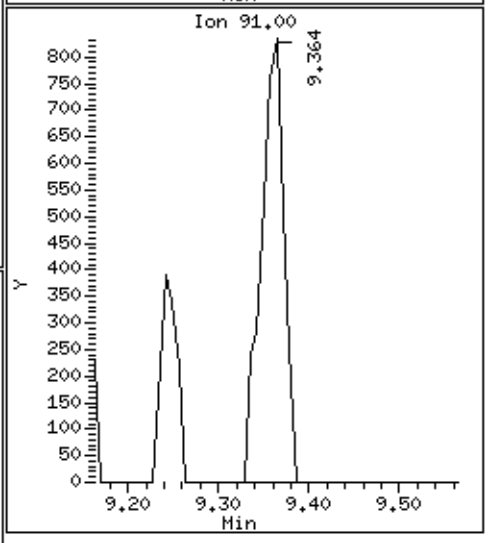
158 m,p-Xylene

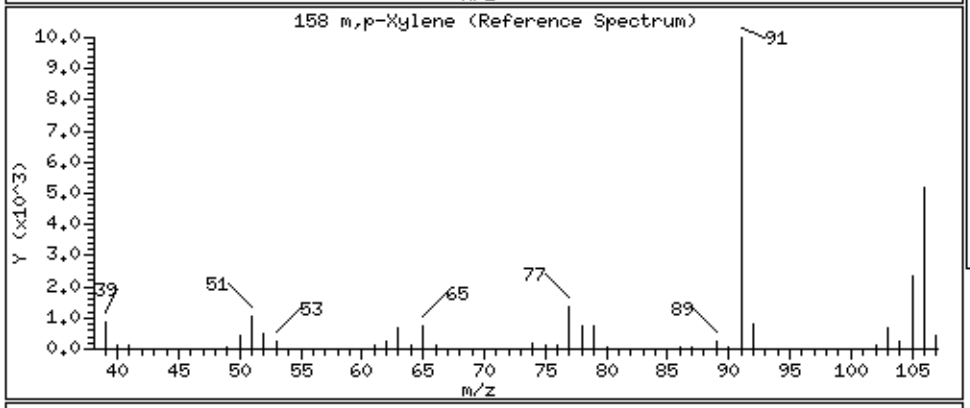
Concentration: 0.2706 PPBV

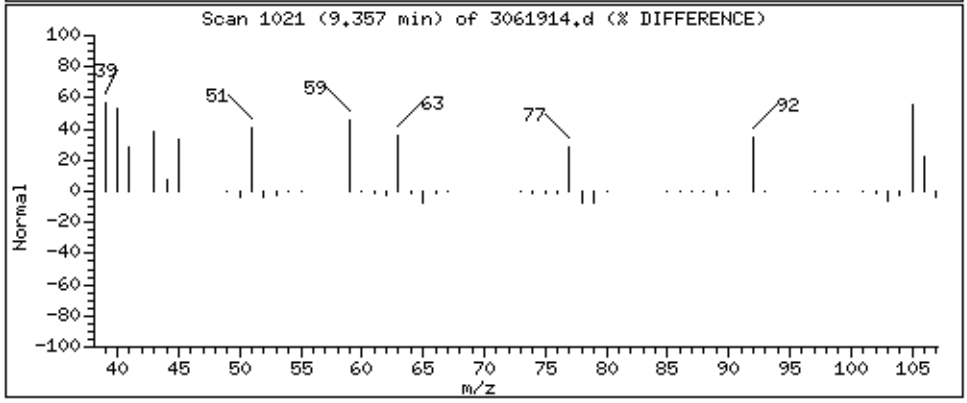


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV027_JUN24 | | |
| **Lab ID:** | 2406264R2-03A | **Date/Time Analyzed:** | 6/19/24 08:22 PM |
| **Date/Time Collected:** | 6/3/24 02:55 PM | **Dilution Factor:** | 3.38 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061915 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 3.5 | 6.0 | 6.7 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 3.4 | 9.1 | 10 | Not Detected U |
| Benzene | 71-43-2 | 1.3 | 4.8 | 5.4 | 7.4 |
| cis-1,2-Dichloroethene | 156-59-2 | 1.4 | 6.0 | 6.7 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.7 | 6.6 | 7.3 | 3.0 J |
| m,p-Xylene | 108-38-3 | 1.0 | 6.6 | 15 | 7.9 J |
| o-Xylene | 95-47-6 | 1.8 | 6.6 | 7.3 | 3.2 J |
| Toluene | 108-88-3 | 1.6 | 5.7 | 13 | 23 |
| trans-1,2-Dichloroethene | 156-60-5 | 3.1 | 6.0 | 6.7 | Not Detected U |
| Trichloroethene | 79-01-6 | 2.7 | 8.2 | 9.1 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 3.6 | 3.9 | 4.3 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 101 |
| Toluene-d8 | 2037-26-5 | 70-130 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061915.d
Lab Smp Id: 2406264-03A
Inj Date : 19-JUN-2024 20:22
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N7835
Misc Info : 15.1 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 1
Dil Factor: 3.38000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 96314 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 75793 | | | | 47.79- 107.79 | 78.69 |
| 5.432 | 5.432 (1.000) | 49 | 146341 | | | | 131.33- 191.33 | 151.94 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 115403 | 23.0042 | 23.004 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 61875 | | | | 23.17- 83.17 | 53.62 |
| 102 Benzene | | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 4851 | 0.69016 | 2.333 | | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 1314 | | | | 0.00- 53.69 | 27.09 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 349107 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 50441 | | | | 0.00- 45.65 | 14.45 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 328601 | 24.2126 | 24.212 | | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 36916 | | | | 0.00- 41.42 | 11.23 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 220592 | | | 37.54- 97.54 | 67.13 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 17850 | 1.83450 | 6.201 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 10455 | | | 27.89- 87.89 | 58.57 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 361154 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 180441 | | | 22.92- 82.92 | 49.96 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 865 | 0.20552 | 0.6946 | 80.00- 120.00 | 100.00(a) |
| 9.242 | 9.242 (1.010) | 91 | 2630 | | | 281.09- 341.09 | 304.05 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 2824 | 0.53831 | 1.819 | 80.00- 120.00 | 100.00(a) |
| 9.357 | 9.364 (1.023) | 91 | 5975 | | | 170.33- 230.33 | 211.58 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 1071 | 0.21529 | 0.7277 | 80.00- 120.00 | 100.00(a) |
| 9.744 | 9.744 (1.065) | 91 | 2383 | | | 181.23- 241.23 | 222.50 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 271836 | 25.3274 | 25.327 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 295813 | | | 88.49- 148.49 | 108.82 |
| 10.288 | 10.288 (1.124) | 176 | 261695 | | | 66.73- 126.73 | 96.27 |

## QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061915.d
Lab Smp Id: 2406264-03A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 15.1 Hg->10 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 96314 | 7.00 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 349107 | 6.51 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 361154 | 11.11 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:37

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-03A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 15.1 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 23.004 | 92.02 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.212 | 96.85 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.327 | 101.31 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061915.d



Date : 19-JUN-2024 20:22

Client ID:

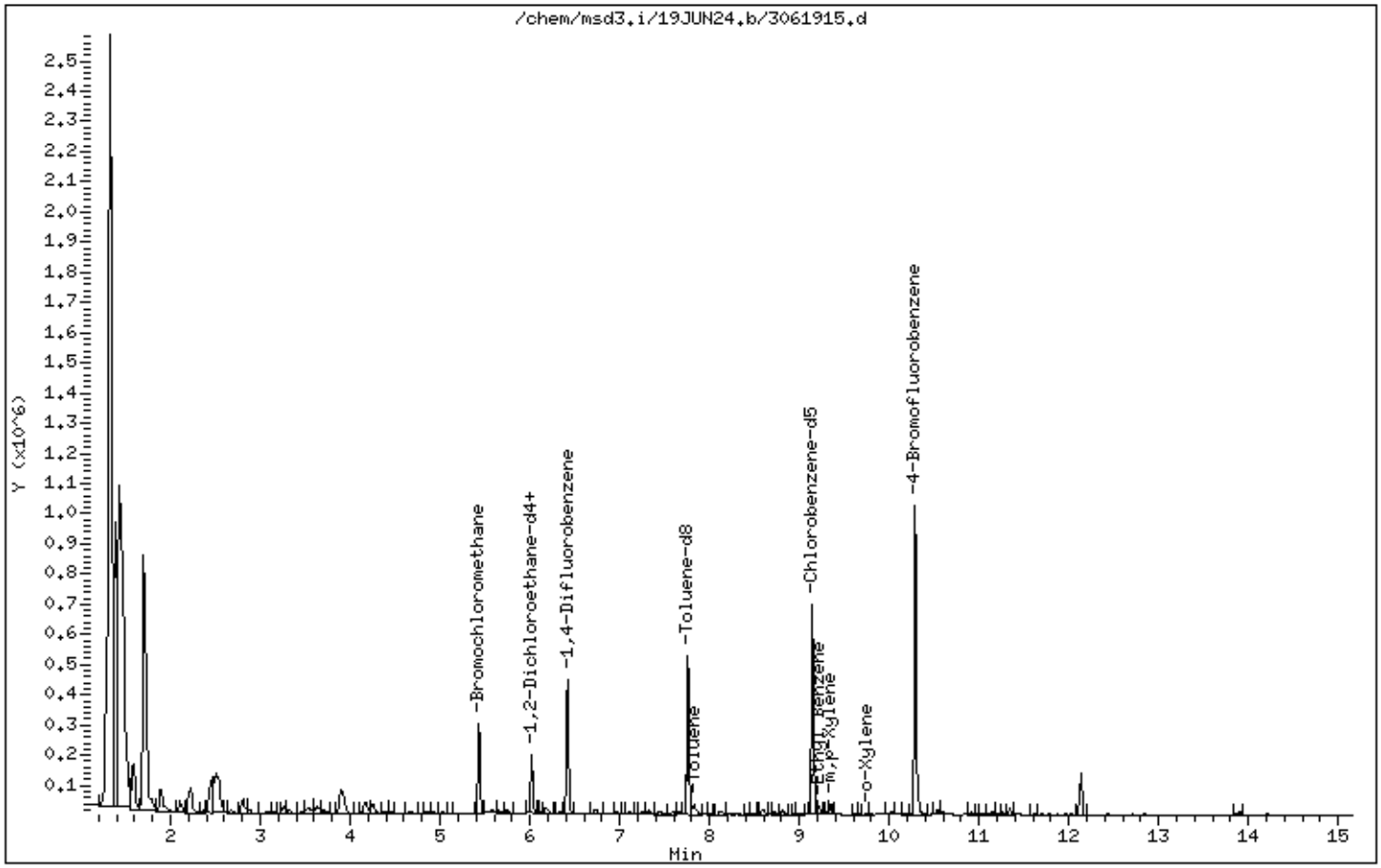
Instrument: msd3.i

Sample Info: 200mL N7835

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061915.d

Date : 19-JUN-2024 20:22

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7835

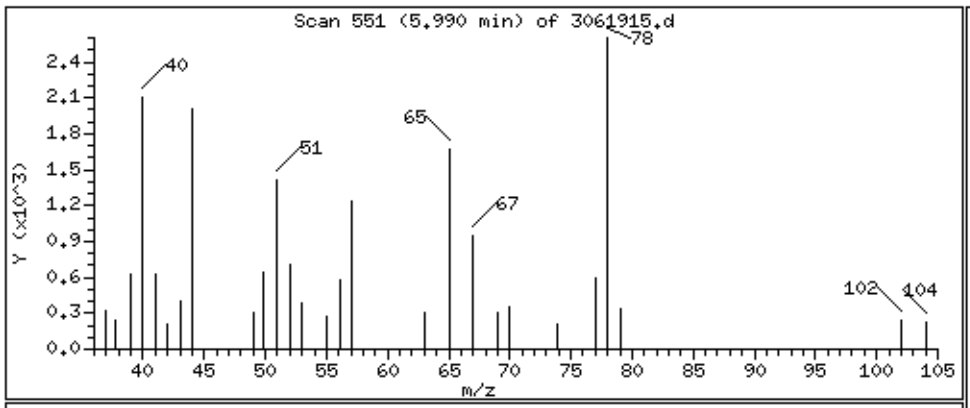
Operator: ACE

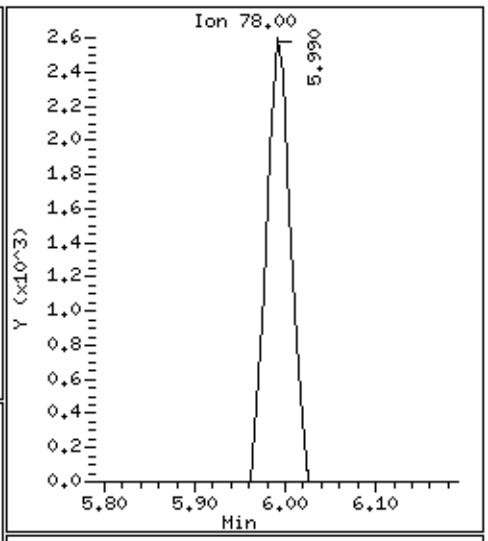
Column phase: RTX-624

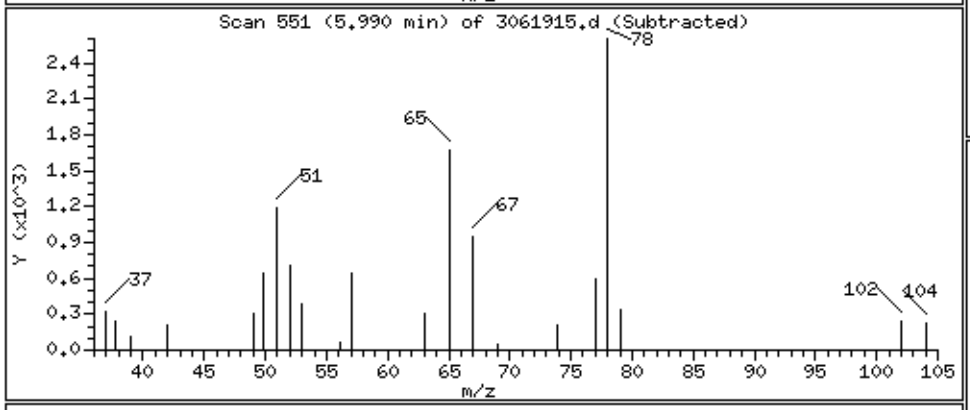
Column diameter: 0.25

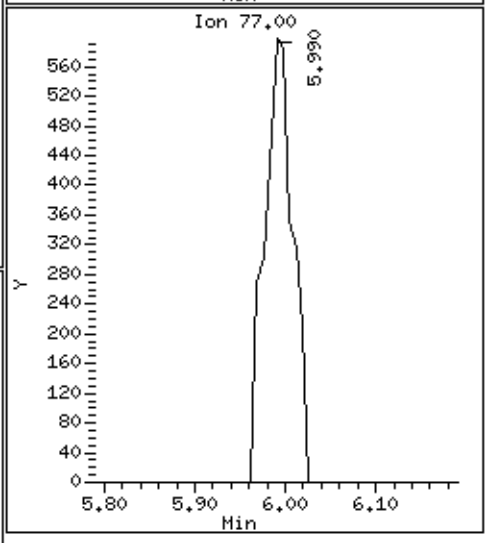
102 Benzene

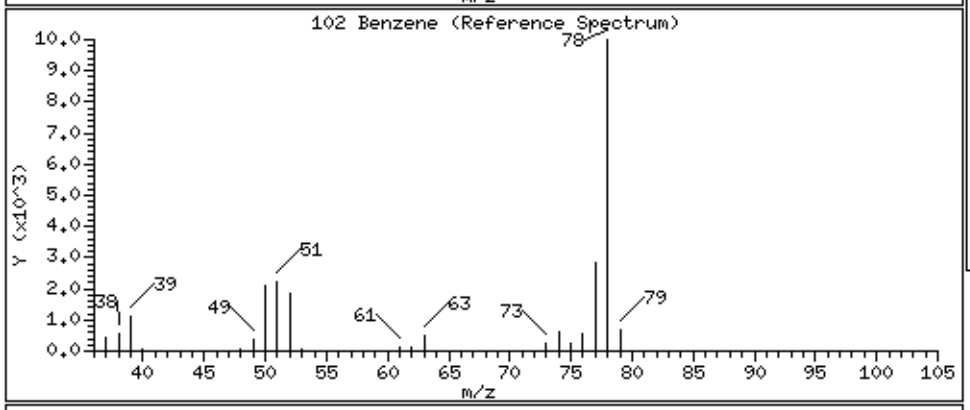
Concentration: 2.333 PPBV

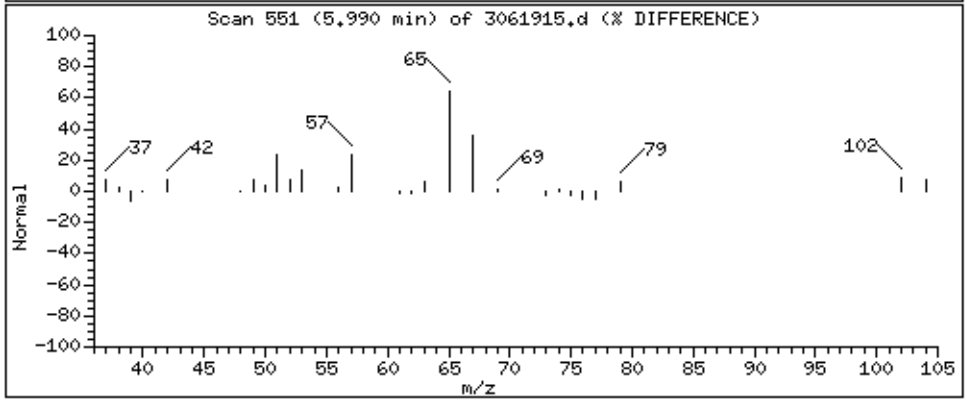


Data File: /chem/msd3.i/19JUN24.b/3061915.d

Date : 19-JUN-2024 20:22

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7835

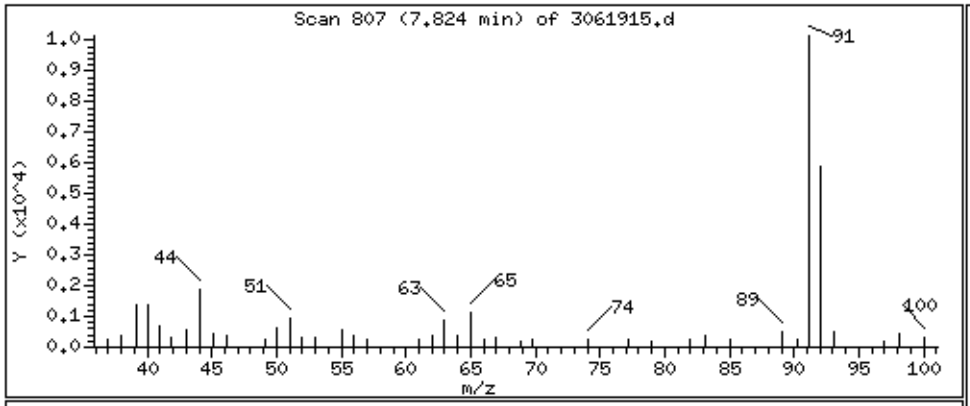
Operator: ACE

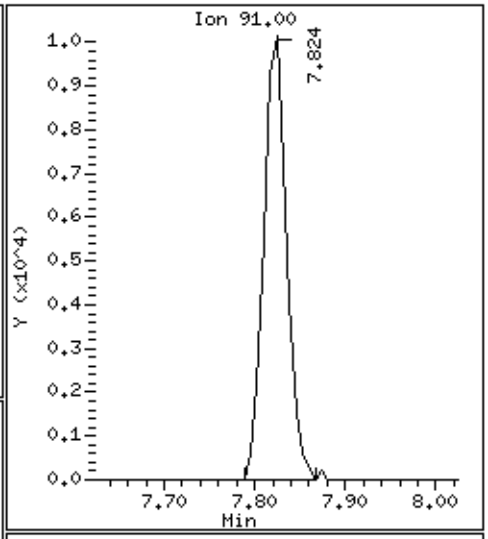
Column phase: RTX-624

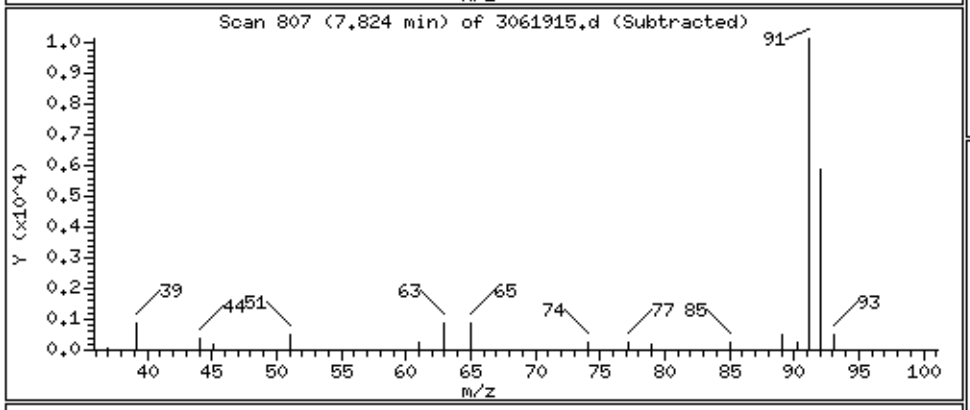
Column diameter: 0.25

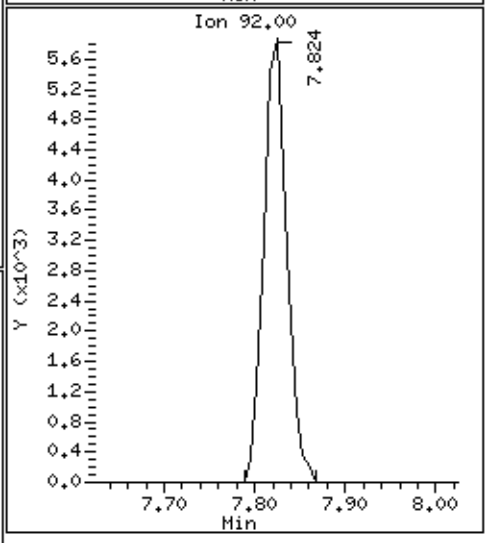
137 Toluene

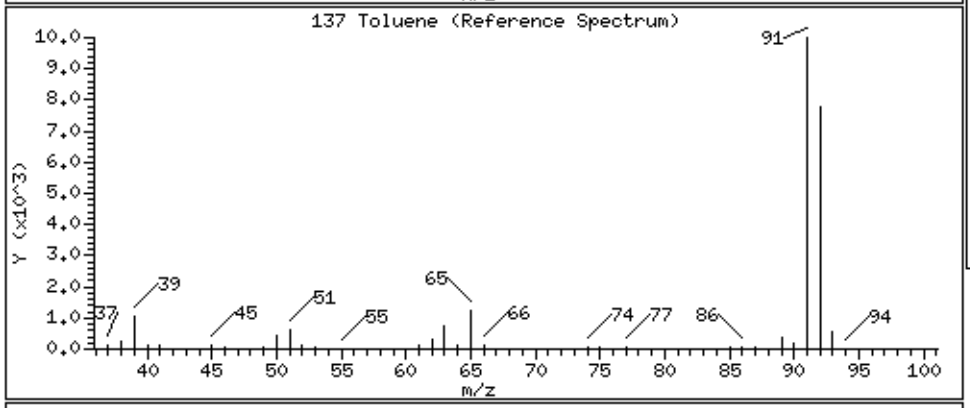
Concentration: 6.201 PPBV

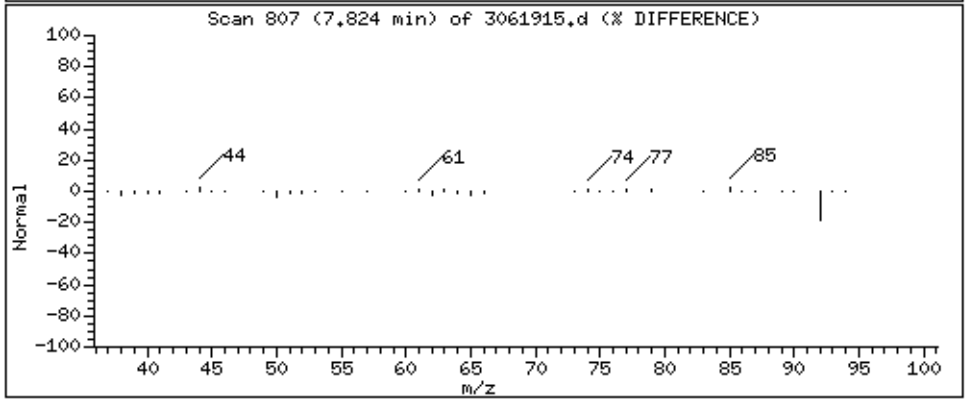


Data File: /chem/msd3.i/19JUN24.b/3061915.d

Date : 19-JUN-2024 20:22

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7835

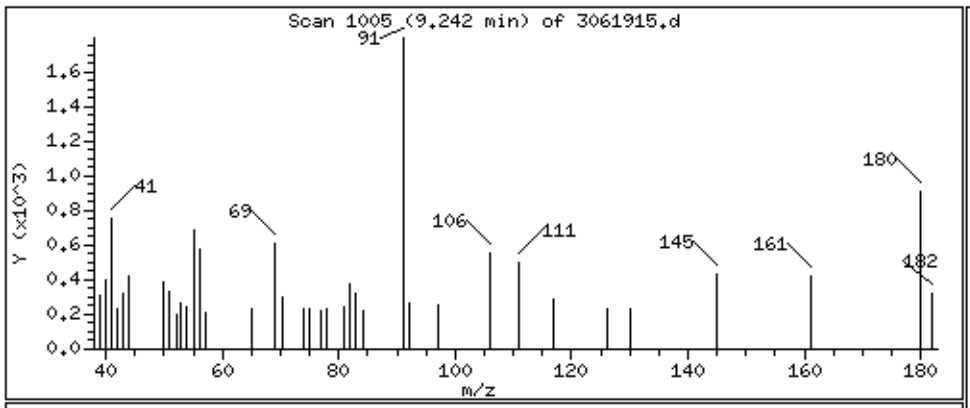
Operator: ACE

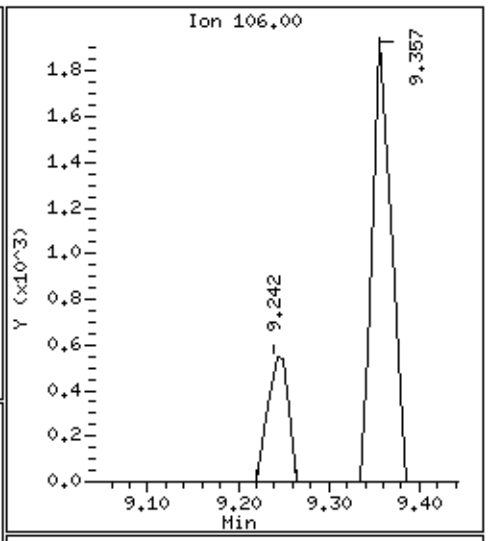
Column phase: RTX-624

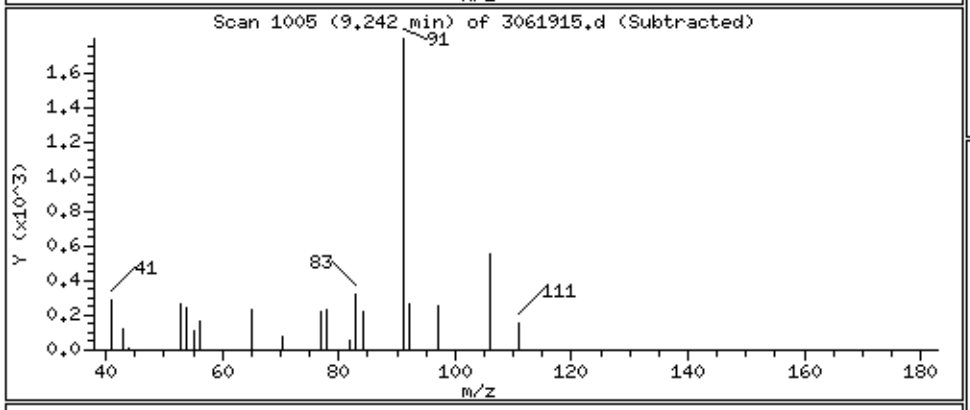
Column diameter: 0.25

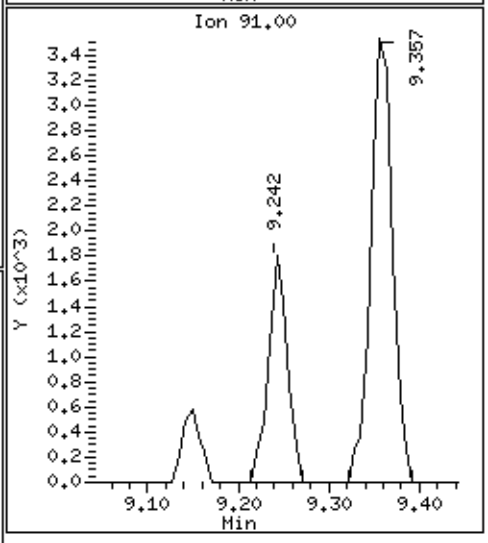
155 Ethyl Benzene

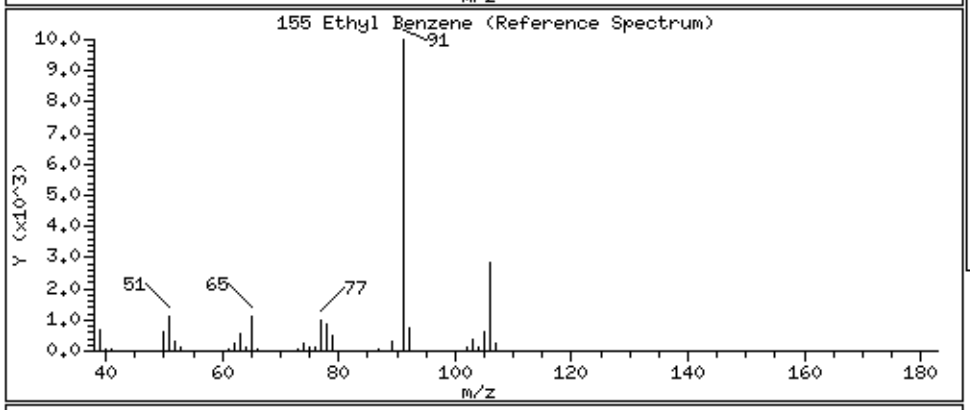
Concentration: 0.6946 PPBV

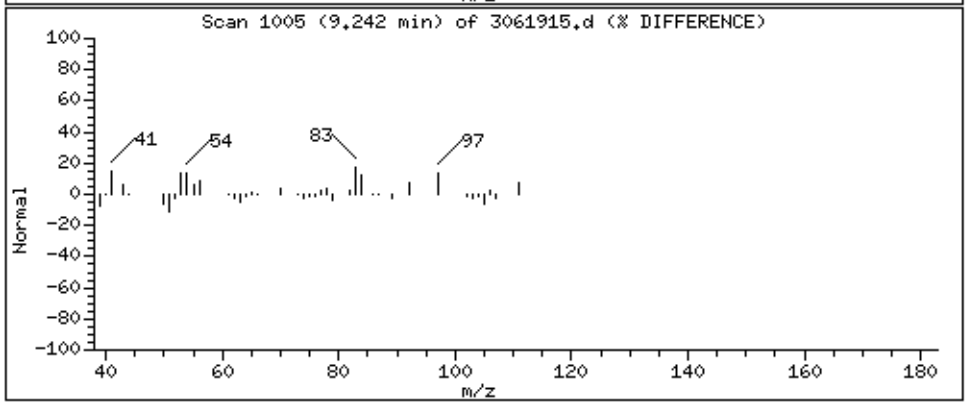


Data File: /chem/msd3.i/19JUN24.b/3061915.d

Date : 19-JUN-2024 20:22

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7835

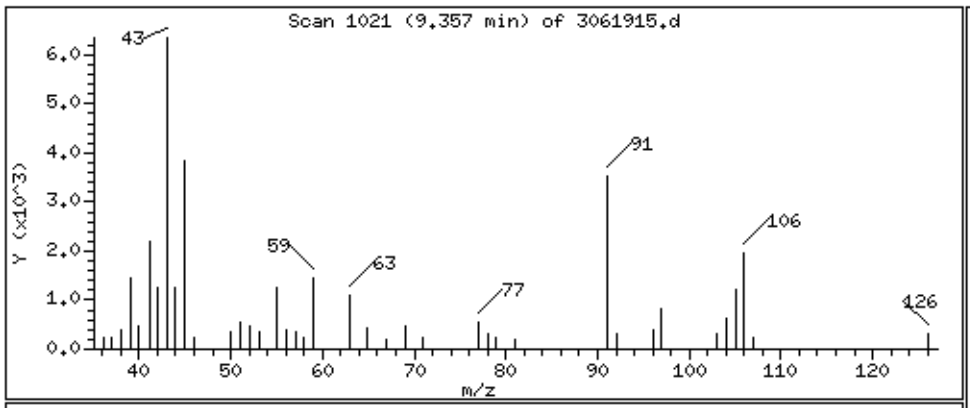
Operator: ACE

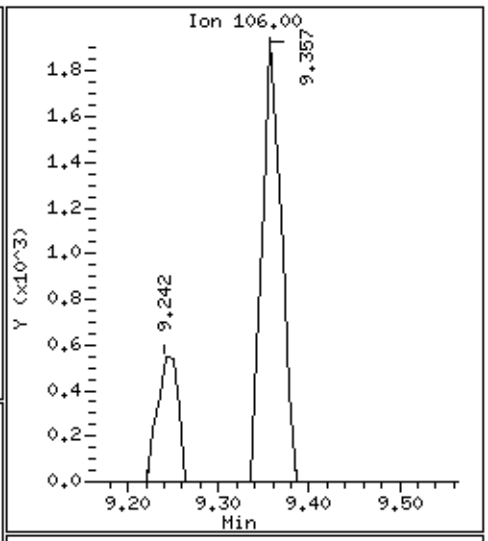
Column phase: RTX-624

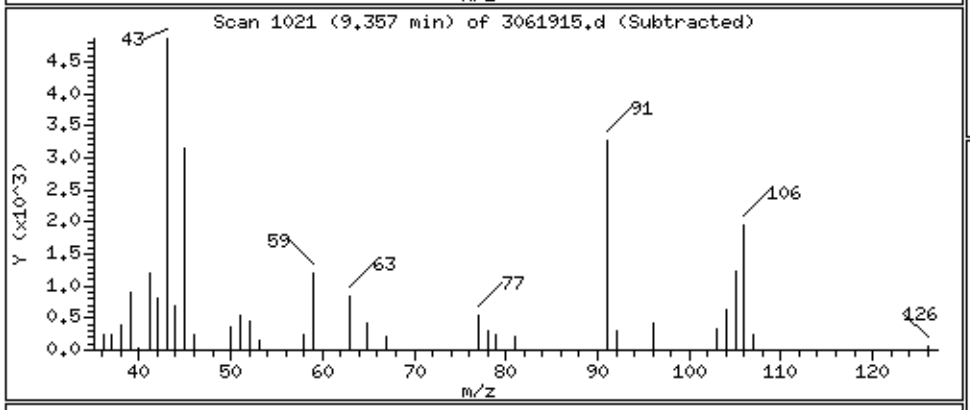
Column diameter: 0.25

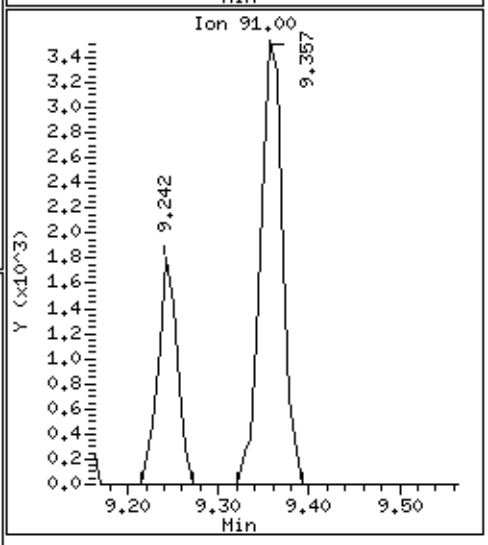
158 m,p-Xylene

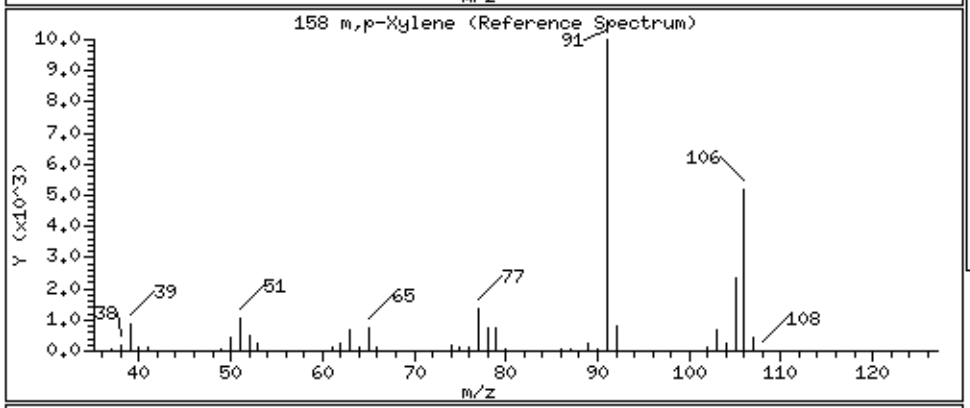
Concentration: 1.819 PPBV

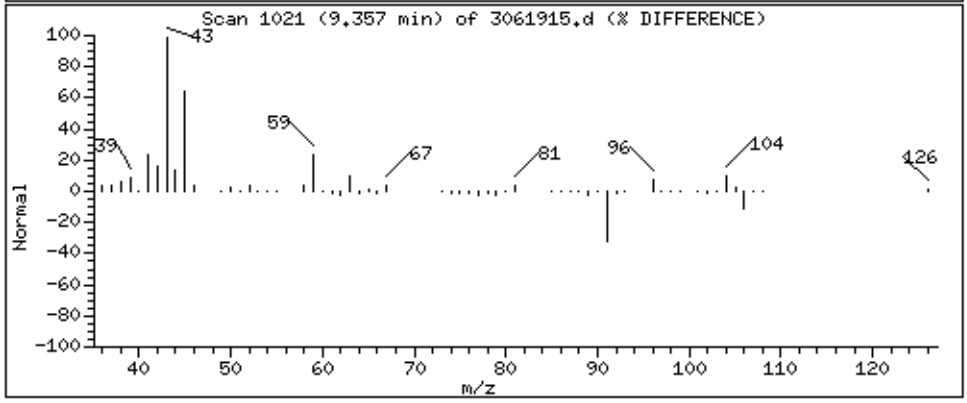


Data File: /chem/msd3.i/19JUN24.b/3061915.d

Date : 19-JUN-2024 20:22

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7835

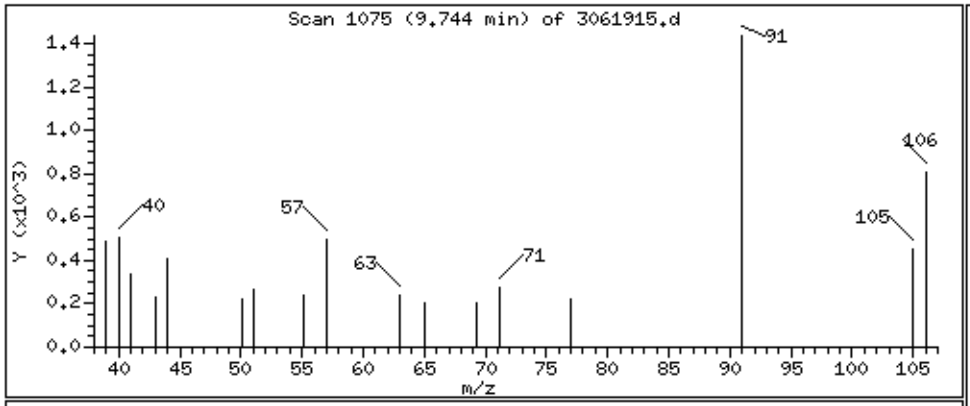
Operator: ACE

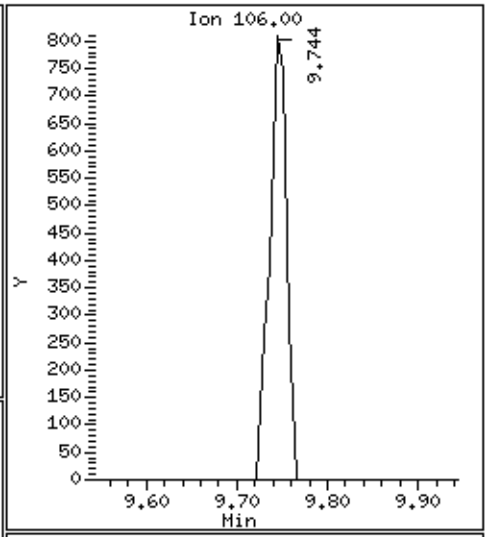
Column phase: RTX-624

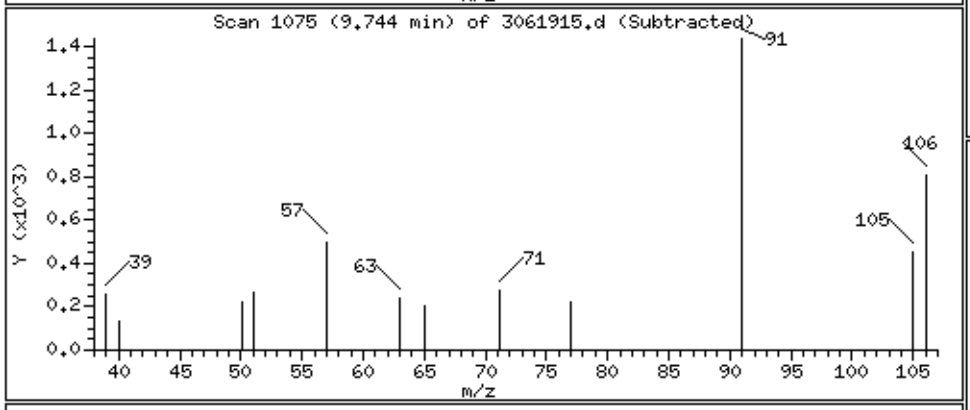
Column diameter: 0.25

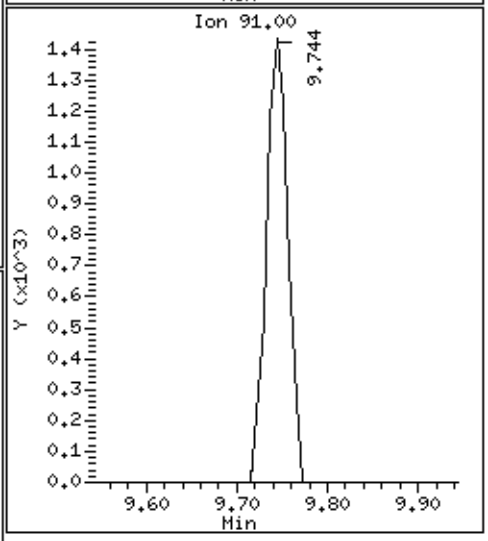
164 o-Xylene

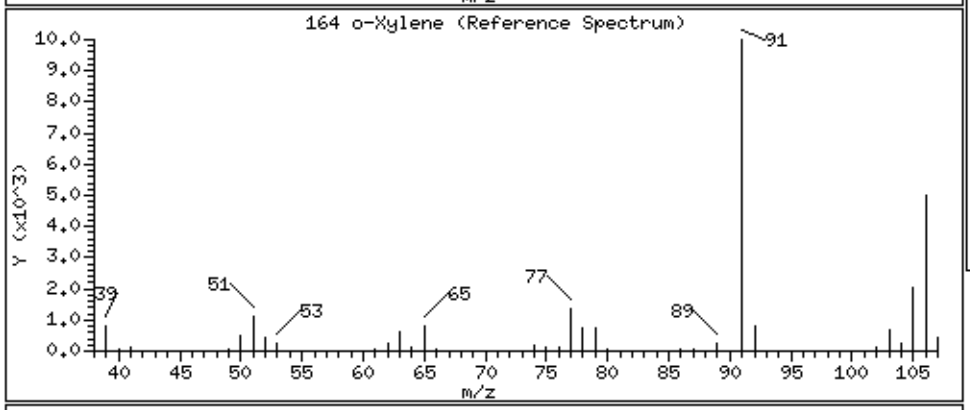
Concentration: 0.7277 PPBV

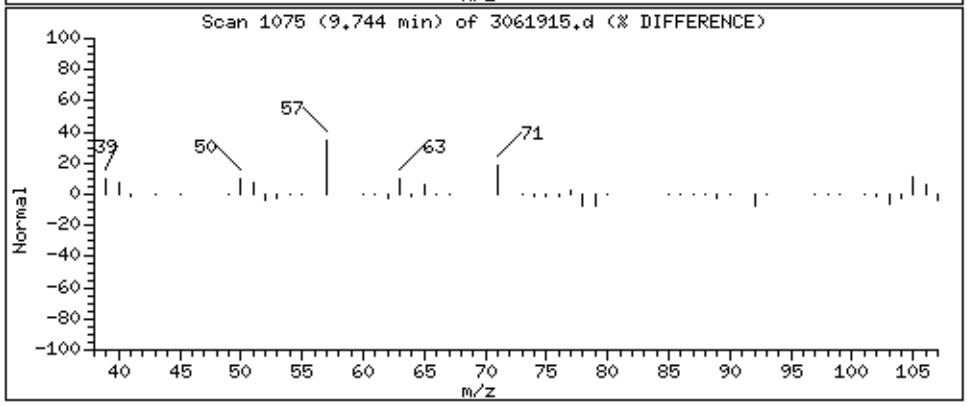


EPA METHOD TO-15 GC/MS FULL SCAN
Titan 1A Semi Annual Groundwater

eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV028_JUN24 | | |
| **Lab ID:** | 2406264R2-04A | **Date/Time Analyzed:** | 6/19/24 08:57 PM |
| **Date/Time Collected:** | 6/3/24 01:43 PM | **Dilution Factor:** | 2.14 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061916 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.2 | 3.8 | 4.2 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.2 | 5.8 | 6.4 | Not Detected U |
| Benzene | 71-43-2 | 0.81 | 3.1 | 3.4 | 86 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.92 | 3.8 | 4.2 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.1 | 4.2 | 4.6 | 12 |
| m,p-Xylene | 108-38-3 | 0.67 | 4.2 | 9.3 | 19 |
| o-Xylene | 95-47-6 | 1.1 | 4.2 | 4.6 | 5.4 |
| Toluene | 108-88-3 | 1.0 | 3.6 | 8.1 | 27 |
| trans-1,2-Dichloroethene | 156-60-5 | 1.9 | 3.8 | 4.2 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.7 | 5.2 | 5.8 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.3 | 2.5 | 2.7 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 93 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 102 |
| Toluene-d8 | 2037-26-5 | 70-130 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061916.d
Lab Smp Id: 2406264-04A
Inj Date : 19-JUN-2024 20:57
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL O0726
Misc Info : 6.5 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 2
Dil Factor: 2.14000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.432 (1.000) | 130 | 89798 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.432 (1.000) | 128 | 69975 | | | | 47.79- 107.79 | 77.92 |
| 5.432 | 5.432 (1.000) | 49 | 135182 | | | | 131.33- 191.33 | 150.54 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.107) | 65 | 108333 | 23.1618 | 23.162 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.107) | 67 | 56506 | | | | 23.17- 83.17 | 52.16 |
| 102 Benzene | | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.990 (0.934) | 78 | 82690 | 12.5125 | 26.777 | | 80.00- 120.00 | 100.00 |
| 5.997 | 5.990 (0.934) | 77 | 19551 | | | | 0.00- 53.69 | 23.64 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 328234 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 47819 | | | | 0.00- 45.65 | 14.57 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 314436 | 24.6422 | 24.642 | | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 35255 | | | | 0.00- 41.42 | 11.21 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 210060 | | | 37.54- 97.54 | 66.81 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 30607 | 3.34561 | 7.160 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 18369 | | | 27.89- 87.89 | 60.02 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 340997 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 172483 | | | 22.92- 82.92 | 50.58 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 4947 | 1.24484 | 2.664 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 16027 | | | 281.09- 341.09 | 323.97 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 10279 | 2.07520 | 4.441 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.364 (1.023) | 91 | 22259 | | | 170.33- 230.33 | 216.55 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 2749 | 0.58526 | 1.252 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.744 (1.066) | 91 | 5589 | | | 181.23- 241.23 | 203.31 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 258714 | 25.5296 | 25.530 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 287626 | | | 88.49- 148.49 | 111.18 |
| 10.288 | 10.288 (1.124) | 176 | 252378 | | | 66.73- 126.73 | 97.55 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061916.d
Lab Smp Id: 2406264-04A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 6.5 Hg->10 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 89798 | -0.24 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 328234 | 0.14 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 340997 | 4.91 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:37

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-04A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 6.5 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 23.162 | 92.65 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.642 | 98.57 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.530 | 102.12 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061916.d



Date : 19-JUN-2024 20:57

Client ID:

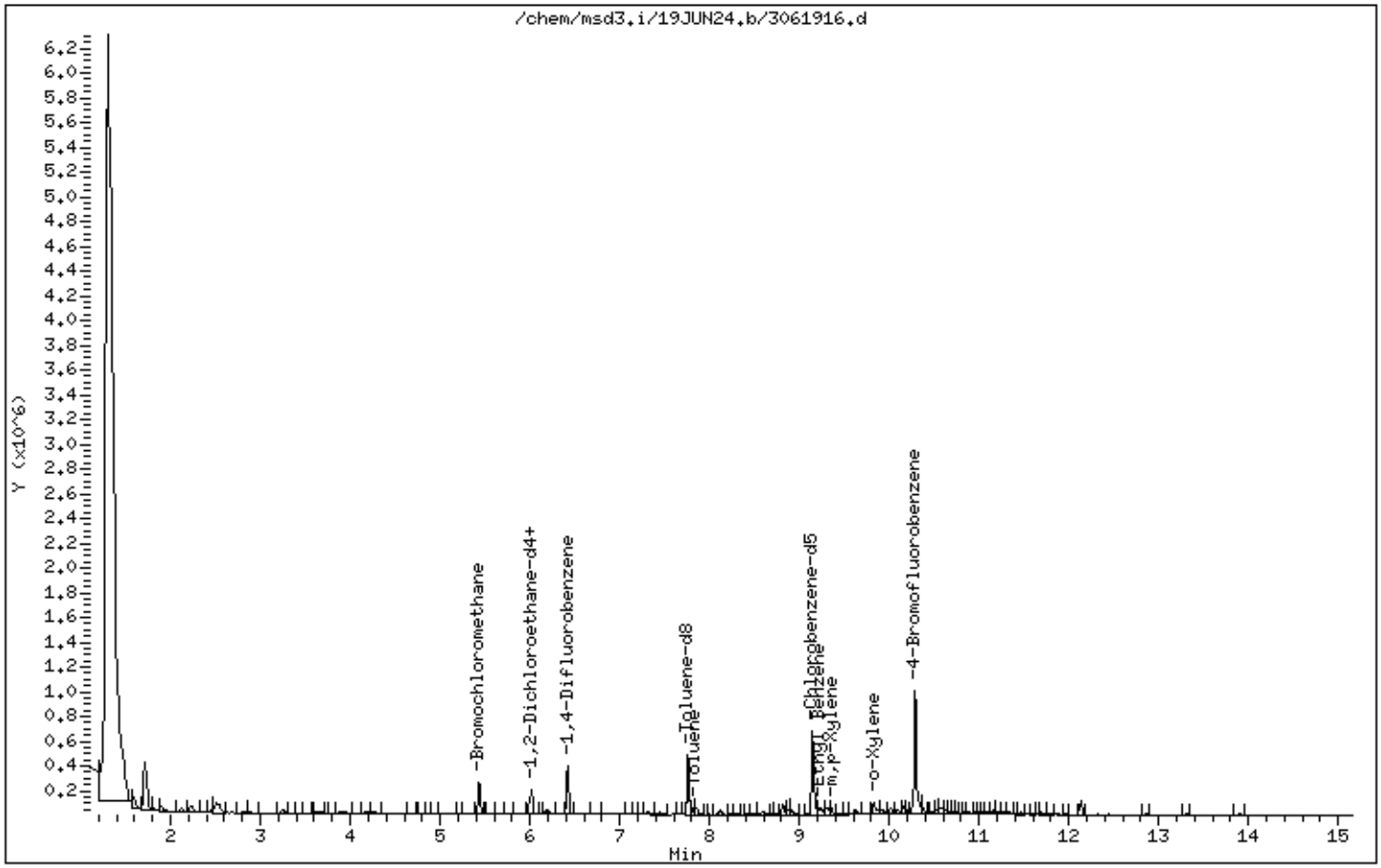
Instrument: msd3.i

Sample Info: 200mL 00726

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061916.d

Date : 19-JUN-2024 20:57

Client ID:

Instrument: msd3.i

Sample Info: 200mL 00726

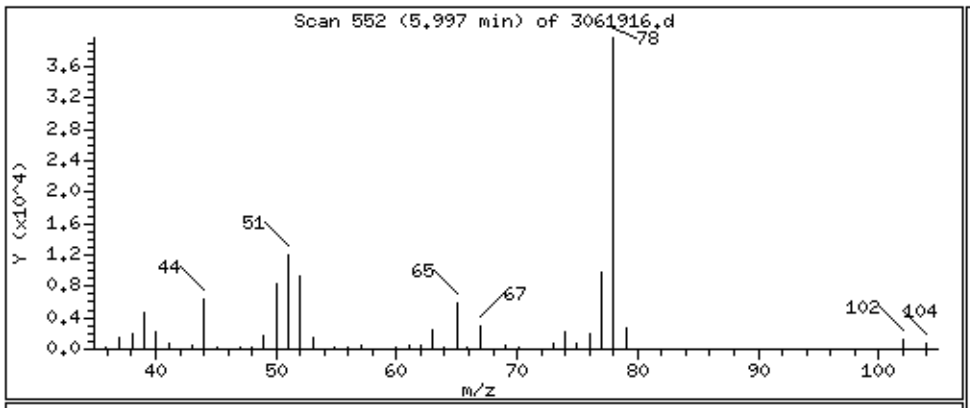
Operator: ACE

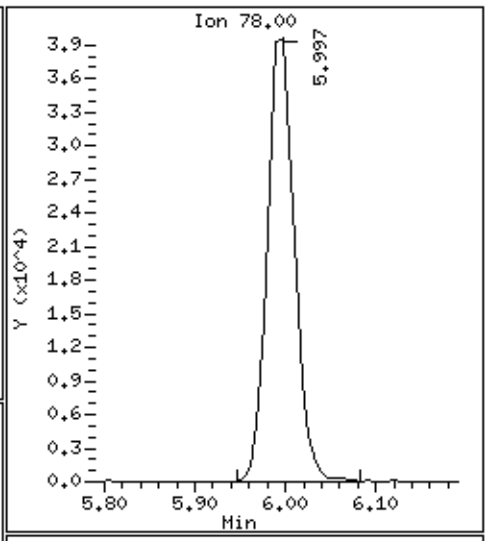
Column phase: RTX-624

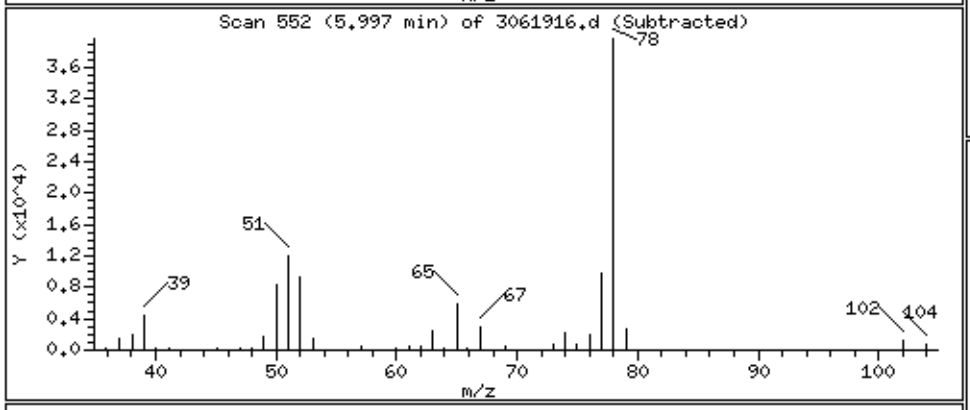
Column diameter: 0.25

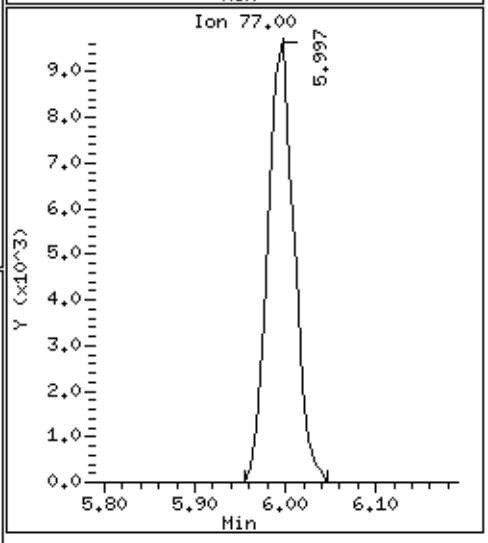
102 Benzene

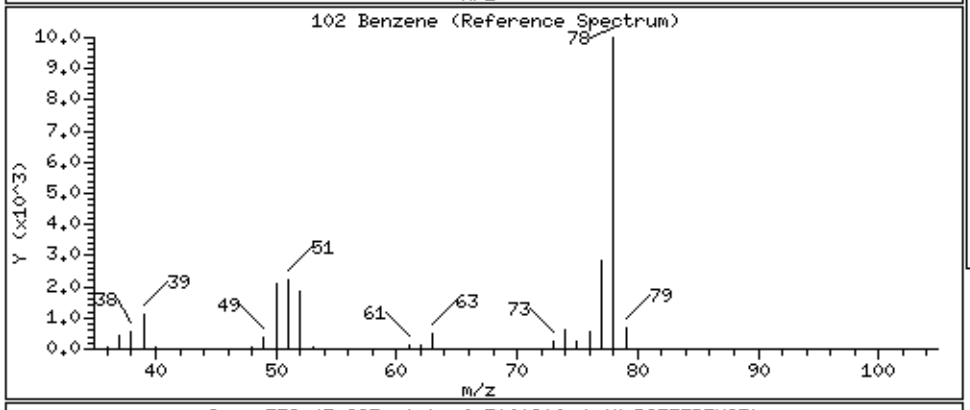
Concentration: 26.777 PPBV

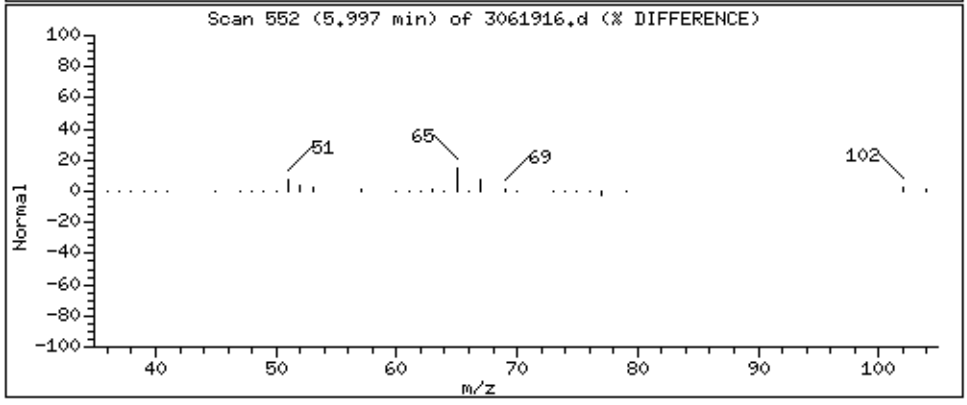


Data File: /chem/msd3.i/19JUN24.b/3061916.d

Date : 19-JUN-2024 20:57

Client ID:

Instrument: msd3.i

Sample Info: 200mL 00726

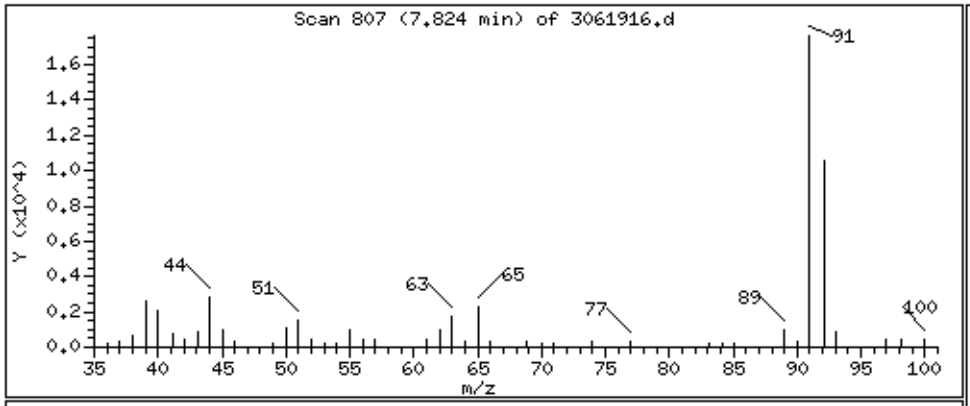
Operator: ACE

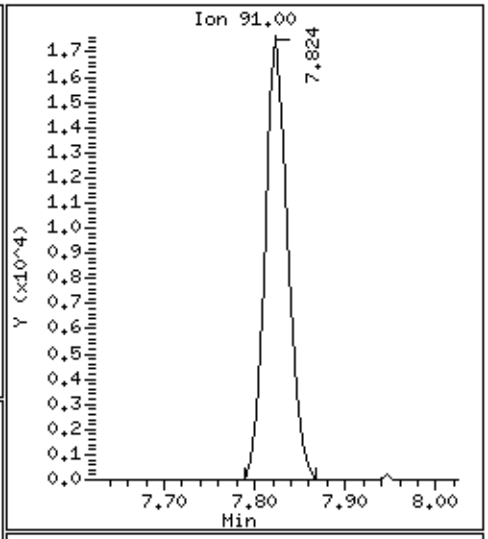
Column phase: RTX-624

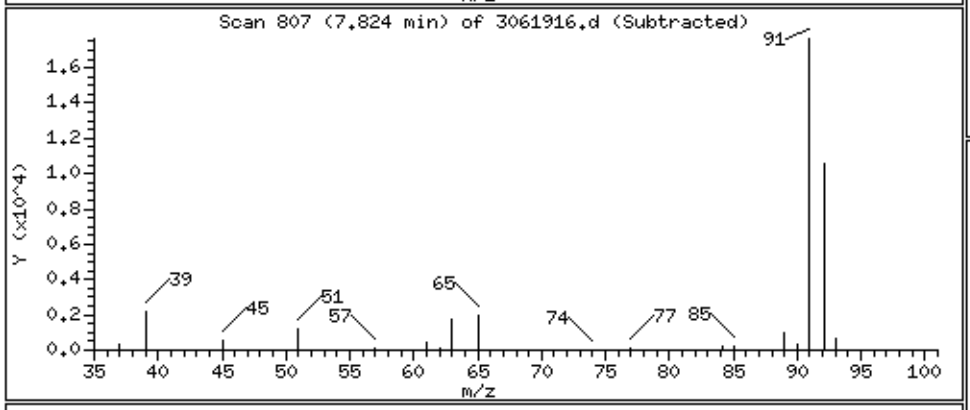
Column diameter: 0.25

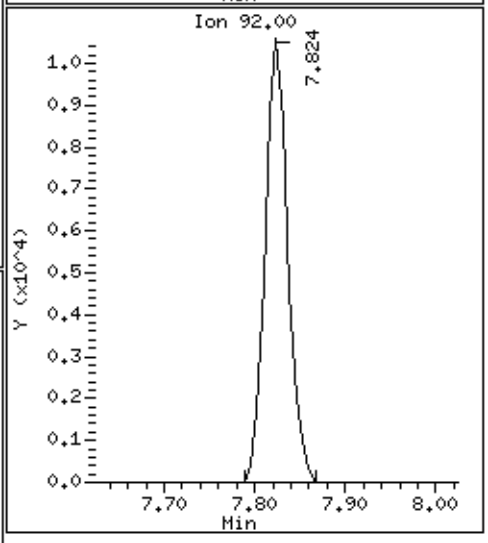
137 Toluene

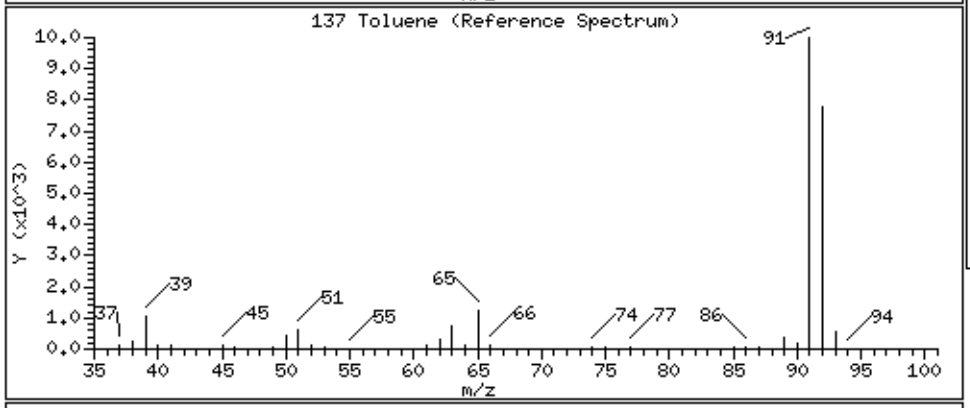
Concentration: 7.160 PPBV

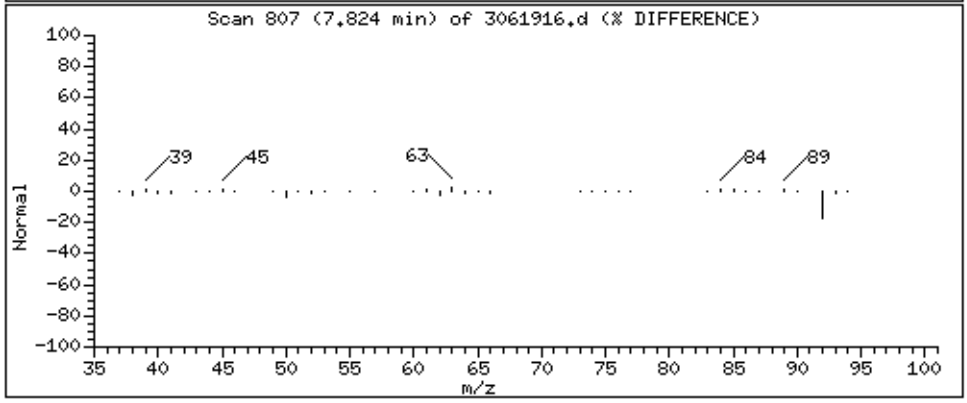


Data File: /chem/msd3.i/19JUN24.b/3061916.d

Date : 19-JUN-2024 20:57

Client ID:

Instrument: msd3.i

Sample Info: 200mL 00726

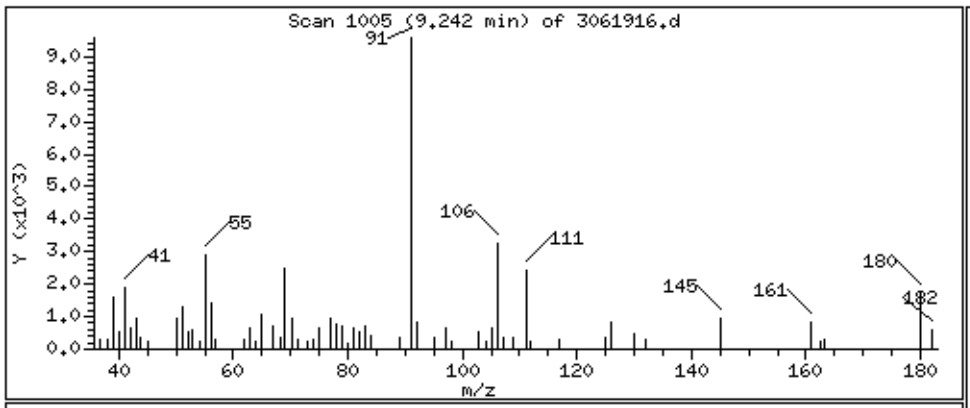
Operator: ACE

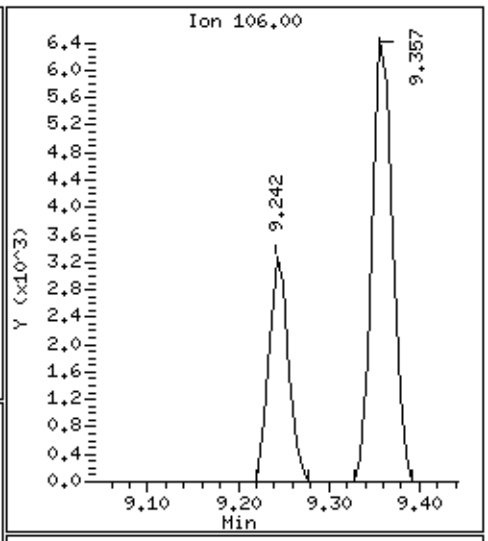
Column phase: RTX-624

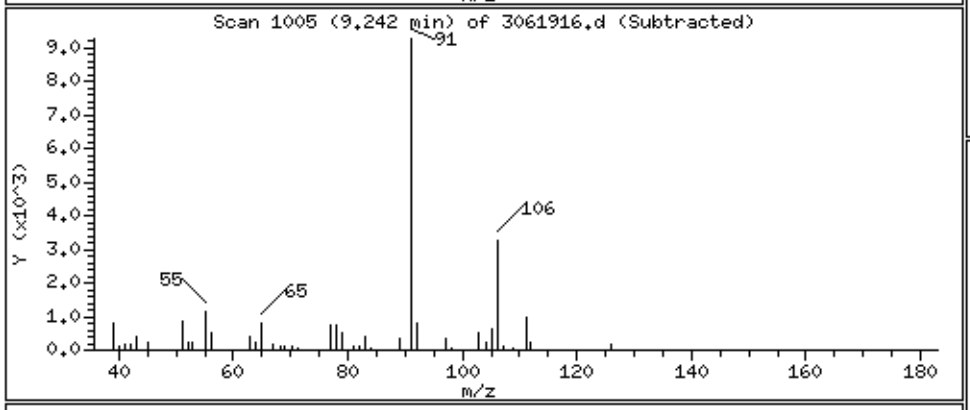
Column diameter: 0.25

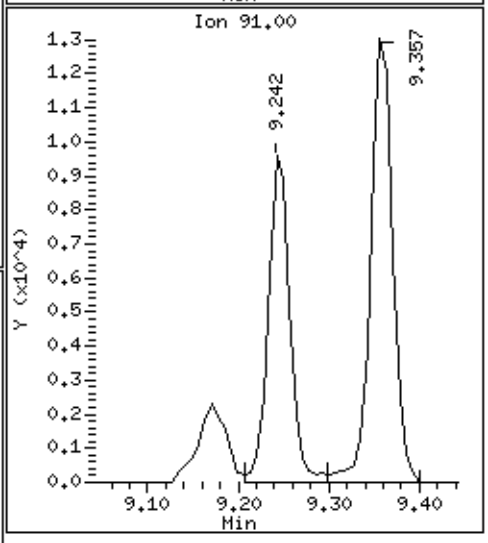
155 Ethyl Benzene

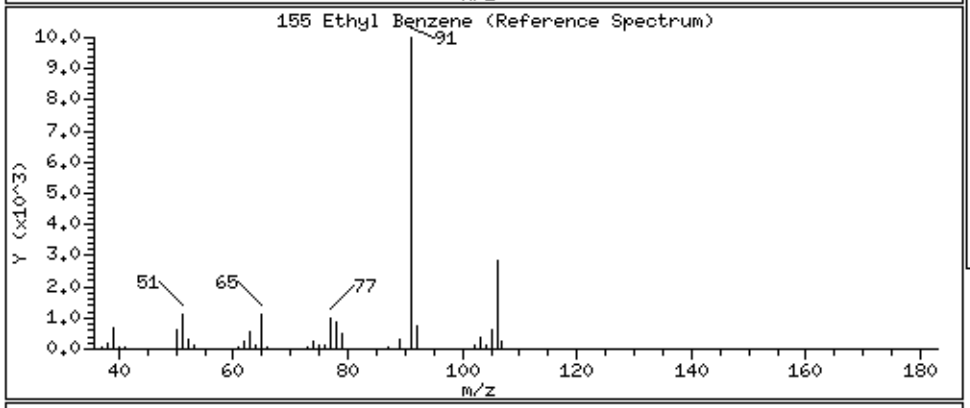
Concentration: 2.664 PPBV

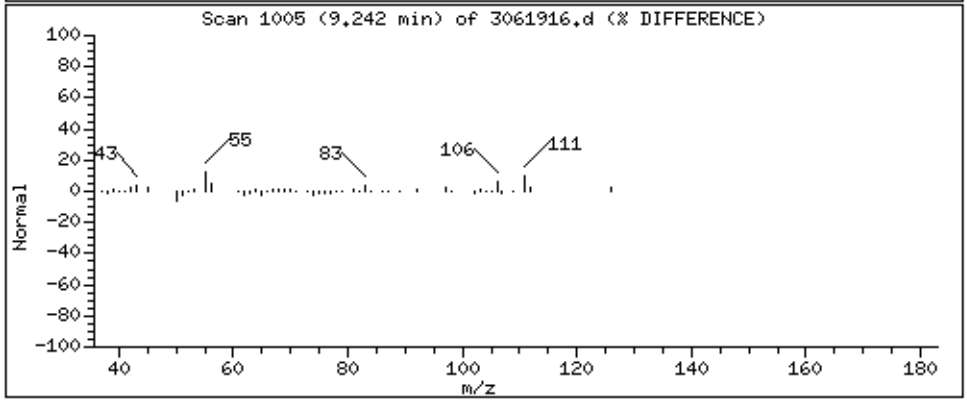


Data File: /chem/msd3.i/19JUN24.b/3061916.d

Date : 19-JUN-2024 20:57

Client ID:

Instrument: msd3.i

Sample Info: 200mL 00726

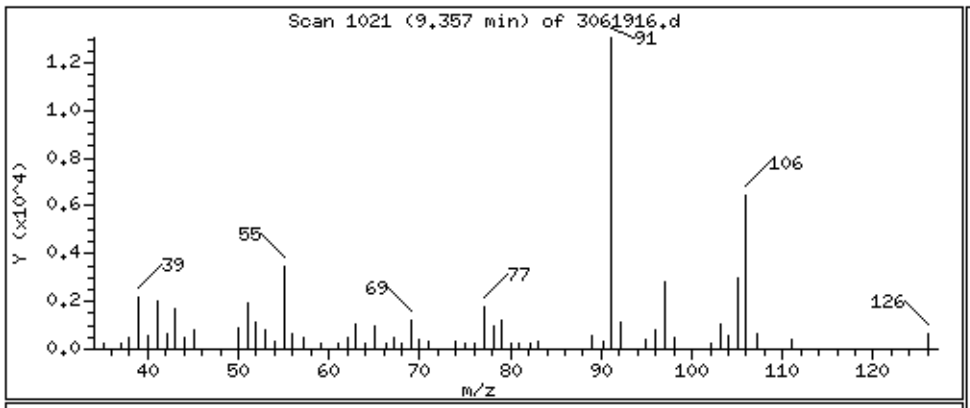
Operator: ACE

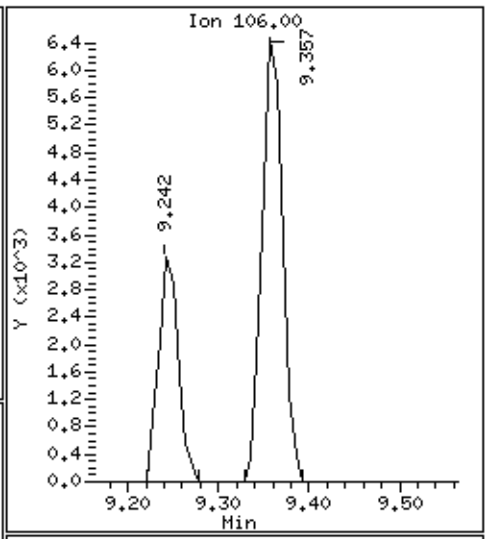
Column phase: RTX-624

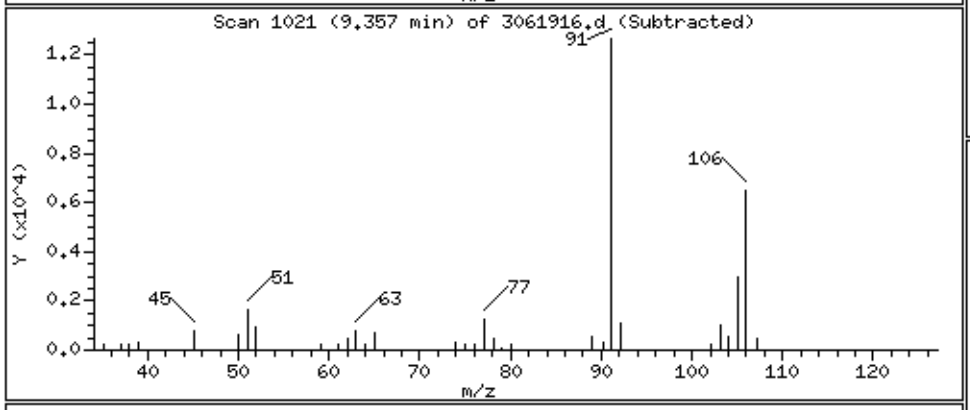
Column diameter: 0.25

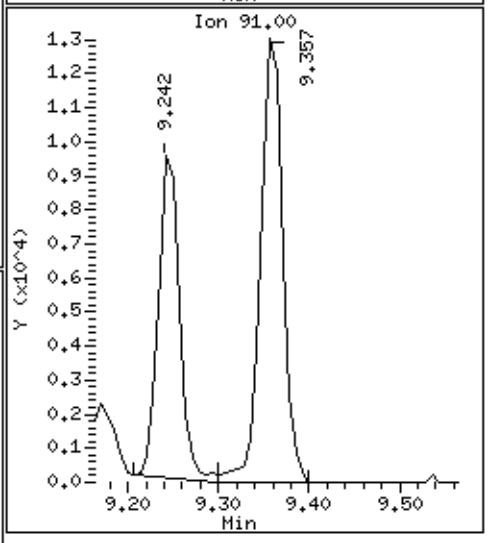
158 m,p-Xylene

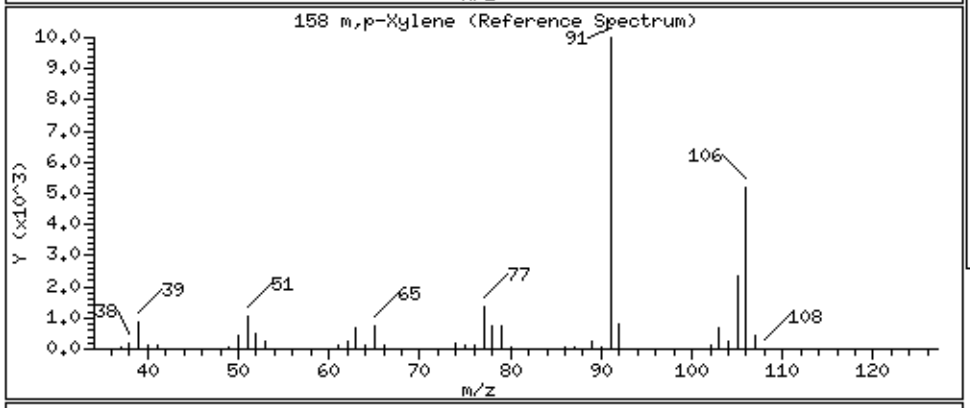
Concentration: 4.441 PPBV

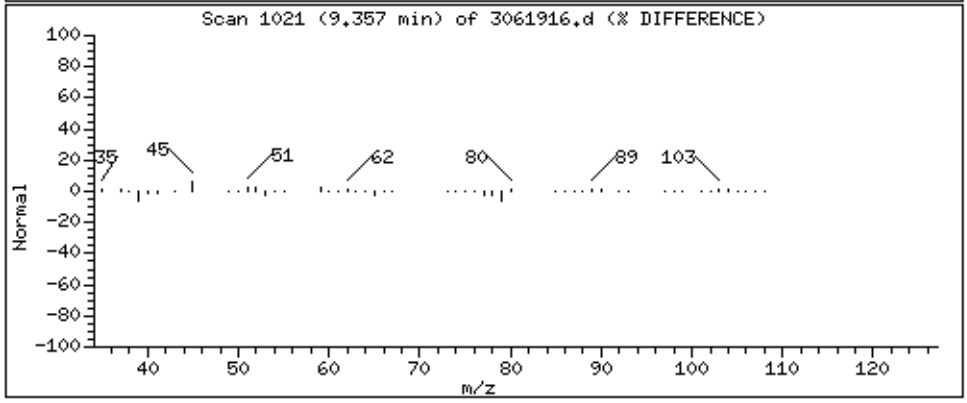


Data File: /chem/msd3.i/19JUN24.b/3061916.d

Date : 19-JUN-2024 20:57

Client ID:

Instrument: msd3.i

Sample Info: 200mL 00726

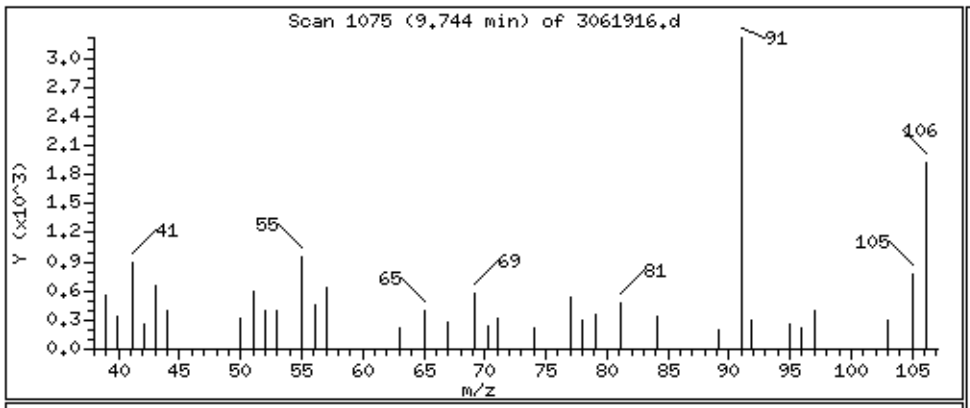
Operator: ACE

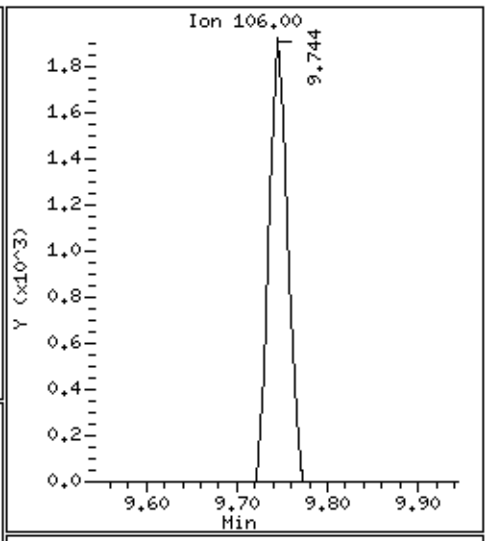
Column phase: RTX-624

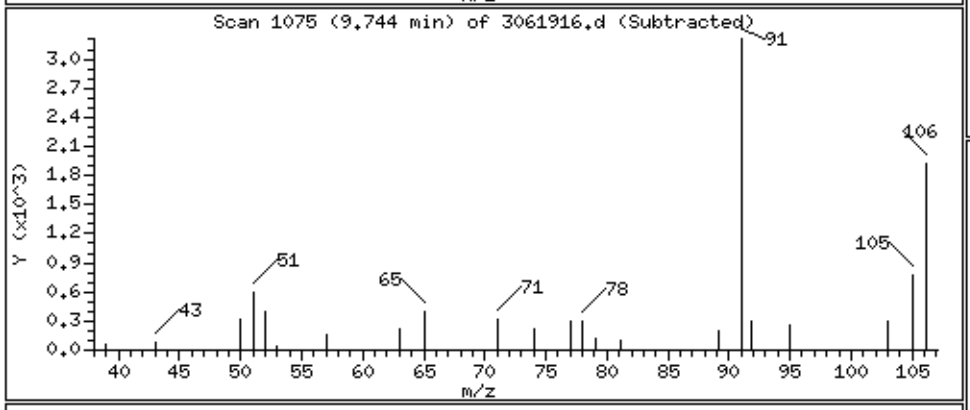
Column diameter: 0.25

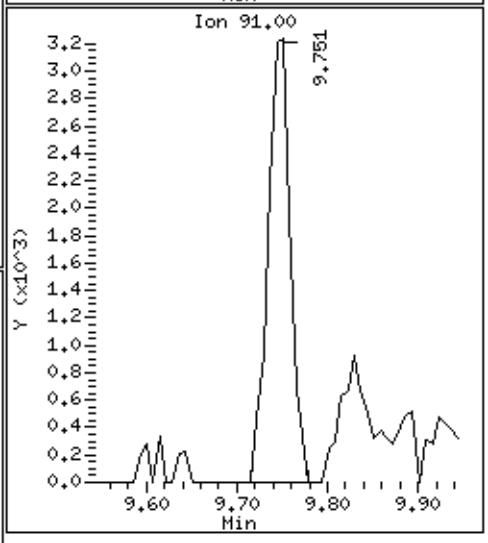
164 o-Xylene

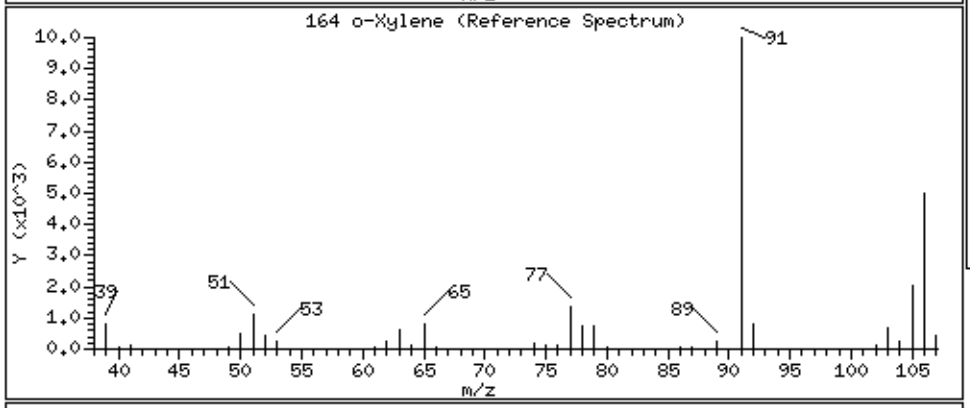
Concentration: 1.252 PPBV

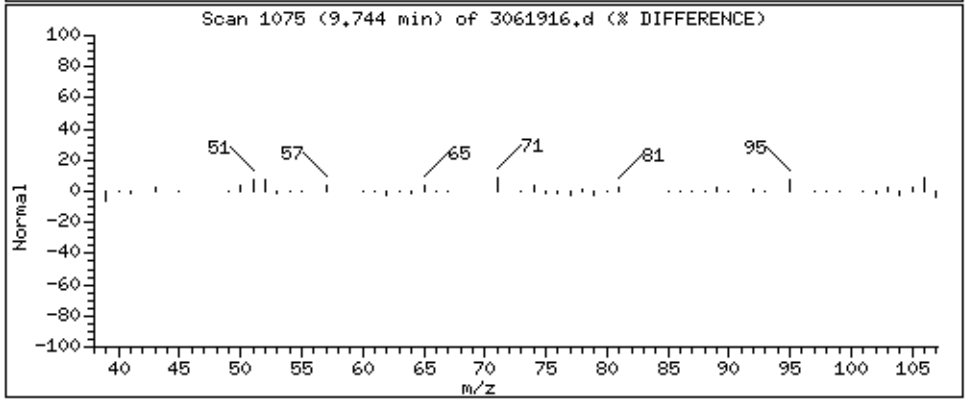


EPA METHOD TO-15 GC/MS FULL SCAN
Titan 1A Semi Annual Groundwater

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV028_JUN24_FD | | |
| **Lab ID:** | 2406264R2-05A | **Date/Time Analyzed:** | 6/19/24 10:21 PM |
| **Date/Time Collected:** | 6/3/24 01:42 PM | **Dilution Factor:** | 2.26 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061917 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.3 | 4.0 | 4.5 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.3 | 6.1 | 6.8 | Not Detected U |
| Benzene | 71-43-2 | 0.85 | 3.2 | 3.6 | 84 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.97 | 4.0 | 4.5 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.4 | 4.9 | 11 |
| m,p-Xylene | 108-38-3 | 0.70 | 4.4 | 9.8 | 21 |
| o-Xylene | 95-47-6 | 1.2 | 4.4 | 4.9 | 5.2 |
| Toluene | 108-88-3 | 1.1 | 3.8 | 8.5 | 28 |
| trans-1,2-Dichloroethene | 156-60-5 | 2.0 | 4.0 | 4.5 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.8 | 5.5 | 6.1 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.4 | 2.6 | 2.9 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 101 |
| Toluene-d8 | 2037-26-5 | 70-130 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061917.d
Lab Smp Id: 2406264-05A
Inj Date : 19-JUN-2024 22:21
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL 1L4822
Misc Info : 7.8 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 1
Dil Factor: 2.26000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 91014 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 70260 | | | 47.79- 107.79 | 77.20 |
| 5.432 | 5.432 (1.000) | 49 | 135652 | | | 131.33- 191.33 | 149.05 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 108737 | 22.9376 | 22.938 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 57247 | | | 23.17- 83.17 | 52.65 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 78954 | 11.6931 | 26.426 | 80.00- 120.00 | 100.00 |
| 5.998 | 5.990 (0.934) | 77 | 18670 | | | 0.00- 53.69 | 23.65 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 335366 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 48912 | | | 0.00- 45.65 | 14.58 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 317197 | 24.3299 | 24.330 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 34680 | | | 0.00- 41.42 | 10.93 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 211990 | | | 37.54- 97.54 | 66.83 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 30206 | 3.23156 | 7.303 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 17537 | | | 27.89- 87.89 | 58.06 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 341862 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 170268 | | | 22.92- 82.92 | 49.81 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 4342 | 1.08984 | 2.463 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 15142 | | | 281.09- 341.09 | 348.73 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 10598 | 2.13419 | 4.823 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.364 (1.023) | 91 | 20970 | | | 170.33- 230.33 | 197.87 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 2484 | 0.52750 | 1.192 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 5911 | | | 181.23- 241.23 | 237.96 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 256672 | 25.2640 | 25.264 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 285284 | | | 88.49- 148.49 | 111.15 |
| 10.288 | 10.288 (1.124) | 176 | 250542 | | | 66.73- 126.73 | 97.61 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061917.d
Lab Smp Id: 2406264-05A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 7.8 Hg->9.9 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 91014 | 1.12 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 335366 | 2.32 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 341862 | 5.18 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:37

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-05A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 7.8 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.938 | 91.75 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.330 | 97.32 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.264 | 101.06 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061917.d

Date : 19-JUN-2024 22:21

Client ID:

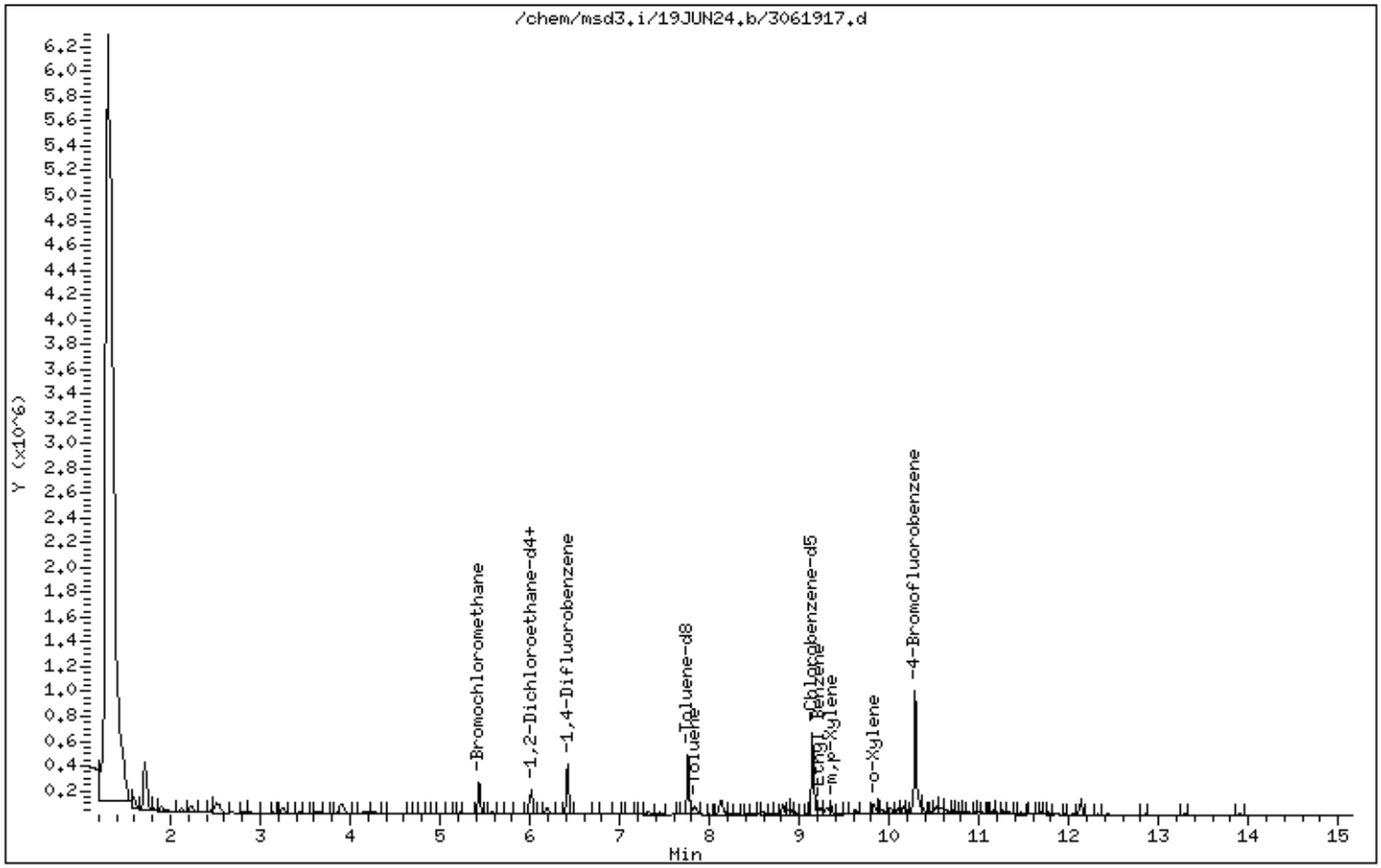
Instrument: msd3.i

Sample Info: 200mL 1L4822

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061917.d

Date : 19-JUN-2024 22:21

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4822

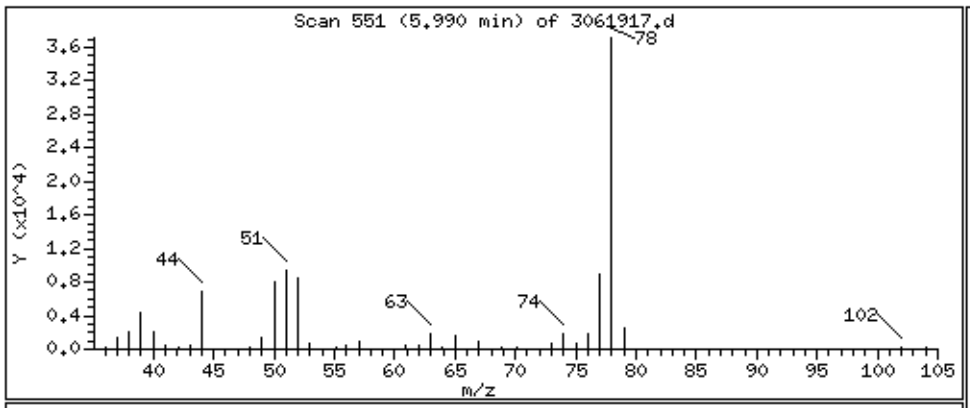
Operator: ACE

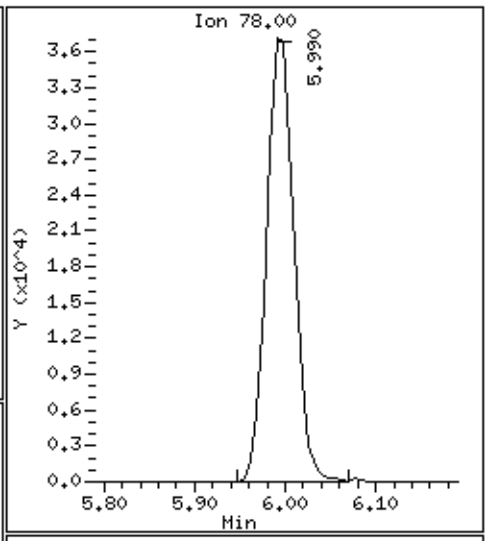
Column phase: RTX-624

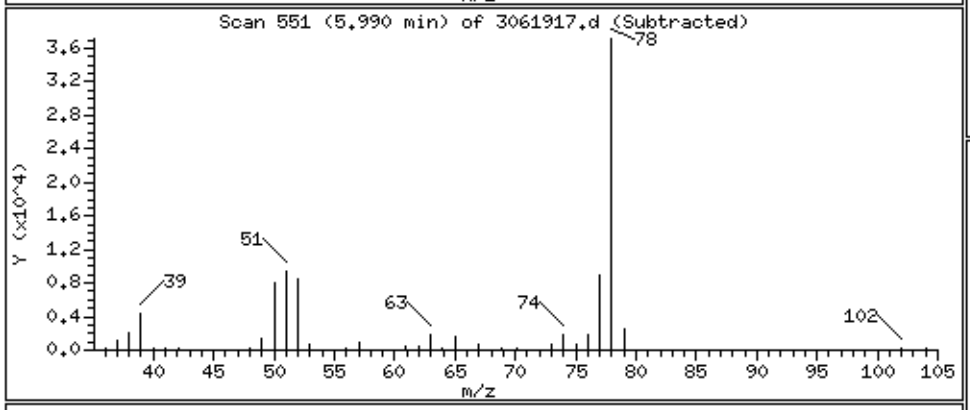
Column diameter: 0.25

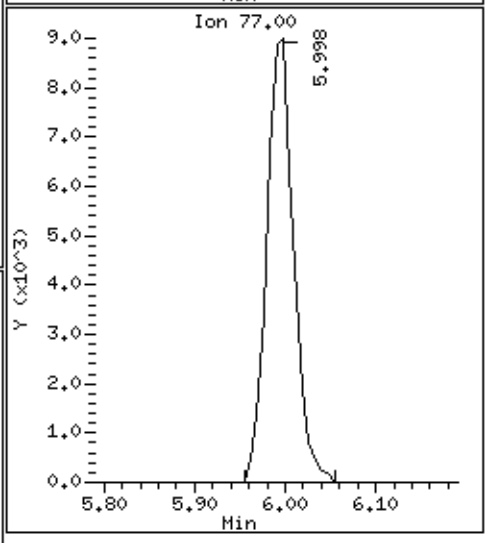
102 Benzene

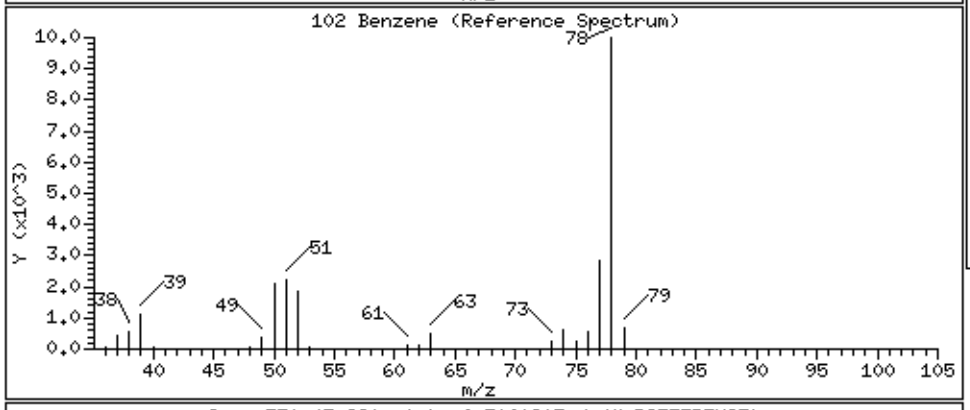
Concentration: 26.426 PPBV

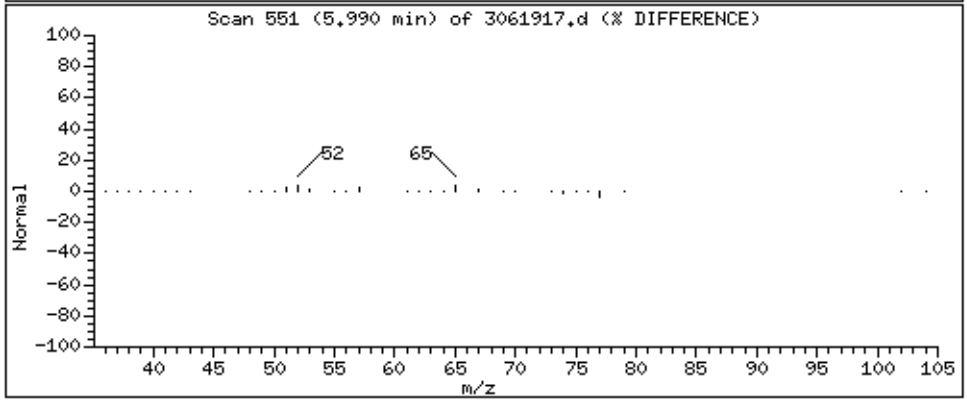


Data File: /chem/msd3.i/19JUN24.b/3061917.d

Date : 19-JUN-2024 22:21

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4822

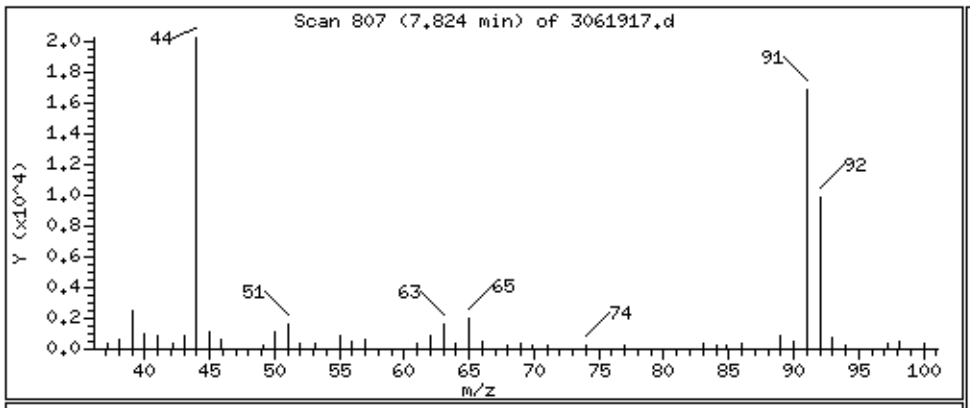
Operator: ACE

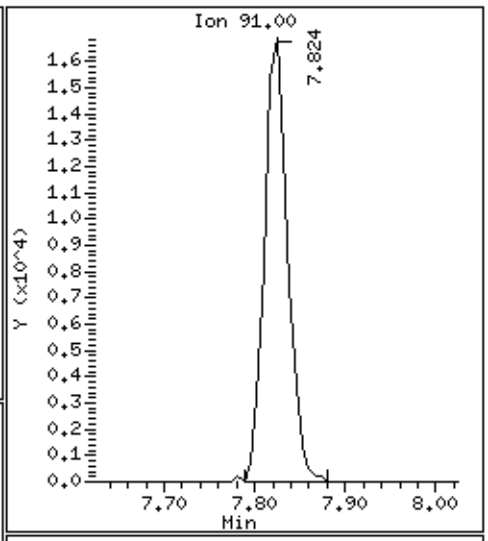
Column phase: RTX-624

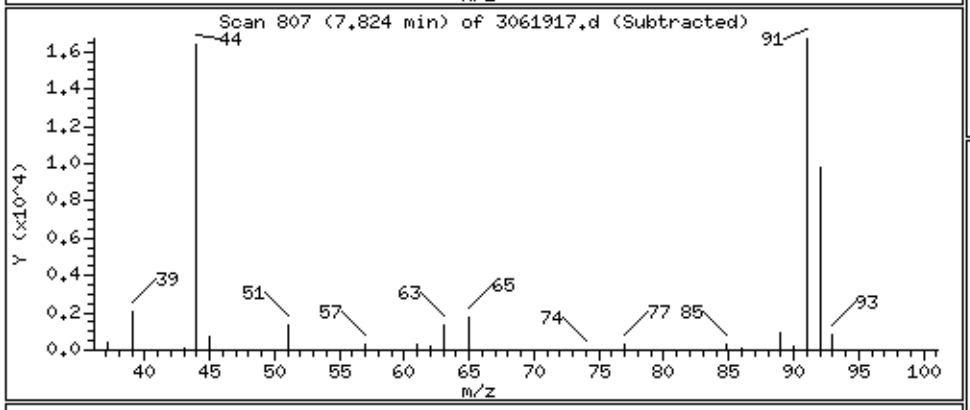
Column diameter: 0.25

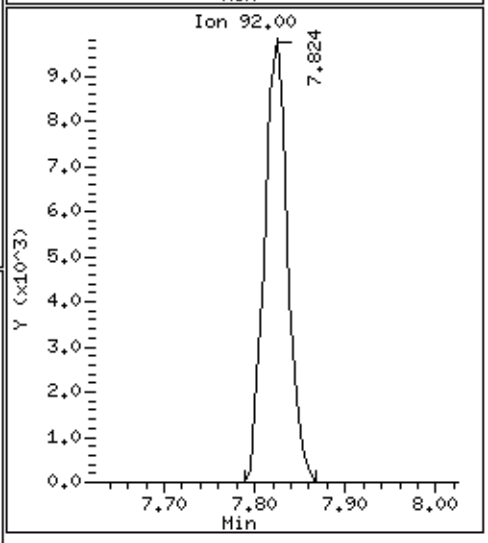
137 Toluene

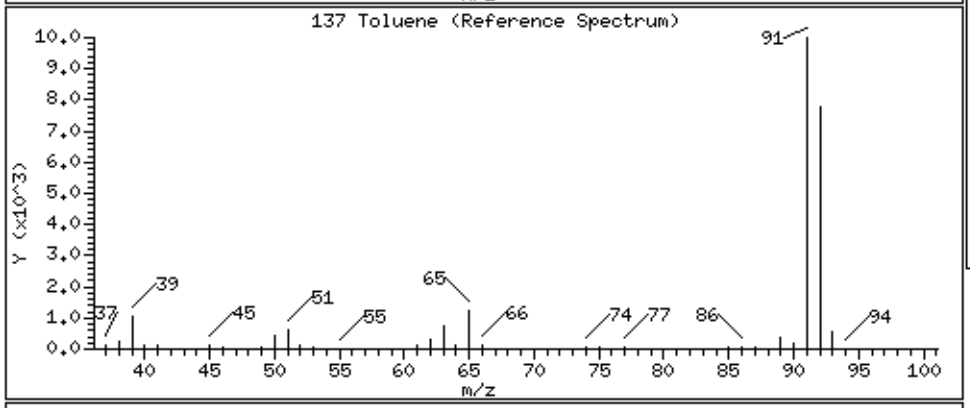
Concentration: 7.303 PPBV

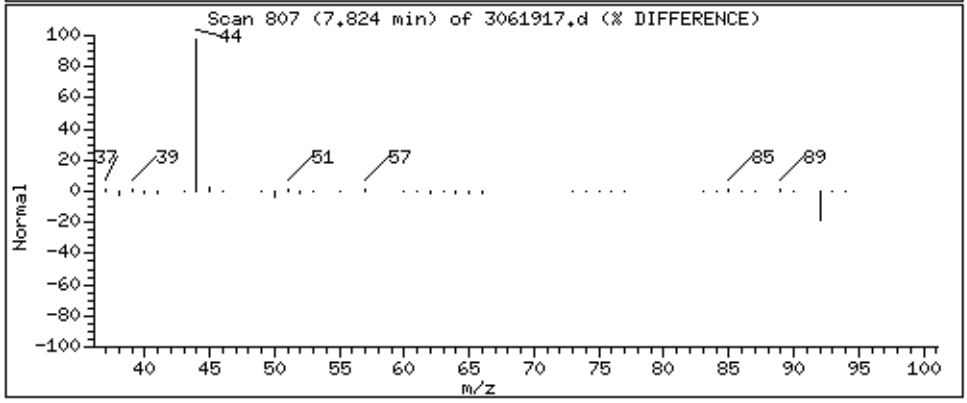


Data File: /chem/msd3.i/19JUN24.b/3061917.d

Date : 19-JUN-2024 22:21

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4822

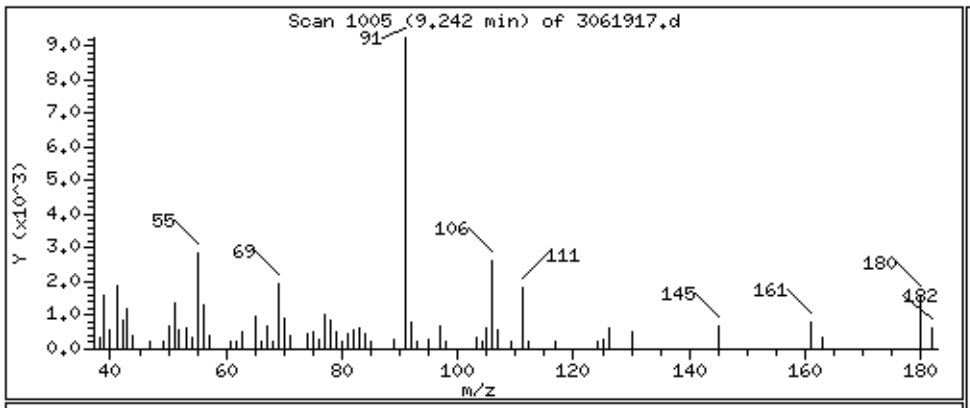
Operator: ACE

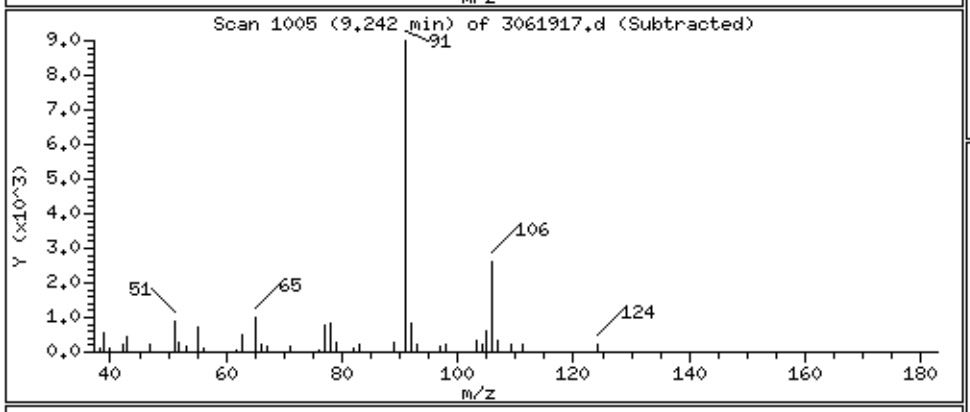
Column phase: RTX-624

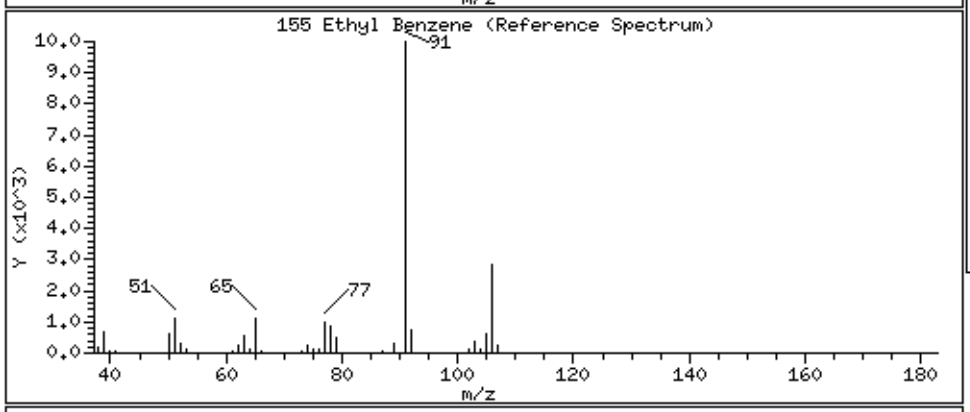
Column diameter: 0.25

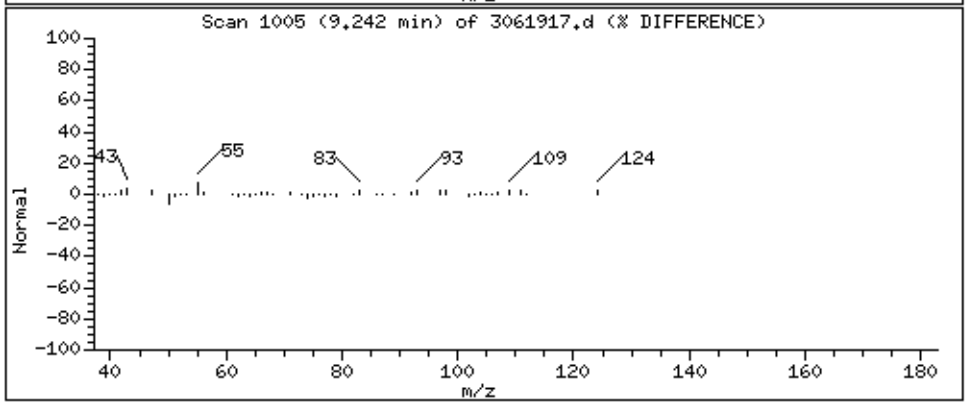
155 Ethyl Benzene

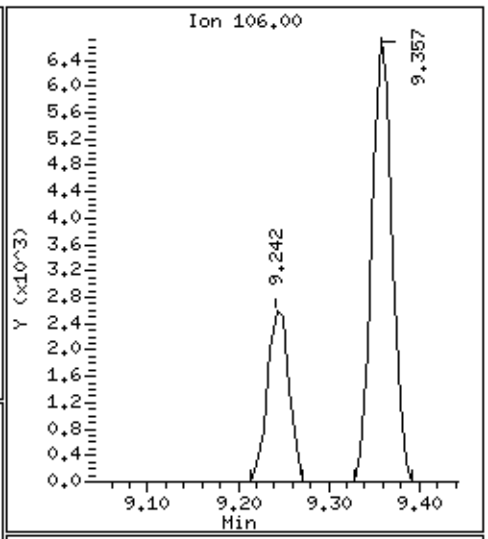
Concentration: 2.463 PPBV

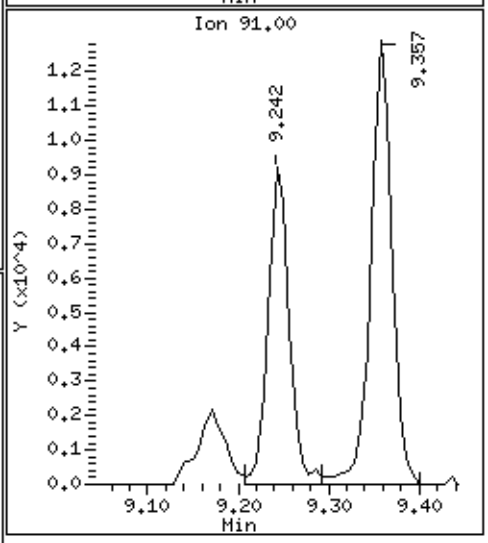


Data File: /chem/msd3.i/19JUN24.b/3061917.d

Date : 19-JUN-2024 22:21

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4822

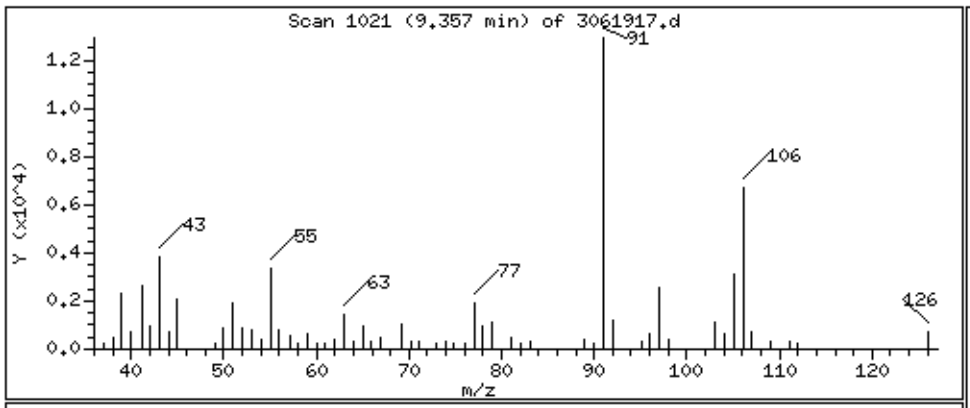
Operator: ACE

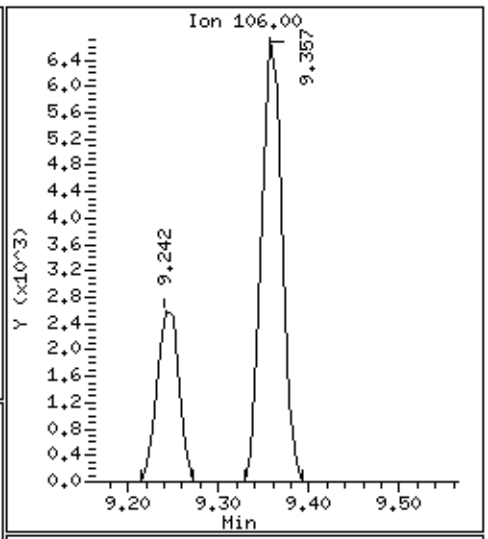
Column phase: RTX-624

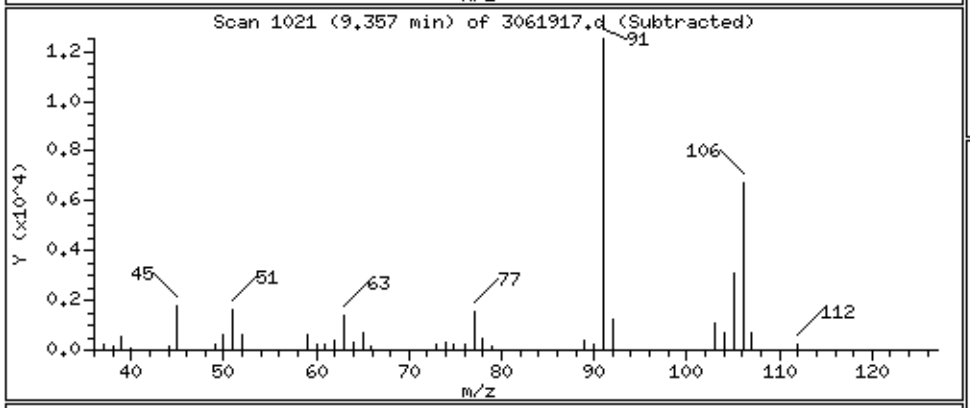
Column diameter: 0.25

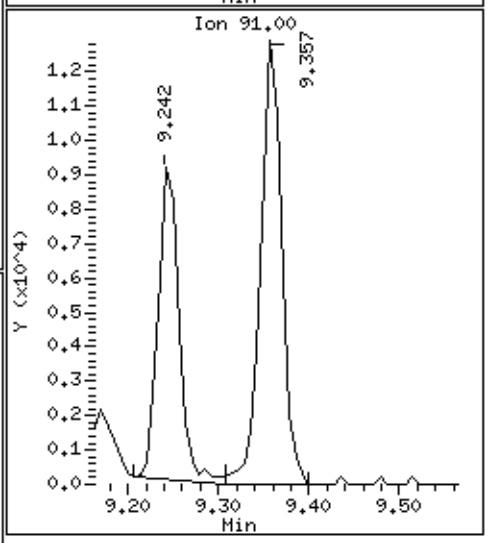
158 m,p-Xylene

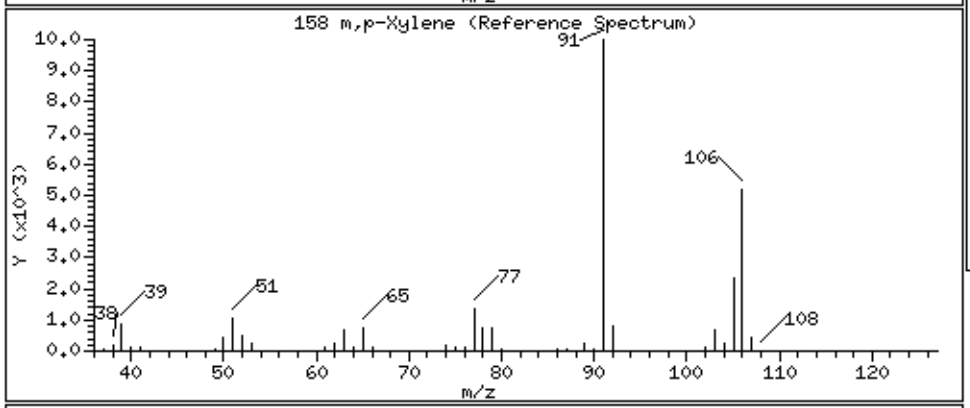
Concentration: 4.823 PPBV

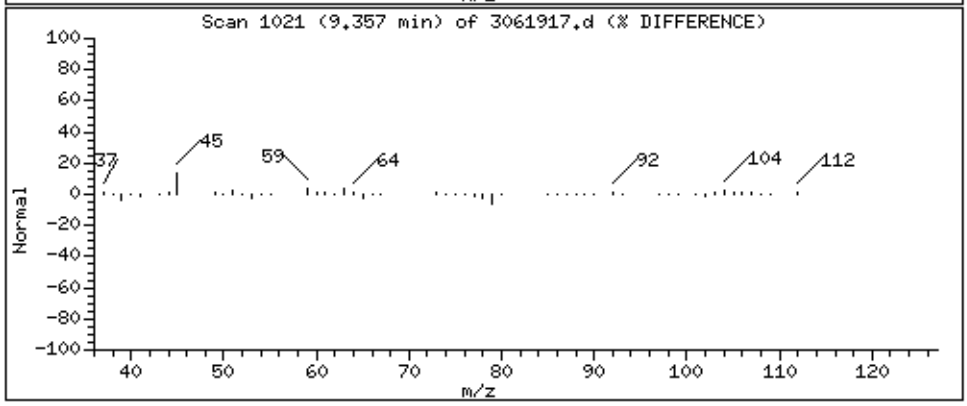


Data File: /chem/msd3.i/19JUN24.b/3061917.d

Date : 19-JUN-2024 22:21

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4822

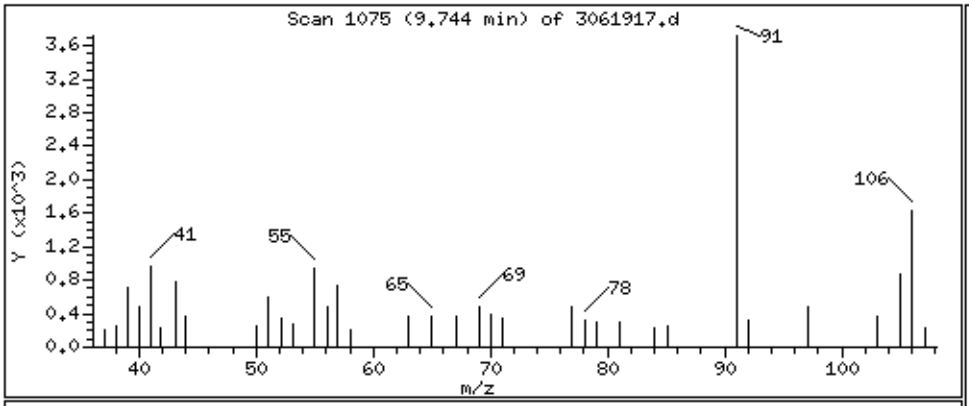
Operator: ACE

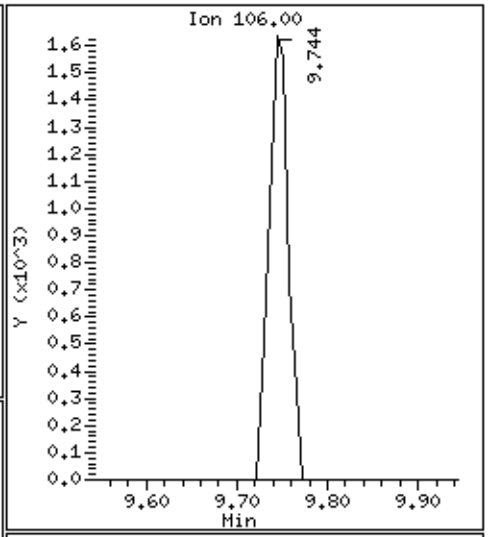
Column phase: RTX-624

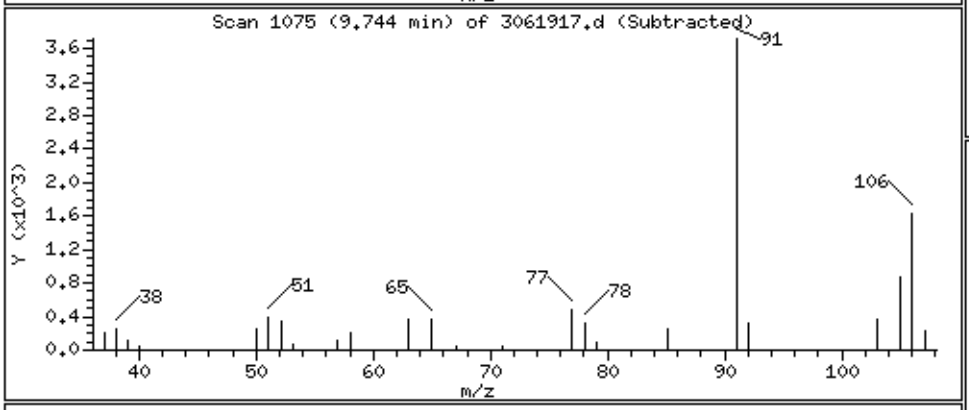
Column diameter: 0.25

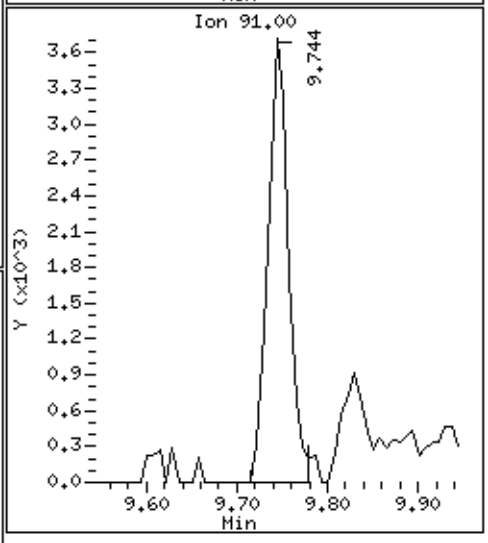
164 o-Xylene

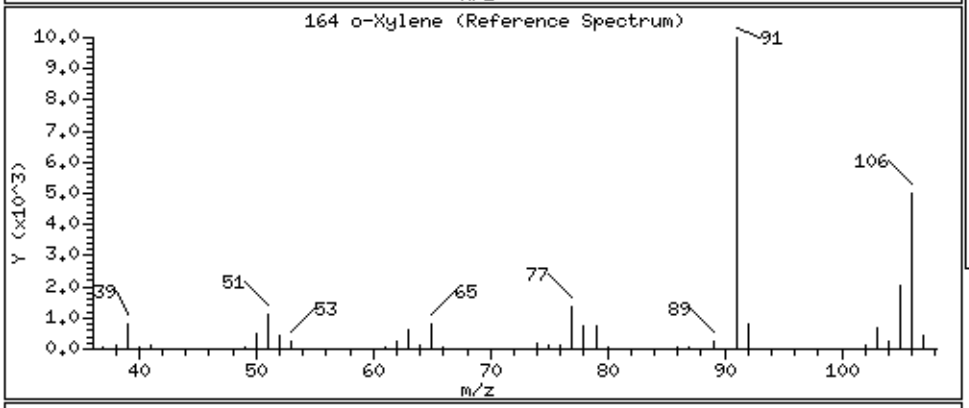
Concentration: 1.192 PPBV

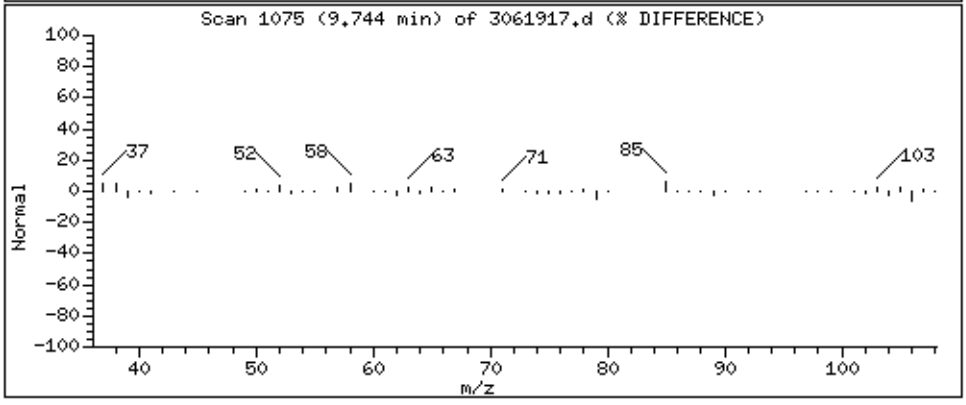


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV028_JUN24_FD Lab Duplicate | | |
| **Lab ID:** | 2406264R2-05AA | **Date/Time Analyzed:** | 6/19/24 10:56 PM |
| **Date/Time Collected:** | 6/3/24 01:42 PM | **Dilution Factor:** | 2.26 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061918 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.3 | 4.0 | 4.5 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.3 | 6.1 | 6.8 | Not Detected U |
| Benzene | 71-43-2 | 0.85 | 3.2 | 3.6 | 84 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.97 | 4.0 | 4.5 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.4 | 4.9 | 12 |
| m,p-Xylene | 108-38-3 | 0.70 | 4.4 | 9.8 | 21 |
| o-Xylene | 95-47-6 | 1.2 | 4.4 | 4.9 | 5.7 |
| Toluene | 108-88-3 | 1.1 | 3.8 | 8.5 | 28 |
| trans-1,2-Dichloroethene | 156-60-5 | 2.0 | 4.0 | 4.5 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.8 | 5.5 | 6.1 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.4 | 2.6 | 2.9 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 103 |
| Toluene-d8 | 2037-26-5 | 70-130 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061918.d
Lab Smp Id: 2406264-05AA
Inj Date : 19-JUN-2024 22:56
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL 1L4822
Misc Info : 7.8 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 1
Dil Factor: 2.26000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.432 (1.000) | 130 | 92021 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.432 (1.000) | 128 | 72310 | | | | 47.79- 107.79 | 78.58 |
| 5.432 | 5.432 (1.000) | 49 | 138514 | | | | 131.33- 191.33 | 150.52 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.019 (1.108) | 65 | 109566 | 22.8596 | 22.860 | | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.108) | 67 | 57075 | | | | 23.17- 83.17 | 52.09 |
| 102 Benzene | | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.990 (0.934) | 78 | 78616 | 11.6322 | 26.289 | | 80.00- 120.00 | 100.00 |
| 5.997 | 5.990 (0.934) | 77 | 19014 | | | | 0.00- 53.69 | 24.19 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 335678 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 47952 | | | | 0.00- 45.65 | 14.29 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 316364 | 24.2435 | 24.243 | | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 34832 | | | | 0.00- 41.42 | 11.01 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.767 | 7.760 (1.210) | 100 | 212521 | | | 37.54- 97.54 | 67.18 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 30305 | 3.23914 | 7.320 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 18046 | | | 27.89- 87.89 | 59.55 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 344079 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 172322 | | | 22.92- 82.92 | 50.08 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.250 | 9.242 (1.011) | 106 | 4896 | 1.22097 | 2.759 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 14961 | | | 281.09- 341.09 | 305.58 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 10497 | 2.10023 | 4.746 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.364 (1.023) | 91 | 21601 | | | 170.33- 230.33 | 205.78 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 2756 | 0.58150 | 1.314 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.744 (1.066) | 91 | 5983 | | | 181.23- 241.23 | 217.09 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 263723 | 25.7908 | 25.791 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 291102 | | | 88.49- 148.49 | 110.38 |
| 10.288 | 10.288 (1.124) | 176 | 254975 | | | 66.73- 126.73 | 96.68 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061918.d
Lab Smp Id: 2406264-05AA
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 7.8 Hg->9.9 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 92021 | 2.23 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 335678 | 2.42 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 344079 | 5.86 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 14:37

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-05AA
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 7.8 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.860 | 91.44 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.243 | 96.97 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.791 | 103.16 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061918.d



Date : 19-JUN-2024 22:56

Client ID:

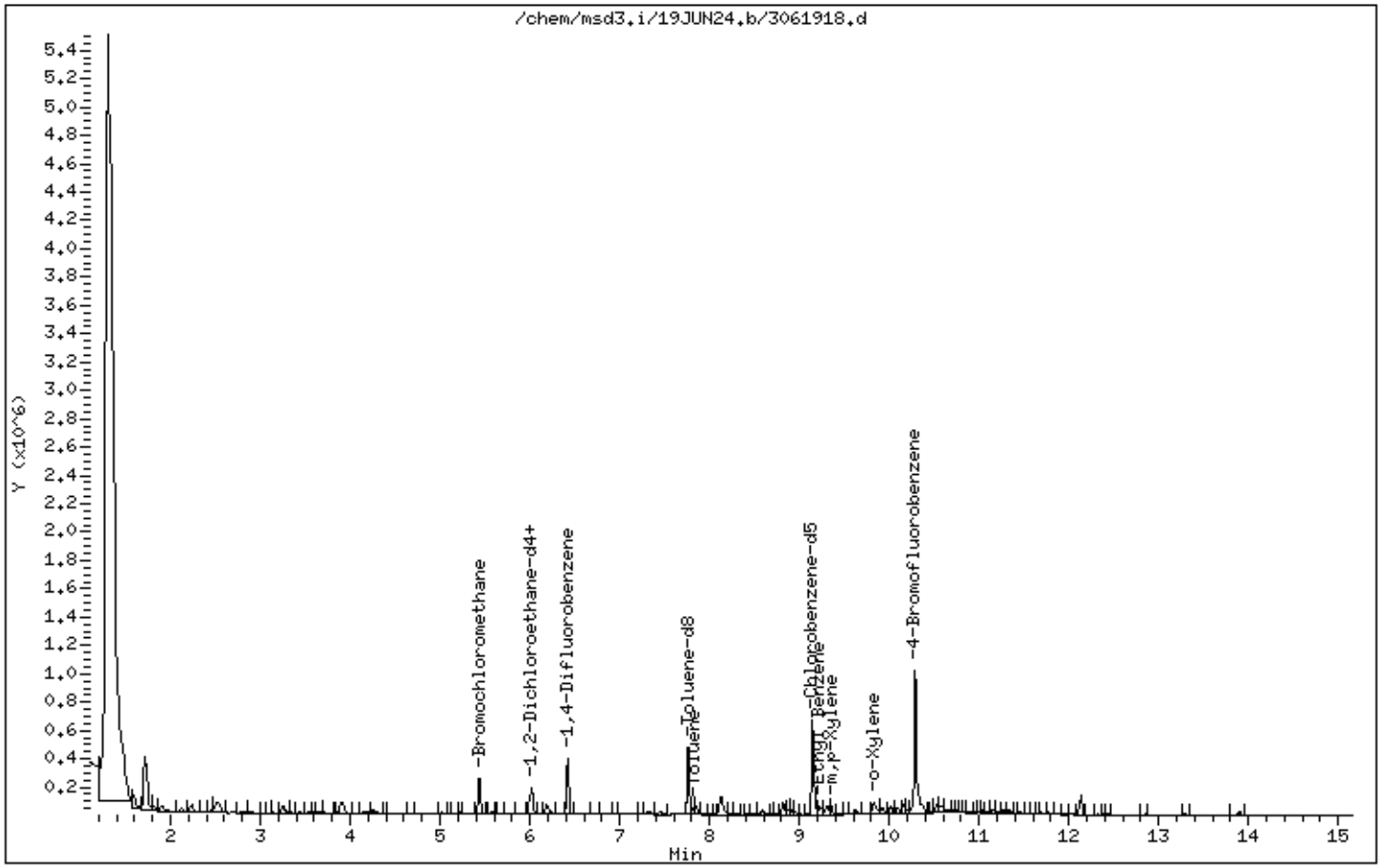
Instrument: msd3.i

Sample Info: 200mL 1L4822

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061918.d

Date : 19-JUN-2024 22:56

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4822

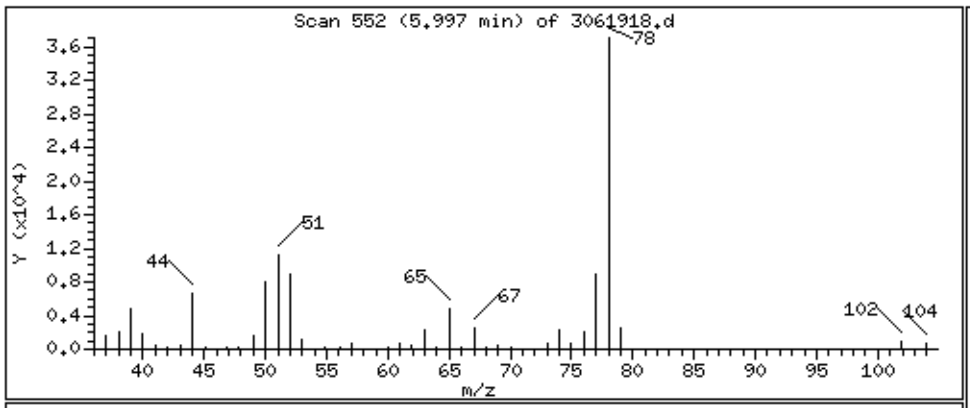
Operator: ACE

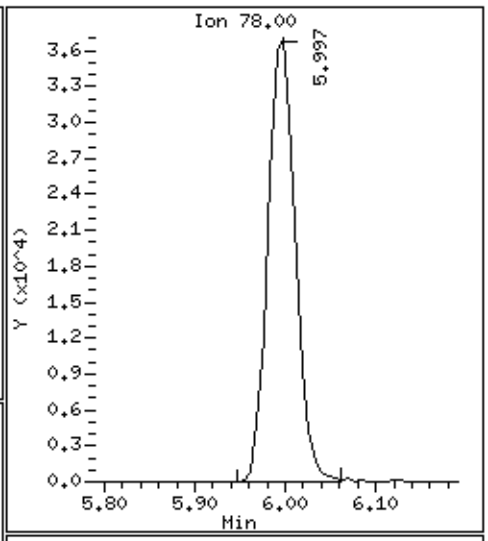
Column phase: RTX-624

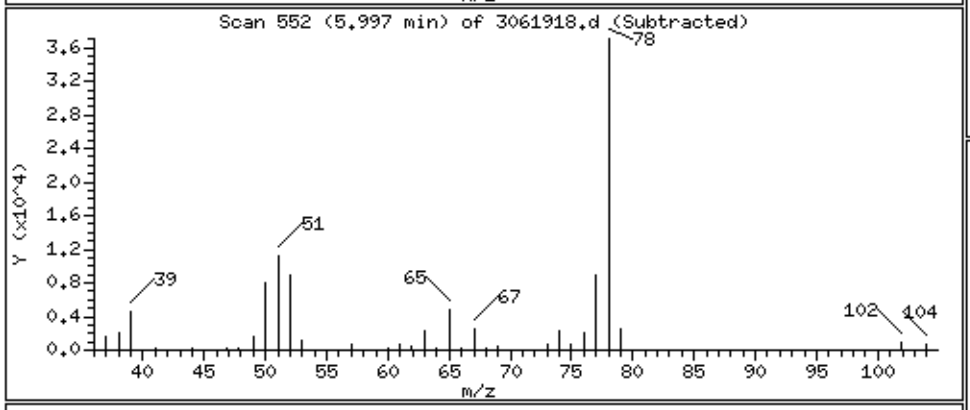
Column diameter: 0.25

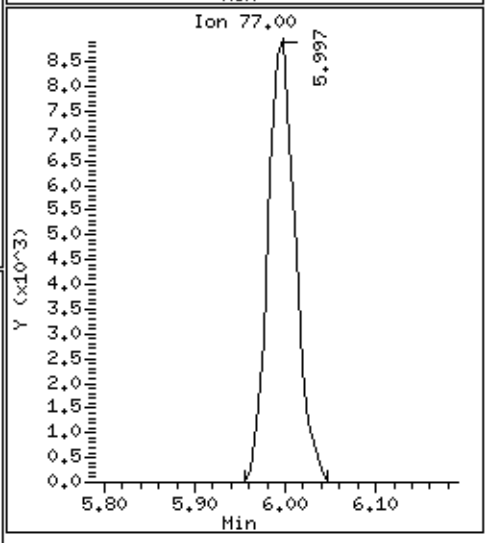
102 Benzene

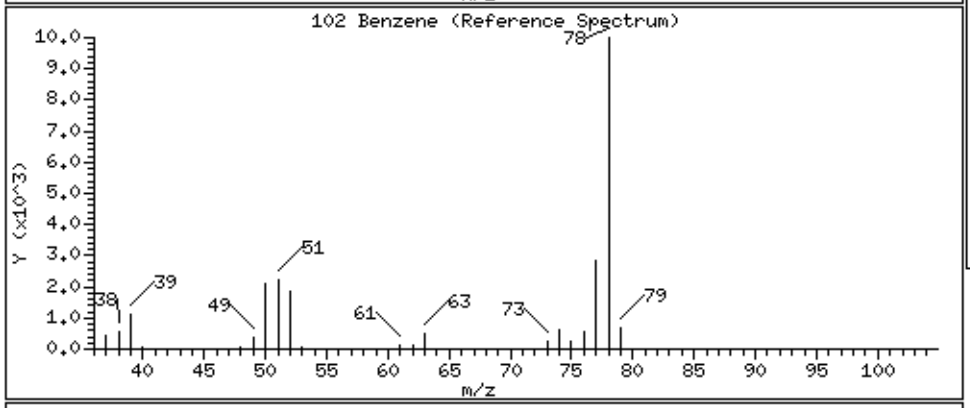
Concentration: 26.289 PPBV

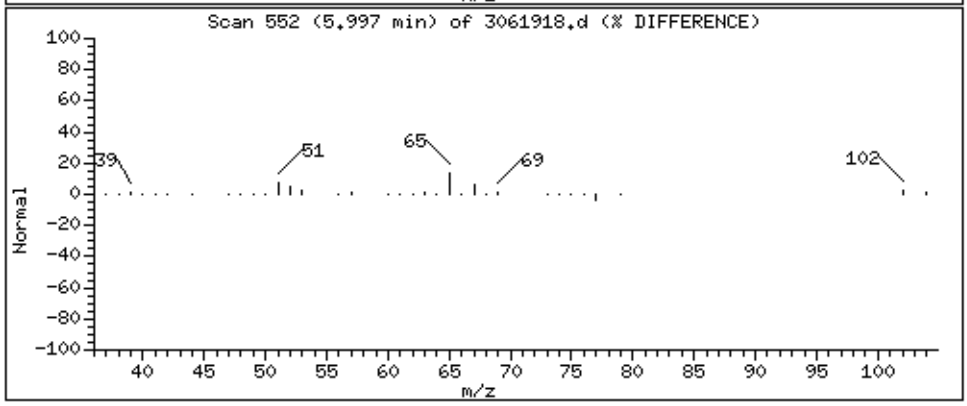


Data File: /chem/msd3.i/19JUN24.b/3061918.d

Date : 19-JUN-2024 22:56

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4822

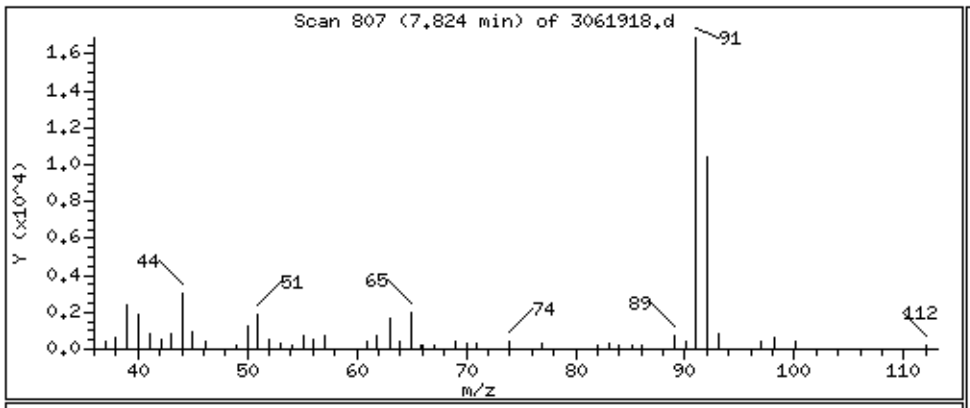
Operator: ACE

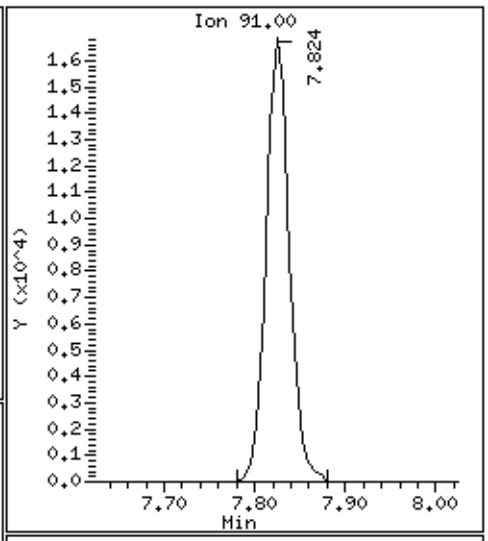
Column phase: RTX-624

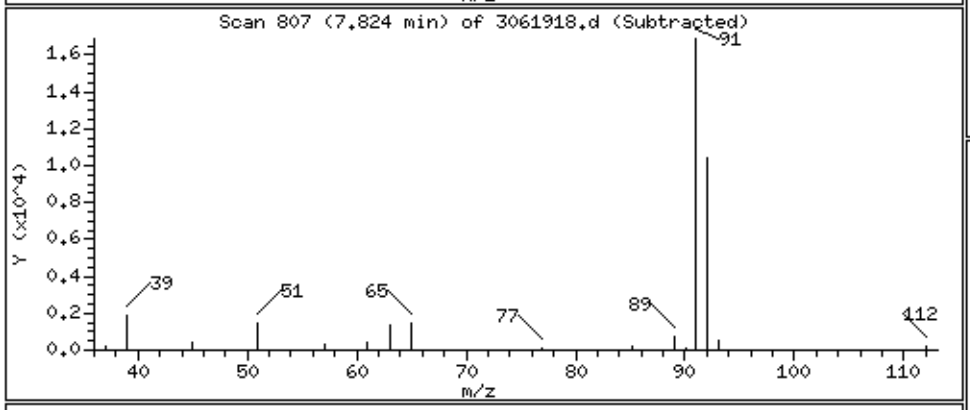
Column diameter: 0.25

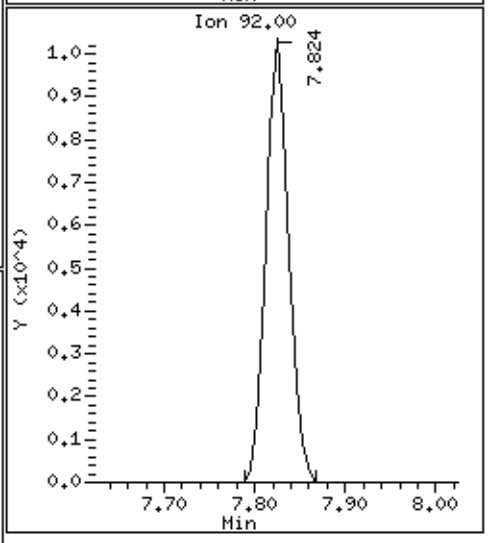
137 Toluene

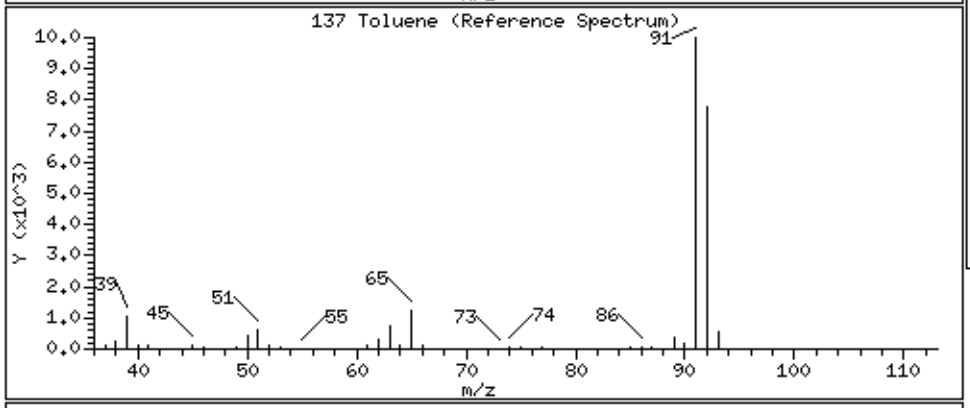
Concentration: 7.320 PPBV

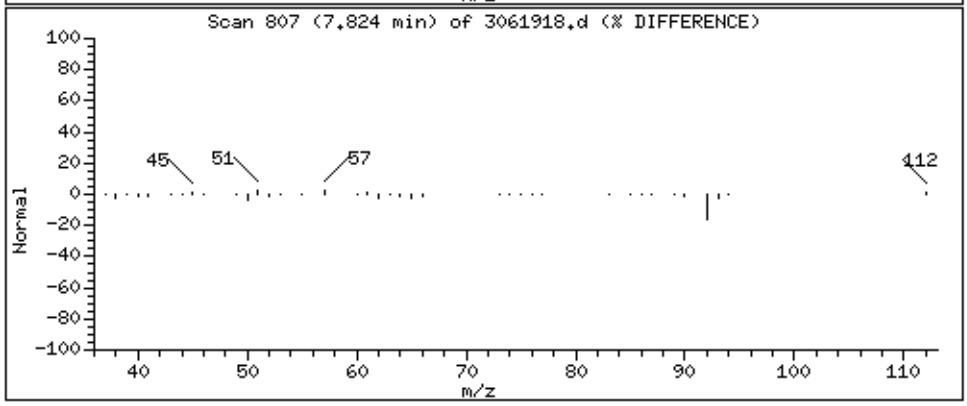


Data File: /chem/msd3.i/19JUN24.b/3061918.d

Date : 19-JUN-2024 22:56

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4822

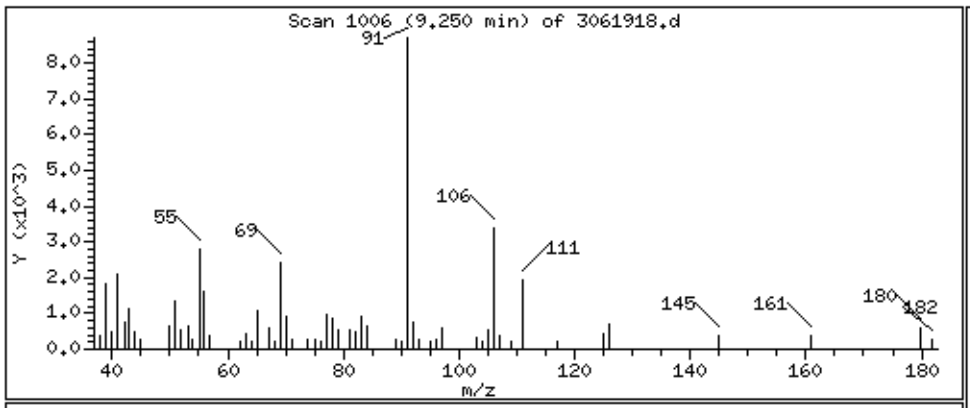
Operator: ACE

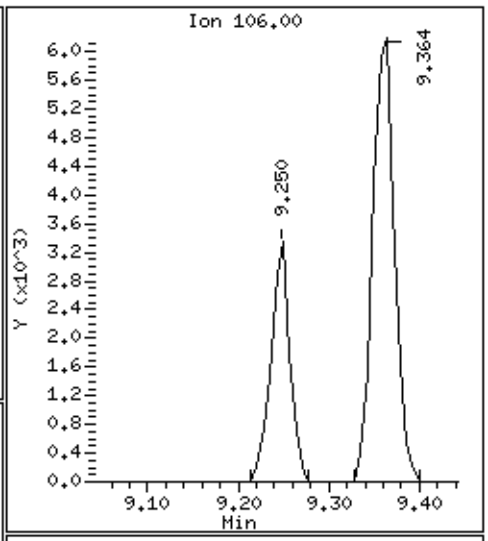
Column phase: RTX-624

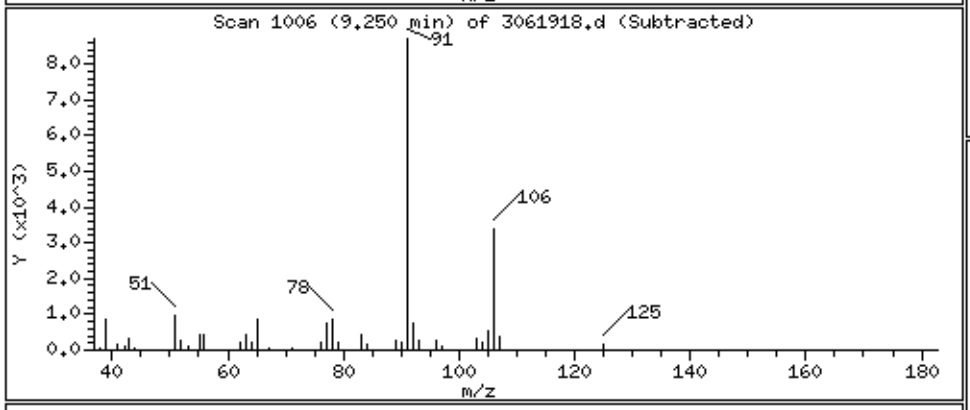
Column diameter: 0.25

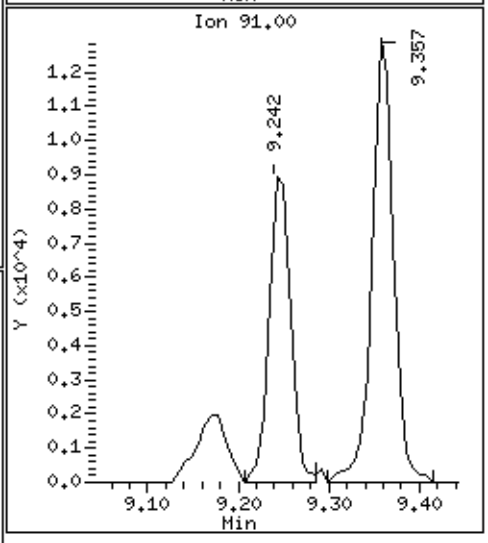
155 Ethyl Benzene

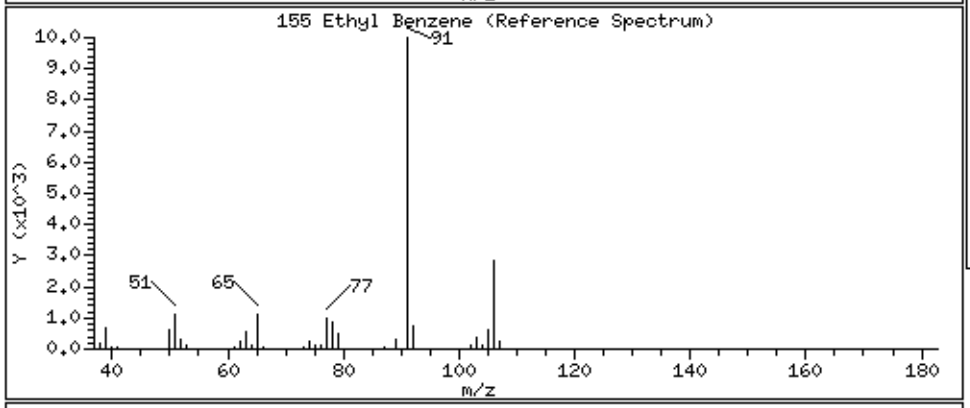
Concentration: 2.759 PPBV

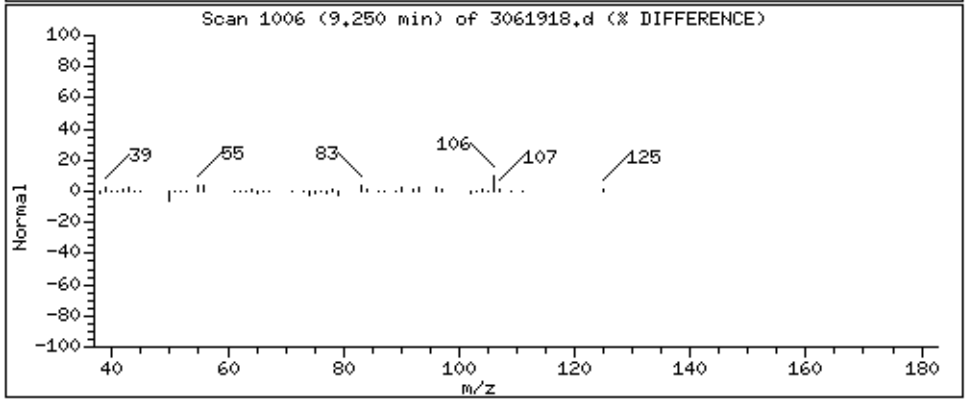


Data File: /chem/msd3.i/19JUN24.b/3061918.d

Date : 19-JUN-2024 22:56

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4822

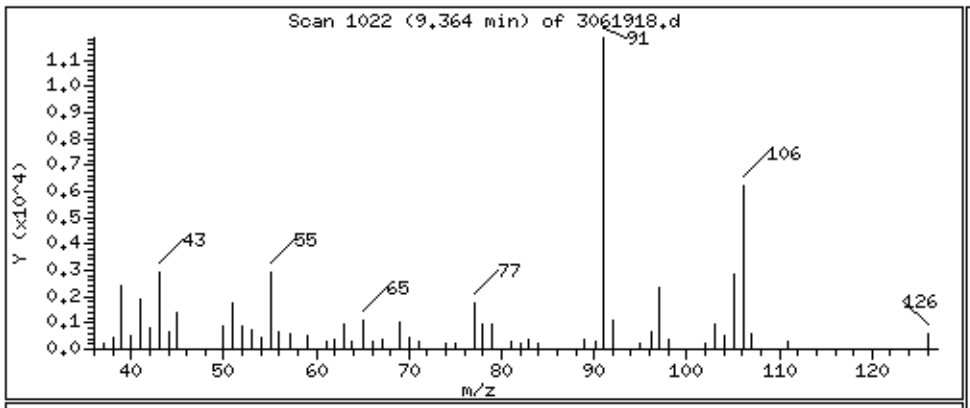
Operator: ACE

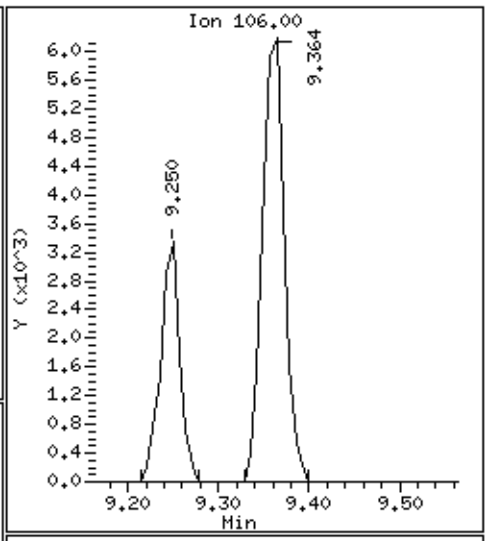
Column phase: RTX-624

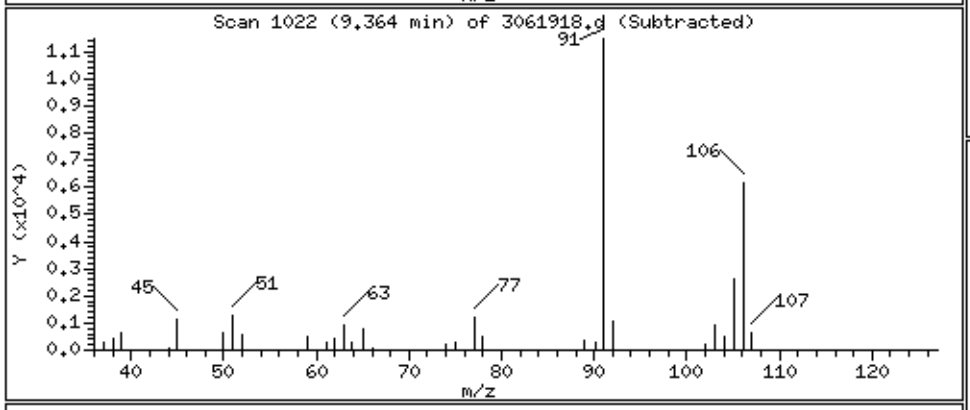
Column diameter: 0.25

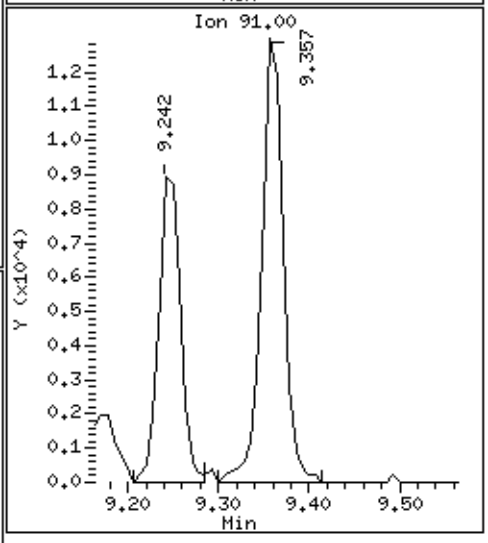
158 m,p-Xylene

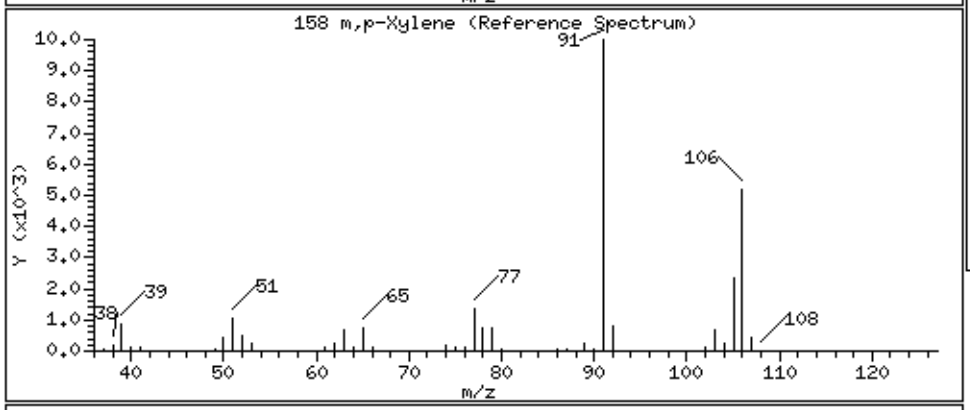
Concentration: 4.746 PPBV

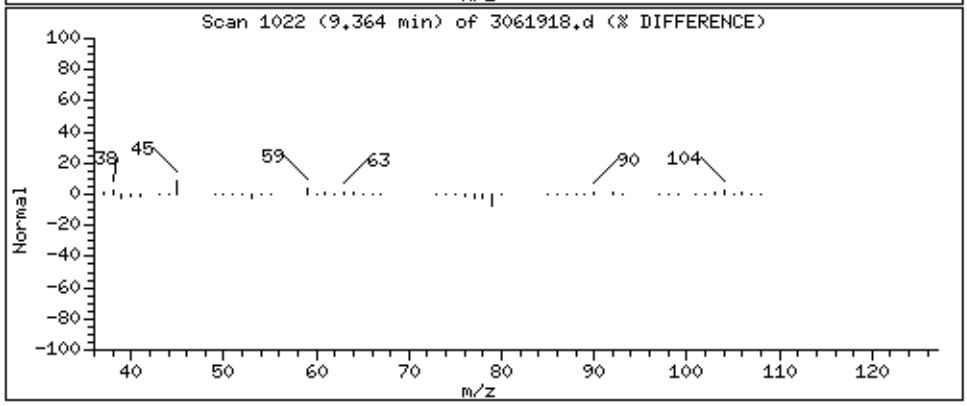


Data File: /chem/msd3.i/19JUN24.b/3061918.d

Date : 19-JUN-2024 22:56

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4822

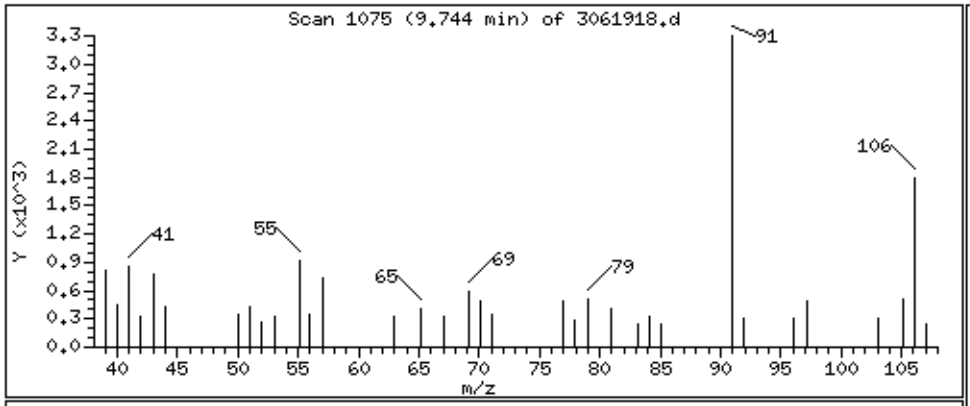
Operator: ACE

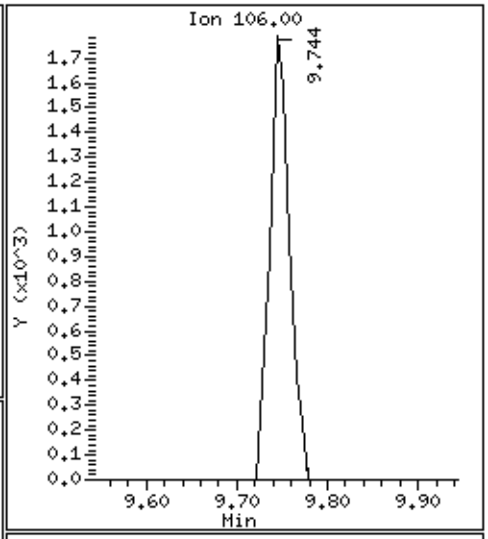
Column phase: RTX-624

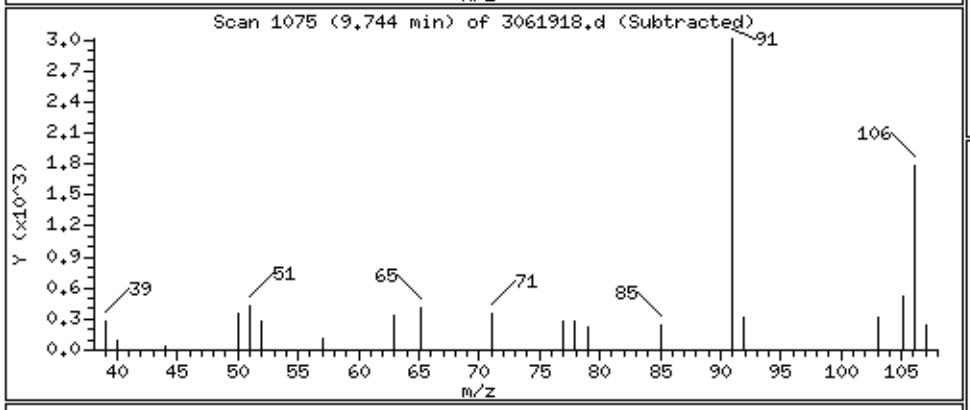
Column diameter: 0.25

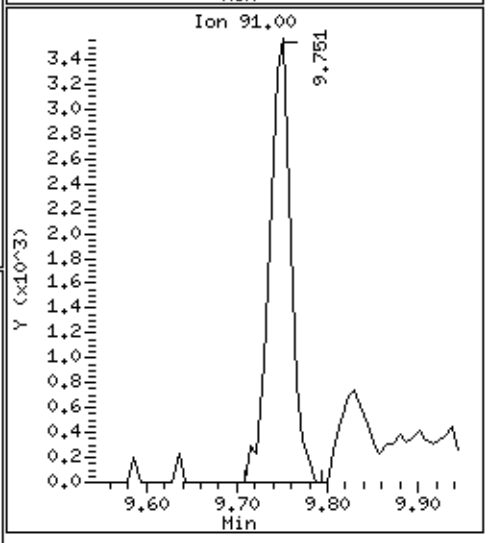
164 o-Xylene

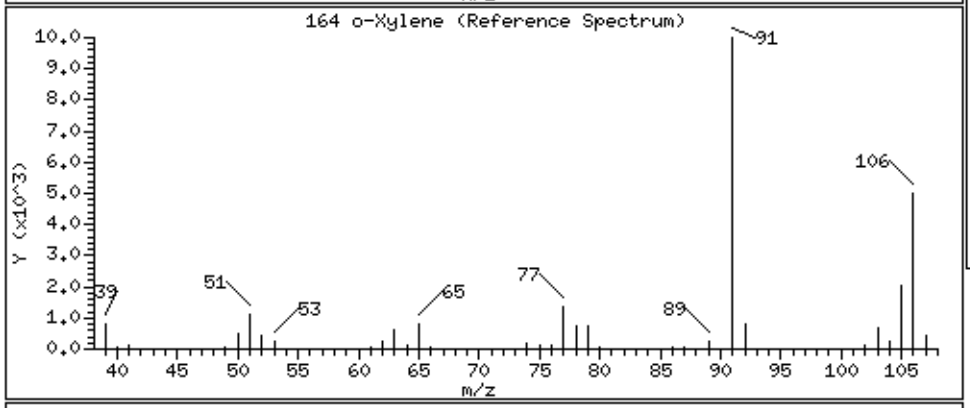
Concentration: 1.314 PPBV

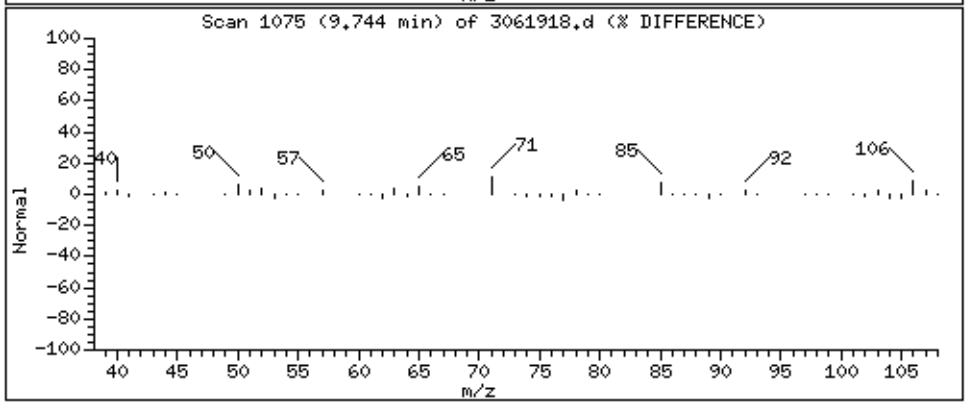


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV029_JUN24 | | |
| **Lab ID:** | 2406264R2-06A | **Date/Time Analyzed:** | 6/19/24 11:31 PM |
| **Date/Time Collected:** | 6/3/24 09:15 AM | **Dilution Factor:** | 6.46 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061919 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 6.6 | 12 | 13 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 6.5 | 17 | 19 | Not Detected U |
| Benzene | 71-43-2 | 2.4 | 9.3 | 10 | 53 |
| cis-1,2-Dichloroethene | 156-59-2 | 2.8 | 12 | 13 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 3.3 | 13 | 14 | 9.2 J |
| m,p-Xylene | 108-38-3 | 2.0 | 13 | 28 | 24 J |
| o-Xylene | 95-47-6 | 3.4 | 13 | 14 | 8.4 J |
| Toluene | 108-88-3 | 3.0 | 11 | 24 | 74 |
| trans-1,2-Dichloroethene | 156-60-5 | 5.9 | 12 | 13 | Not Detected U |
| Trichloroethene | 79-01-6 | 5.2 | 16 | 17 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 6.9 | 7.4 | 8.2 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 103 |
| Toluene-d8 | 2037-26-5 | 70-130 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061919.d
Lab Smp Id: 2406264-06A
Inj Date : 19-JUN-2024 23:31
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N6303
Misc Info : 22.2 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 2
Dil Factor: 6.46000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | | CAS #: 74-97-5 | |
| 5.439 | 5.432 (1.000) | 130 | 93438 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.432 (1.000) | 128 | 73439 | | | | 47.79- 107.79 | 78.60 |
| 5.432 | 5.432 (1.000) | 49 | 139535 | | | | 131.33- 191.33 | 149.33 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | | CAS #: 17060-07-0 | |
| 6.026 | 6.019 (1.108) | 65 | 110262 | 22.6559 | 22.656 | | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.108) | 67 | 59205 | | | | 23.17- 83.17 | 53.69 |
| 102 Benzene | | | | | | | CAS #: 71-43-2 | |
| 5.998 | 5.990 (0.934) | 78 | 17352 | 2.57484 | 16.633 | | 80.00- 120.00 | 100.00 |
| 5.998 | 5.990 (0.934) | 77 | 4391 | | | | 0.00- 53.69 | 25.31 |
| * 108 1,4-Difluorobenzene | | | | | | | CAS #: 540-36-3 | |
| 6.420 | 6.420 (1.000) | 114 | 334714 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 49057 | | | | 0.00- 45.65 | 14.66 |
| $ 134 Toluene-d8 | | | | | | | CAS #: 2037-26-5 | |
| 7.767 | 7.760 (1.210) | 98 | 319577 | 24.5602 | 24.560 | | 80.00- 120.00 | 100.00 |
| 7.767 | 7.760 (1.210) | 70 | 37669 | | | | 0.00- 41.42 | 11.79 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 216576 | | | 37.54- 97.54 | 67.77 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 28556 | 3.06099 | 19.774 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 16035 | | | 27.89- 87.89 | 56.15 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 349586 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 176512 | | | 22.92- 82.92 | 50.49 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 1336 | 0.32793 | 2.118 | 80.00- 120.00 | 100.00(a) |
| 9.242 | 9.242 (1.010) | 91 | 3641 | | | 281.09- 341.09 | 272.53 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 4387 | 0.86392 | 5.581 | 80.00- 120.00 | 100.00(a) |
| 9.357 | 9.364 (1.023) | 91 | 8893 | | | 170.33- 230.33 | 202.71 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.744 (1.066) | 106 | 1444 | 0.29987 | 1.937 | 80.00- 120.00 | 100.00(a) |
| 9.744 | 9.744 (1.065) | 91 | 3129 | | | 181.23- 241.23 | 216.69 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.288 (1.125) | 174 | 266875 | 25.6879 | 25.688 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 291921 | | | 88.49- 148.49 | 109.38 |
| 10.295 | 10.288 (1.125) | 176 | 259160 | | | 66.73- 126.73 | 97.11 |

## QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061919.d
Lab Smp Id: 2406264-06A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 22.2 Hg->10 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 93438 | 3.81 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 334714 | 2.12 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 349586 | 7.55 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:37

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-06A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 22.2 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.656 | 90.62 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.560 | 98.24 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.688 | 102.75 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061919.d



Date : 19-JUN-2024 23:31

Client ID:

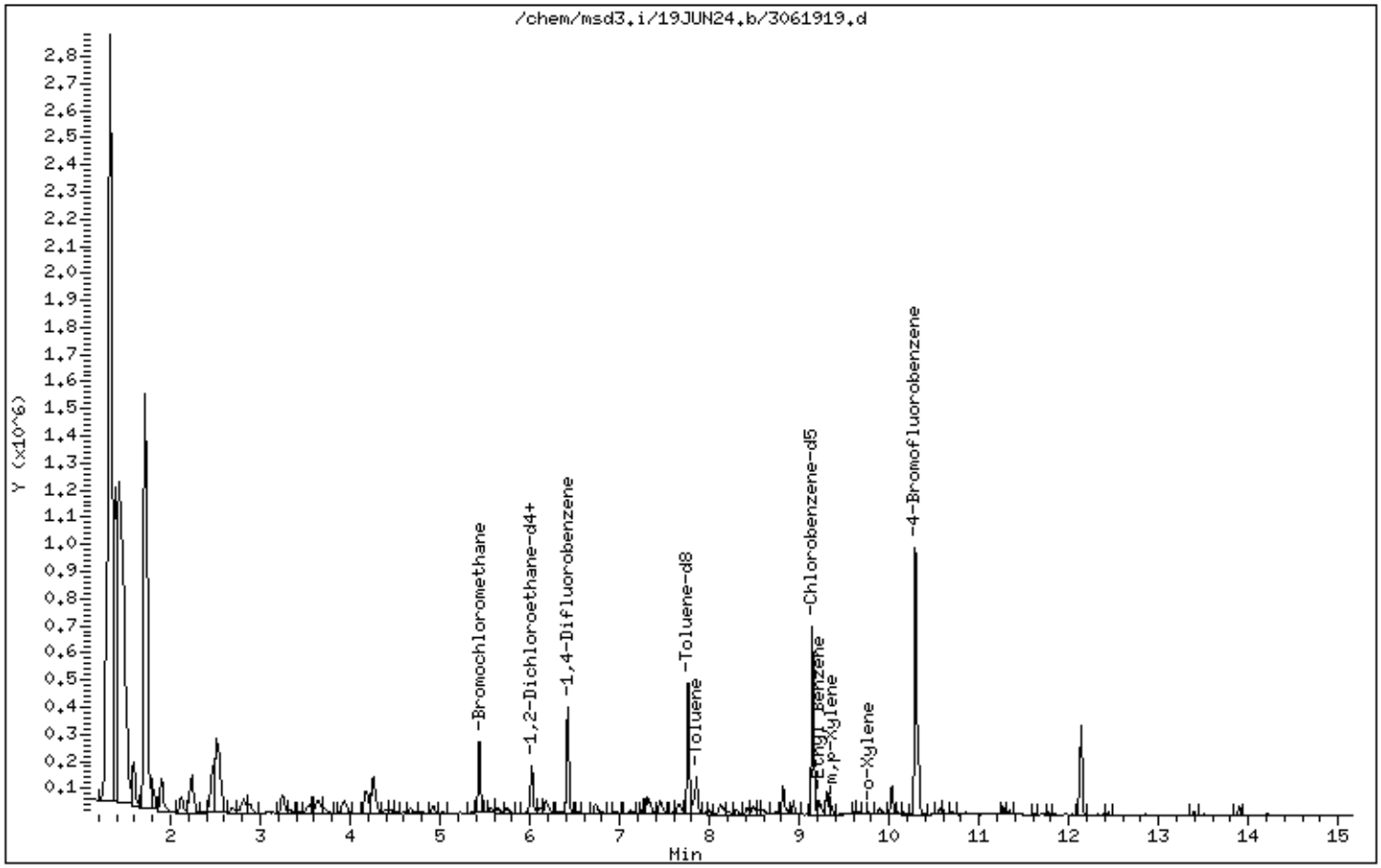
Instrument: msd3.i

Sample Info: 200mL N6303

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061919.d

Date : 19-JUN-2024 23:31

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6303

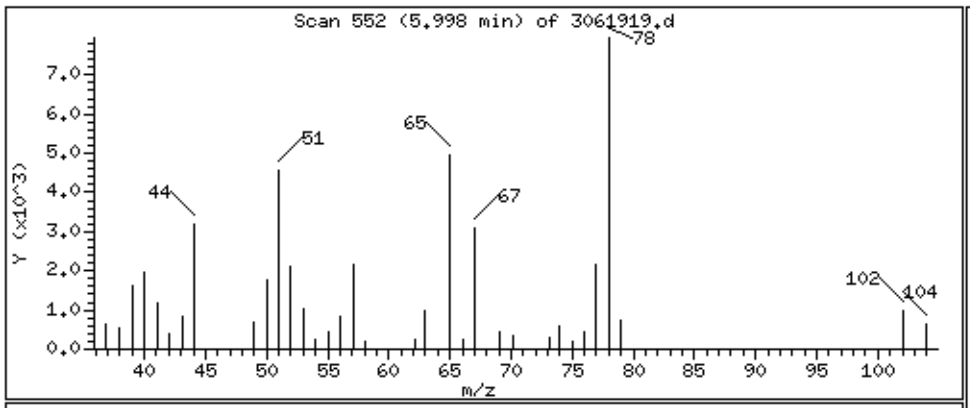
Operator: ACE

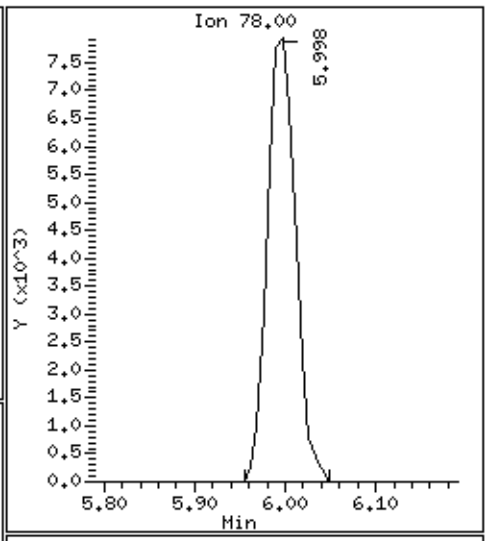
Column phase: RTX-624

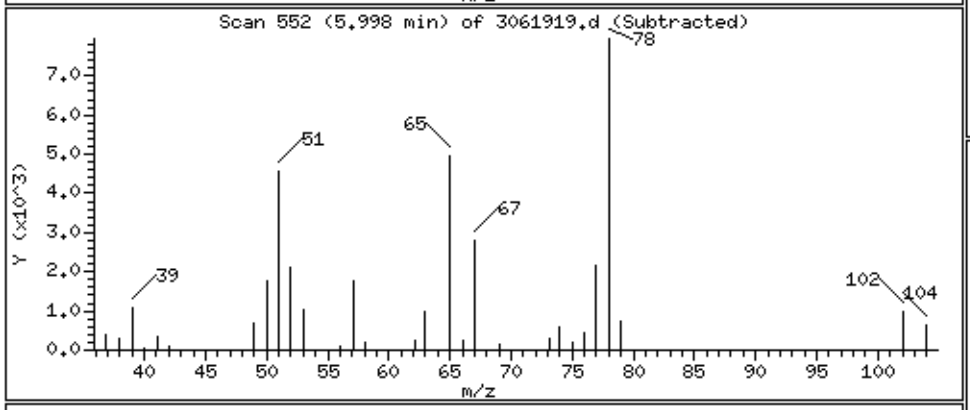
Column diameter: 0.25

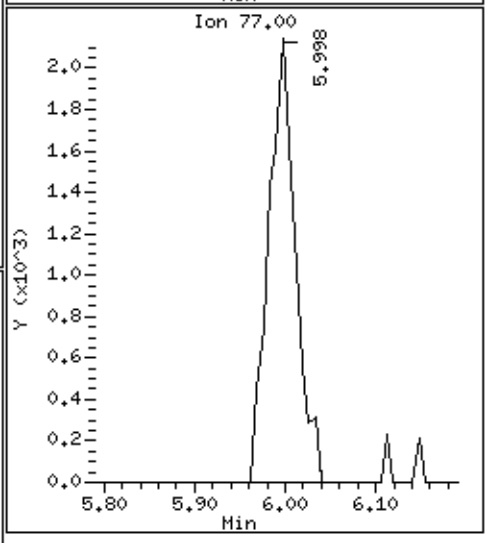
102 Benzene

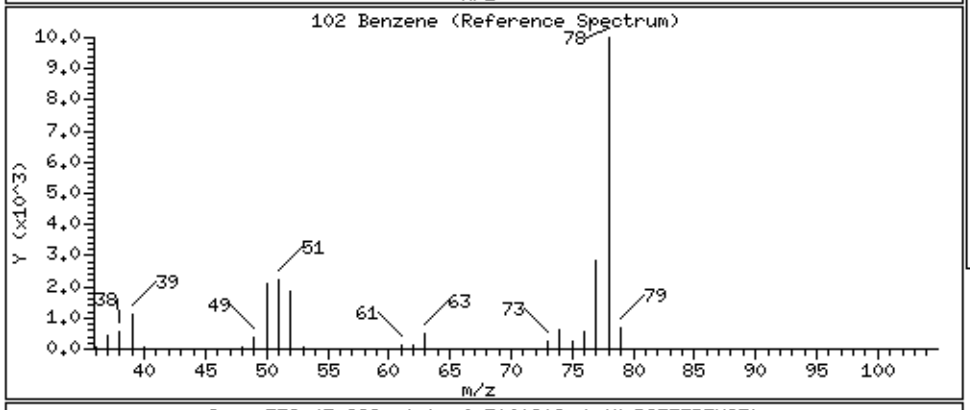
Concentration: 16.633 PPBV

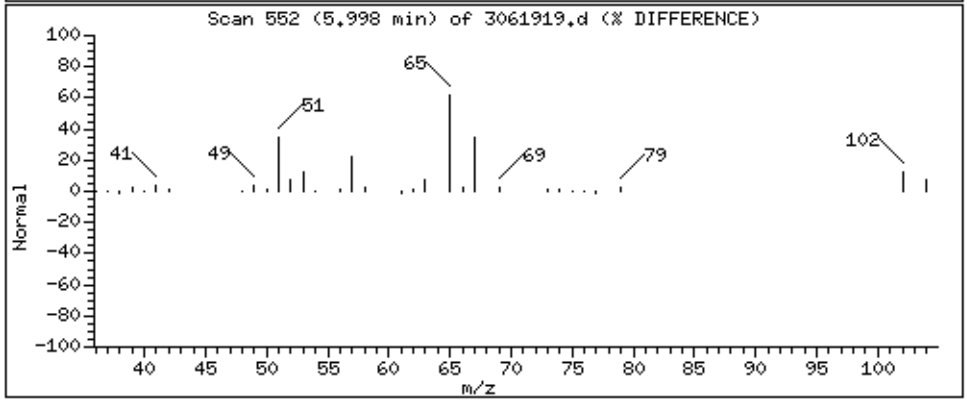


Data File: /chem/msd3.i/19JUN24.b/3061919.d

Date : 19-JUN-2024 23:31

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6303

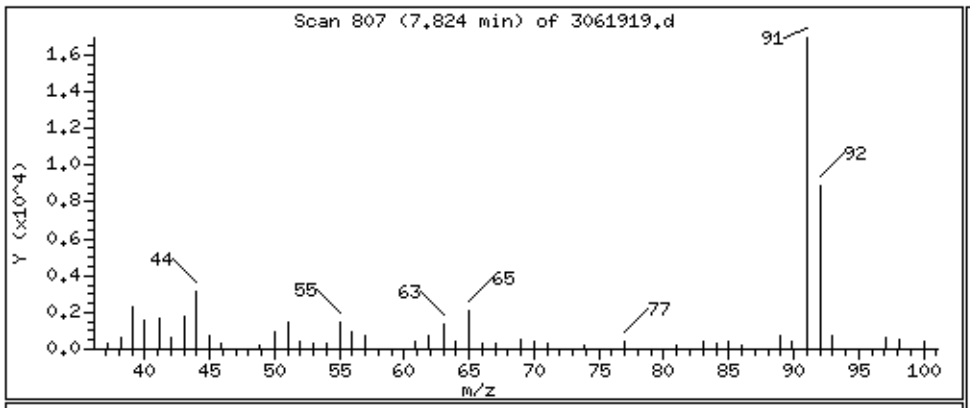
Operator: ACE

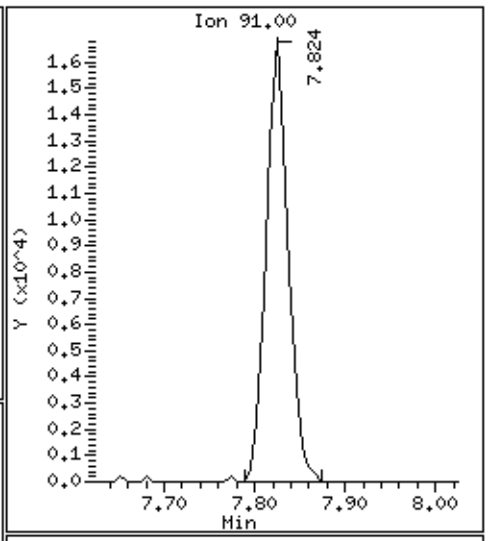
Column phase: RTX-624

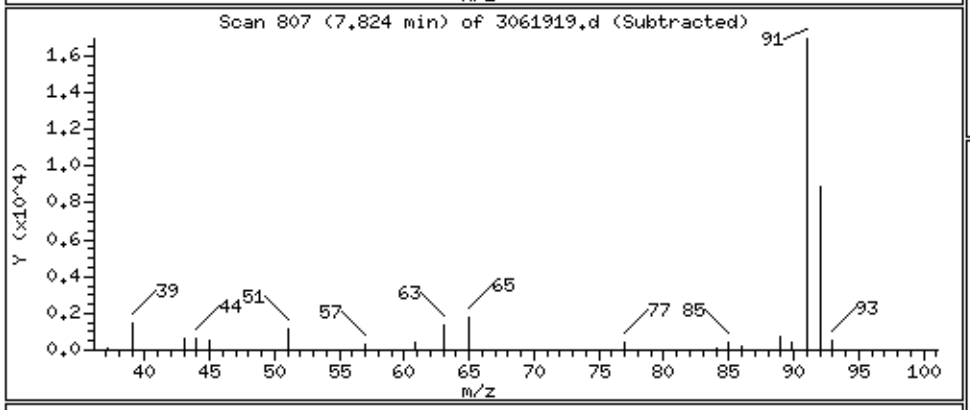
Column diameter: 0.25

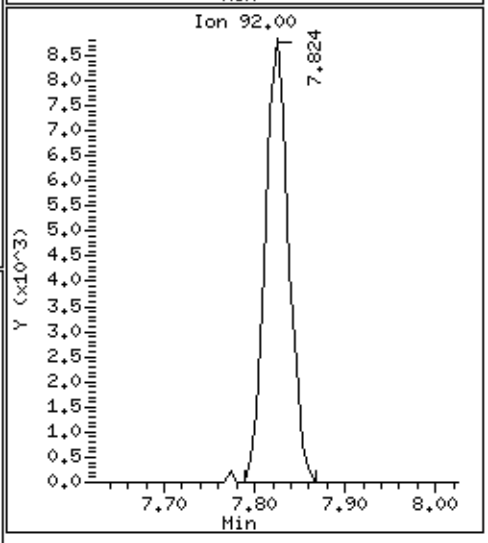
137 Toluene

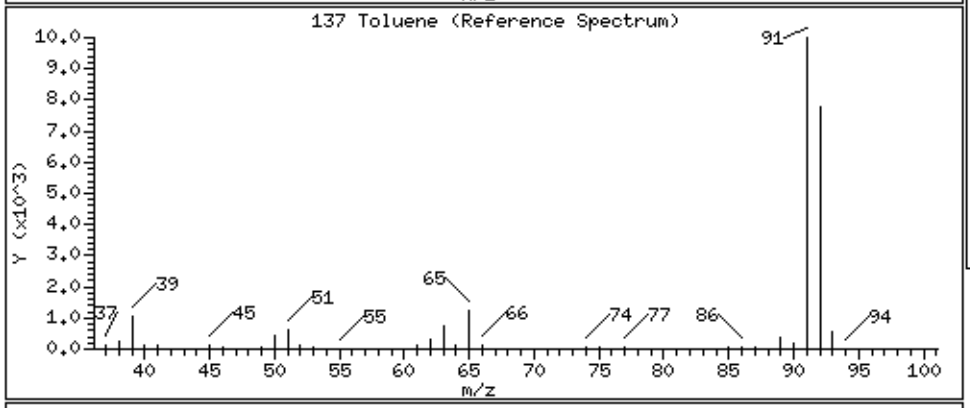
Concentration: 19.774 PPBV

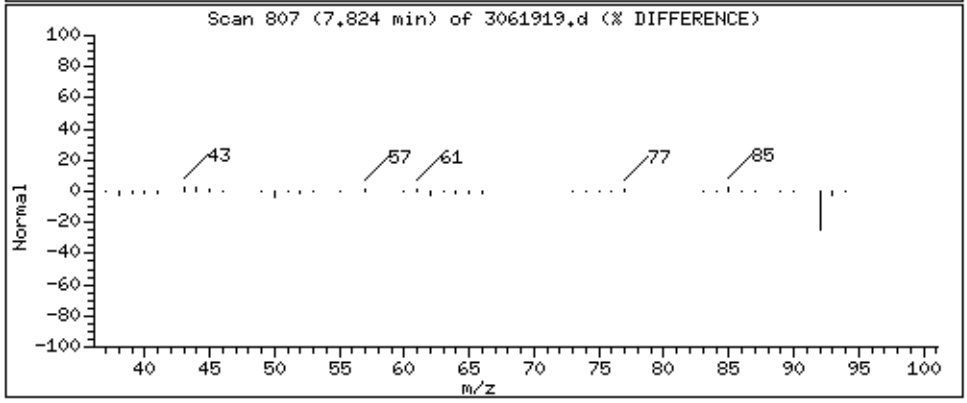


Data File: /chem/msd3.i/19JUN24.b/3061919.d



Date : 19-JUN-2024 23:31

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6303

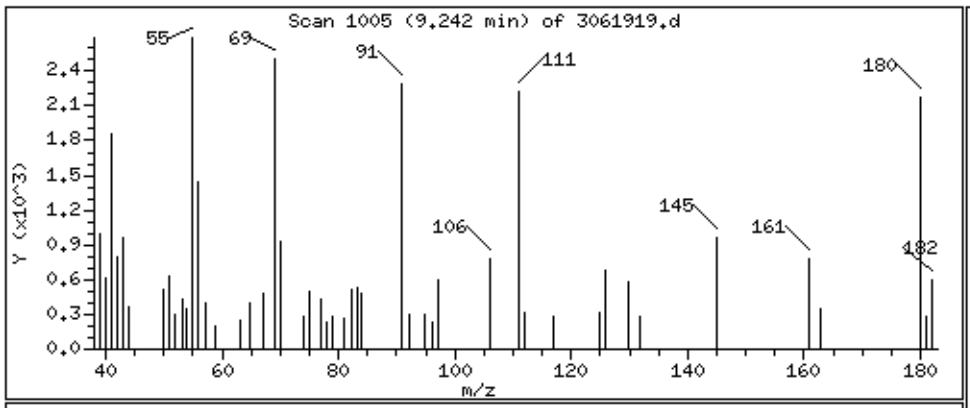
Operator: ACE

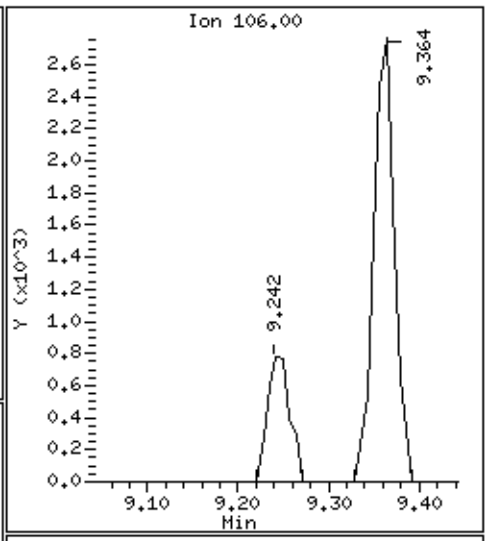
Column phase: RTX-624

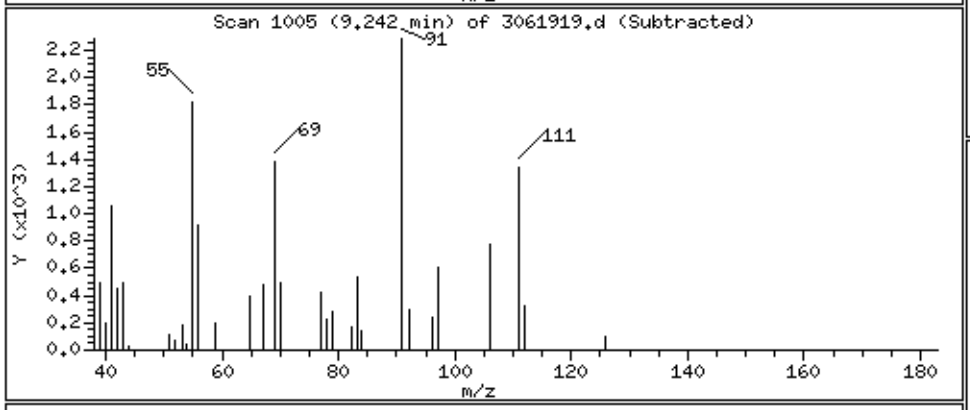
Column diameter: 0.25

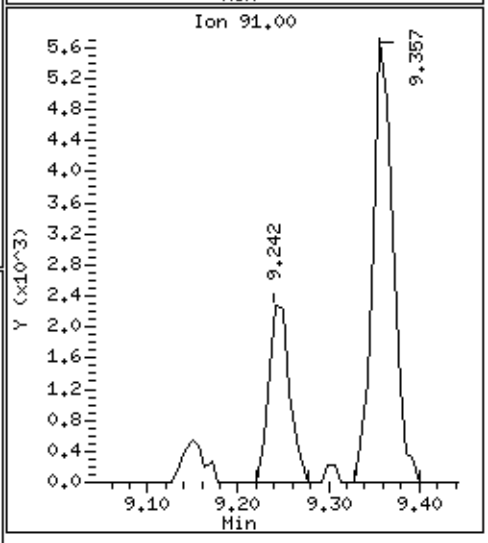
155 Ethyl Benzene

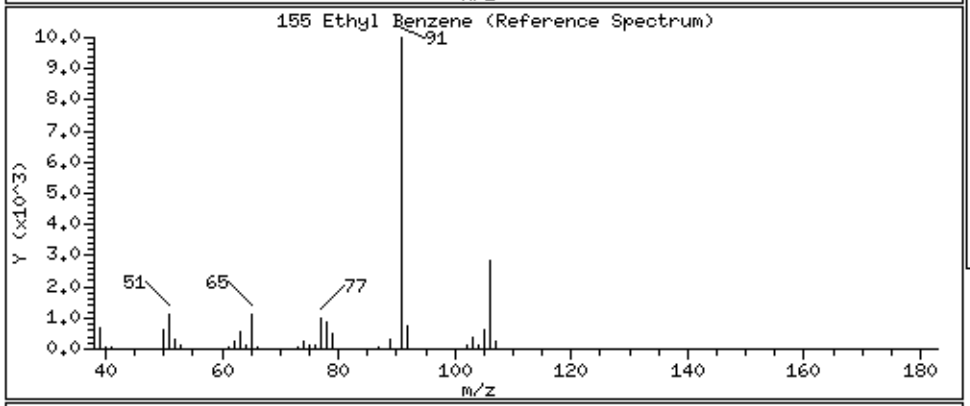
Concentration: 2.118 PPBV

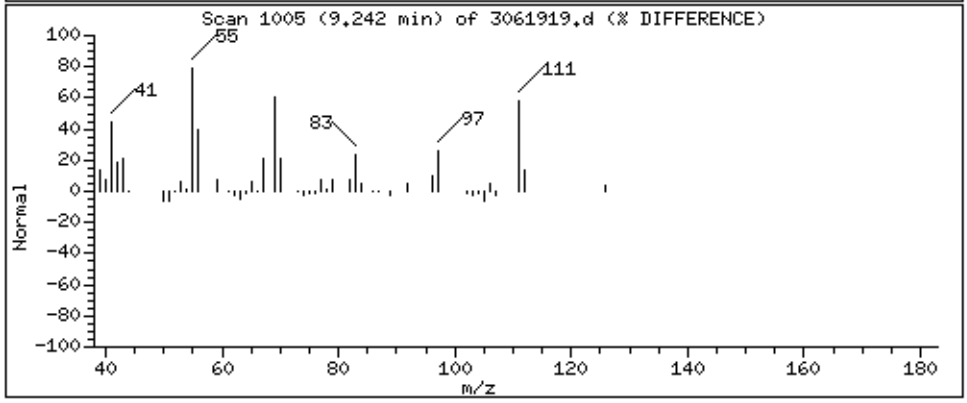


Data File: /chem/msd3.i/19JUN24.b/3061919.d

Date : 19-JUN-2024 23:31

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6303

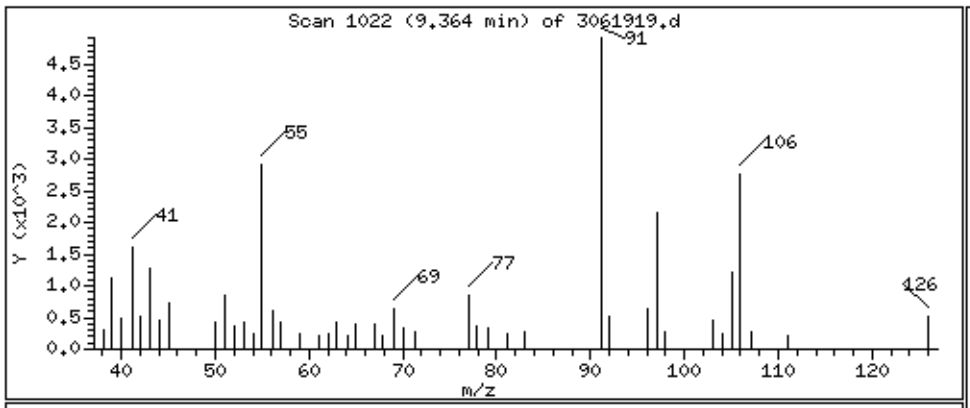
Operator: ACE

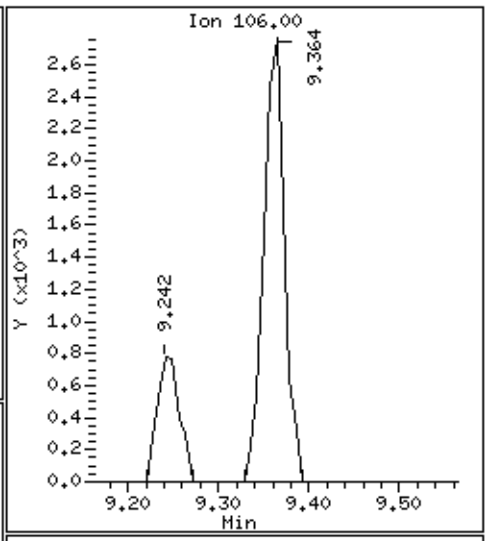
Column phase: RTX-624

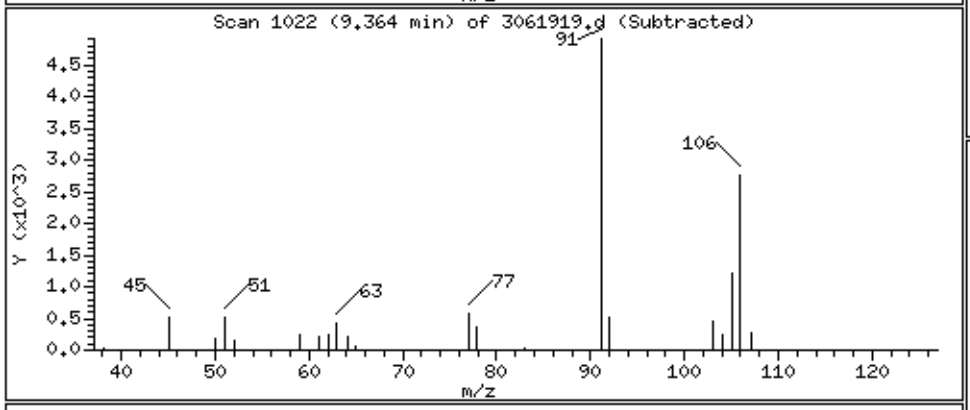
Column diameter: 0.25

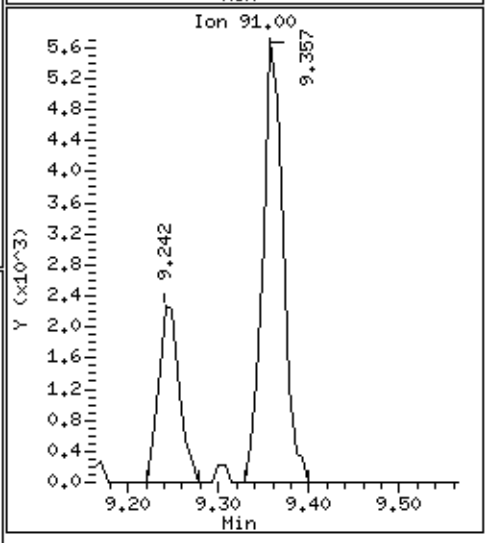
158 m,p-Xylene

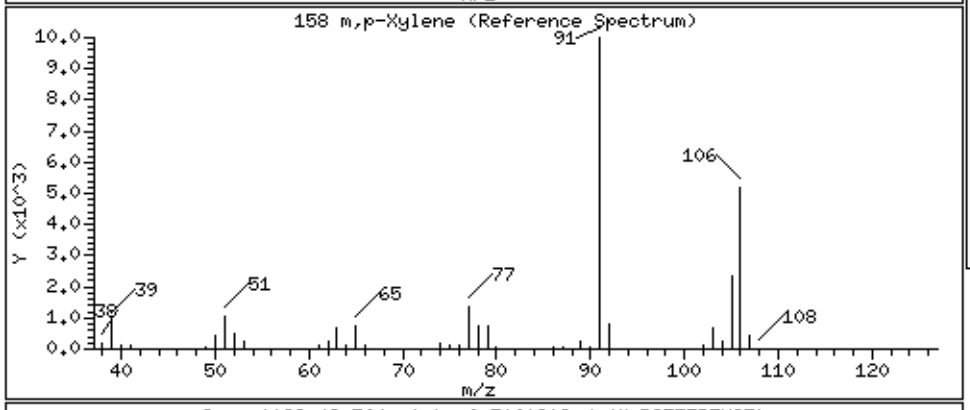
Concentration: 5.581 PPBV

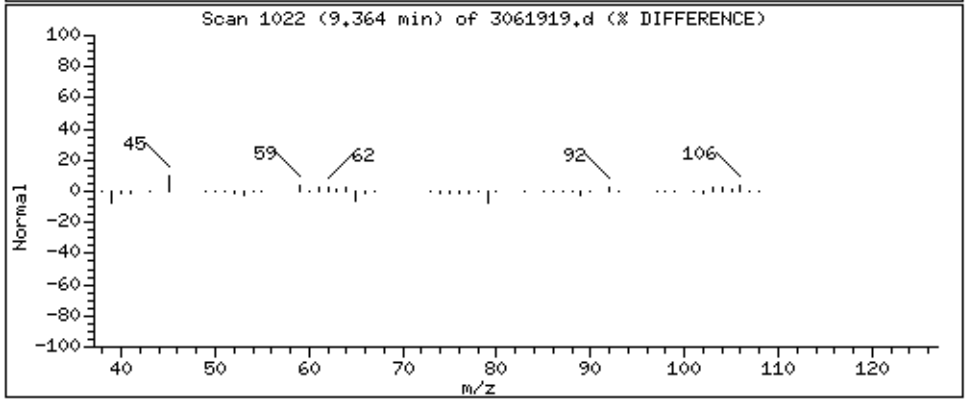


Data File: /chem/msd3.i/19JUN24.b/3061919.d

Date : 19-JUN-2024 23:31

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6303

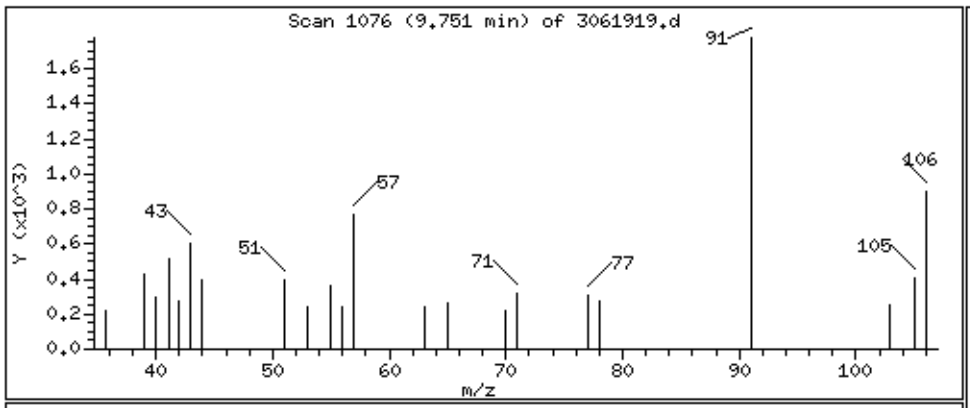
Operator: ACE

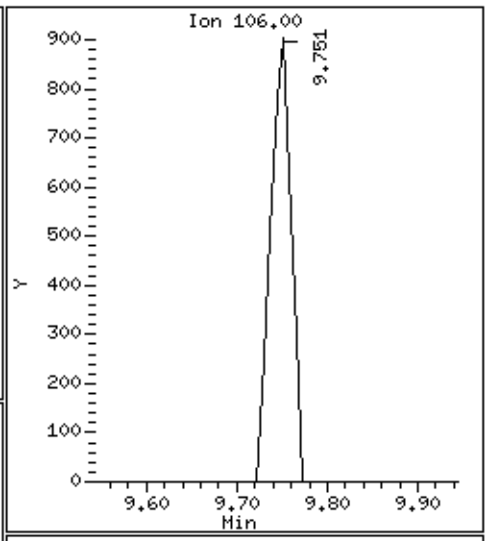
Column phase: RTX-624

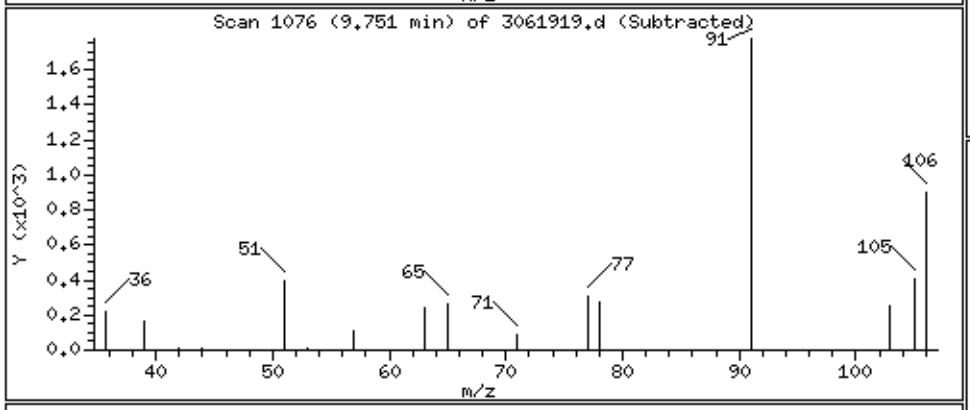
Column diameter: 0.25

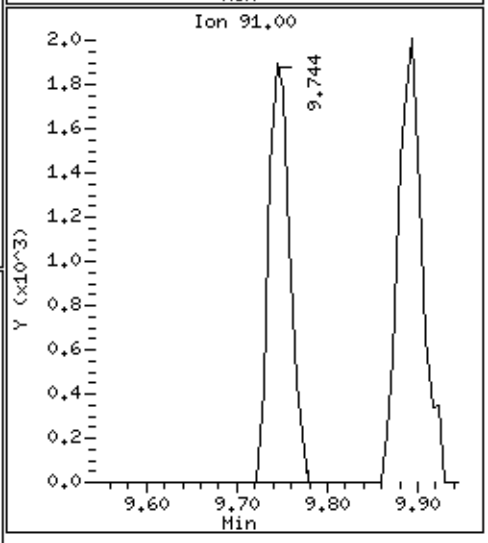
164 o-Xylene

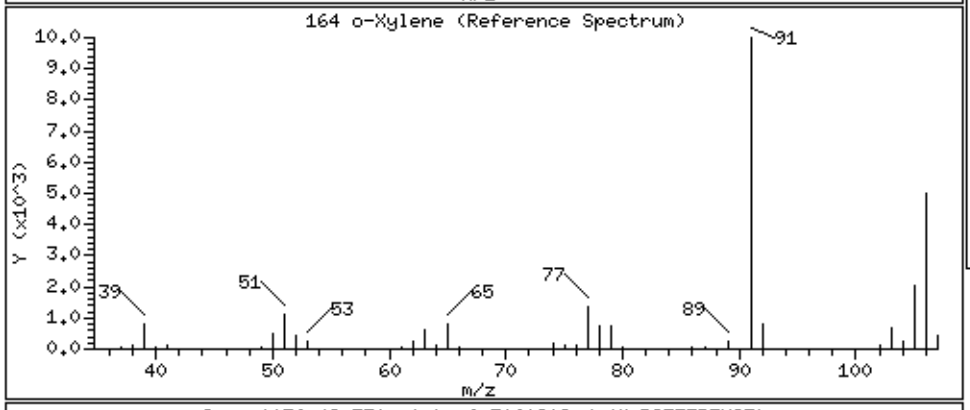
Concentration: 1.937 PPBV

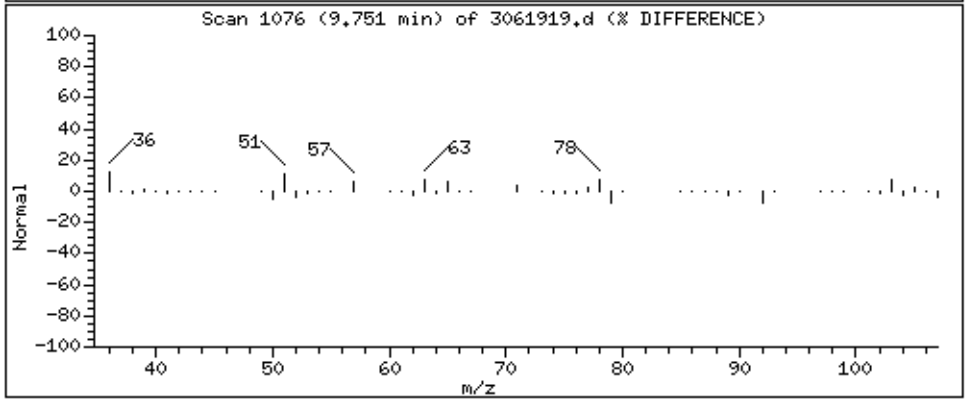


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV030_JUN24 | | |
| **Lab ID:** | 2406264R2-07A | **Date/Time Analyzed:** | 6/20/24 12:06 AM |
| **Date/Time Collected:** | 6/3/24 09:55 AM | **Dilution Factor:** | 2.07 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061920 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.1 | 3.7 | 4.1 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.1 | 5.6 | 6.2 | Not Detected U |
| Benzene | 71-43-2 | 0.78 | 3.0 | 3.3 | 9.4 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.89 | 3.7 | 4.1 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.1 | 4.0 | 4.5 | 6.0 |
| m,p-Xylene | 108-38-3 | 0.64 | 4.0 | 9.0 | 11 |
| o-Xylene | 95-47-6 | 1.1 | 4.0 | 4.5 | 4.2 J |
| Toluene | 108-88-3 | 0.98 | 3.5 | 7.8 | 37 |
| trans-1,2-Dichloroethene | 156-60-5 | 1.9 | 3.7 | 4.1 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.7 | 5.0 | 5.6 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 2.2 | 2.4 | 2.6 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 103 |
| Toluene-d8 | 2037-26-5 | 70-130 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061920.d
Lab Smp Id: 2406264-07A
Inj Date : 20-JUN-2024 00:06
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL 1L4702
Misc Info : 5.7 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 3
Dil Factor: 2.07000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.431 | 5.432 (1.000) | 130 | 94964 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.431 | 5.432 (1.000) | 128 | 74060 | | | | 47.79- 107.79 | 77.99 |
| 5.431 | 5.432 (1.000) | 49 | 143323 | | | | 131.33- 191.33 | 150.92 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 113507 | 22.9479 | 22.948 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 57919 | | | | 23.17- 83.17 | 51.03 |
| 102 Benzene | | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 9885 | 1.42514 | 2.950 | | 80.00- 120.00 | 100.00 |
| 5.997 | 5.990 (0.934) | 77 | 2547 | | | | 0.00- 53.69 | 25.77 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 344504 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 50512 | | | | 0.00- 45.65 | 14.66 |
| $ 134 Toluene-d8 | | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 325254 | 24.2862 | 24.286 | | 80.00- 120.00 | 100.00 |
| 7.759 | 7.760 (1.209) | 70 | 36505 | | | | 0.00- 41.42 | 11.22 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.759 | 7.760 (1.209) | 100 | 218016 | | | 37.54- 97.54 | 67.03 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 46012 | 4.79198 | 9.919 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 26958 | | | 27.89- 87.89 | 58.59 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 357018 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 179565 | | | 22.92- 82.92 | 50.30 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.249 | 9.242 (1.011) | 106 | 2779 | 0.66791 | 1.382 | 80.00- 120.00 | 100.00 |
| 9.249 | 9.242 (1.011) | 91 | 10078 | | | 281.09- 341.09 | 362.65 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 6543 | 1.26167 | 2.612 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.364 (1.023) | 91 | 15149 | | | 170.33- 230.33 | 231.53 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 2310 | 0.46973 | 0.9723 | 80.00- 120.00 | 100.00(a) |
| 9.744 | 9.744 (1.065) | 91 | 5045 | | | 181.23- 241.23 | 218.40 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 272142 | 25.6496 | 25.650 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 304688 | | | 88.49- 148.49 | 111.96 |
| 10.288 | 10.288 (1.124) | 176 | 266135 | | | 66.73- 126.73 | 97.79 |

## QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061920.d
Lab Smp Id: 2406264-07A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 5.7 Hg->10 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 94964 | 5.50 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 344504 | 5.11 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 357018 | 9.84 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:37

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-07A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 5.7 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.948 | 91.79 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.286 | 97.14 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.650 | 102.60 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061920.d



Date : 20-JUN-2024 00:06

Client ID:

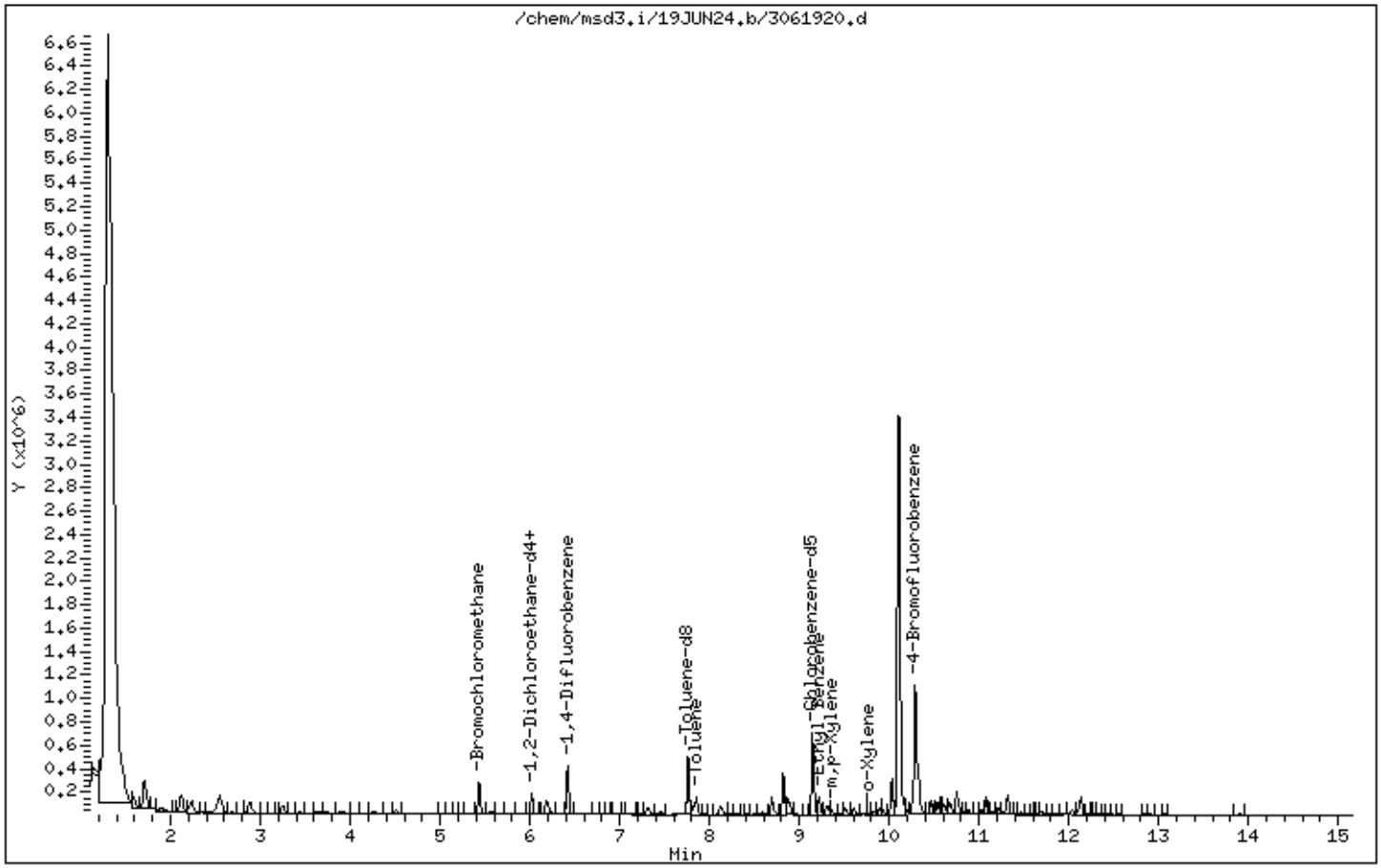
Instrument: msd3.i

Sample Info: 200mL 1L4702

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061920.d

Date : 20-JUN-2024 00:06

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4702

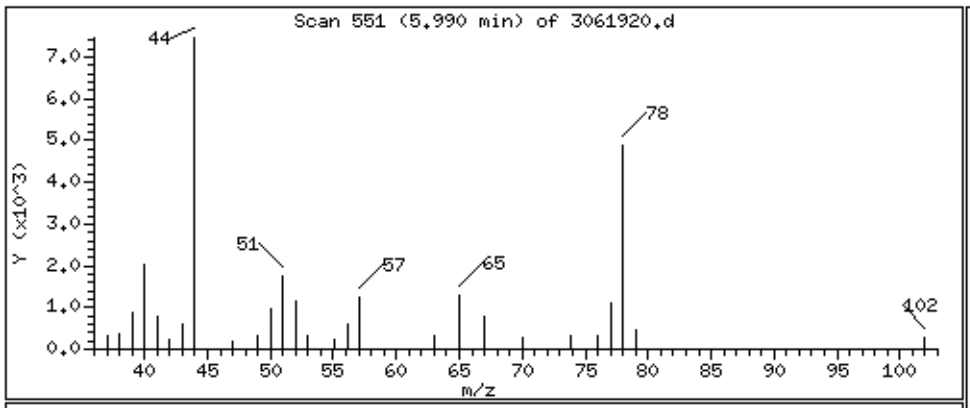
Operator: ACE

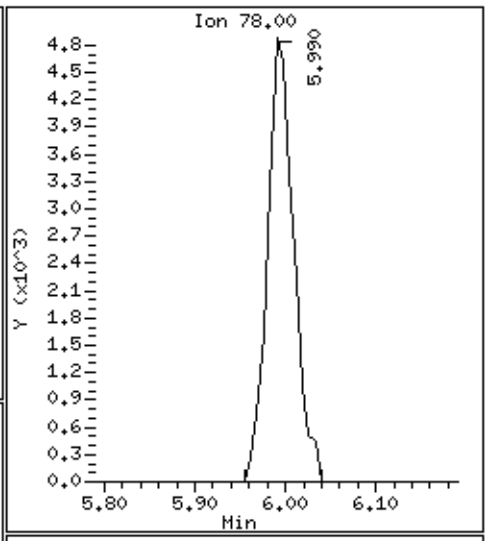
Column phase: RTX-624

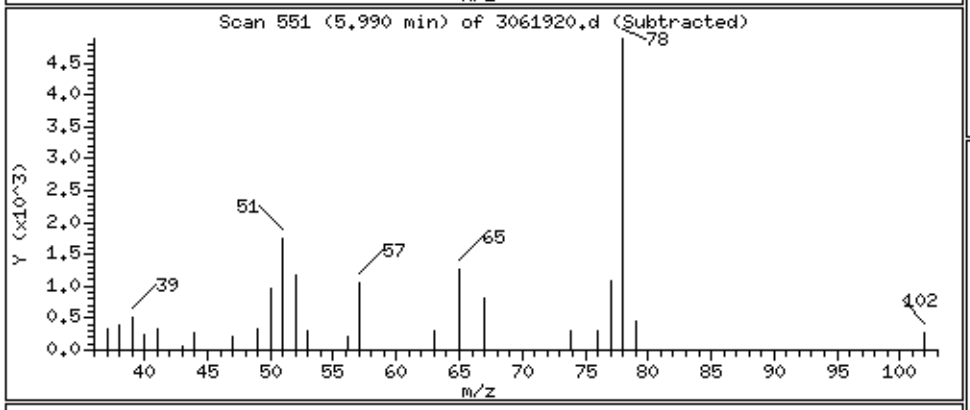
Column diameter: 0.25

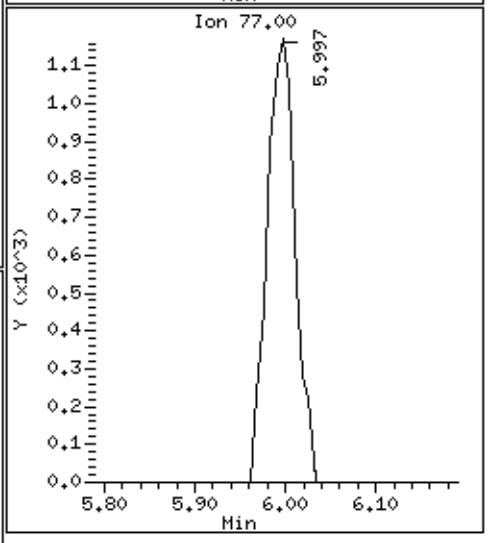
102 Benzene

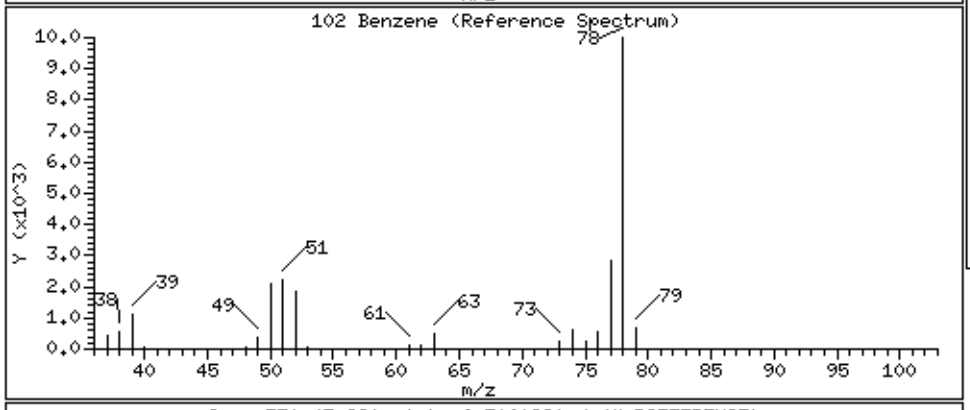
Concentration: 2.950 PPBV

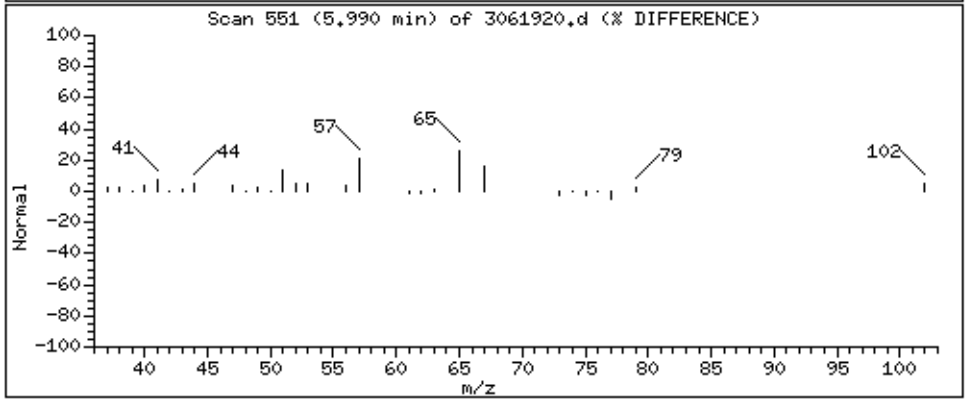


Data File: /chem/msd3.i/19JUN24.b/3061920.d

Date : 20-JUN-2024 00:06

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4702

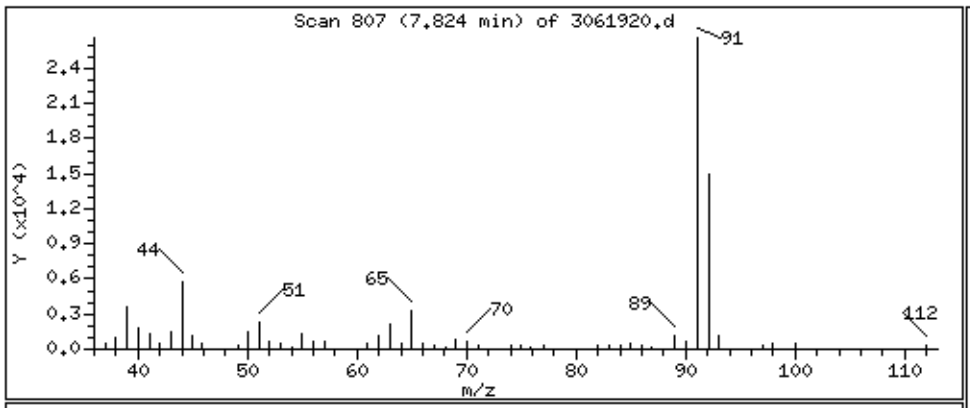
Operator: ACE

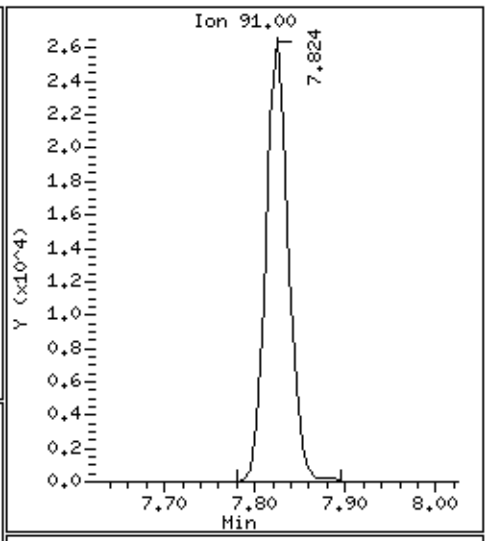
Column phase: RTX-624

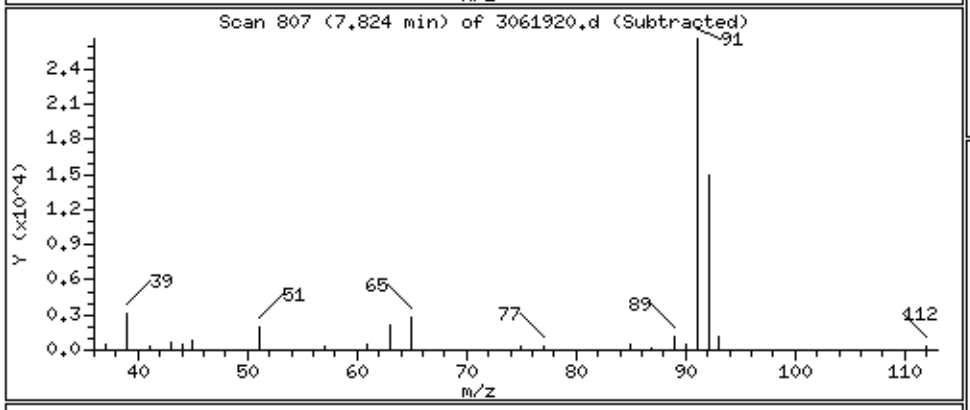
Column diameter: 0.25

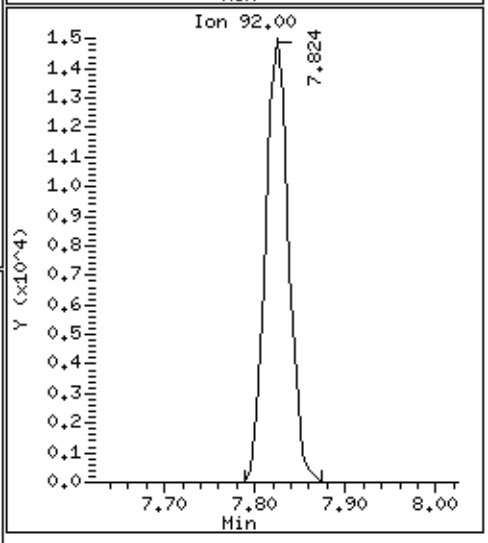
137 Toluene

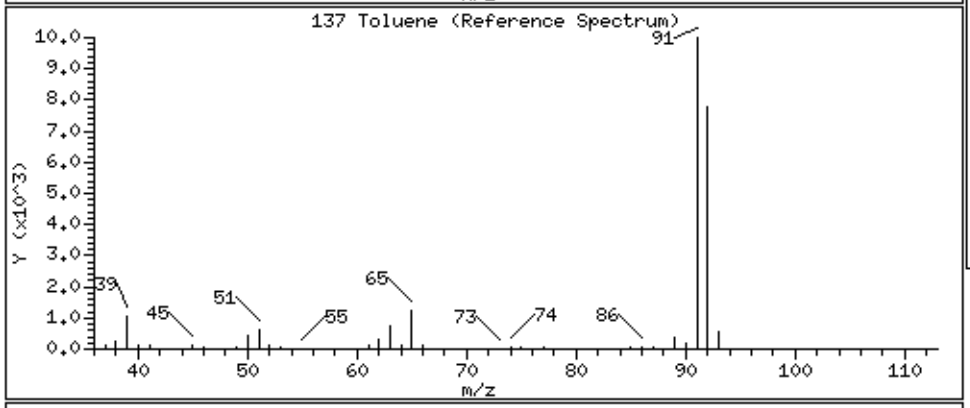
Concentration: 9.919 PPBV

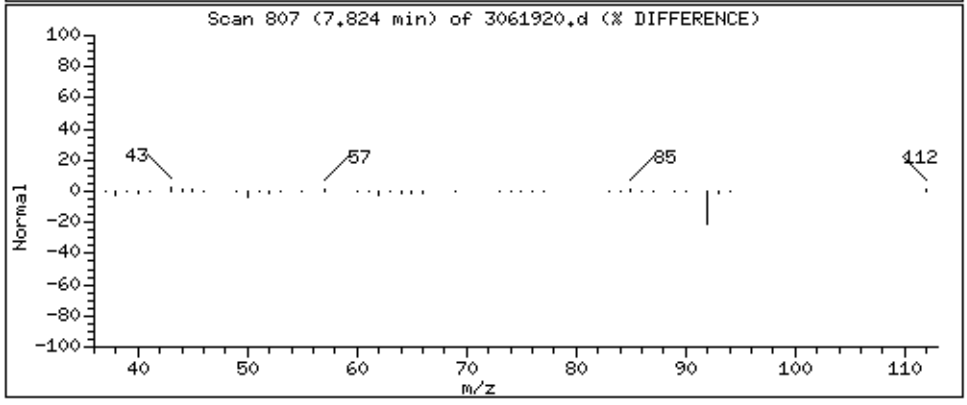


Data File: /chem/msd3.i/19JUN24.b/3061920.d

Date : 20-JUN-2024 00:06

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4702

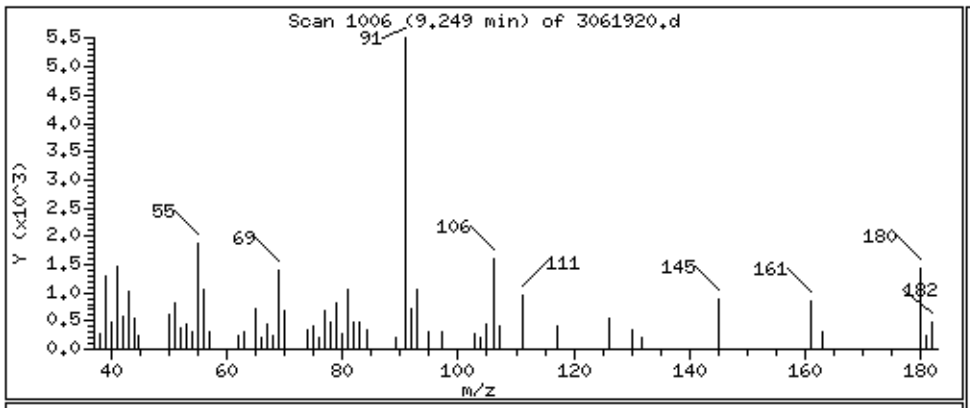
Operator: ACE

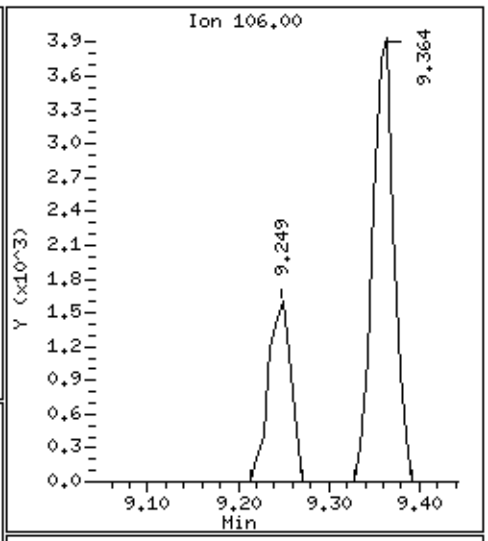
Column phase: RTX-624

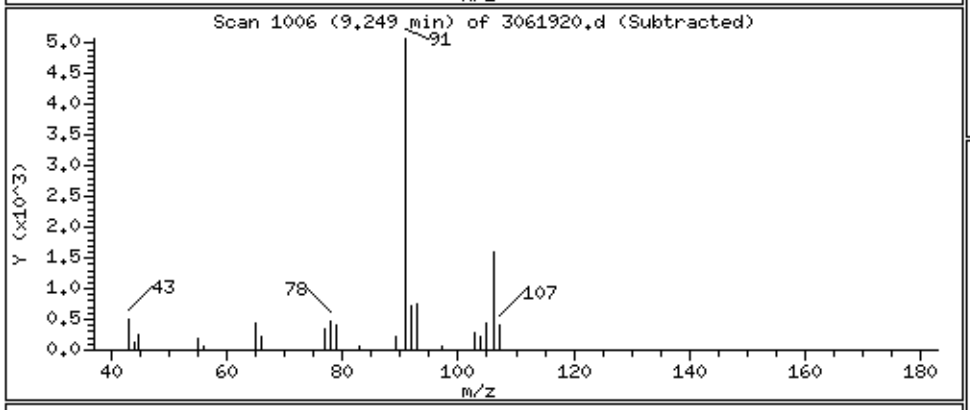
Column diameter: 0.25

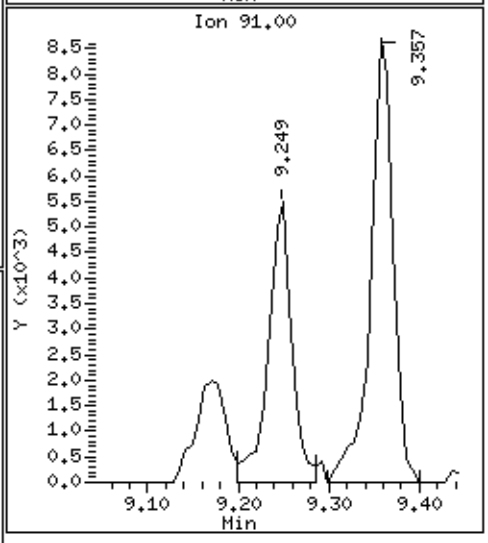
155 Ethyl Benzene

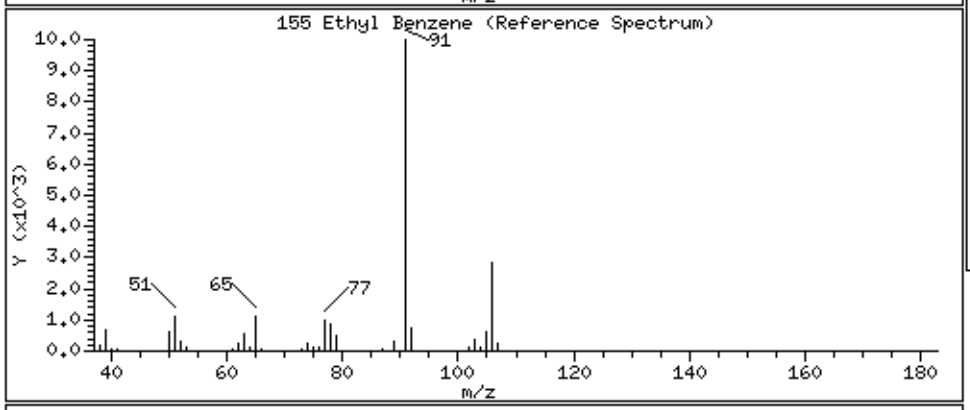
Concentration: 1.382 PPBV

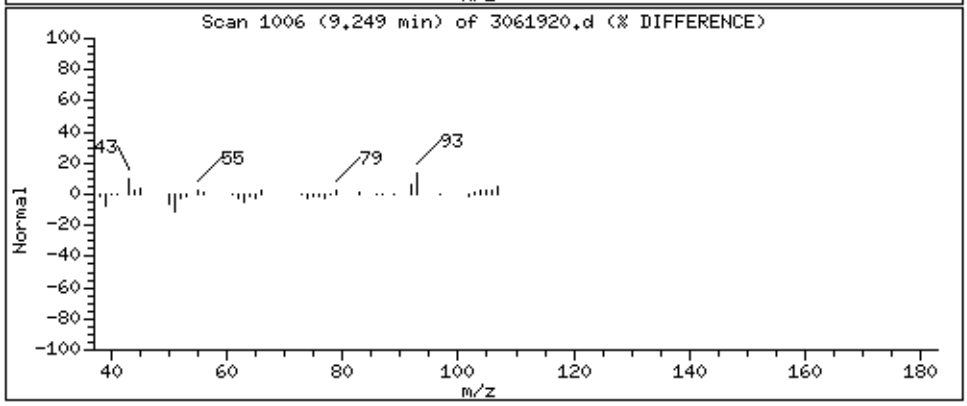


Data File: /chem/msd3.i/19JUN24.b/3061920.d

Date : 20-JUN-2024 00:06

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4702

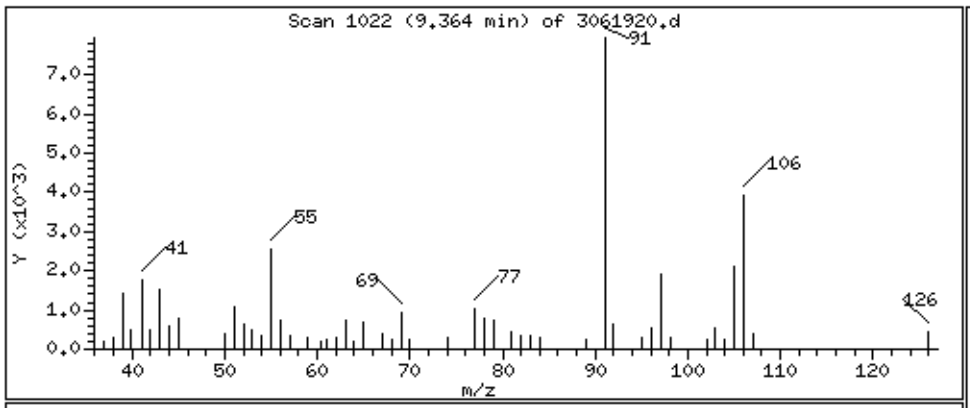
Operator: ACE

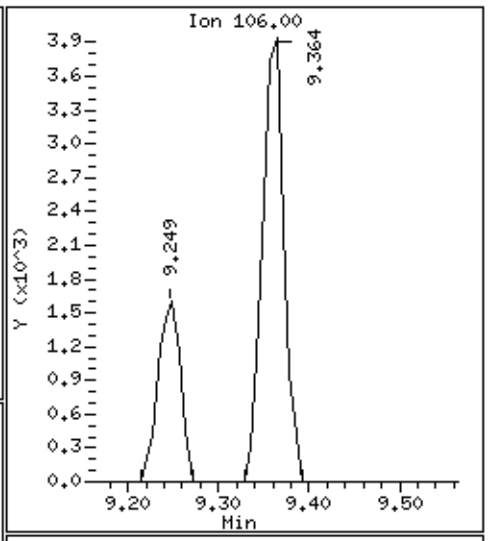
Column phase: RTX-624

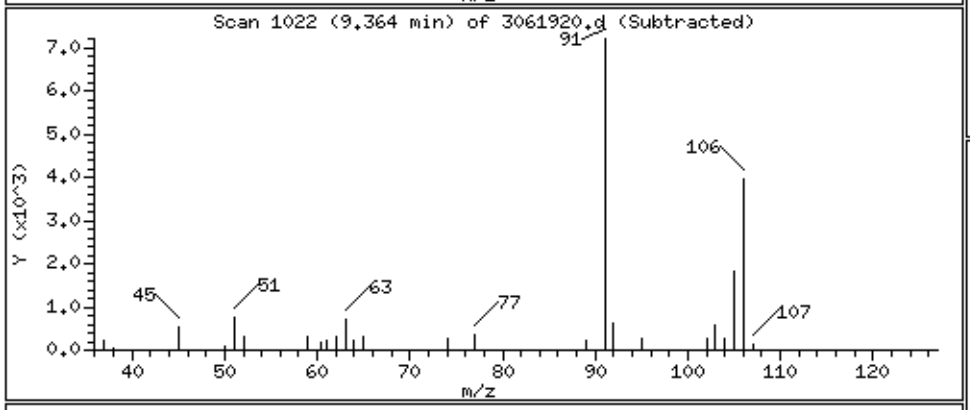
Column diameter: 0.25

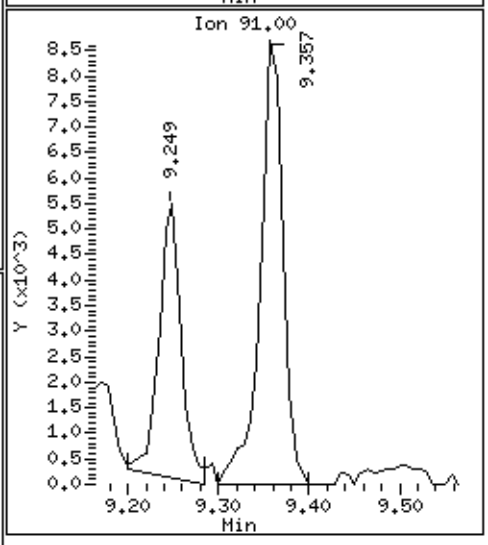
158 m,p-Xylene

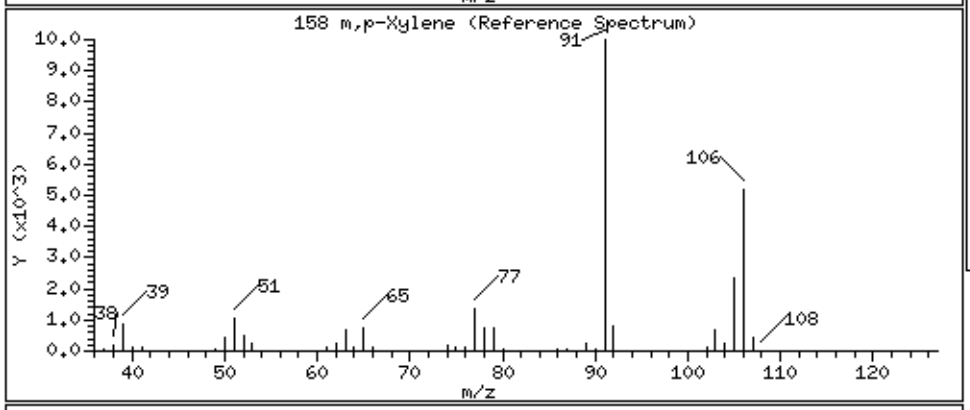
Concentration: 2.612 PPBV

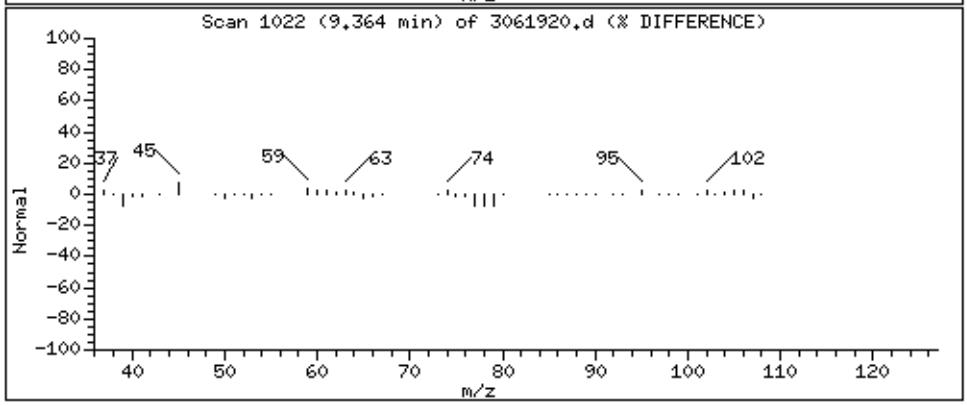


Data File: /chem/msd3.i/19JUN24.b/3061920.d

Date : 20-JUN-2024 00:06

Client ID:

Instrument: msd3.i

Sample Info: 200mL 1L4702

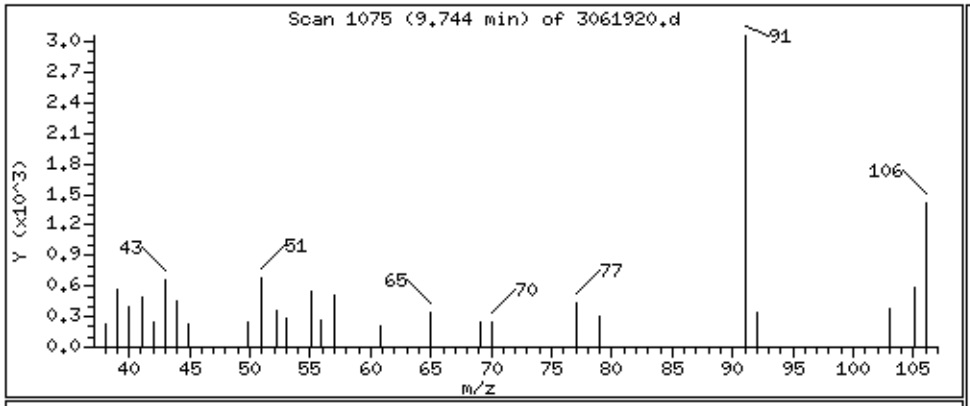
Operator: ACE

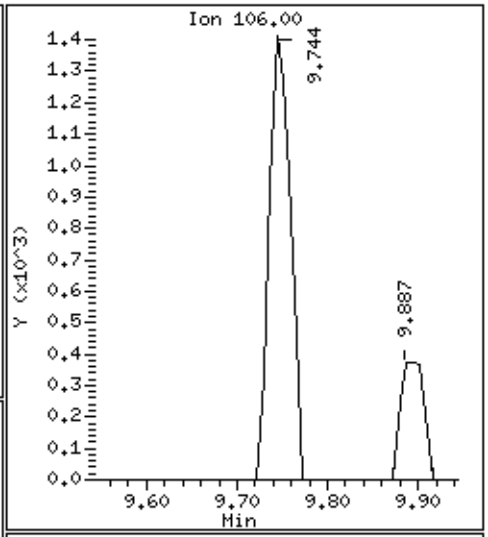
Column phase: RTX-624

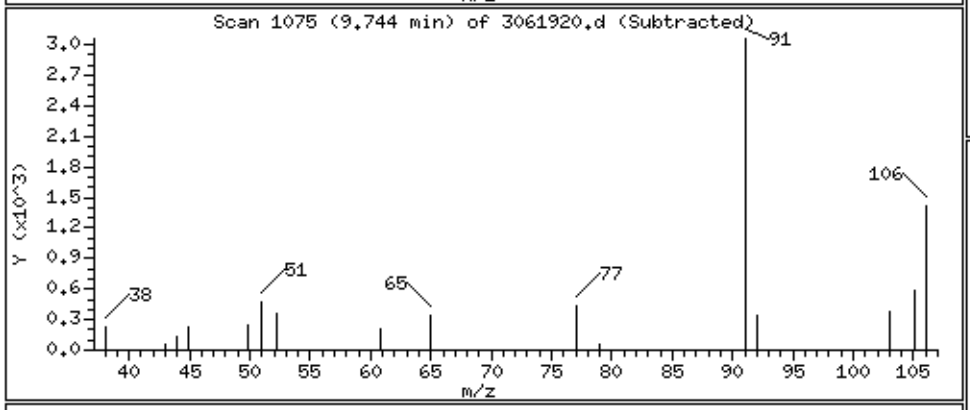
Column diameter: 0.25

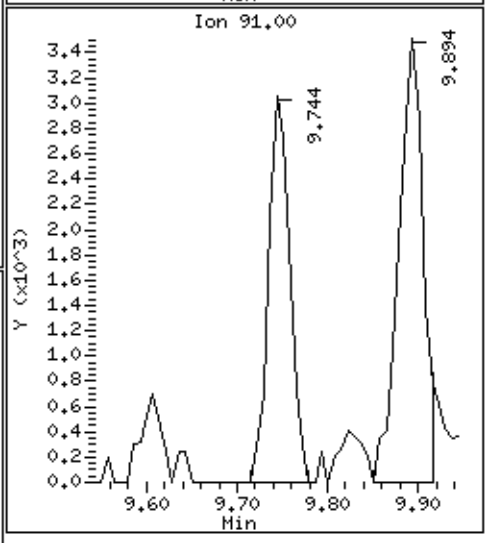
164 o-Xylene

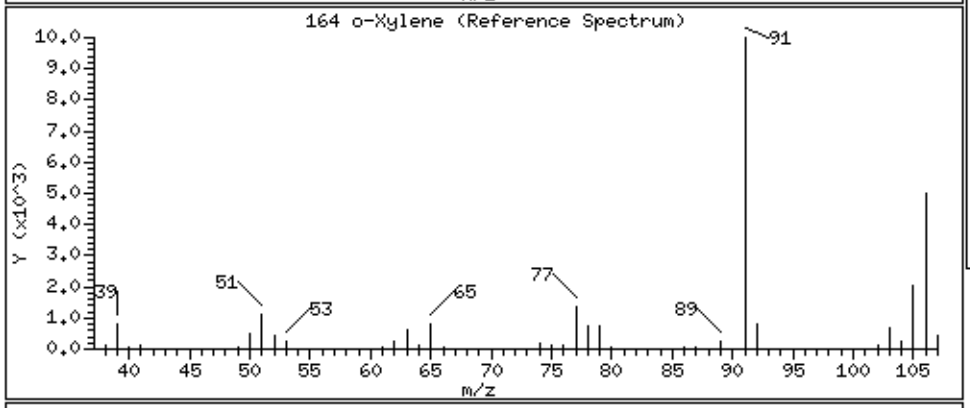
Concentration: 0.9723 PPBV

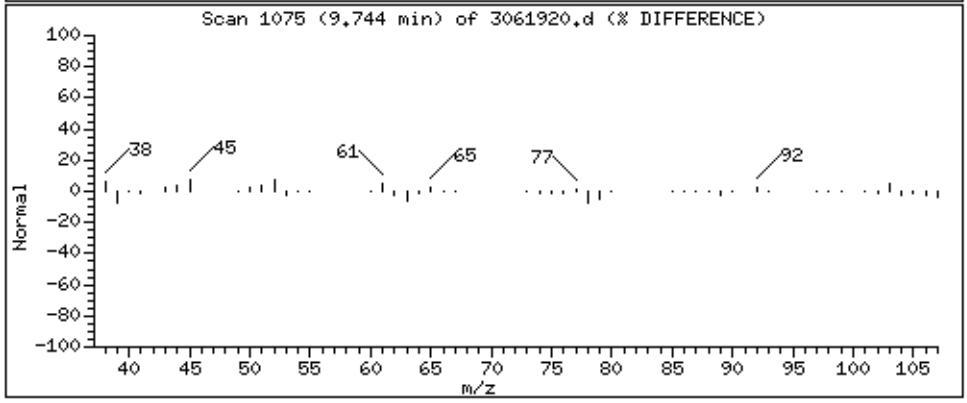


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV031_JUN24 | | |
| **Lab ID:** | 2406264R2-08A | **Date/Time Analyzed:** | 6/20/24 12:41 AM |
| **Date/Time Collected:** | 6/3/24 04:01 PM | **Dilution Factor:** | 3.25 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061921 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 3.3 | 5.8 | 6.4 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 3.3 | 8.8 | 9.8 | Not Detected U |
| Benzene | 71-43-2 | 1.2 | 4.7 | 5.2 | 14 |
| cis-1,2-Dichloroethene | 156-59-2 | 1.4 | 5.8 | 6.4 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.7 | 6.4 | 7.0 | 3.6 J |
| m,p-Xylene | 108-38-3 | 1.0 | 6.4 | 14 | 8.9 J |
| o-Xylene | 95-47-6 | 1.7 | 6.4 | 7.0 | 3.8 J |
| Toluene | 108-88-3 | 1.5 | 5.5 | 12 | 32 |
| trans-1,2-Dichloroethene | 156-60-5 | 3.0 | 5.8 | 6.4 | Not Detected U |
| Trichloroethene | 79-01-6 | 2.6 | 7.8 | 8.7 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 3.5 | 3.7 | 4.2 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 102 |
| Toluene-d8 | 2037-26-5 | 70-130 | 96 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061921.d
Lab Smp Id: 2406264-08A
Inj Date : 20-JUN-2024 00:41
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N7487
Misc Info : 14.5 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 4
Dil Factor: 3.25000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.432 (1.000) | 130 | 96082 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.432 (1.000) | 128 | 73652 | | | 47.79- 107.79 | 76.66 |
| 5.432 | 5.432 (1.000) | 49 | 143267 | | | 131.33- 191.33 | 149.11 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.019 (1.108) | 65 | 113914 | 22.7622 | 22.762 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.108) | 67 | 60198 | | | 23.17- 83.17 | 52.85 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 9529 | 1.36764 | 4.445 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.990 (0.934) | 77 | 2736 | | | 0.00- 53.69 | 28.71 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 346059 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 49350 | | | 0.00- 45.65 | 14.26 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 322732 | 23.9896 | 23.990 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 35554 | | | 0.00- 41.42 | 11.02 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 218346 | | | 37.54- 97.54 | 67.66 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 24887 | 2.58024 | 8.386 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 14356 | | | 27.89- 87.89 | 57.68 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 356539 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 176942 | | | 22.92- 82.92 | 49.63 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 1055 | 0.25390 | 0.8252 | 80.00- 120.00 | 100.00(a) |
| 9.249 | 9.242 (1.011) | 91 | 2730 | | | 281.09- 341.09 | 258.77 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 3252 | 0.62792 | 2.041 | 80.00- 120.00 | 100.00(a) |
| 9.357 | 9.364 (1.023) | 91 | 6582 | | | 170.33- 230.33 | 202.40 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 1327 | 0.27020 | 0.8782 | 80.00- 120.00 | 100.00(a) |
| 9.751 | 9.744 (1.066) | 91 | 2655 | | | 181.23- 241.23 | 200.08 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 270778 | 25.5553 | 25.555 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 298652 | | | 88.49- 148.49 | 110.29 |
| 10.288 | 10.288 (1.124) | 176 | 263602 | | | 66.73- 126.73 | 97.35 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061921.d
Lab Smp Id: 2406264-08A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 14.5 Hg->10 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 96082 | 6.75 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 346059 | 5.58 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 356539 | 9.69 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:37

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-08A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 14.5 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.762 | 91.05 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 23.990 | 95.96 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.555 | 102.22 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061921.d



Date : 20-JUN-2024 00:41

Client ID:

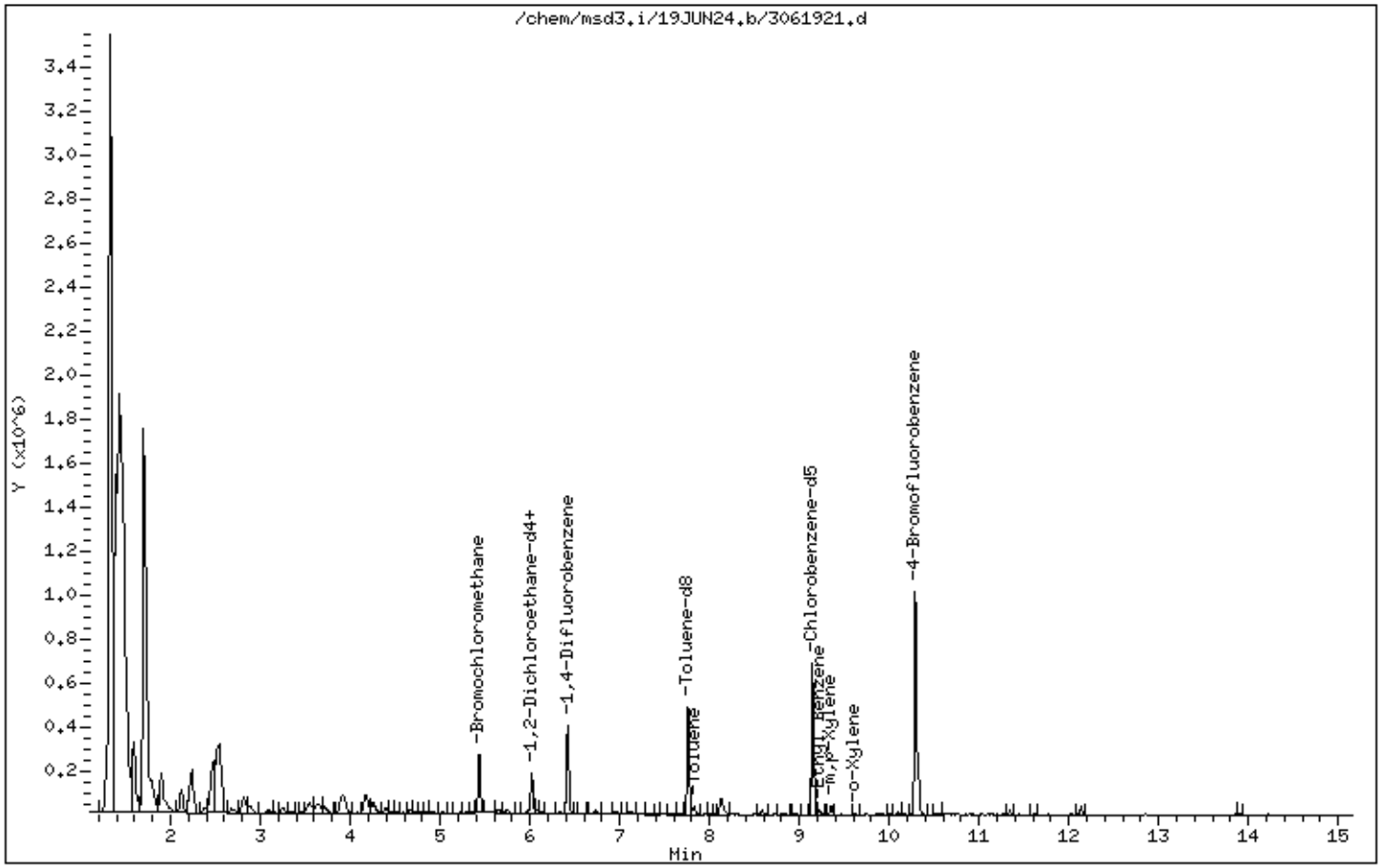
Instrument: msd3.i

Sample Info: 200mL N7487

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061921.d

Date : 20-JUN-2024 00:41

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7487

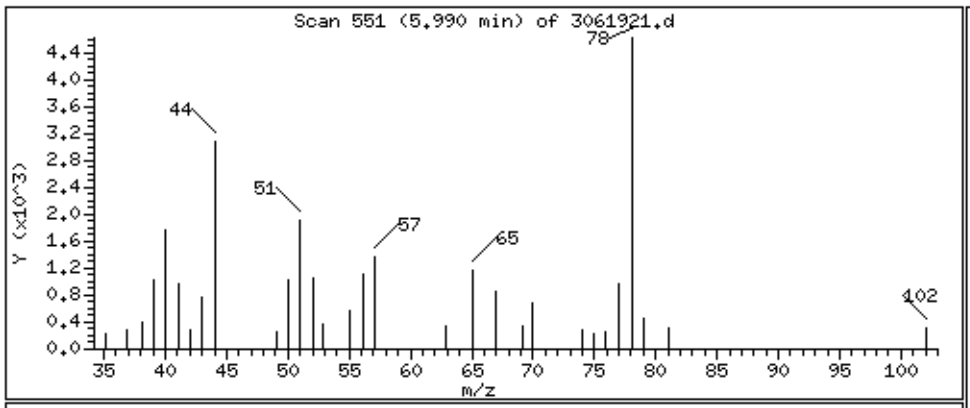
Operator: ACE

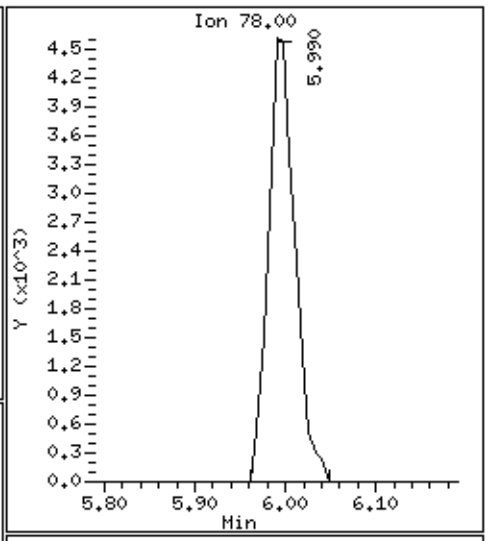
Column phase: RTX-624

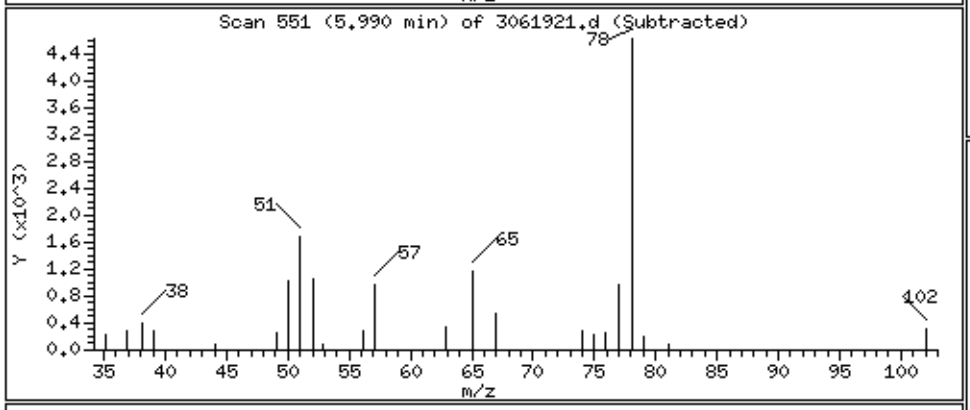
Column diameter: 0.25

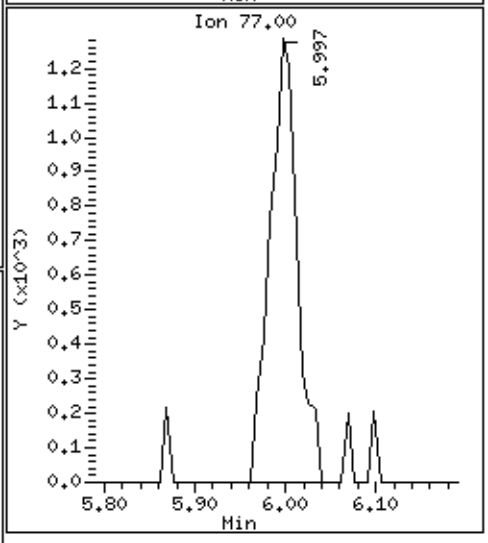
102 Benzene

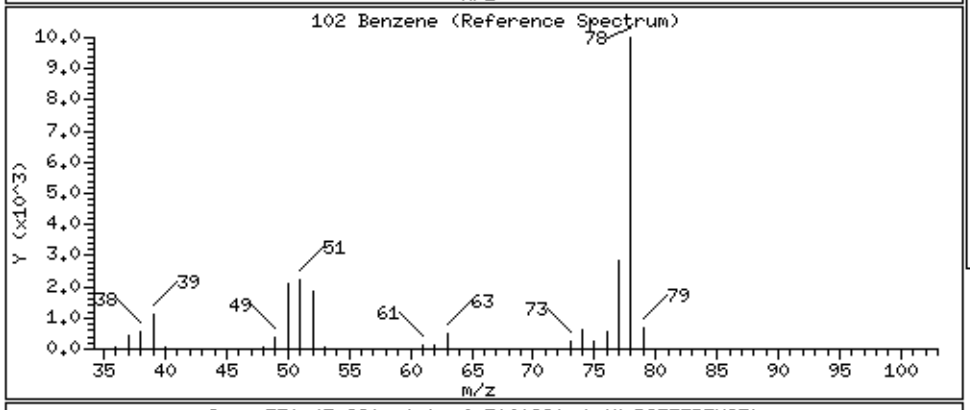
Concentration: 4.445 PPBV

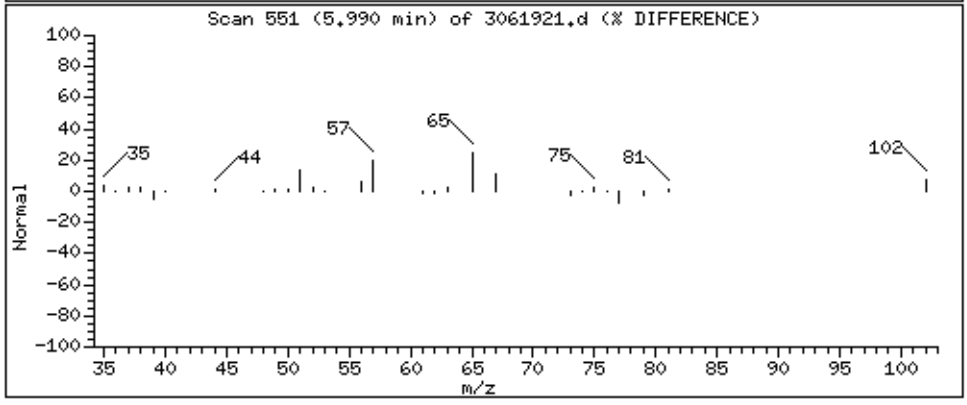


Data File: /chem/msd3.i/19JUN24.b/3061921.d

Date : 20-JUN-2024 00:41

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7487

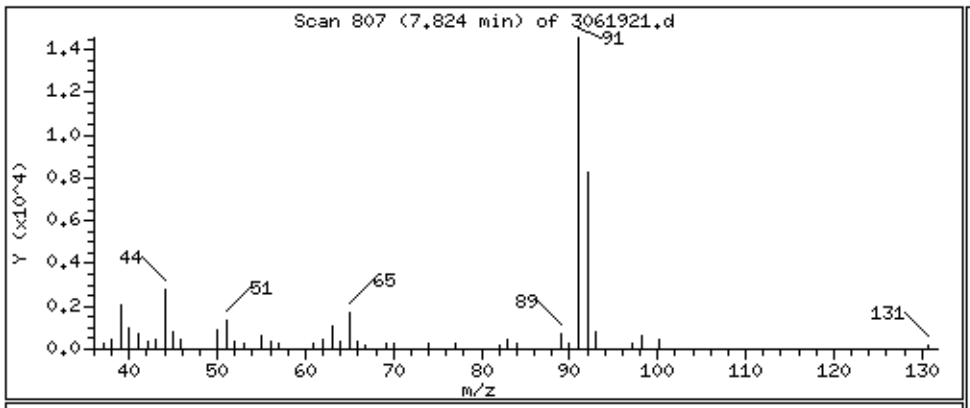
Operator: ACE

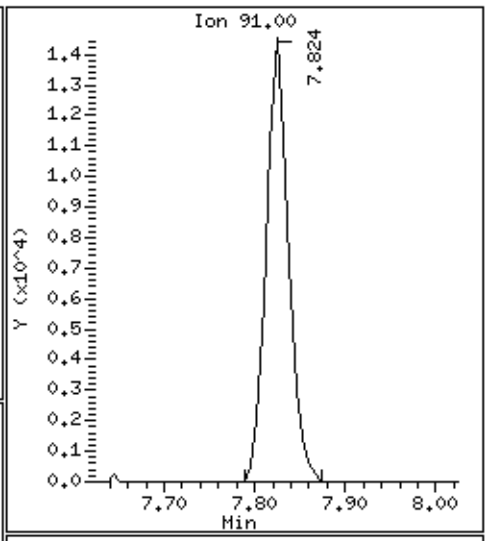
Column phase: RTX-624

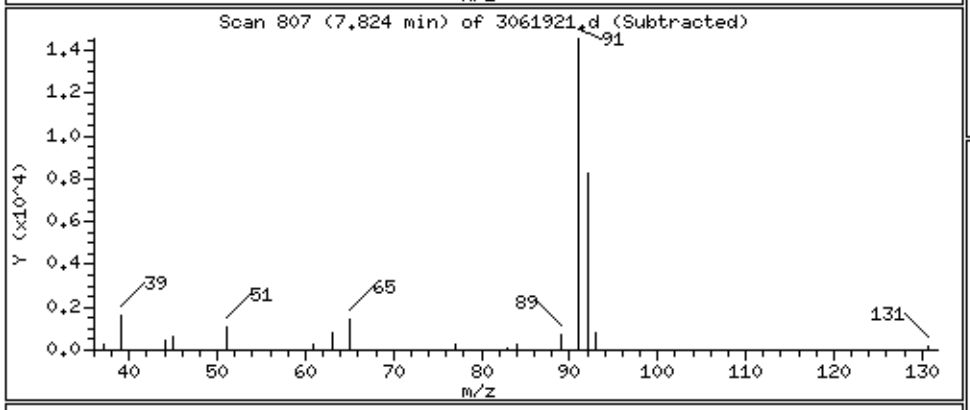
Column diameter: 0.25

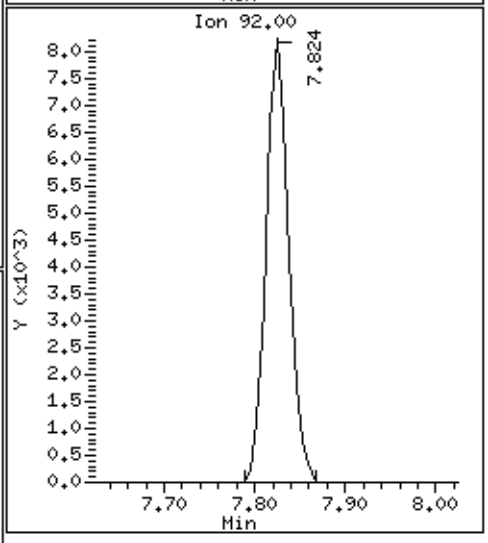
137 Toluene

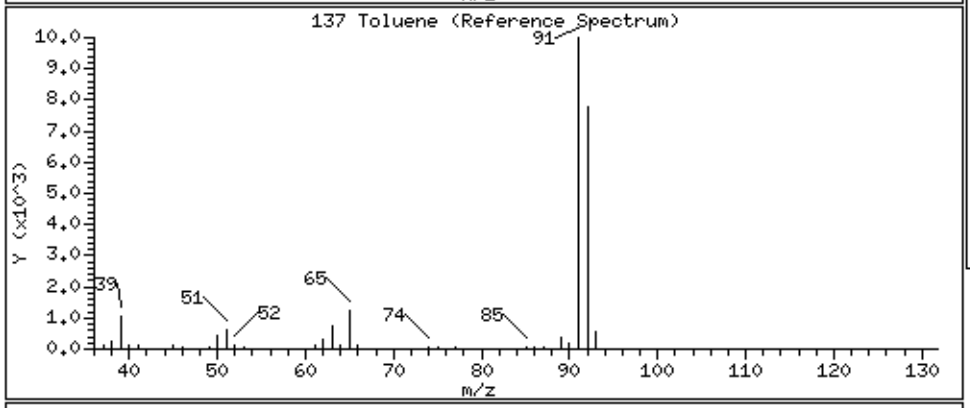
Concentration: 8.386 PPBV

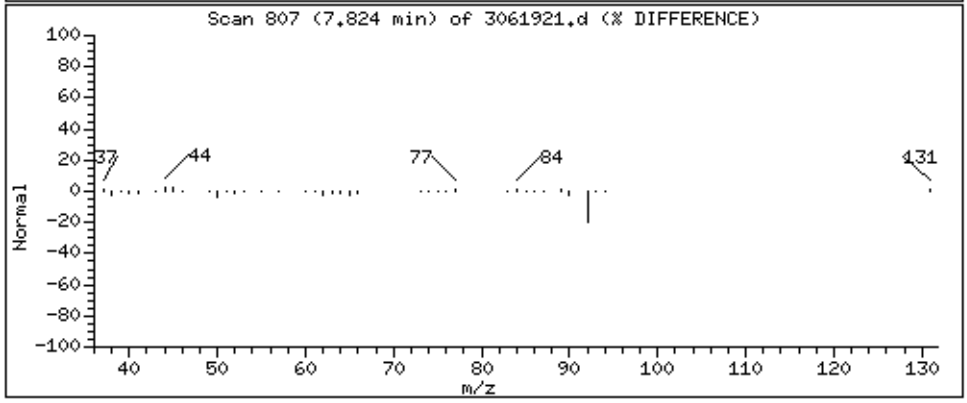


Data File: /chem/msd3.i/19JUN24.b/3061921.d

Date : 20-JUN-2024 00:41

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7487

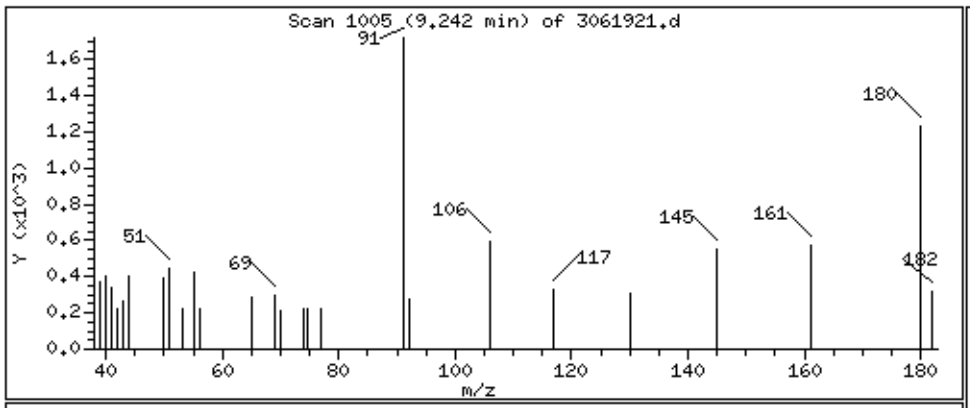
Operator: ACE

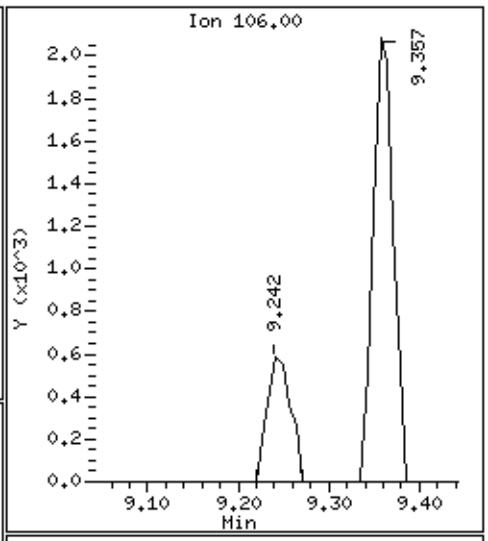
Column phase: RTX-624

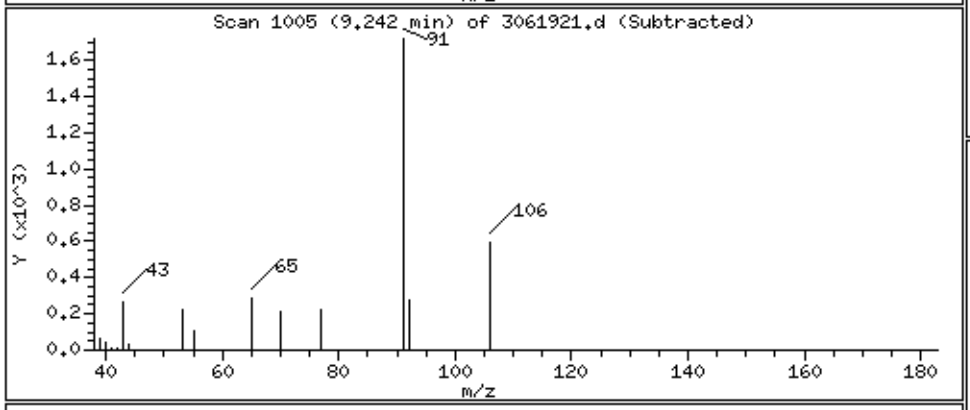
Column diameter: 0.25

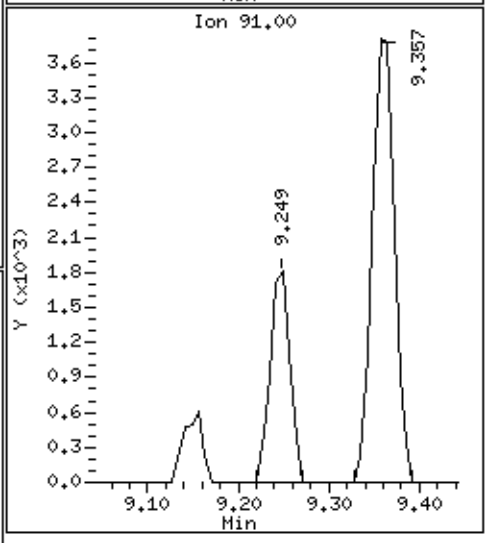
155 Ethyl Benzene

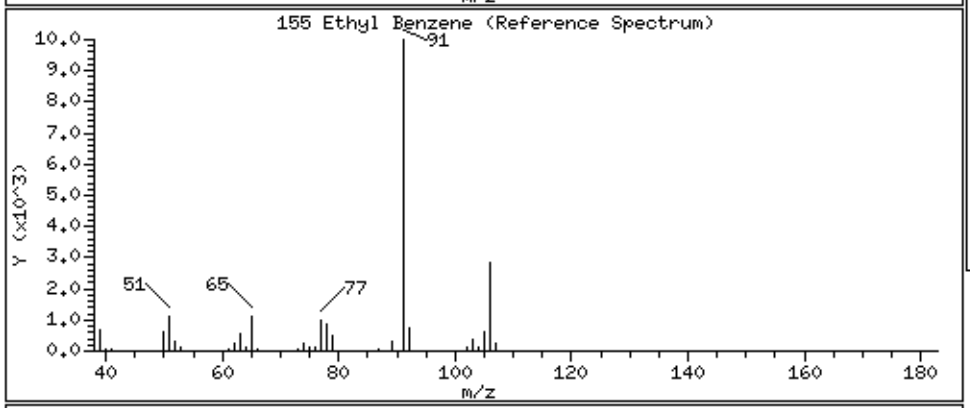
Concentration: 0.8252 PPBV

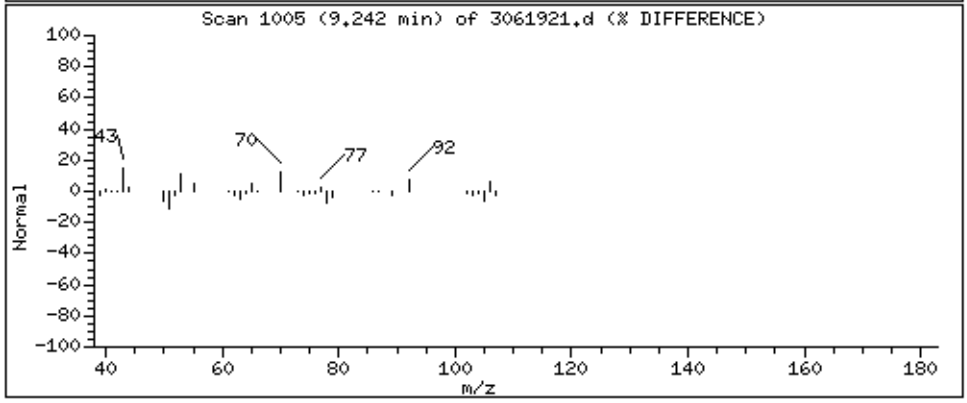


Data File: /chem/msd3.i/19JUN24.b/3061921.d

Date : 20-JUN-2024 00:41

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7487

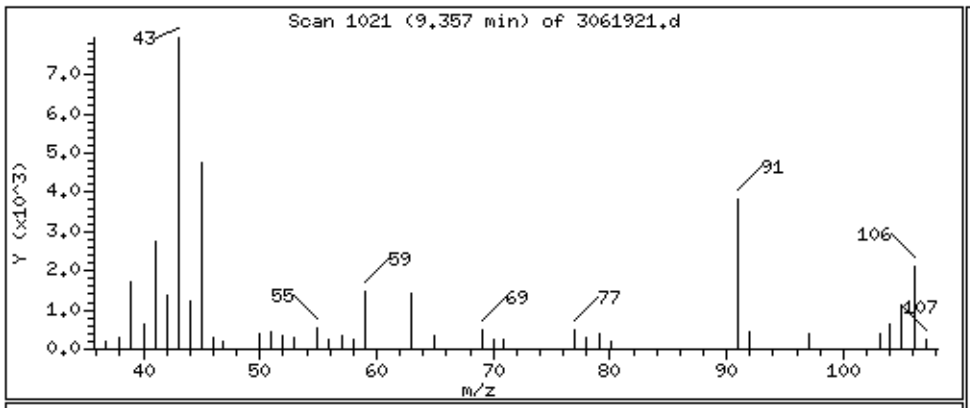
Operator: ACE

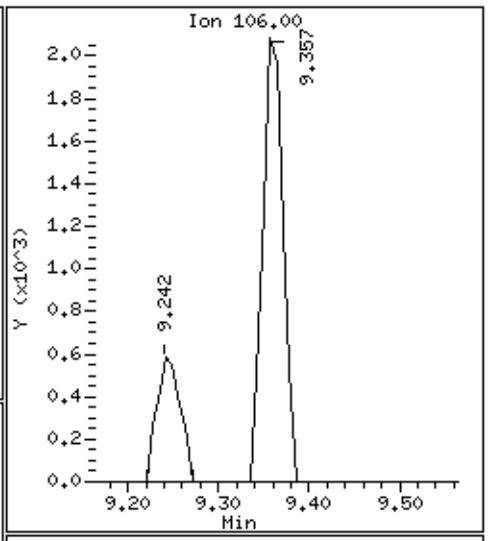
Column phase: RTX-624

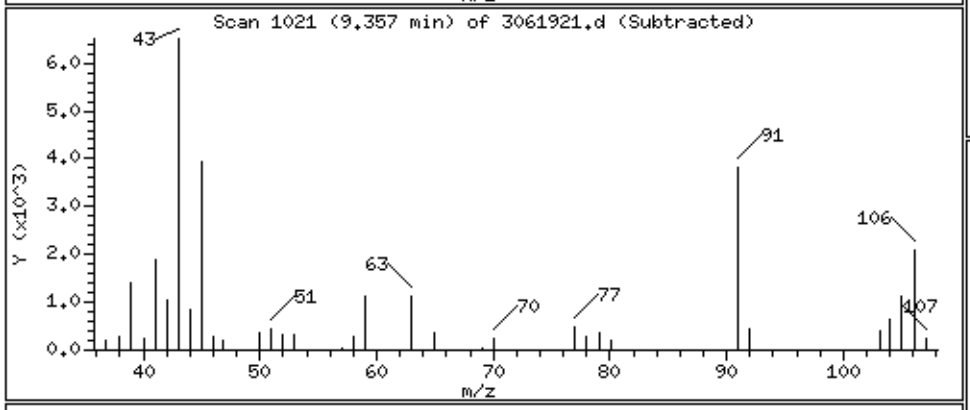
Column diameter: 0.25

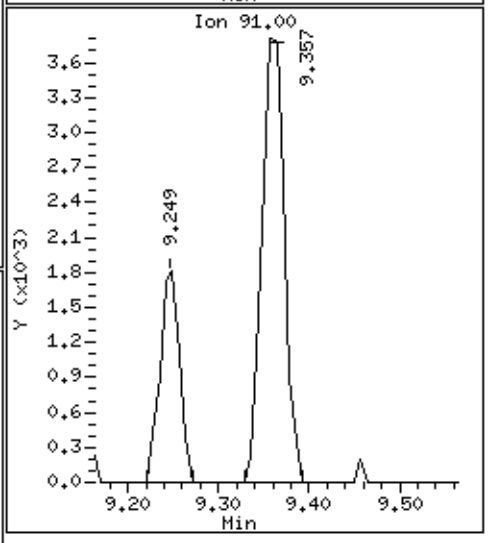
158 m,p-Xylene

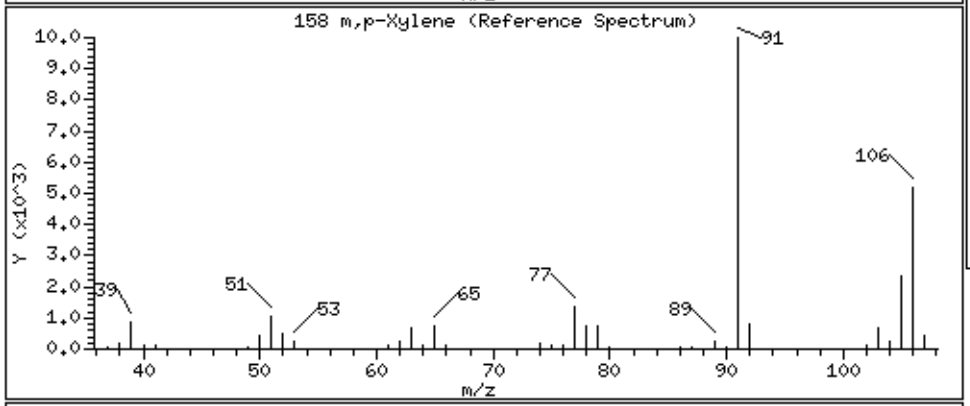
Concentration: 2.041 PPBV

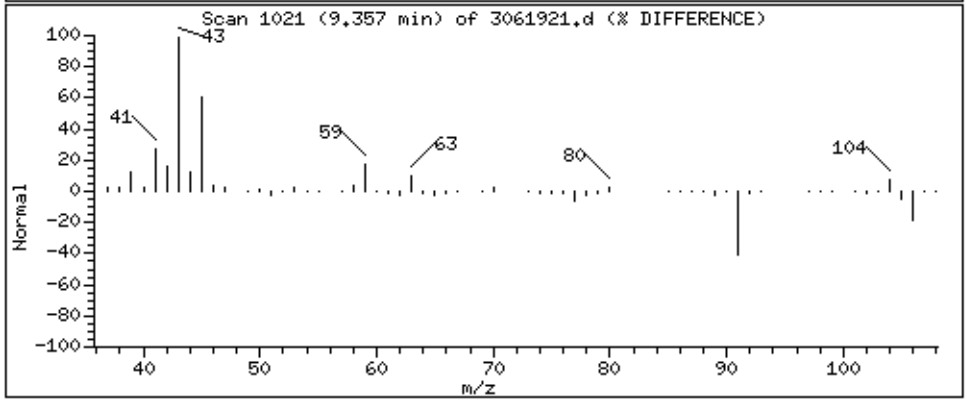


Data File: /chem/msd3.i/19JUN24.b/3061921.d

Date : 20-JUN-2024 00:41

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7487

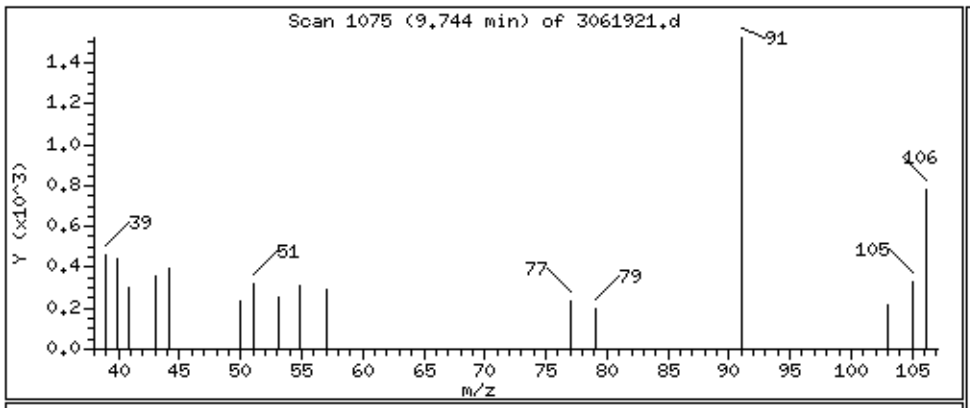
Operator: ACE

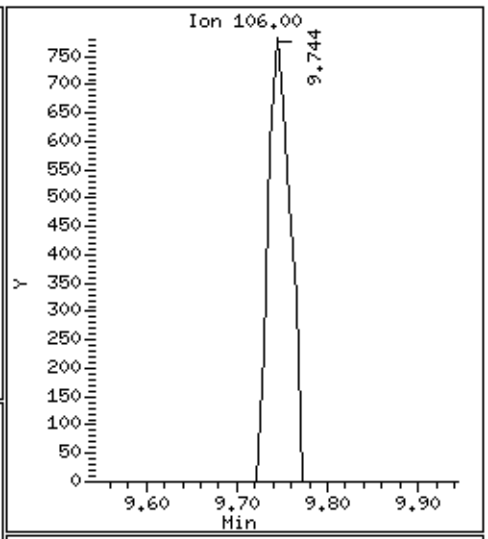
Column phase: RTX-624

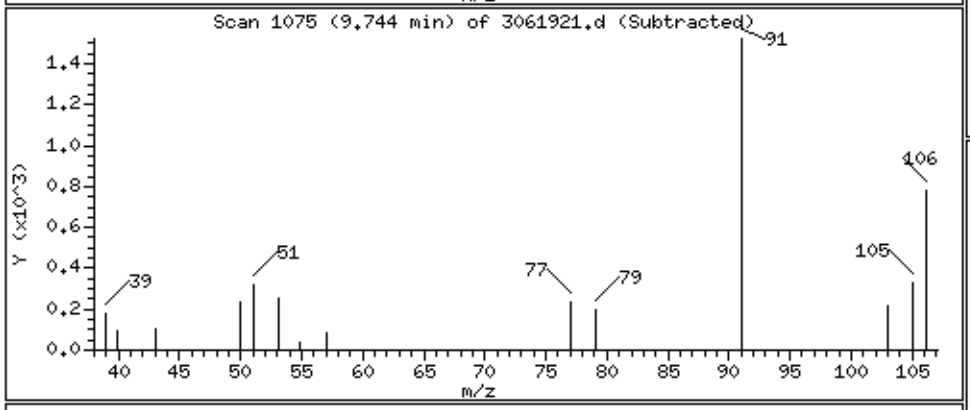
Column diameter: 0.25

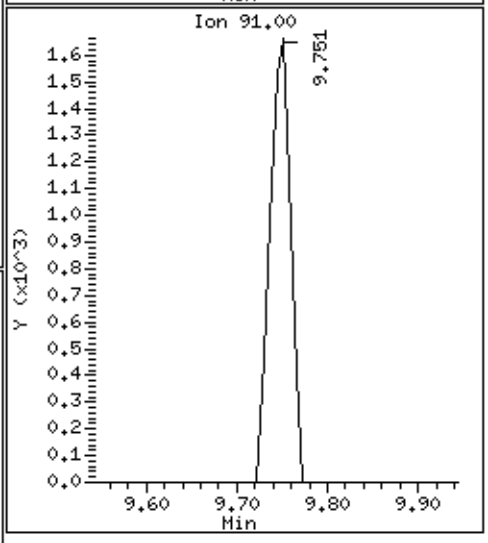
164 o-Xylene

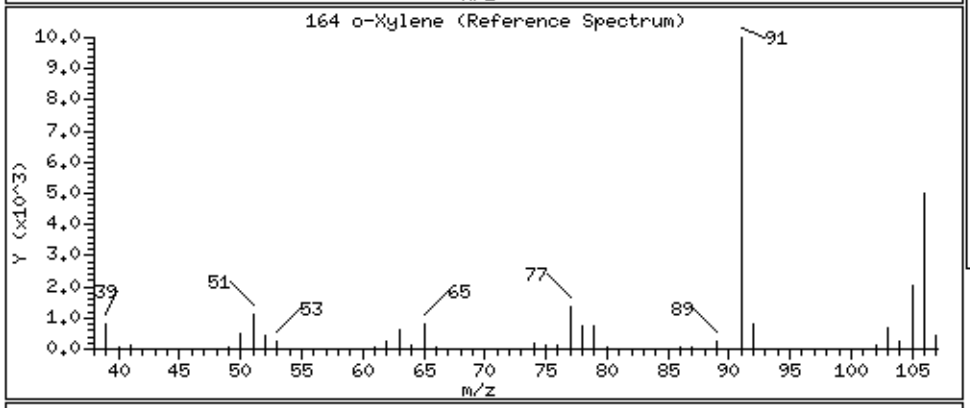
Concentration: 0.8782 PPBV

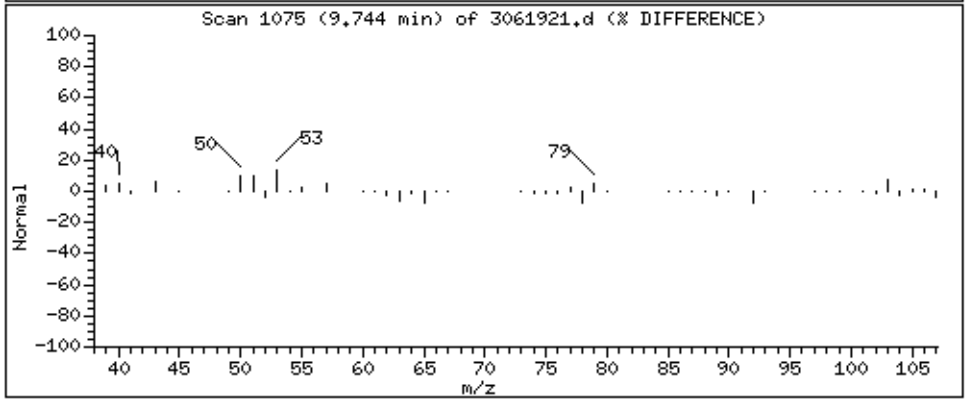


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV009B_JUN24 | | |
| **Lab ID:** | 2406264R2-09A | **Date/Time Analyzed:** | 6/20/24 01:16 AM |
| **Date/Time Collected:** | 6/6/24 12:19 PM | **Dilution Factor:** | 2.29 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061922 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.4 | 4.1 | 4.5 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.3 | 6.2 | 6.9 | Not Detected U |
| Benzene | 71-43-2 | 0.86 | 3.3 | 3.6 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.99 | 4.1 | 4.5 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.5 | 5.0 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.71 | 4.5 | 9.9 | Not Detected U |
| o-Xylene | 95-47-6 | 1.2 | 4.5 | 5.0 | Not Detected U |
| Toluene | 108-88-3 | 1.1 | 3.9 | 8.6 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 2.1 | 4.1 | 4.5 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.8 | 5.5 | 6.2 | 11 |
| Vinyl Chloride | 75-01-4 | 2.4 | 2.6 | 2.9 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 89 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 101 |
| Toluene-d8 | 2037-26-5 | 70-130 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061922.d
Lab Smp Id: 2406264-09A
Inj Date : 20-JUN-2024 01:16
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N8065
Misc Info : 8 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 5
Dil Factor: 2.29000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.432 (1.000) | 130 | 93975 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.432 (1.000) | 128 | 72490 | | | 47.79- 107.79 | 77.14 |
| 5.432 | 5.432 (1.000) | 49 | 139671 | | | 131.33- 191.33 | 148.63 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.019 (1.108) | 65 | 108986 | 22.2658 | 22.266 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.108) | 67 | 56463 | | | 23.17- 83.17 | 51.81 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 333172 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 49057 | | | 0.00- 45.65 | 14.72 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.628 (1.033) | 95 | 2910 | 0.89973 | 2.060 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 3077 | | | 80.23- 140.23 | 105.74 |
| 6.621 | 6.628 (1.031) | 97 | 1977 | | | 34.78- 94.78 | 67.94 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 317123 | 24.4844 | 24.484 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.767 | 7.760 (1.210) | 70 | 34458 | | | 0.00- 41.42 | 10.87 |
| 7.767 | 7.760 (1.210) | 100 | 214633 | | | 37.54- 97.54 | 67.68 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 348483 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 172969 | | | 22.92- 82.92 | 49.63 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 262729 | 25.3689 | 25.369 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 286689 | | | 88.49- 148.49 | 109.12 |
| 10.288 | 10.288 (1.124) | 176 | 256581 | | | 66.73- 126.73 | 97.66 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061922.d
Lab Smp Id: 2406264-09A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 8 Hg->10 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 93975 | 4.41 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 333172 | 1.65 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 348483 | 7.21 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:37

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-09A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 8 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.266 | 89.06 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.484 | 97.94 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.369 | 101.48 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061922.d



Date : 20-JUN-2024 01:16

Client ID:

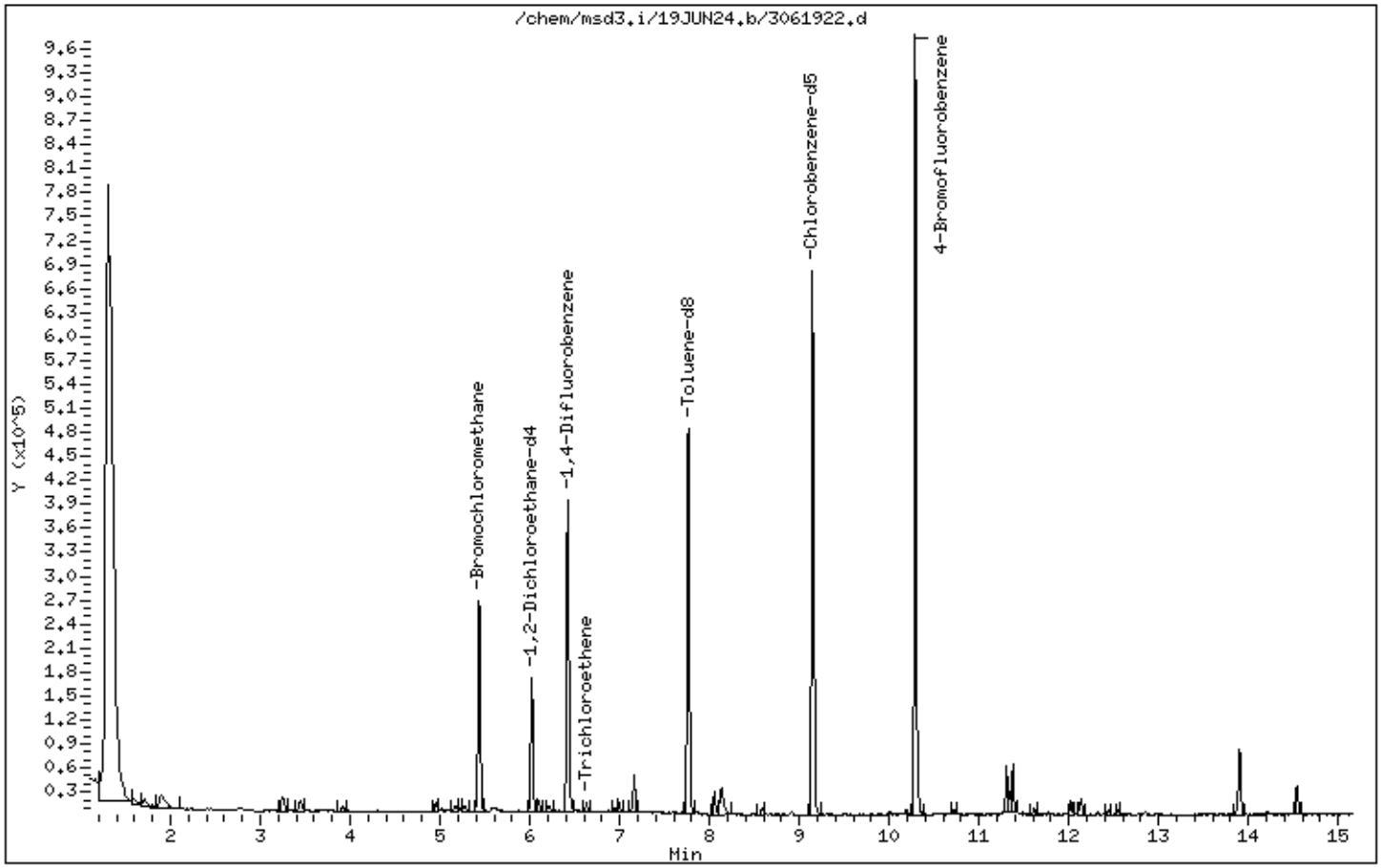
Instrument: msd3.i

Sample Info: 200mL N8065

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061922.d

Date : 20-JUN-2024 01:16

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8065

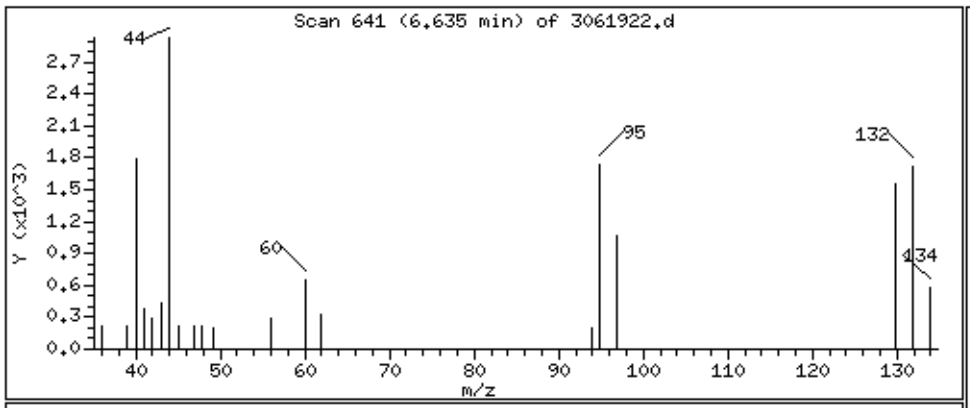
Operator: ACE

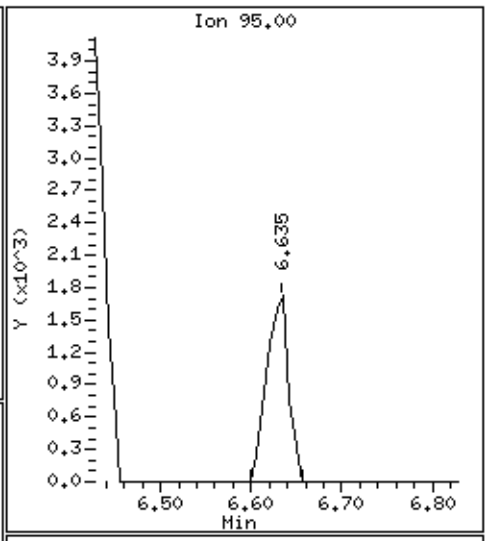
Column phase: RTX-624

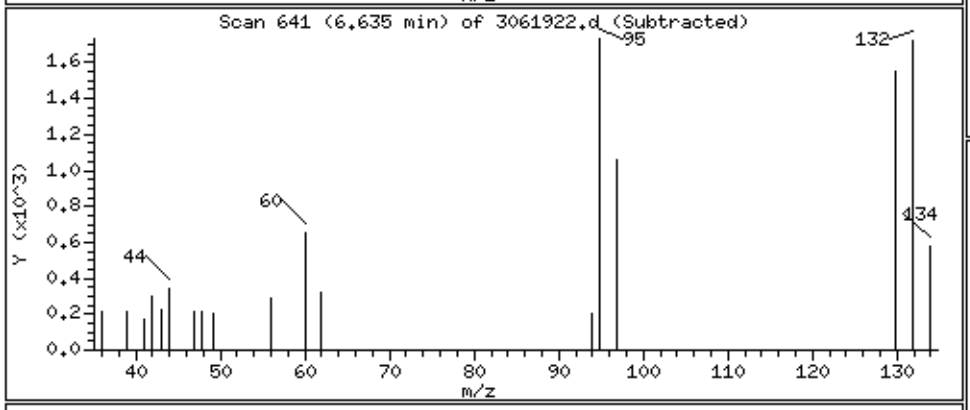
Column diameter: 0.25

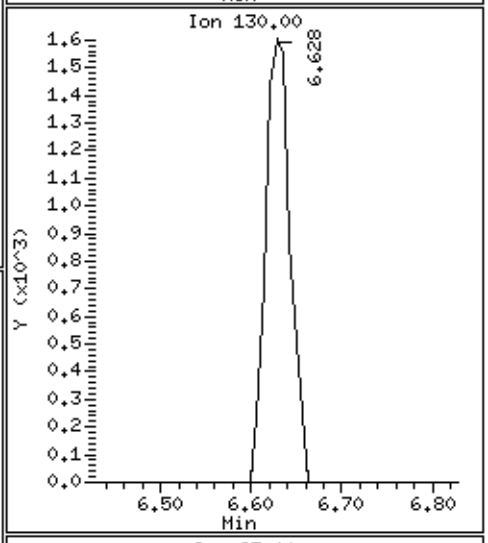
111 Trichloroethene

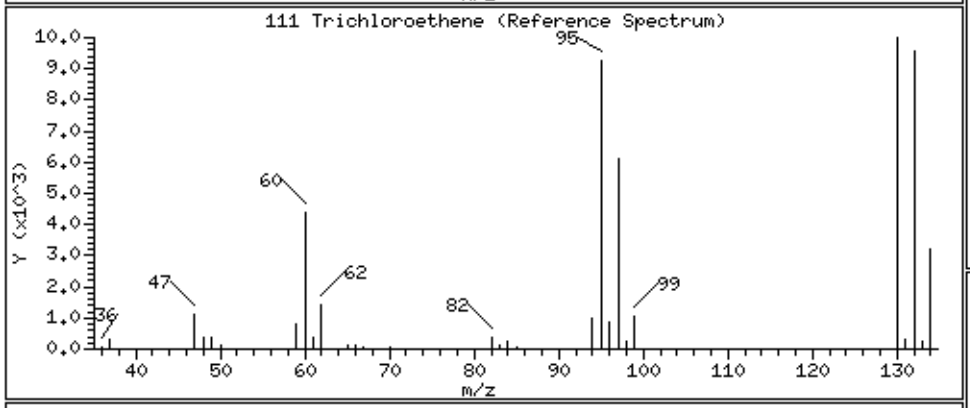
Concentration: 2.060 PPBV

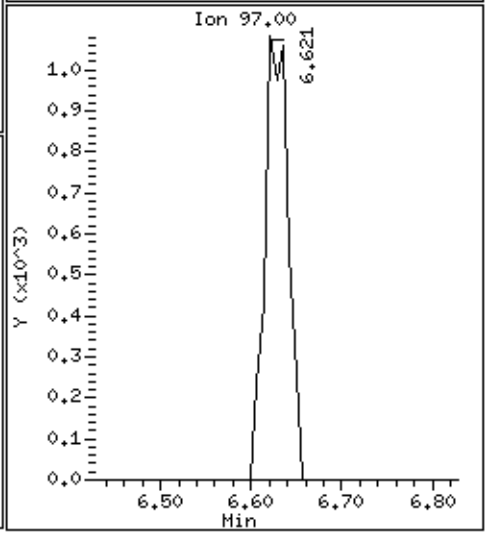


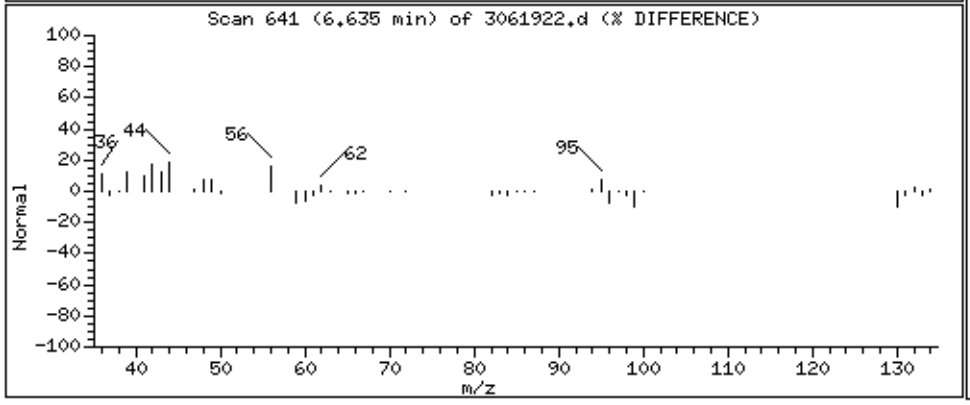



| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV032B_JUN24 | | |
| **Lab ID:** | 2406264R2-10A | **Date/Time Analyzed:** | 6/20/24 01:51 AM |
| **Date/Time Collected:** | 6/6/24 11:09 AM | **Dilution Factor:** | 2.17 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061923 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.2 | 3.9 | 4.3 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.2 | 5.9 | 6.5 | Not Detected U |
| Benzene | 71-43-2 | 0.82 | 3.1 | 3.5 | 8.1 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.94 | 3.9 | 4.3 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.1 | 4.2 | 4.7 | 3.3 J |
| m,p-Xylene | 108-38-3 | 0.68 | 4.2 | 9.4 | 8.0 J |
| o-Xylene | 95-47-6 | 1.1 | 4.2 | 4.7 | 3.2 J |
| Toluene | 108-88-3 | 1.0 | 3.7 | 8.2 | 18 |
| trans-1,2-Dichloroethene | 156-60-5 | 2.0 | 3.9 | 4.3 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.7 | 5.2 | 5.8 | 9.2 |
| Vinyl Chloride | 75-01-4 | 2.3 | 2.5 | 2.8 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 103 |
| Toluene-d8 | 2037-26-5 | 70-130 | 96 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061923.d
Lab Smp Id: 2406264-10A
Inj Date : 20-JUN-2024 01:51
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N7568
Misc Info : 6.9 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 6
Dil Factor: 2.17000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 95475 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 73905 | | | | 47.79- 107.79 | 77.41 |
| 5.432 | 5.432 (1.000) | 49 | 142074 | | | | 131.33- 191.33 | 148.81 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 111866 | 22.4951 | 22.495 | | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 58302 | | | | 23.17- 83.17 | 52.12 |
| 102 Benzene | | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 8072 | 1.16956 | 2.538 | | 80.00- 120.00 | 100.00 |
| 5.998 | 5.990 (0.934) | 77 | 1874 | | | | 0.00- 53.69 | 23.22 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 342793 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 49700 | | | | 0.00- 45.65 | 14.50 |
| 111 Trichloroethene | | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 2619 | 0.78703 | 1.708 | | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 2856 | | | | 80.23- 140.23 | 109.05 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 111 Trichloroethene (continued) | | | | | | | |
| 6.628 | 6.628 (1.032) | 97 | 1775 | | | 34.78- 94.78 | 67.77 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 320820 | 24.0746 | 24.075 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.760 (1.210) | 70 | 35148 | | | 0.00- 41.42 | 10.96 |
| 7.760 | 7.760 (1.209) | 100 | 216618 | | | 37.54- 97.54 | 67.52 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 20780 | 2.17496 | 4.720 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 11778 | | | 27.89- 87.89 | 56.68 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 354043 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 176740 | | | 22.92- 82.92 | 49.92 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.250 | 9.242 (1.011) | 106 | 1441 | 0.34924 | 0.7579 | 80.00- 120.00 | 100.00(a) |
| 9.242 | 9.242 (1.010) | 91 | 3993 | | | 281.09- 341.09 | 277.10 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 4382 | 0.85207 | 1.849 | 80.00- 120.00 | 100.00(a) |
| 9.357 | 9.364 (1.023) | 91 | 9212 | | | 170.33- 230.33 | 210.22 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.744 (1.066) | 106 | 1666 | 0.34162 | 0.7413 | 80.00- 120.00 | 100.00(a) |
| 9.744 | 9.744 (1.065) | 91 | 3923 | | | 181.23- 241.23 | 235.47 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 272021 | 25.8536 | 25.854 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 295832 | | | 88.49- 148.49 | 108.75 |
| 10.288 | 10.288 (1.124) | 176 | 262031 | | | 66.73- 126.73 | 96.33 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061923.d
Lab Smp Id: 2406264-10A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 6.9 Hg->9.9 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 95475 | 6.07 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 342793 | 4.59 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 354043 | 8.92 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:37

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-10A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 6.9 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.495 | 89.98 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.075 | 96.30 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.854 | 103.41 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061923.d



Date : 20-JUN-2024 01:51

Client ID:

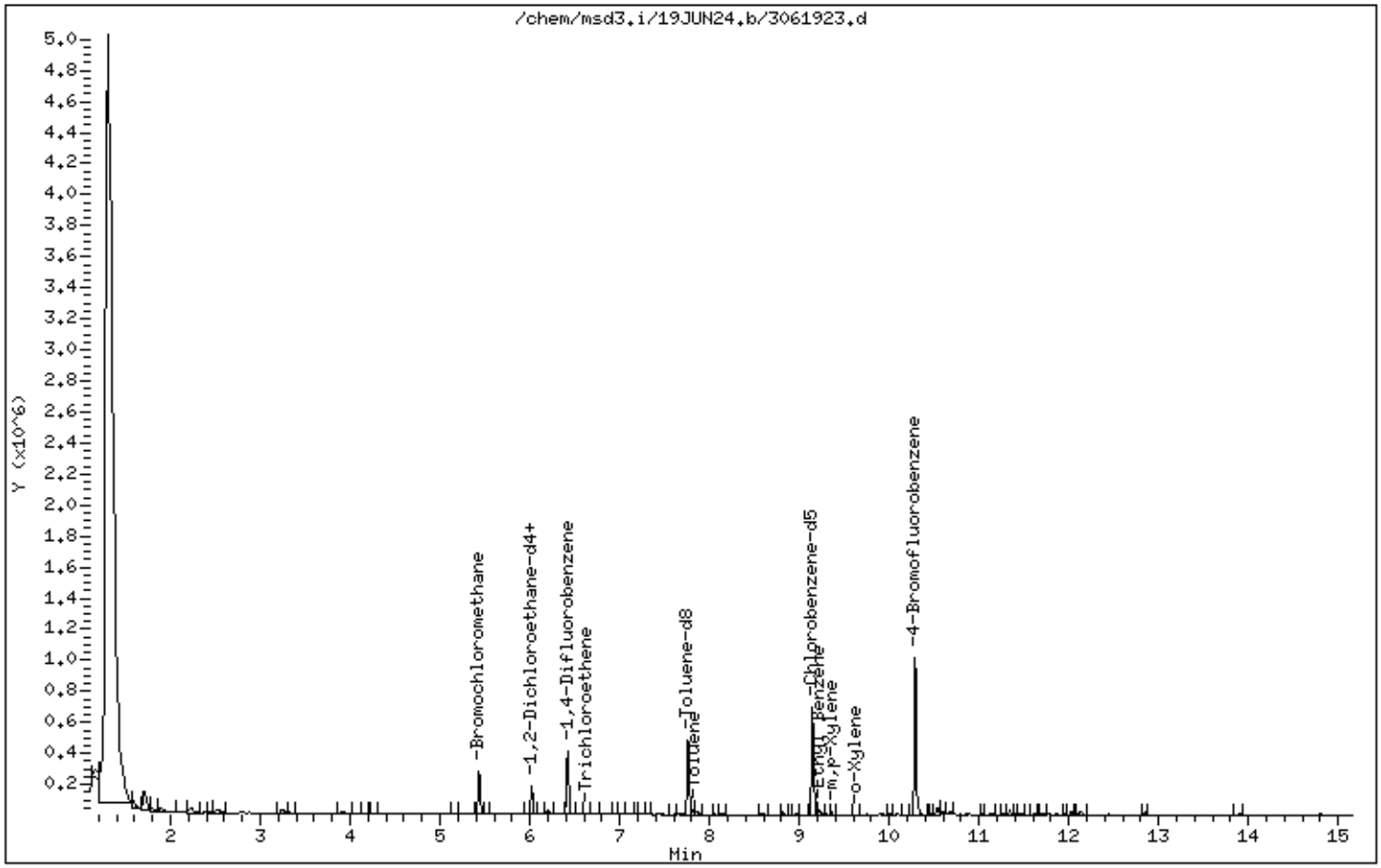
Instrument: msd3.i

Sample Info: 200mL N7568

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061923.d

Date : 20-JUN-2024 01:51

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7568

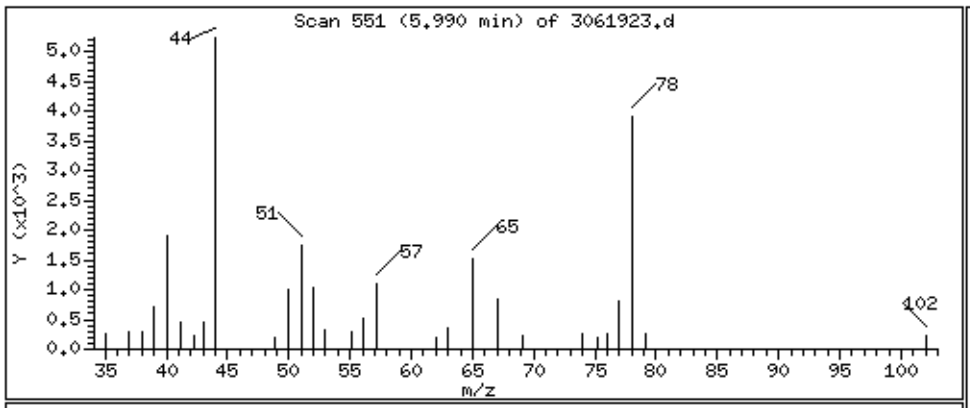
Operator: ACE

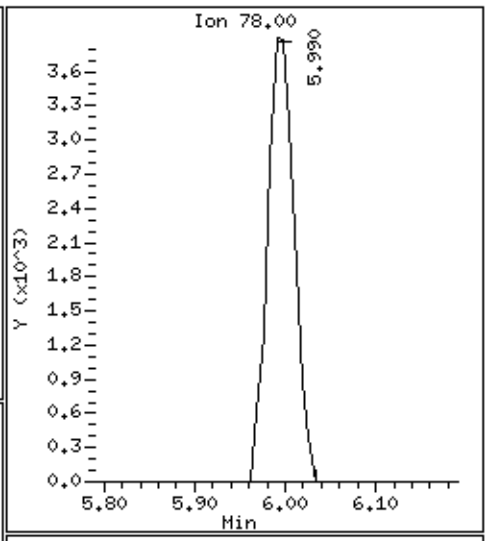
Column phase: RTX-624

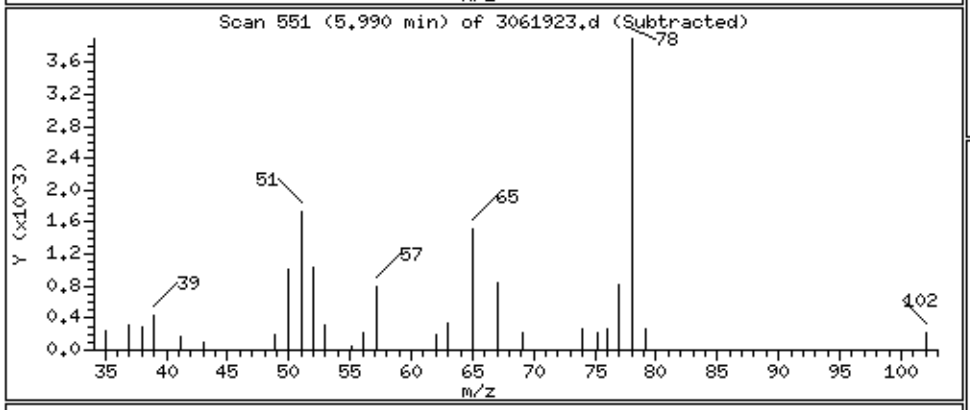
Column diameter: 0.25

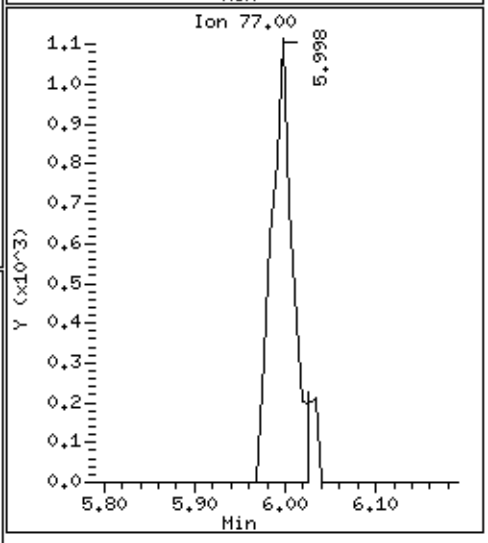
102 Benzene

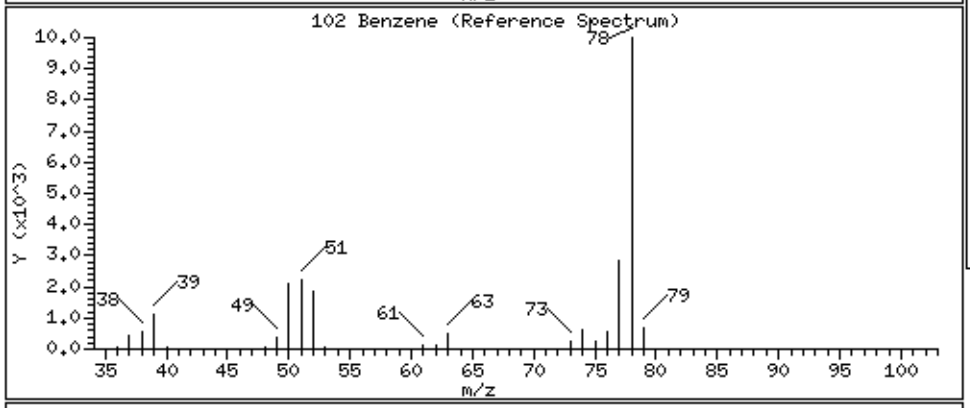
Concentration: 2.538 PPBV

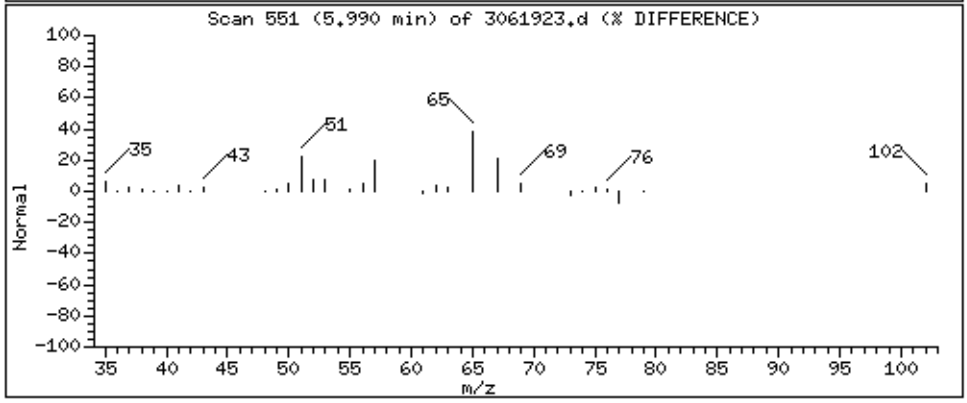


Data File: /chem/msd3.i/19JUN24.b/3061923.d

Date : 20-JUN-2024 01:51

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7568

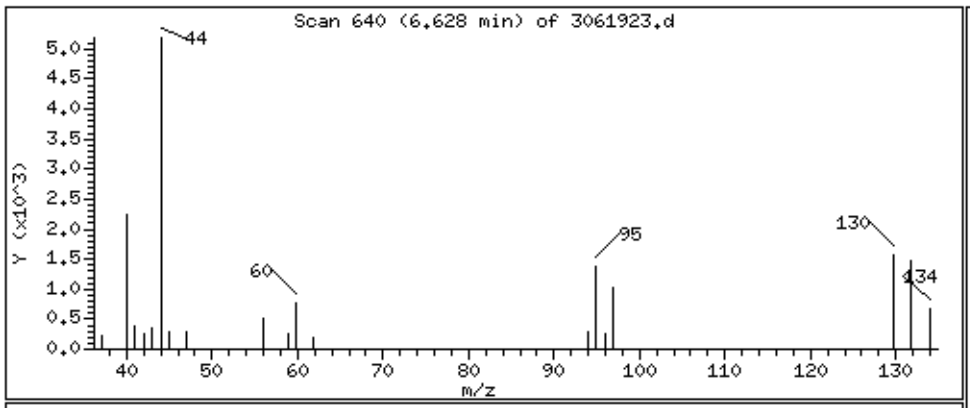
Operator: ACE

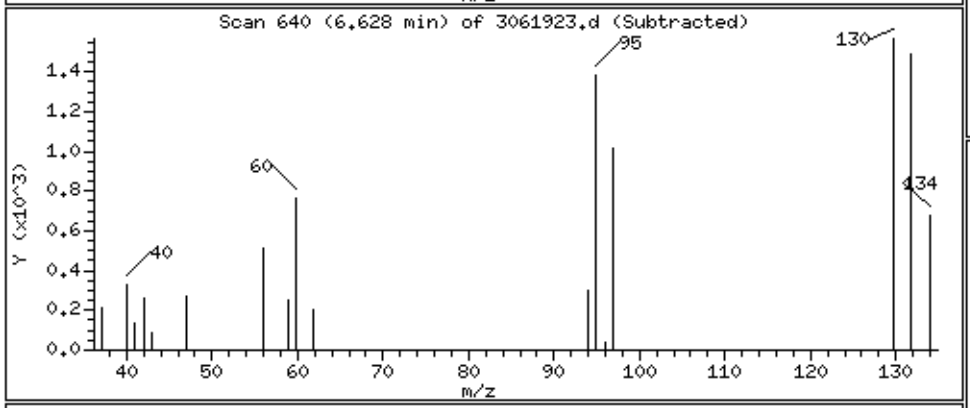
Column phase: RTX-624

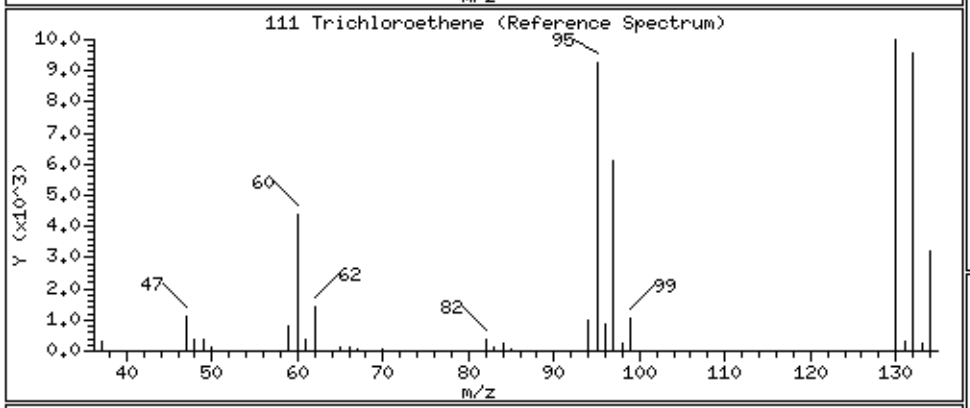
Column diameter: 0.25

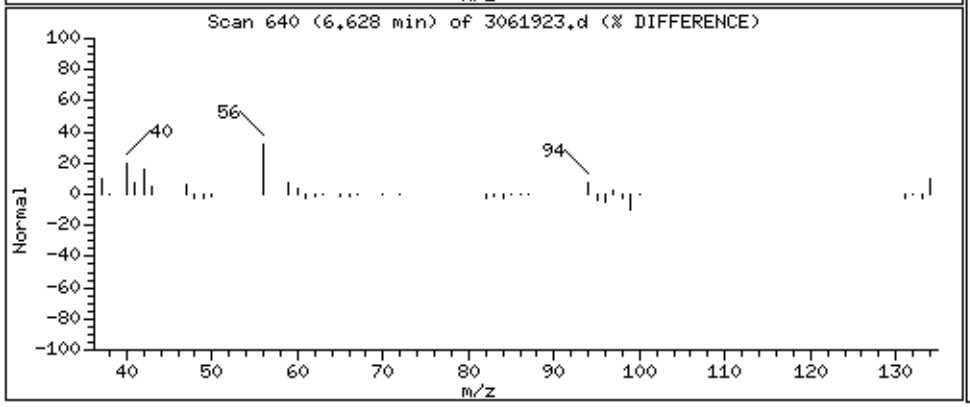
111 Trichloroethene

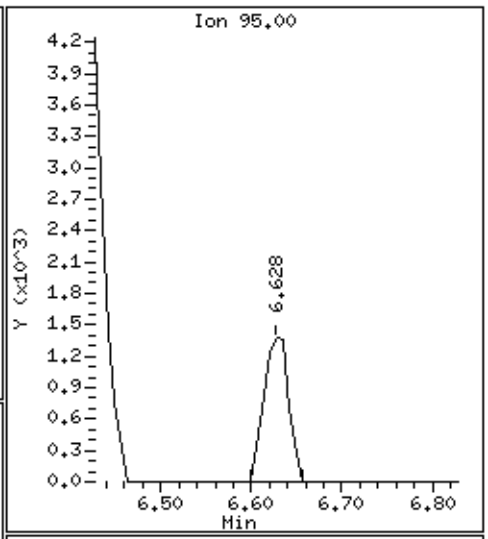
Concentration: 1.708 PPBV

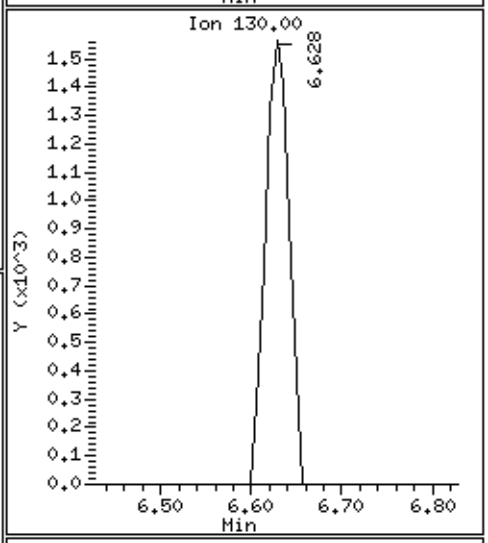


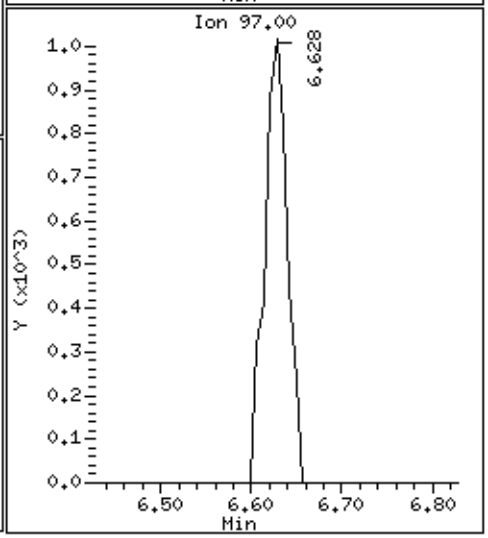



Data File: /chem/msd3.i/19JUN24.b/3061923.d

Date : 20-JUN-2024 01:51

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7568

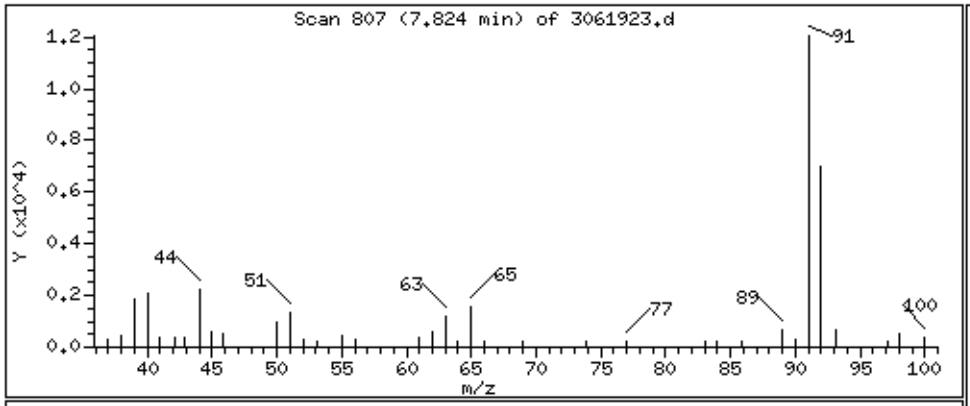
Operator: ACE

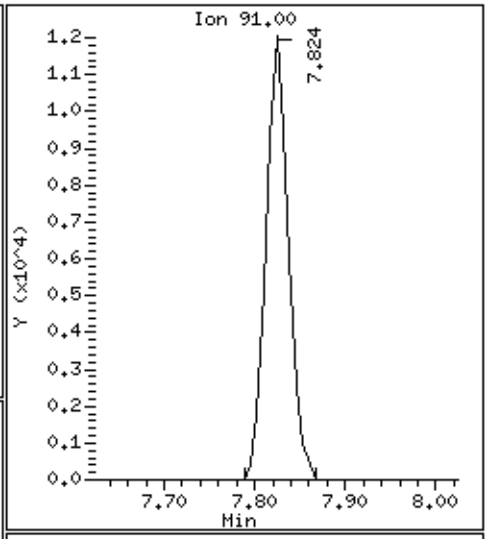
Column phase: RTX-624

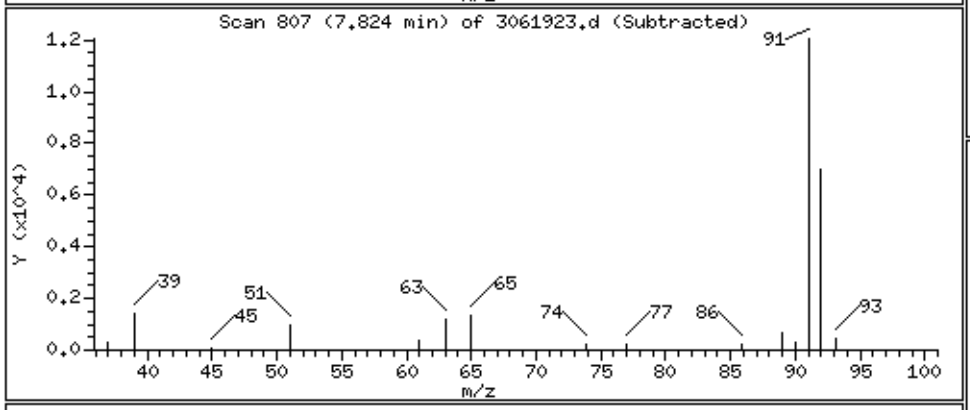
Column diameter: 0.25

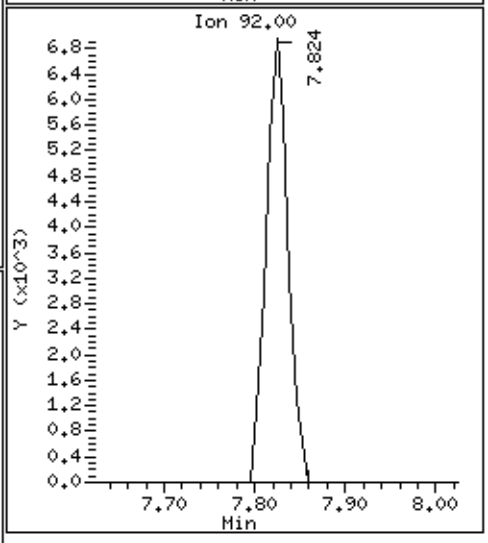
137 Toluene

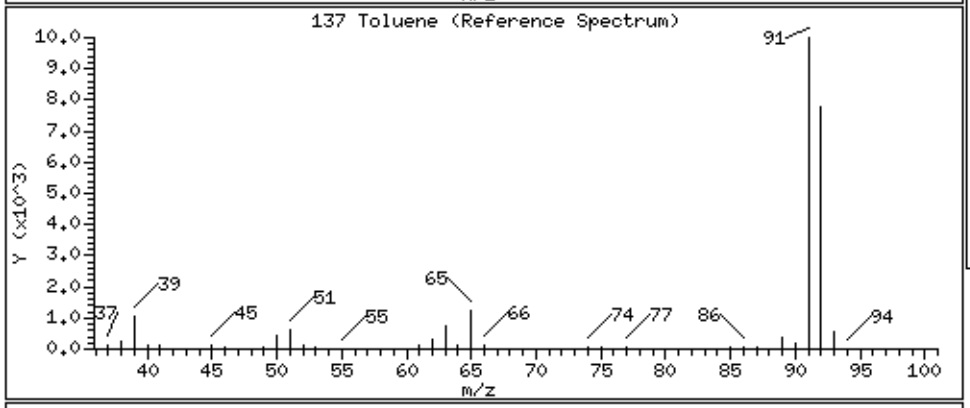
Concentration: 4.720 PPBV

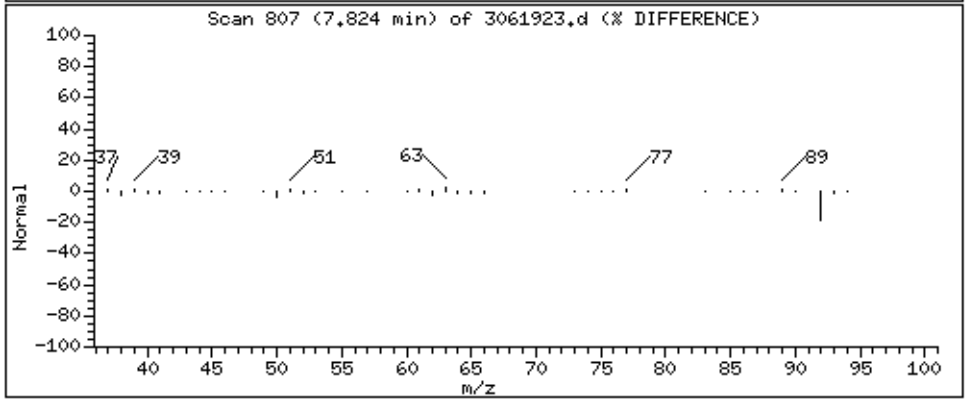


Data File: /chem/msd3.i/19JUN24.b/3061923.d

Date : 20-JUN-2024 01:51

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7568

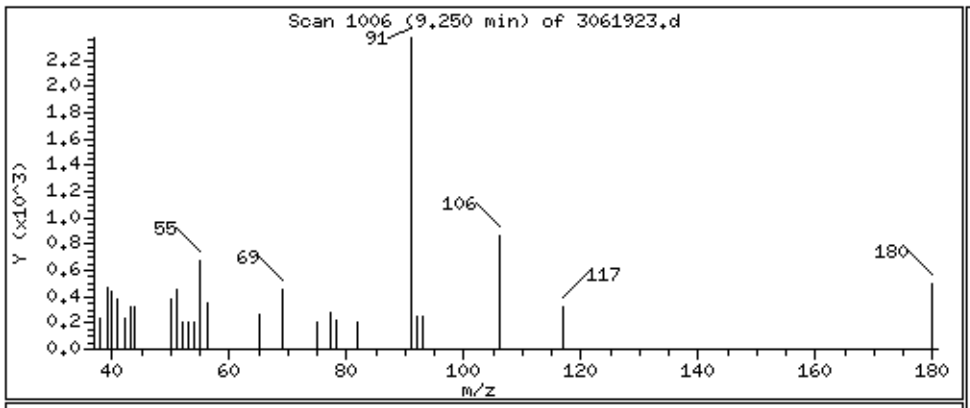
Operator: ACE

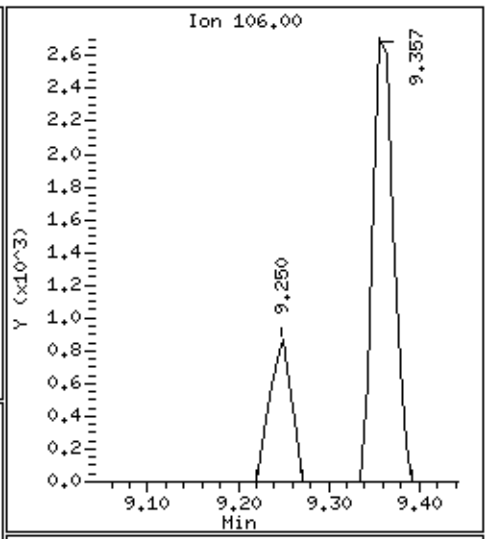
Column phase: RTX-624

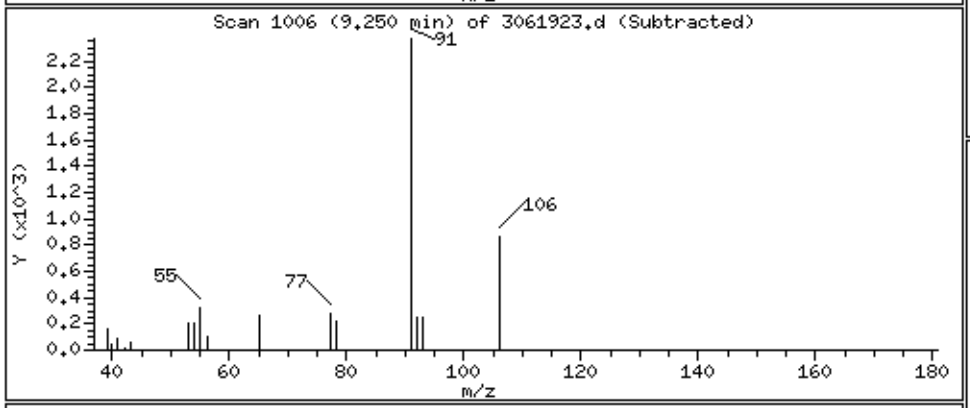
Column diameter: 0.25

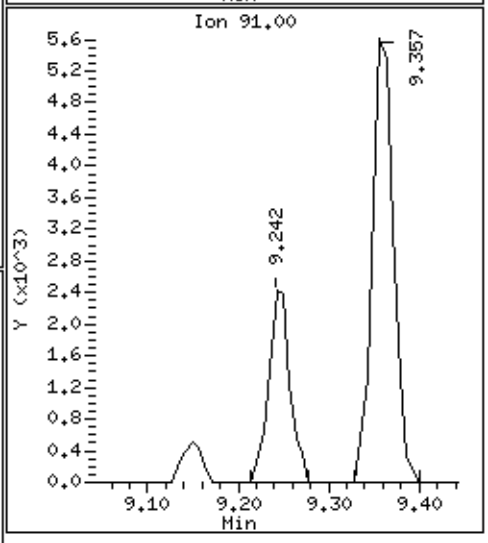
155 Ethyl Benzene

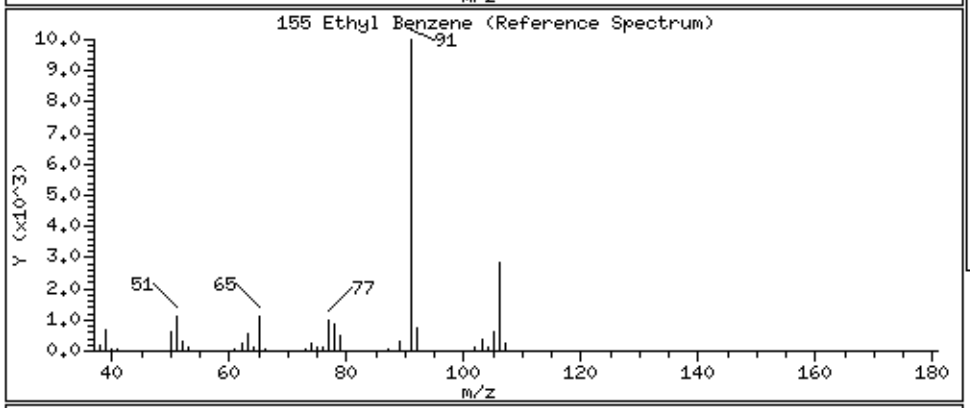
Concentration: 0.7579 PPBV

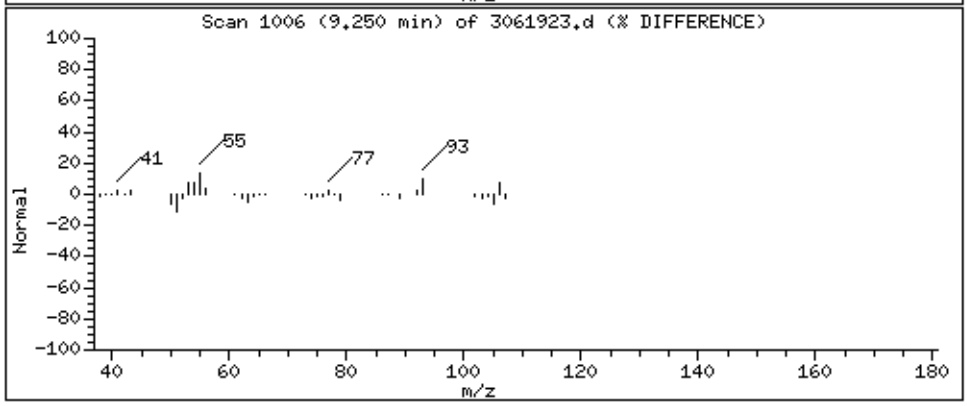


Data File: /chem/msd3.i/19JUN24.b/3061923.d

Page 6

Date : 20-JUN-2024 01:51

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7568

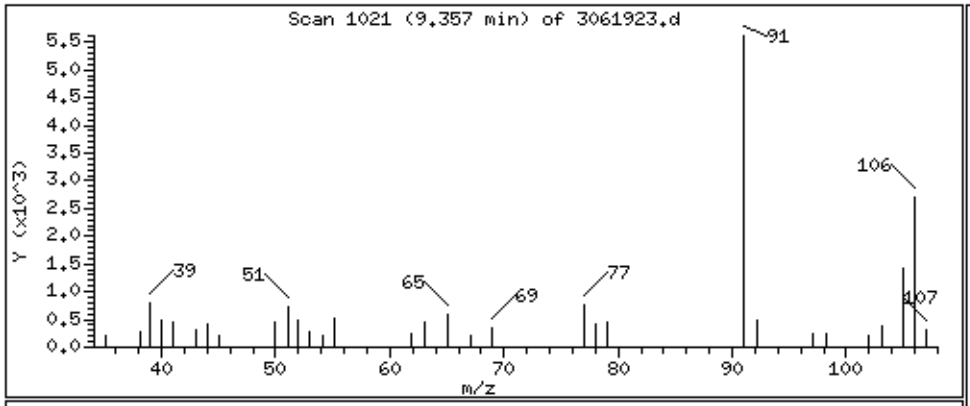
Operator: ACE

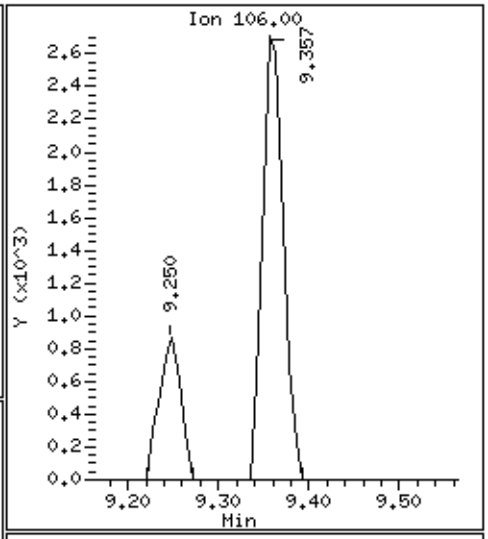
Column phase: RTX-624

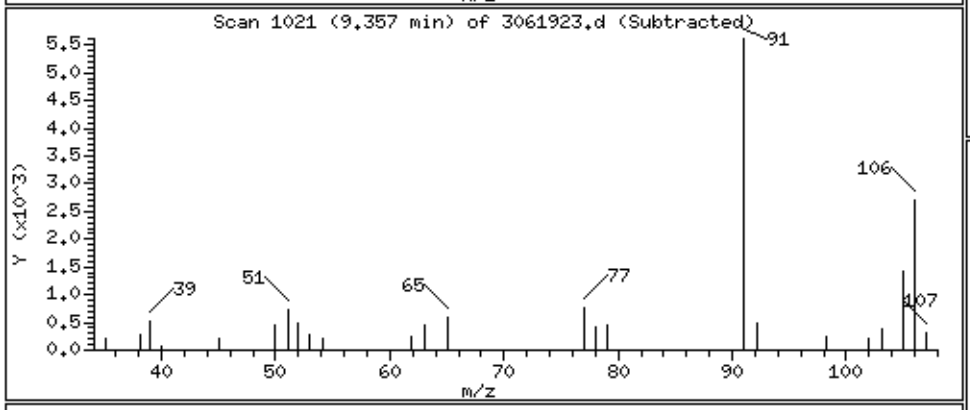
Column diameter: 0.25

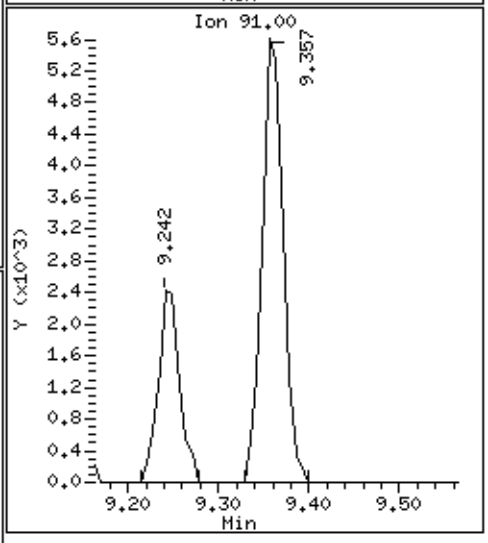
158 m,p-Xylene

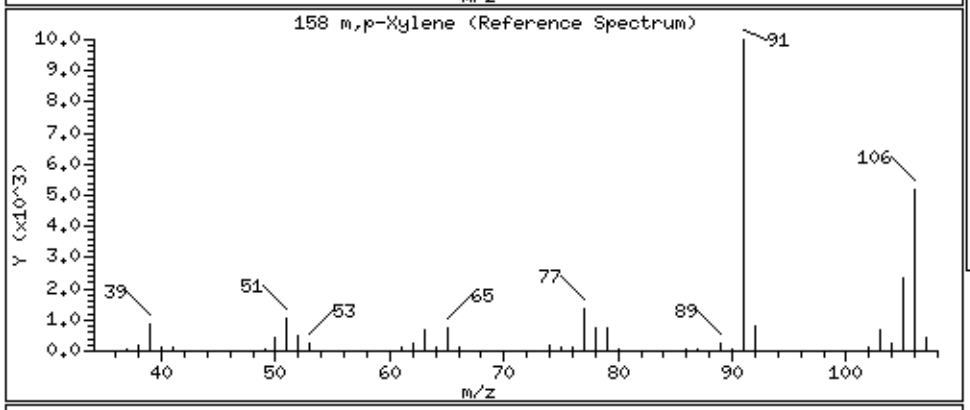
Concentration: 1.849 PPBV

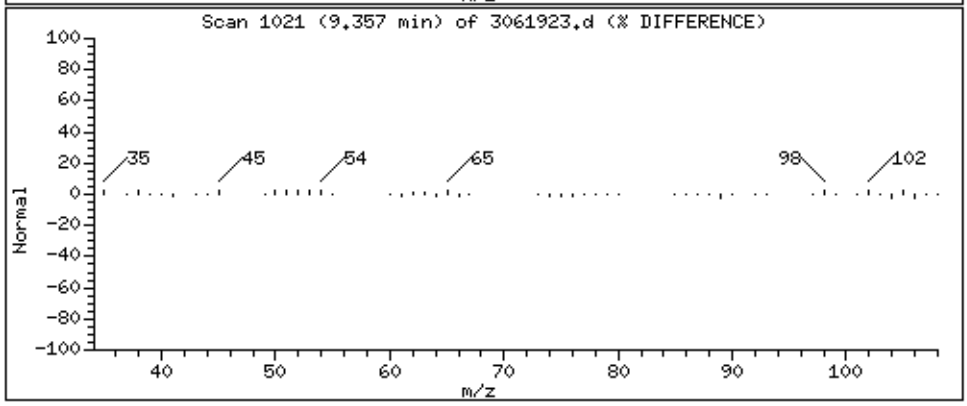


Data File: /chem/msd3.i/19JUN24.b/3061923.d

Date : 20-JUN-2024 01:51

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7568

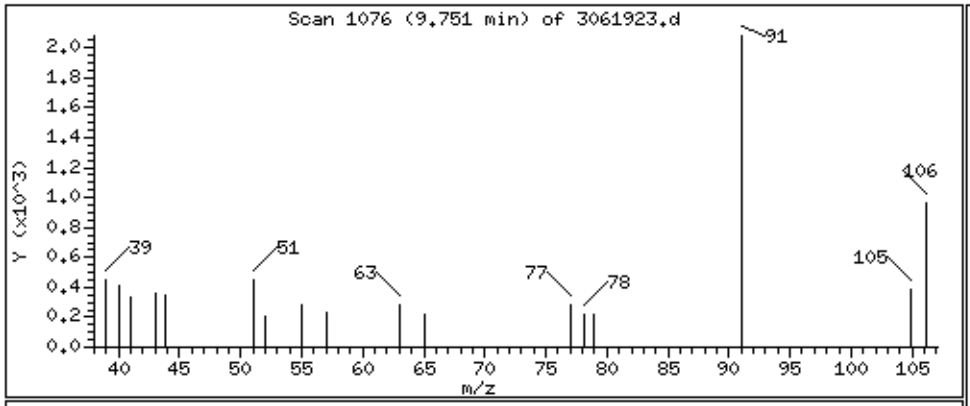
Operator: ACE

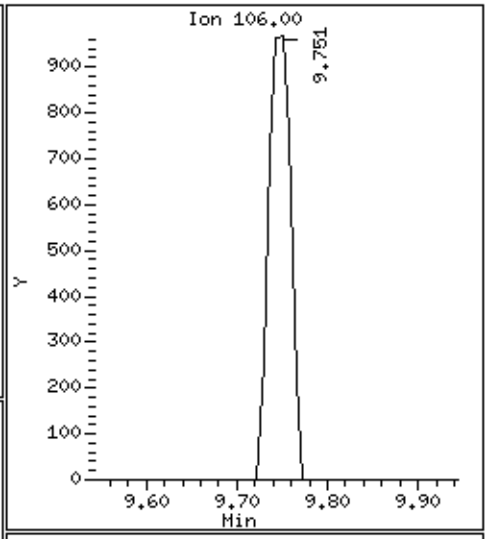
Column phase: RTX-624

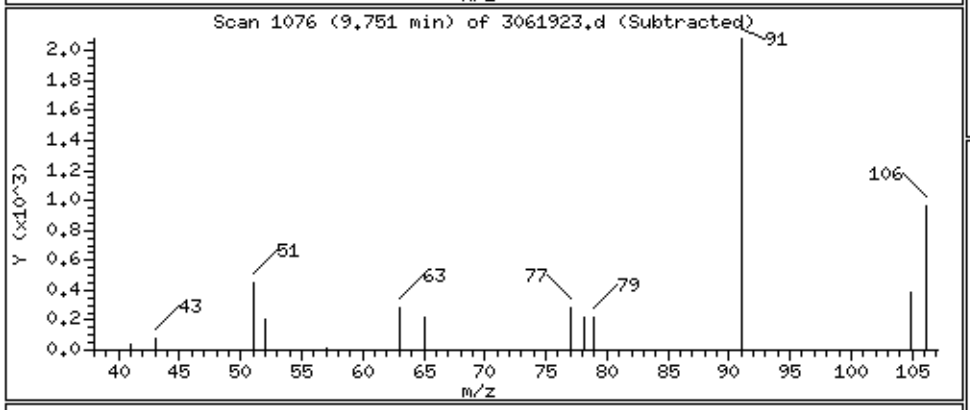
Column diameter: 0.25

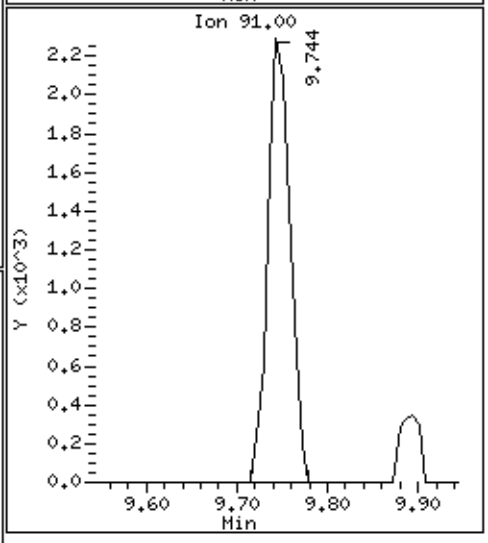
164 o-Xylene

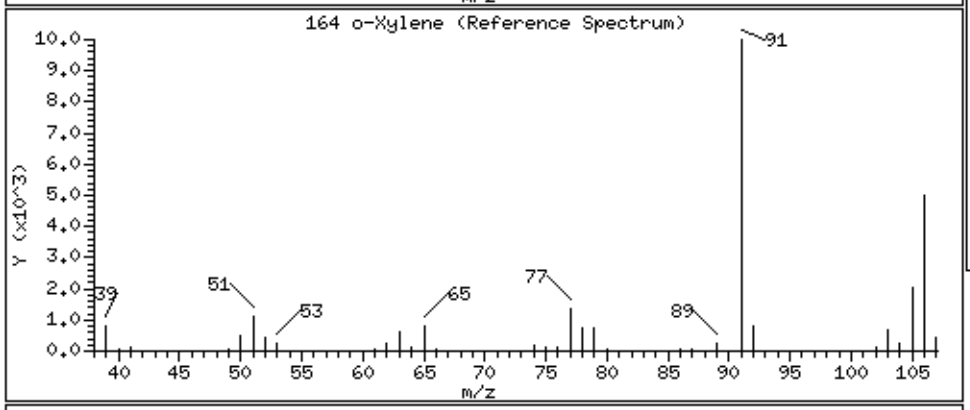
Concentration: 0.7413 PPBV

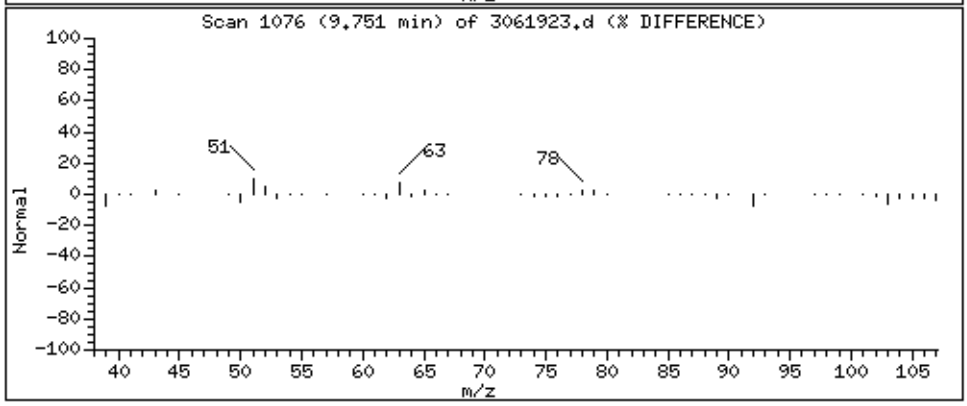


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV032A_JUN24 | | |
| **Lab ID:** | 2406264R2-11A | **Date/Time Analyzed:** | 6/20/24 02:24 AM |
| **Date/Time Collected:** | 6/6/24 10:19 AM | **Dilution Factor:** | 4.74 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061924 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 4.9 | 8.4 | 9.4 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 4.8 | 13 | 14 | Not Detected U |
| Benzene | 71-43-2 | 1.8 | 6.8 | 7.6 | 3.5 J |
| cis-1,2-Dichloroethene | 156-59-2 | 2.0 | 8.4 | 9.4 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 2.4 | 9.3 | 10 | Not Detected U |
| m,p-Xylene | 108-38-3 | 1.5 | 9.3 | 20 | 4.0 J |
| o-Xylene | 95-47-6 | 2.5 | 9.3 | 10 | Not Detected U |
| Toluene | 108-88-3 | 2.2 | 8.0 | 18 | 12 J |
| trans-1,2-Dichloroethene | 156-60-5 | 4.3 | 8.4 | 9.4 | Not Detected U |
| Trichloroethene | 79-01-6 | 3.8 | 11 | 13 | 2900 |
| Vinyl Chloride | 75-01-4 | 5.1 | 5.4 | 6.0 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 102 |
| Toluene-d8 | 2037-26-5 | 70-130 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061924.d
Lab Smp Id: 2406264-11A
Inj Date : 20-JUN-2024 02:24
Operator : ACE Inst ID: msd3.i
Smp Info : 100mL N2057
Misc Info : 8.8 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 7
Dil Factor: 4.74000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | CONCENTRATIONS FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 92766 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 71590 | | | | 47.79- 107.79 | 77.17 |
| 5.432 | 5.432 (1.000) | 49 | 139307 | | | | 131.33- 191.33 | 150.17 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 109085 | 22.5764 | 22.576 | | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.109) | 67 | 55955 | | | | 23.17- 83.17 | 51.29 |
| 102 Benzene | | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.990 (0.934) | 78 | 1509 | 0.22962 | 1.088 | | 80.00- 120.00 | 100.00(a) |
| 5.997 | 5.990 (0.934) | 77 | 341 | | | | 0.00- 53.69 | 22.60 |
| * 108 1,4-Difluorobenzene | | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 326401 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 48276 | | | | 0.00- 45.65 | 14.79 |
| 111 Trichloroethene | | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 357353 | 112.780 | 534.58 | | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 402712 | | | | 80.23- 140.23 | 112.69 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 111 Trichloroethene (continued) | | | | | | | |
| 6.628 | 6.628 (1.032) | 97 | 229656 | | | 34.78- 94.78 | 64.27 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 309837 | 24.4181 | 24.418 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 33210 | | | 0.00- 41.42 | 10.72 |
| 7.760 | 7.760 (1.209) | 100 | 209510 | | | 37.54- 97.54 | 67.62 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 6316 | 0.69427 | 3.291 | 80.00- 120.00 | 100.00(a) |
| 7.824 | 7.824 (1.219) | 92 | 3906 | | | 27.89- 87.89 | 61.84 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 338925 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 168422 | | | 22.92- 82.92 | 49.69 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 958 | 0.19459 | 0.9224 | 80.00- 120.00 | 100.00(a) |
| 9.357 | 9.364 (1.023) | 91 | 1920 | | | 170.33- 230.33 | 200.42 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 257879 | 25.6028 | 25.603 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 283159 | | | 88.49- 148.49 | 109.80 |
| 10.288 | 10.288 (1.124) | 176 | 251729 | | | 66.73- 126.73 | 97.62 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061924.d
Lab Smp Id: 2406264-11A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 8.8 Hg->9.9 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 92766 | 3.06 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 326401 | -0.41 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 338925 | 4.27 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:38

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-11A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 8.8 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.576 | 90.31 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.418 | 97.67 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.603 | 102.41 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061924.d



Date : 20-JUN-2024 02:24

Client ID:

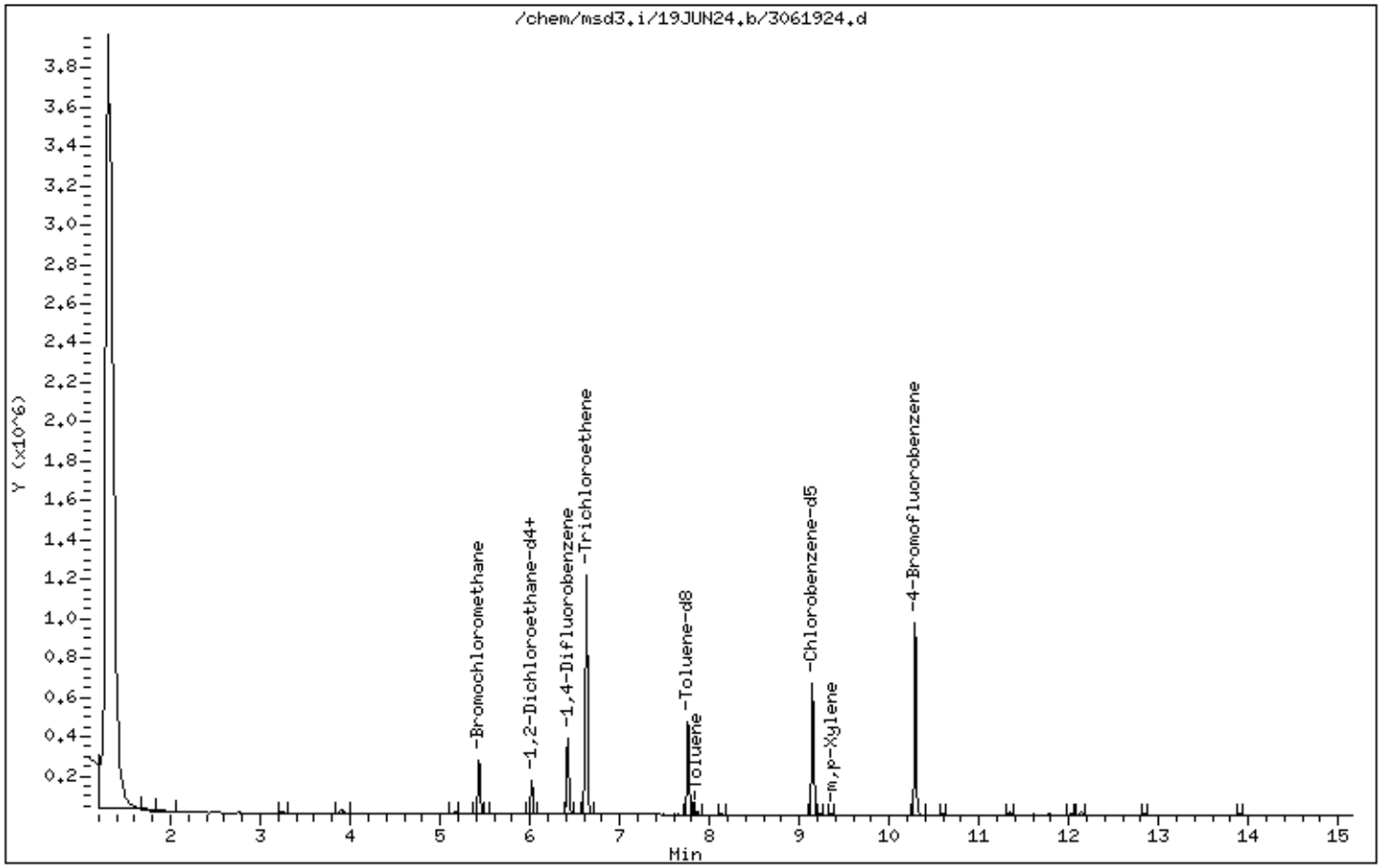
Instrument: msd3.i

Sample Info: 100mL N2057

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061924.d

Date : 20-JUN-2024 02:24

Client ID:

Instrument: msd3.i

Sample Info: 100mL N2057

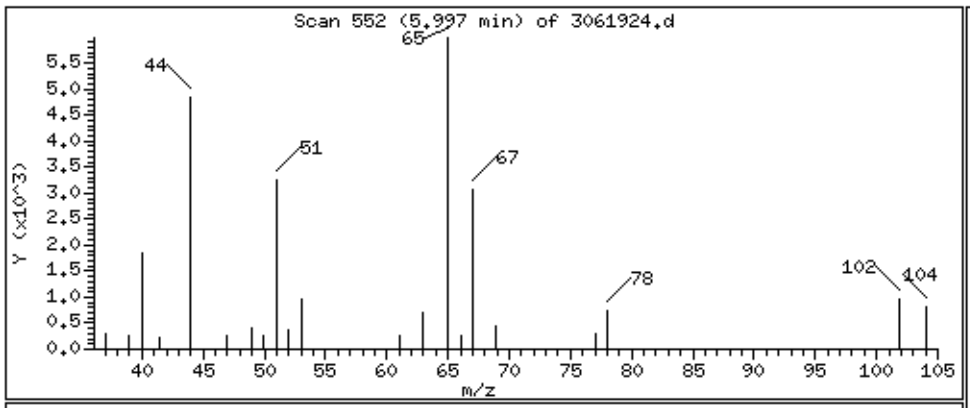
Operator: ACE

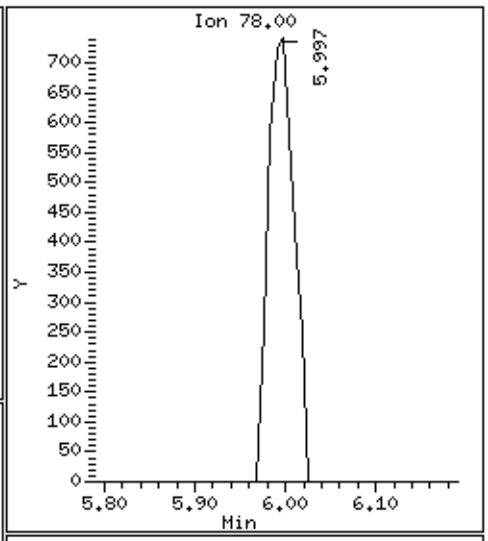
Column phase: RTX-624

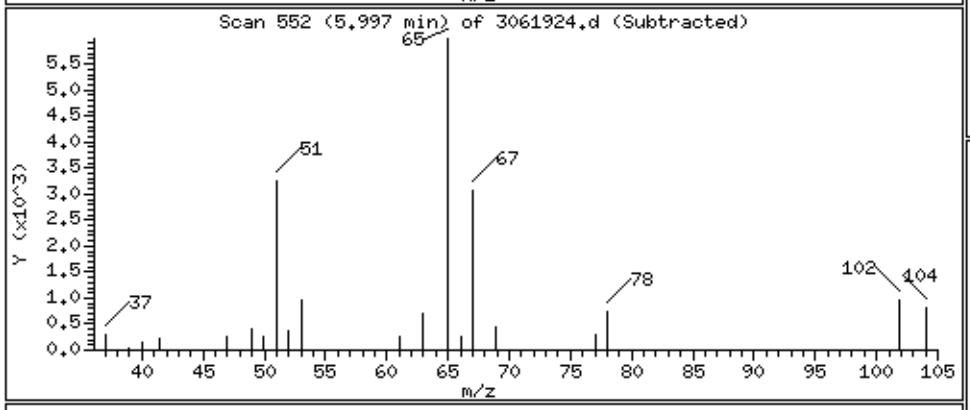
Column diameter: 0.25

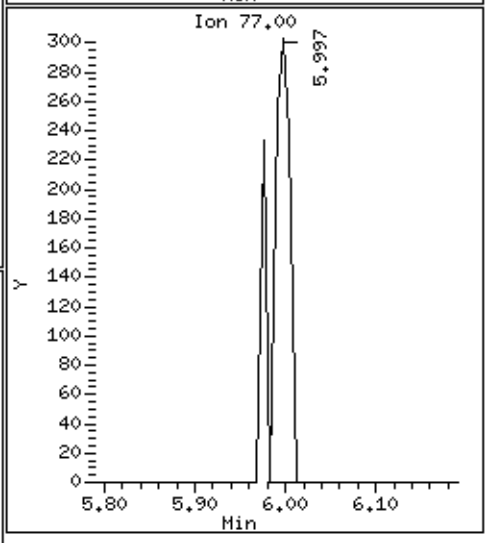
102 Benzene

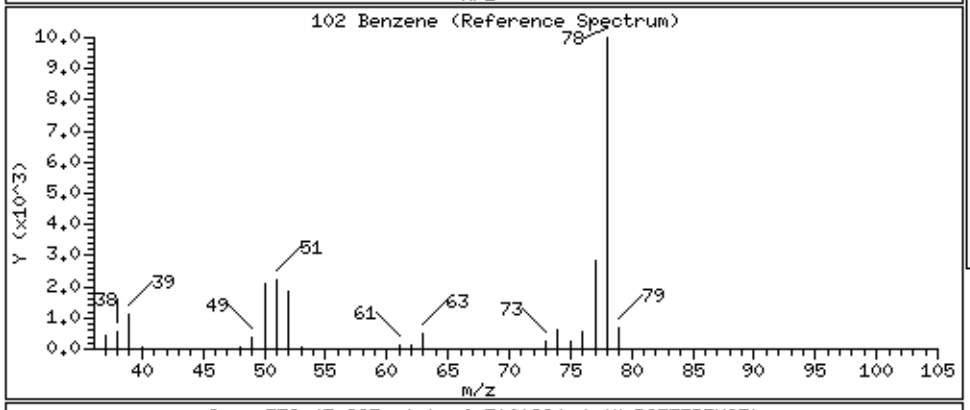
Concentration: 1.088 PPBV

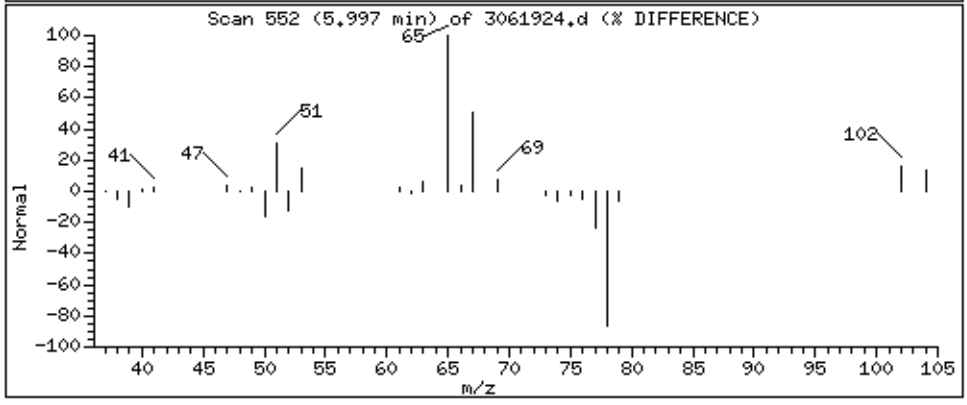


Data File: /chem/msd3.i/19JUN24.b/3061924.d

Date : 20-JUN-2024 02:24

Client ID:

Instrument: msd3.i

Sample Info: 100mL N2057

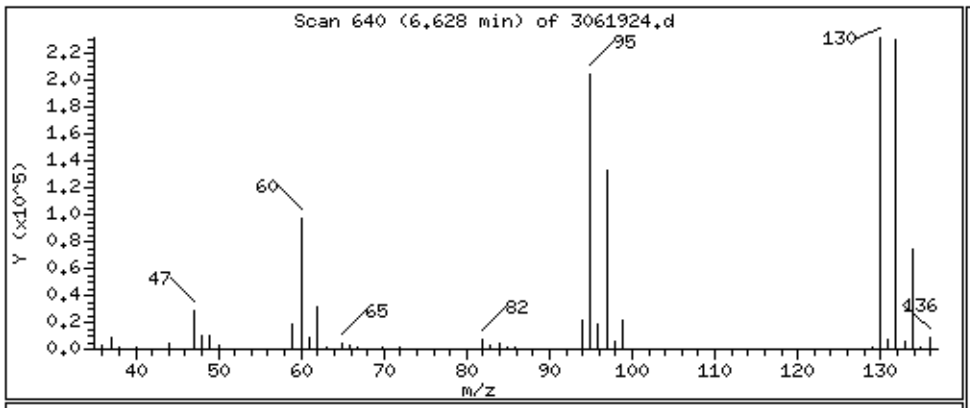
Operator: ACE

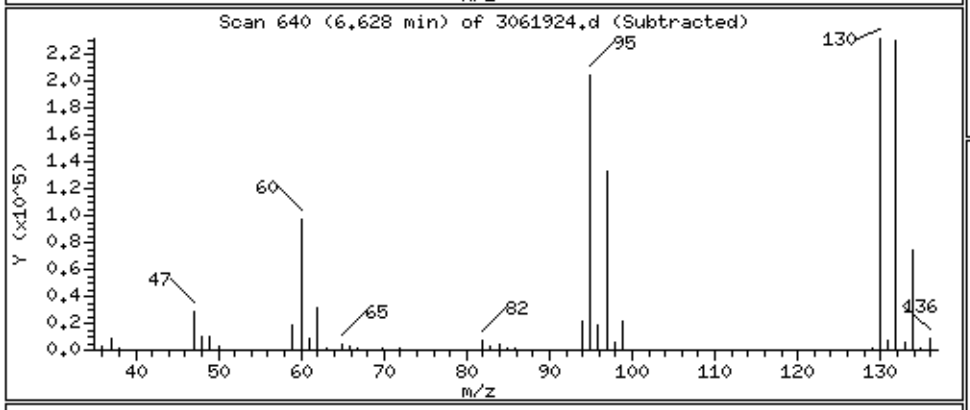
Column phase: RTX-624

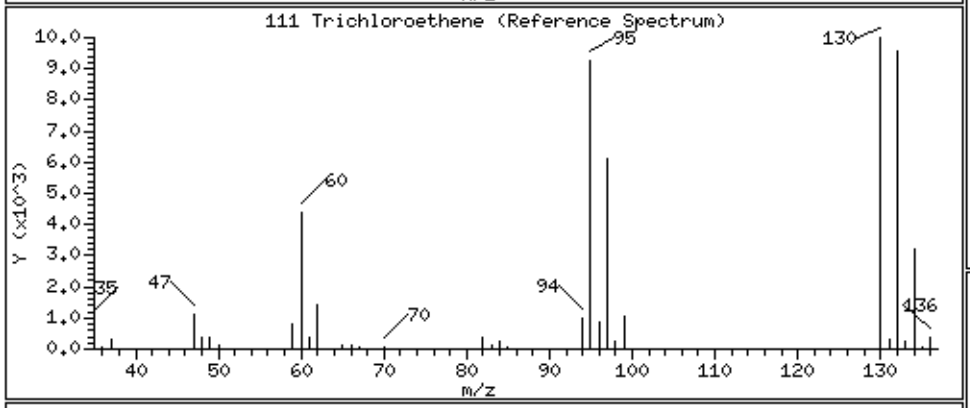
Column diameter: 0.25

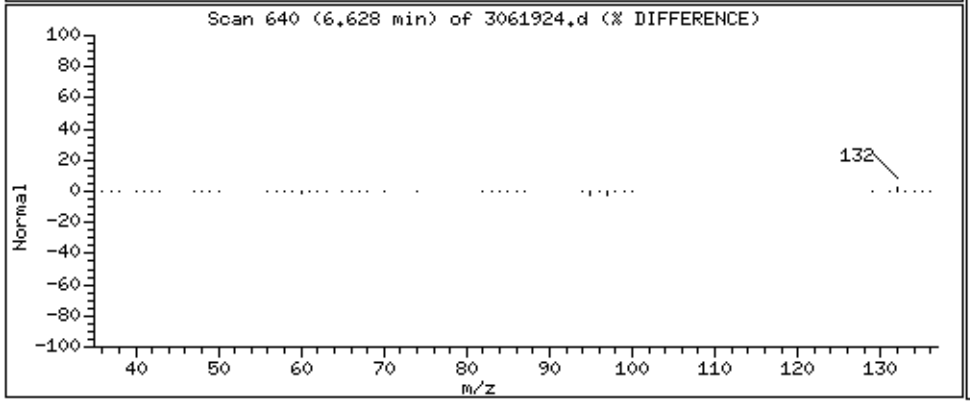
111 Trichloroethene

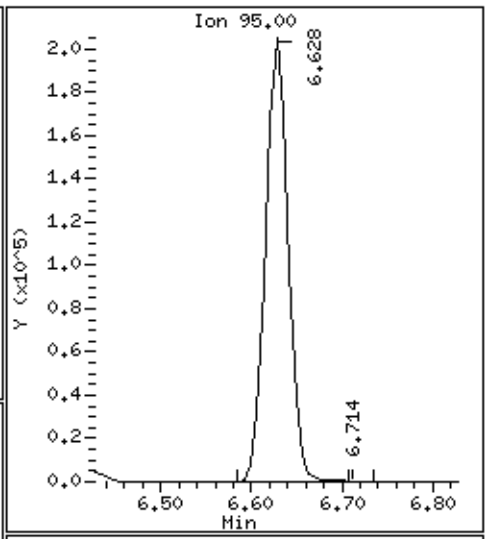
Concentration: 534.58 PPBV

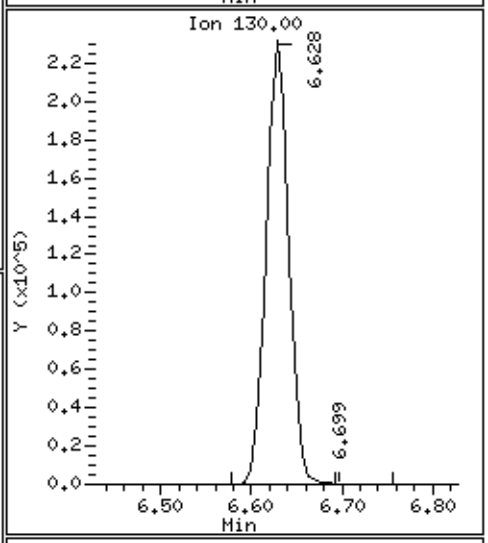


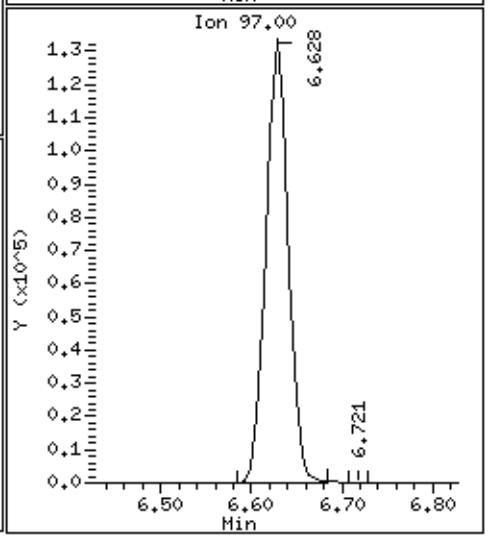



Data File: /chem/msd3.i/19JUN24.b/3061924.d

Date : 20-JUN-2024 02:24

Client ID:

Instrument: msd3.i

Sample Info: 100mL N2057

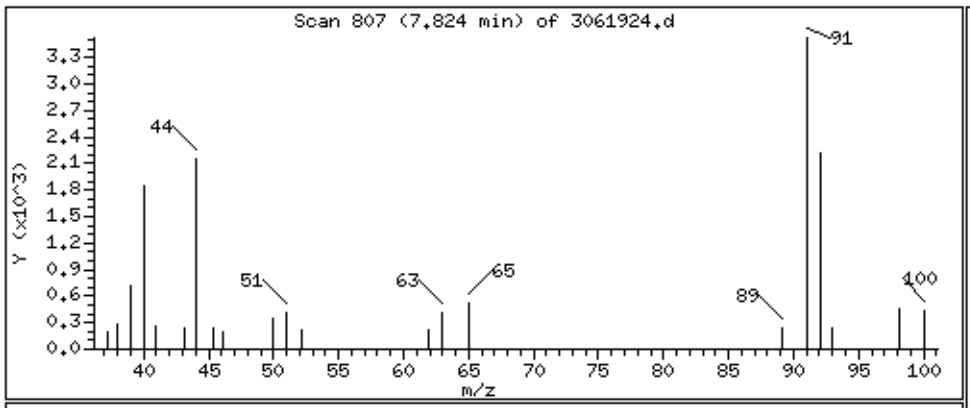
Operator: ACE

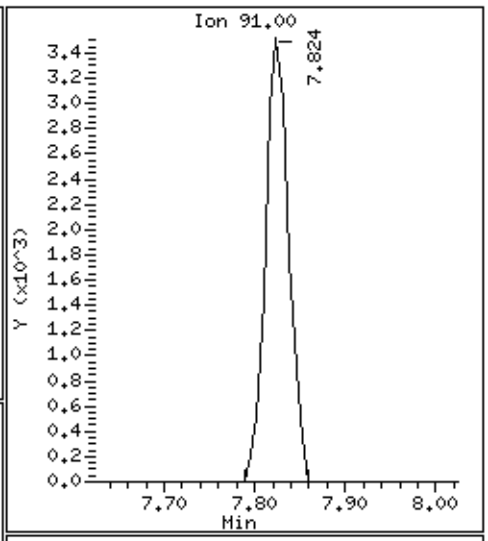
Column phase: RTX-624

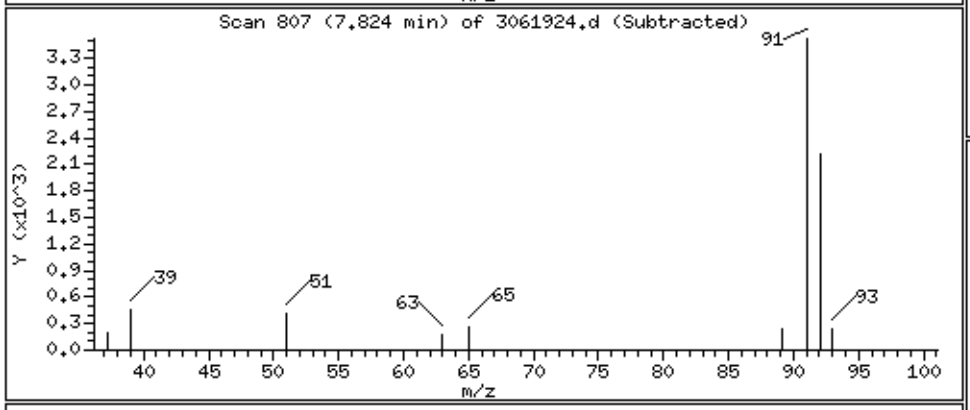
Column diameter: 0.25

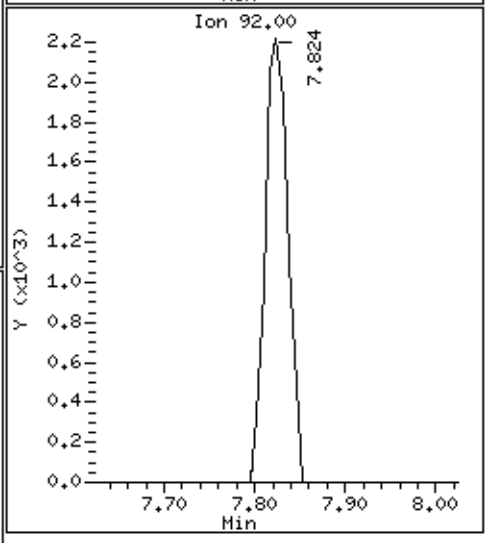
137 Toluene

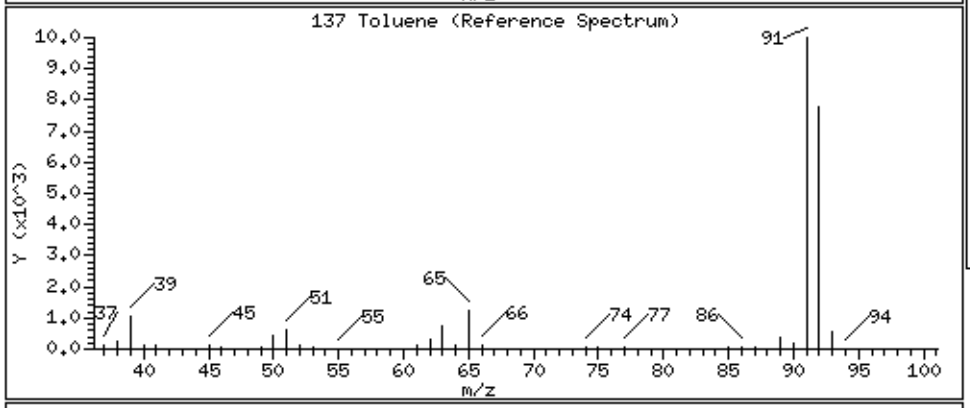
Concentration: 3.291 PPBV

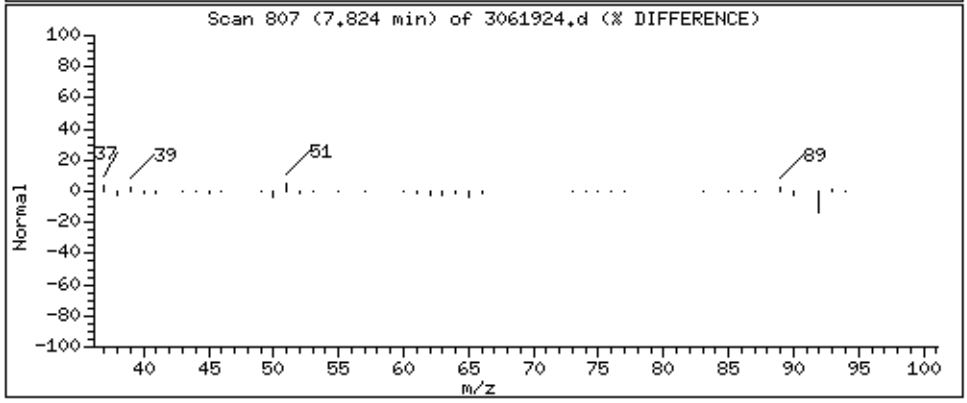


Data File: /chem/msd3.i/19JUN24.b/3061924.d

Date : 20-JUN-2024 02:24

Client ID:

Instrument: msd3.i

Sample Info: 100mL N2057

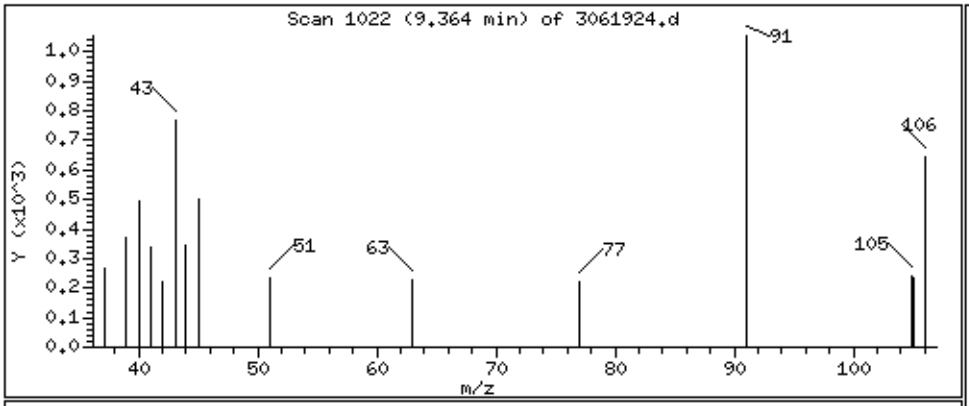
Operator: ACE

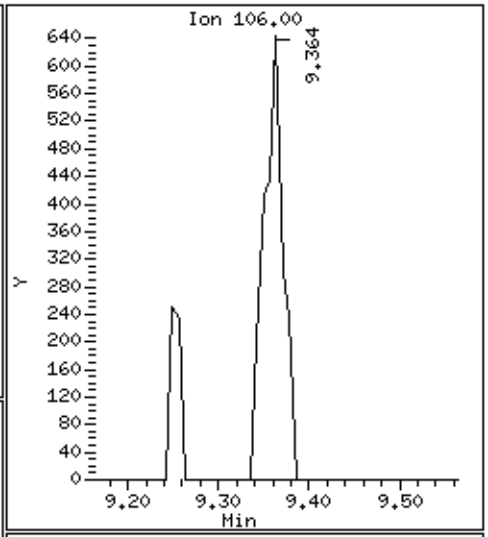
Column phase: RTX-624

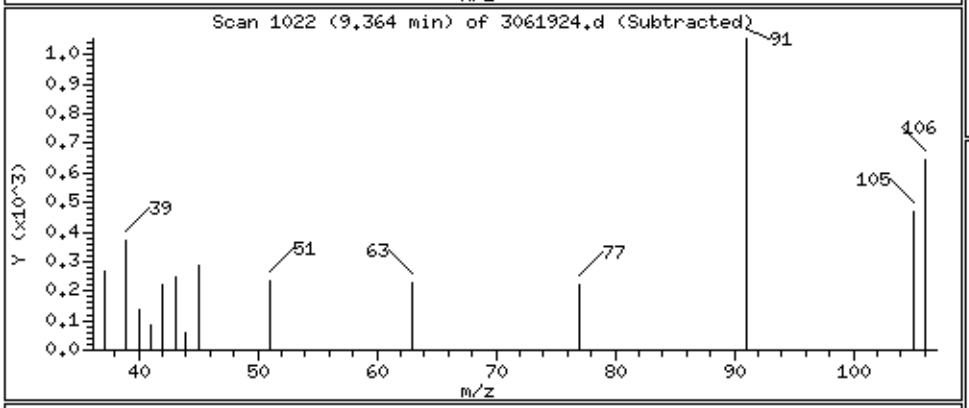
Column diameter: 0.25

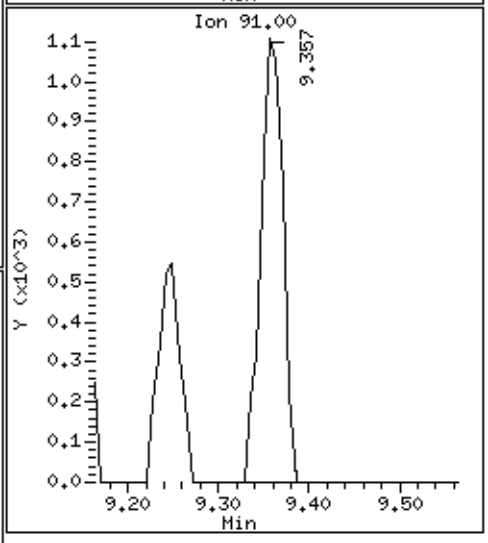
158 m,p-Xylene

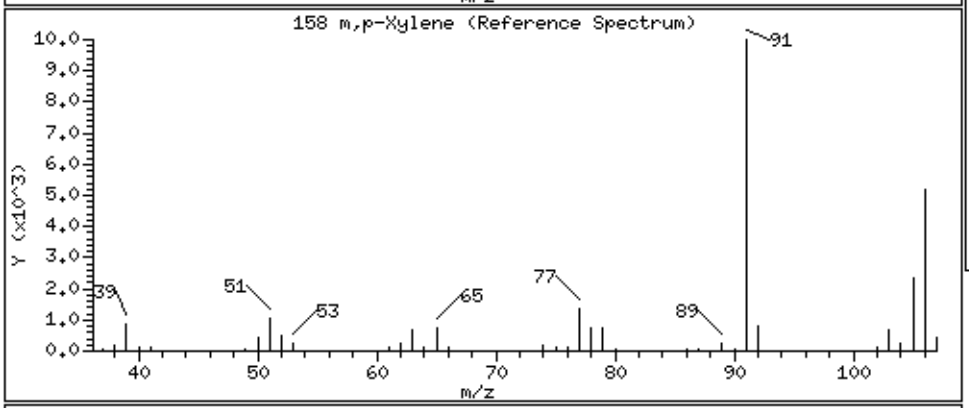
Concentration: 0.9224 PPBV

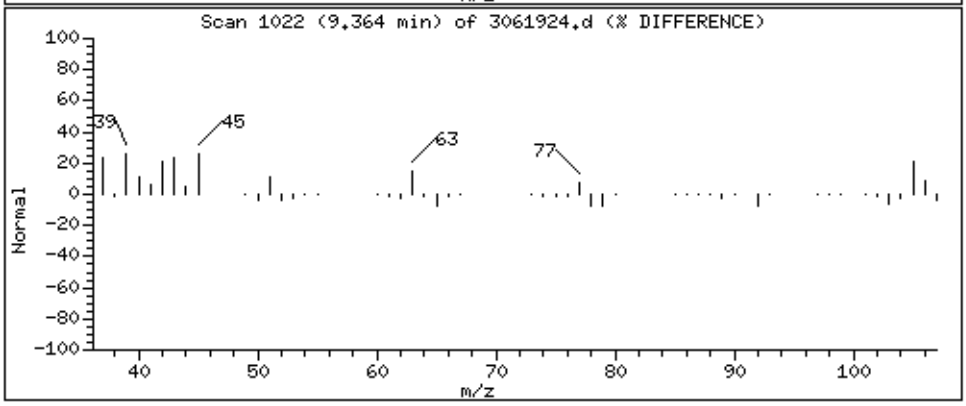


| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV034_JUN24 | | |
| **Lab ID:** | 2406264R2-12A | **Date/Time Analyzed:** | 6/20/24 02:59 AM |
| **Date/Time Collected:** | 6/6/24 08:26 AM | **Dilution Factor:** | 2.38 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061925 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.4 | 4.2 | 4.7 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.4 | 6.4 | 7.2 | Not Detected U |
| Benzene | 71-43-2 | 0.90 | 3.4 | 3.8 | 18 |
| cis-1,2-Dichloroethene | 156-59-2 | 1.0 | 4.2 | 4.7 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.2 | 4.6 | 5.2 | 7.9 |
| m,p-Xylene | 108-38-3 | 0.74 | 4.6 | 10 | 27 |
| o-Xylene | 95-47-6 | 1.2 | 4.6 | 5.2 | 17 |
| Toluene | 108-88-3 | 1.1 | 4.0 | 9.0 | 52 |
| trans-1,2-Dichloroethene | 156-60-5 | 2.2 | 4.2 | 4.7 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.9 | 5.8 | 6.4 | 44 |
| Vinyl Chloride | 75-01-4 | 2.6 | 2.7 | 3.0 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 102 |
| Toluene-d8 | 2037-26-5 | 70-130 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061925.d
Lab Smp Id: 2406264-12A
Inj Date : 20-JUN-2024 02:59
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N7470
Misc Info : 8.8 Hg->10 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 8
Dil Factor: 2.38000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | | CAS #: 74-97-5 | |
| 5.432 | 5.432 (1.000) | 130 | 98136 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 77750 | | | | 47.79- 107.79 | 79.23 |
| 5.432 | 5.432 (1.000) | 49 | 149705 | | | | 131.33- 191.33 | 152.55 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | | CAS #: 17060-07-0 | |
| 6.026 | 6.019 (1.109) | 65 | 117128 | 22.9146 | 22.914 | | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.109) | 67 | 63870 | | | | 23.17- 83.17 | 54.53 |
| 102 Benzene | | | | | | | CAS #: 71-43-2 | |
| 5.990 | 5.990 (0.933) | 78 | 17199 | 2.39669 | 5.704 | | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 5177 | | | | 0.00- 53.69 | 30.10 |
| * 108 1,4-Difluorobenzene | | | | | | | CAS #: 540-36-3 | |
| 6.420 | 6.420 (1.000) | 114 | 356423 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 51341 | | | | 0.00- 45.65 | 14.40 |
| 111 Trichloroethene | | | | | | | CAS #: 79-01-6 | |
| 6.628 | 6.628 (1.032) | 95 | 11956 | 3.45546 | 8.224 | | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 12990 | | | | 80.23- 140.23 | 108.65 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 111 Trichloroethene (continued) | | | | | | | |
| 6.628 | 6.628 (1.032) | 97 | 7628 | | | 34.78- 94.78 | 63.80 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 335117 | 24.1858 | 24.186 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 40271 | | | 0.00- 41.42 | 12.02 |
| 7.760 | 7.760 (1.209) | 100 | 223465 | | | 37.54- 97.54 | 66.68 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 57695 | 5.80778 | 13.822 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 33243 | | | 27.89- 87.89 | 57.62 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 367077 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 185623 | | | 22.92- 82.92 | 50.57 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.249 | 9.242 (1.011) | 106 | 3273 | 0.76509 | 1.821 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 10346 | | | 281.09- 341.09 | 316.10 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 13769 | 2.58229 | 6.146 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.364 (1.023) | 91 | 26537 | | | 170.33- 230.33 | 192.73 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 8123 | 1.60651 | 3.824 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 16965 | | | 181.23- 241.23 | 208.85 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 279326 | 25.6053 | 25.605 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 305685 | | | 88.49- 148.49 | 109.44 |
| 10.288 | 10.288 (1.124) | 176 | 270975 | | | 66.73- 126.73 | 97.01 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061925.d
Lab Smp Id: 2406264-12A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 8.8 Hg->10 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 98136 | 9.03 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 356423 | 8.74 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 367077 | 12.93 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:38

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-12A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 8.8 Hg->10 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.914 | 91.66 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.186 | 96.74 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.605 | 102.42 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061925.d

Date : 20-JUN-2024 02:59

Client ID:

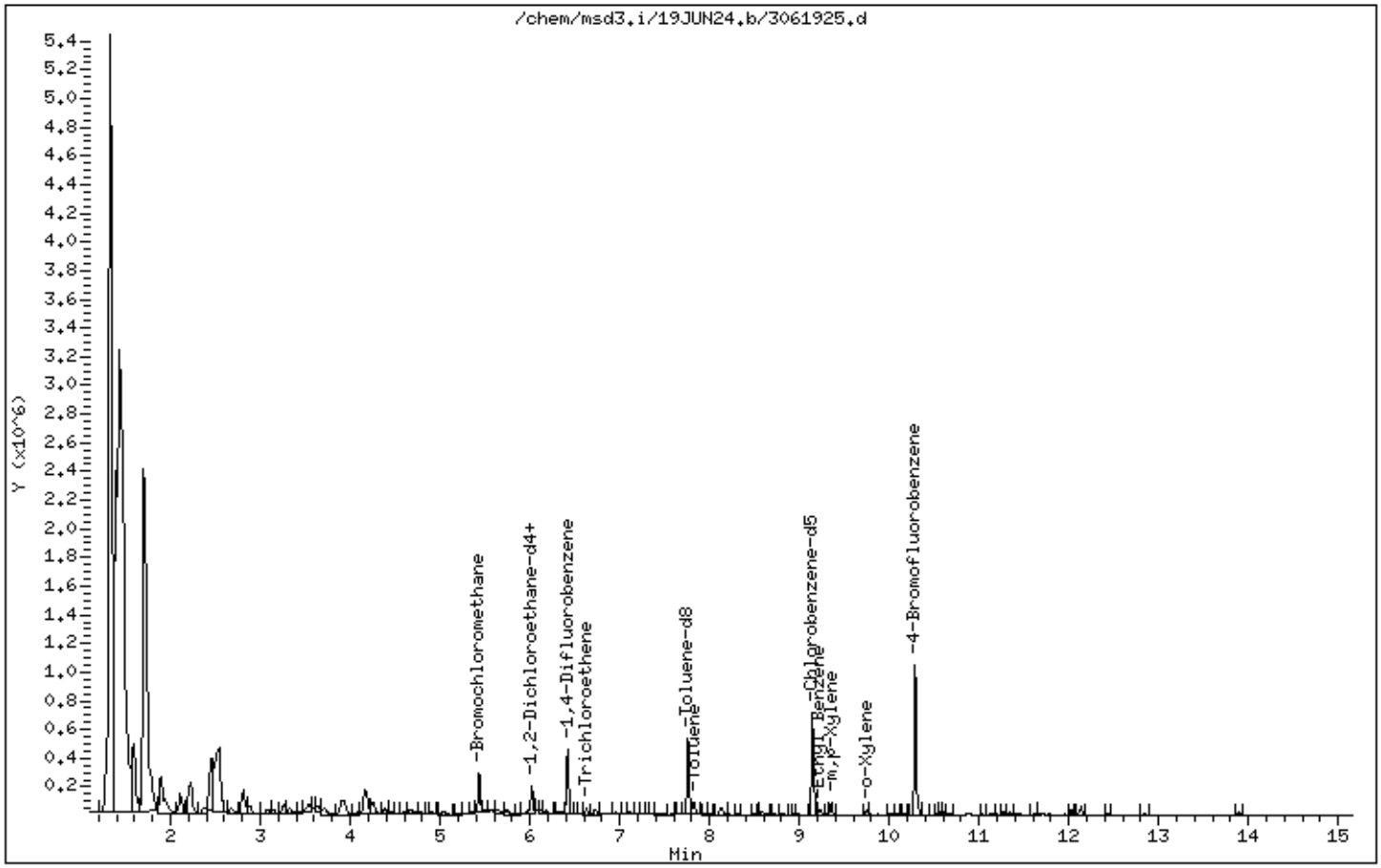
Instrument: msd3.i

Sample Info: 200mL N7470

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061925.d

Date : 20-JUN-2024 02:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7470

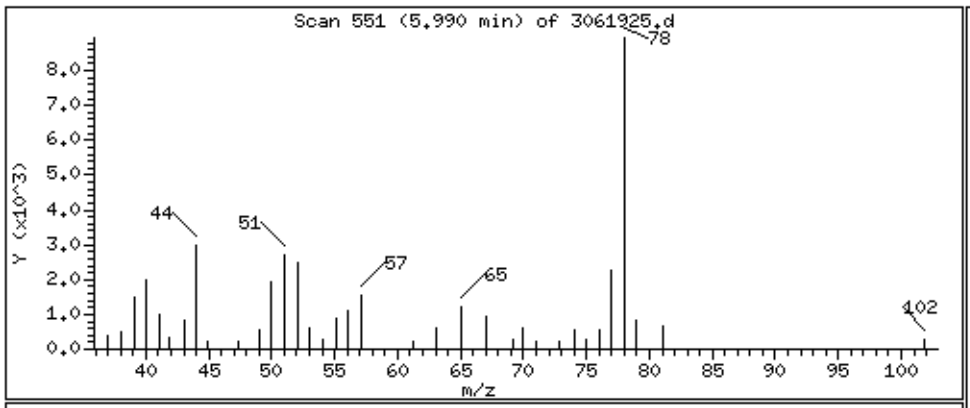
Operator: ACE

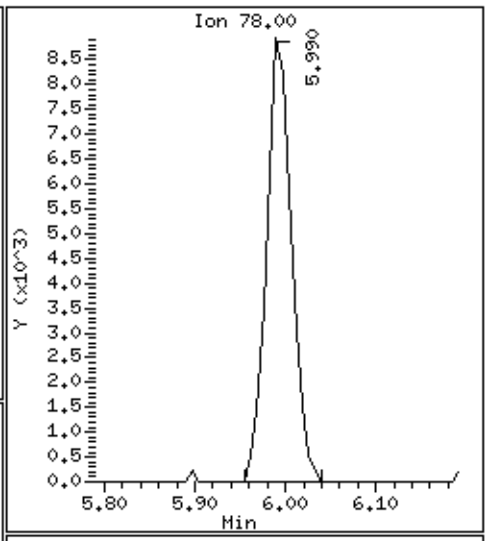
Column phase: RTX-624

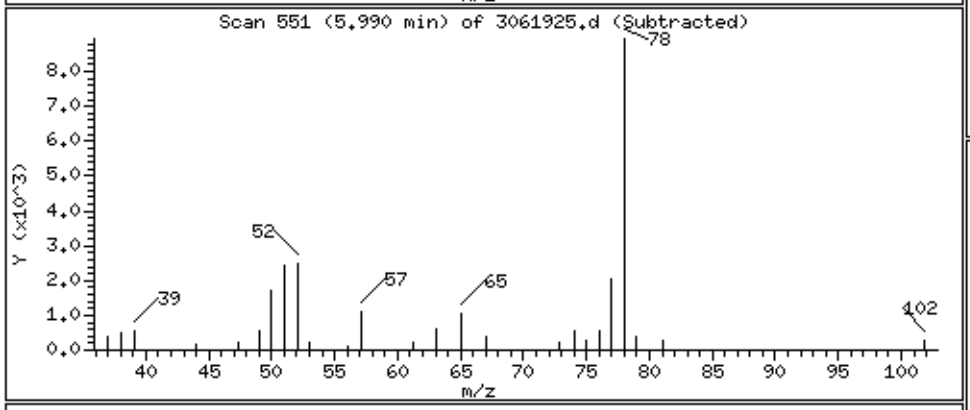
Column diameter: 0.25

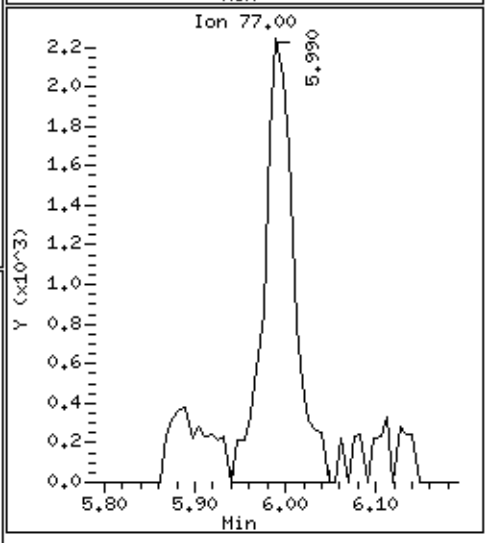
102 Benzene

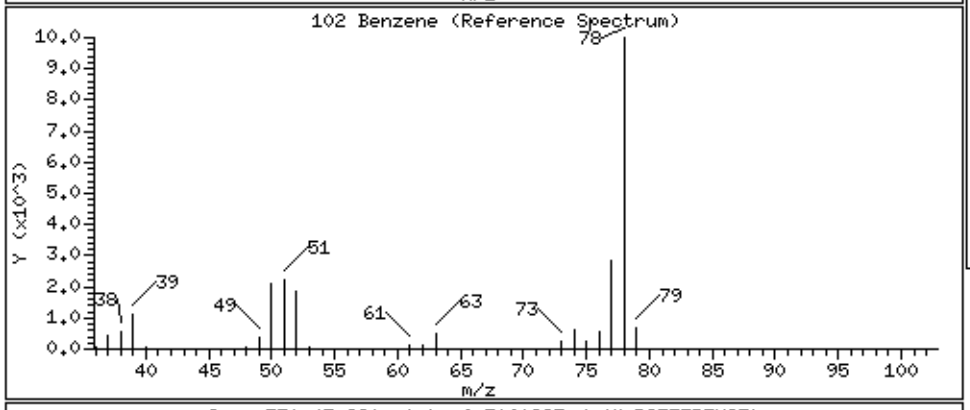
Concentration: 5.704 PPBV

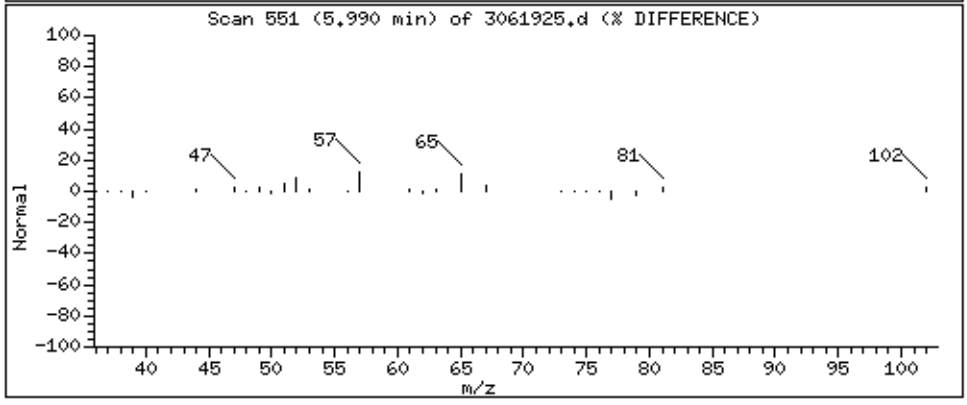


Data File: /chem/msd3.i/19JUN24.b/3061925.d

Date : 20-JUN-2024 02:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7470

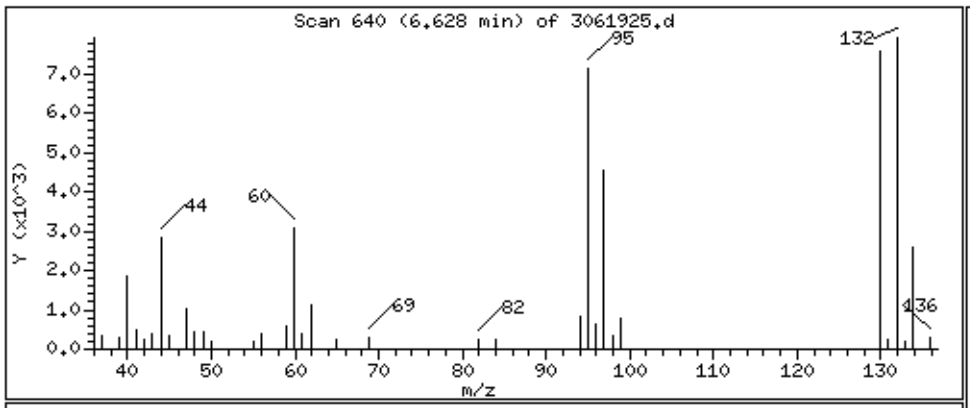
Operator: ACE

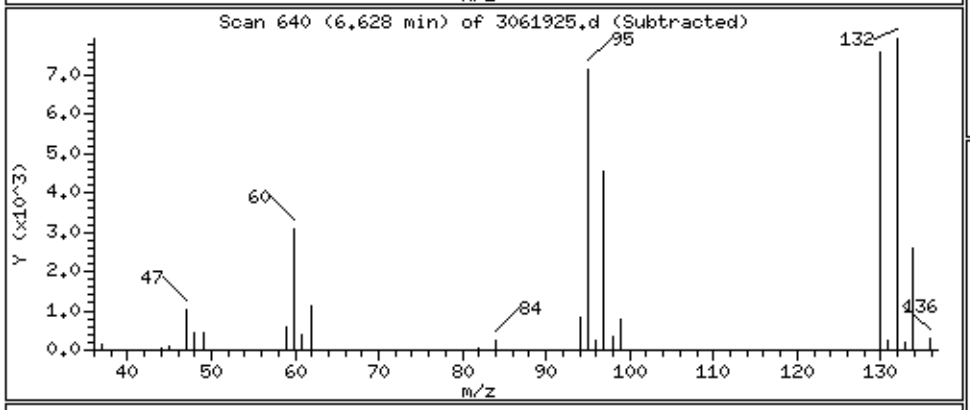
Column phase: RTX-624

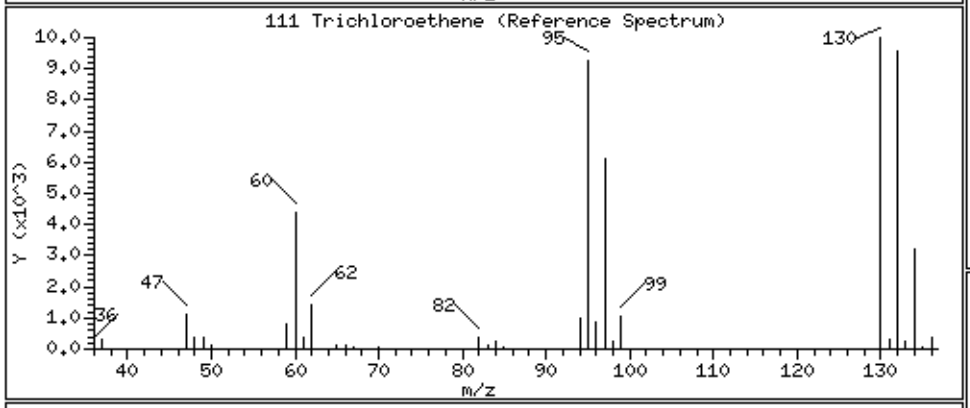
Column diameter: 0.25

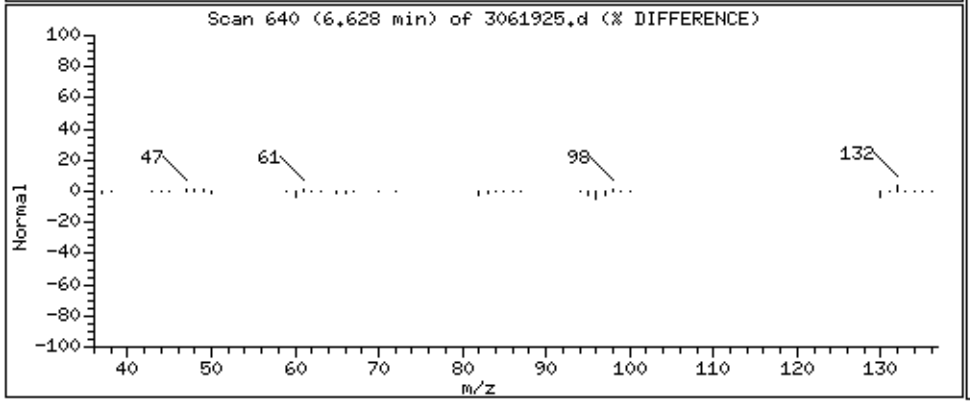
111 Trichloroethene

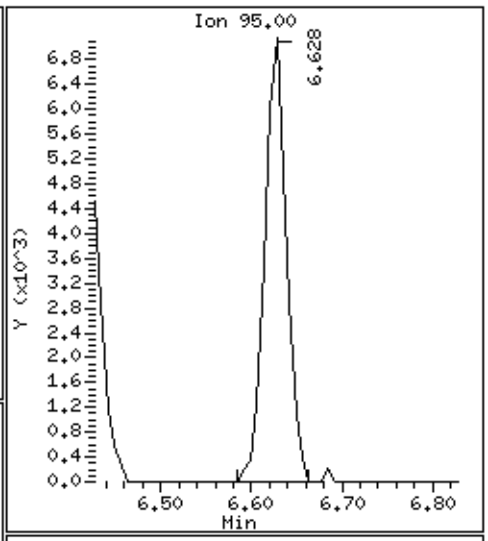
Concentration: 8.224 PPBV

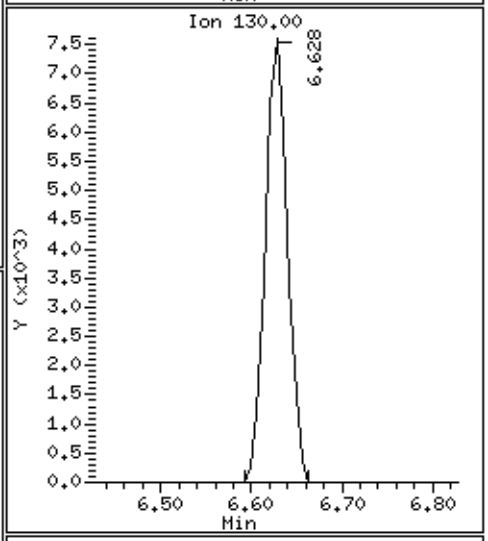


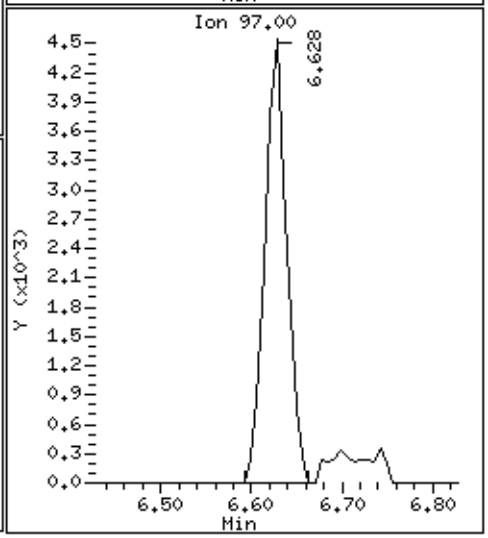



Data File: /chem/msd3.i/19JUN24.b/3061925.d

Date : 20-JUN-2024 02:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7470

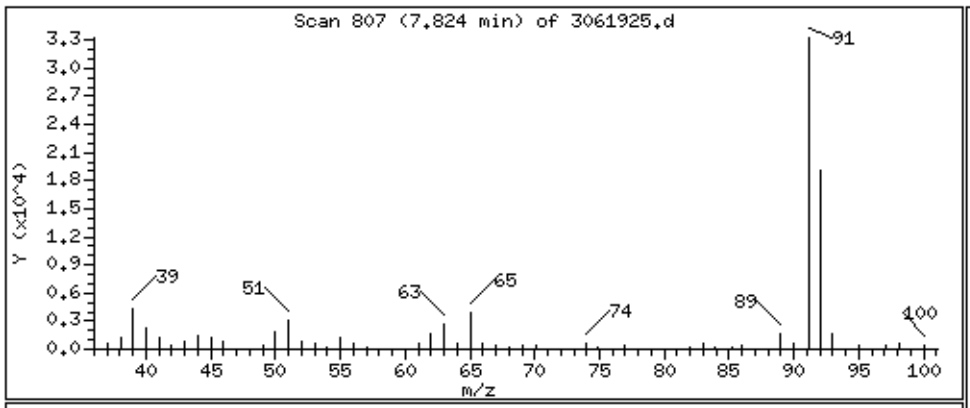
Operator: ACE

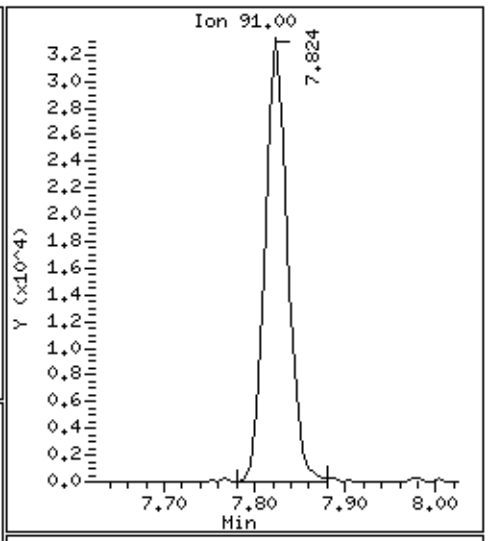
Column phase: RTX-624

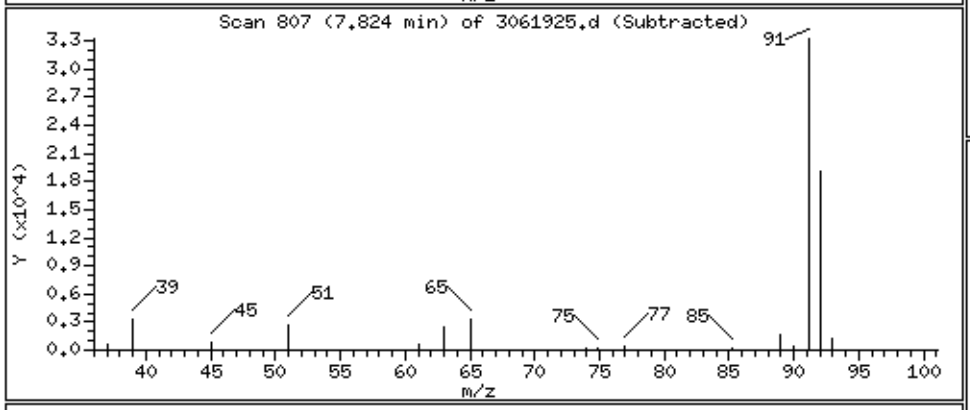
Column diameter: 0.25

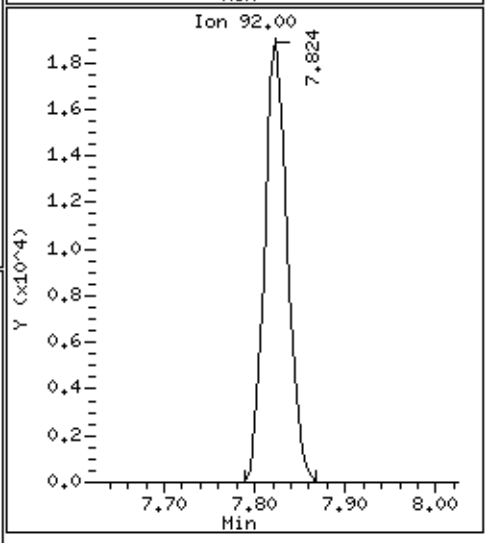
137 Toluene

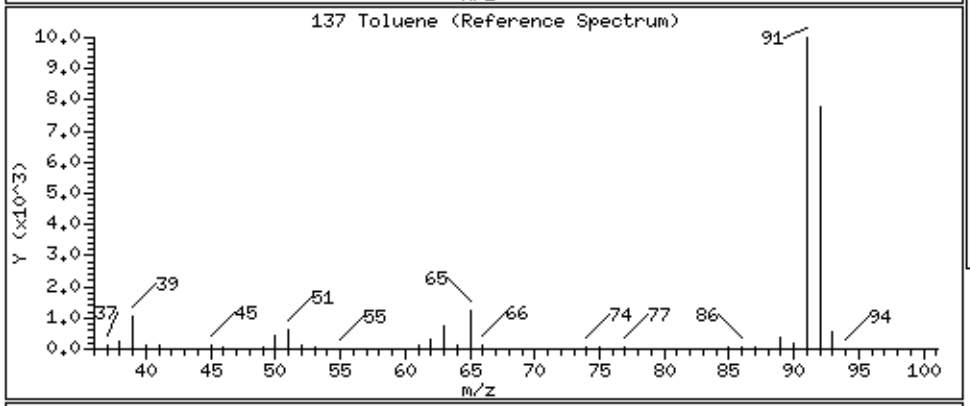
Concentration: 13.822 PPBV

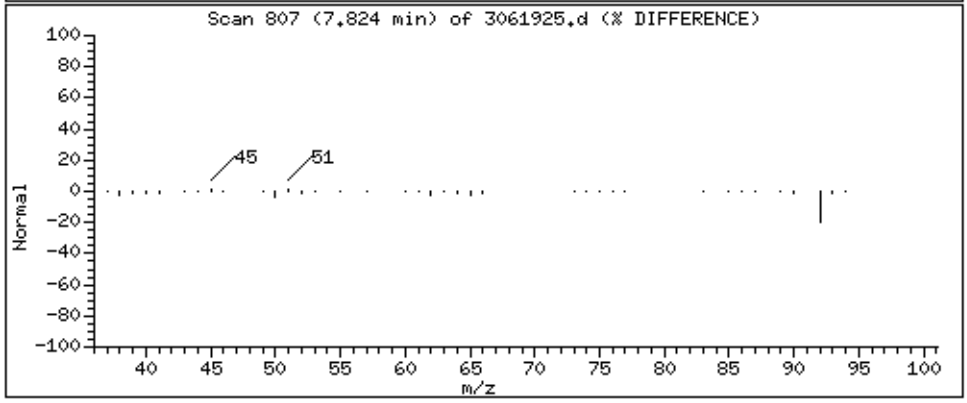


Data File: /chem/msd3.i/19JUN24.b/3061925.d

Date : 20-JUN-2024 02:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7470

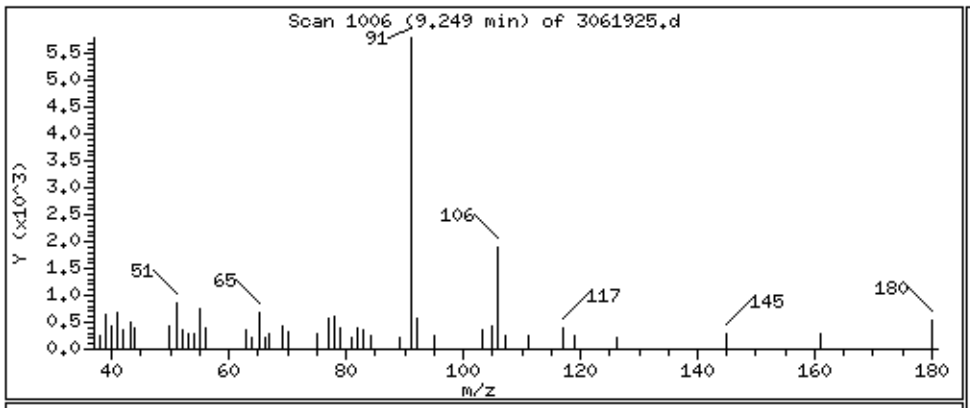
Operator: ACE

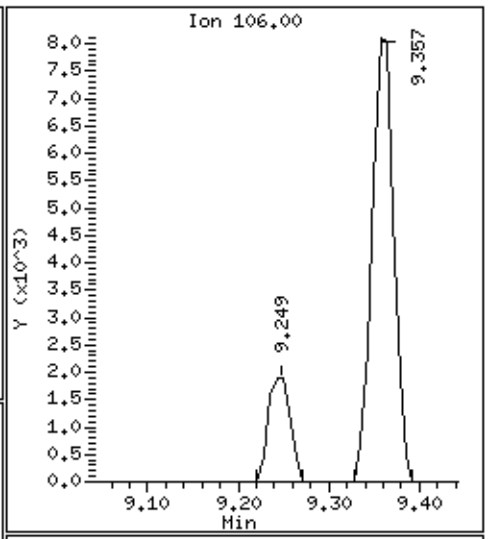
Column phase: RTX-624

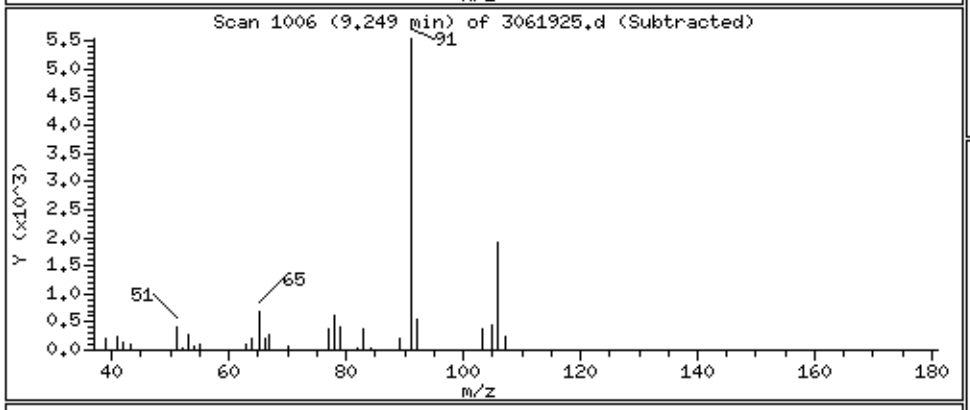
Column diameter: 0.25

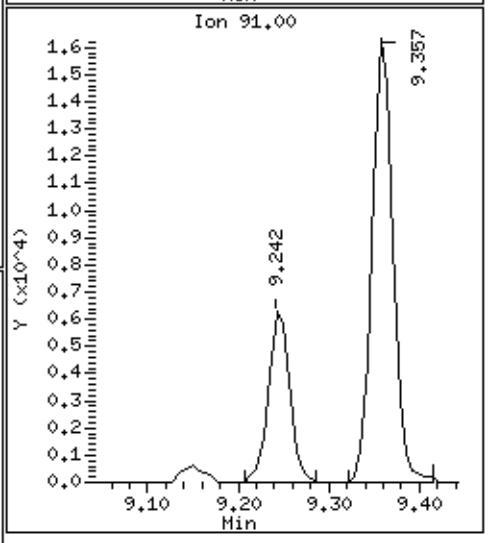
155 Ethyl Benzene

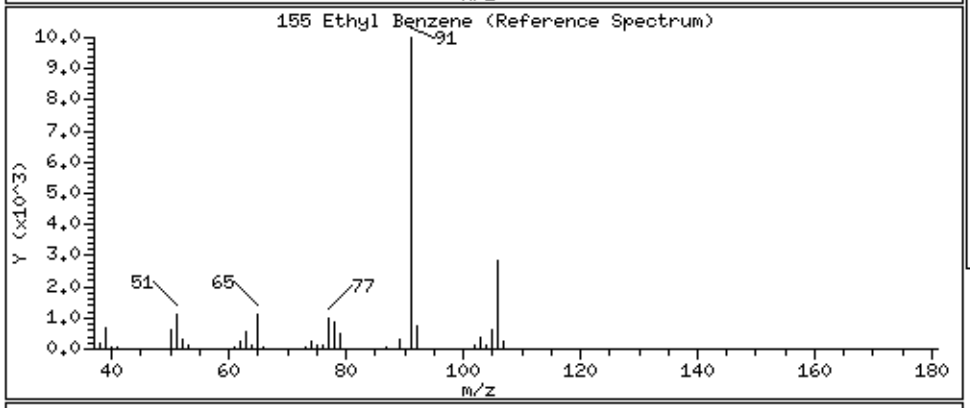
Concentration: 1.821 PPBV

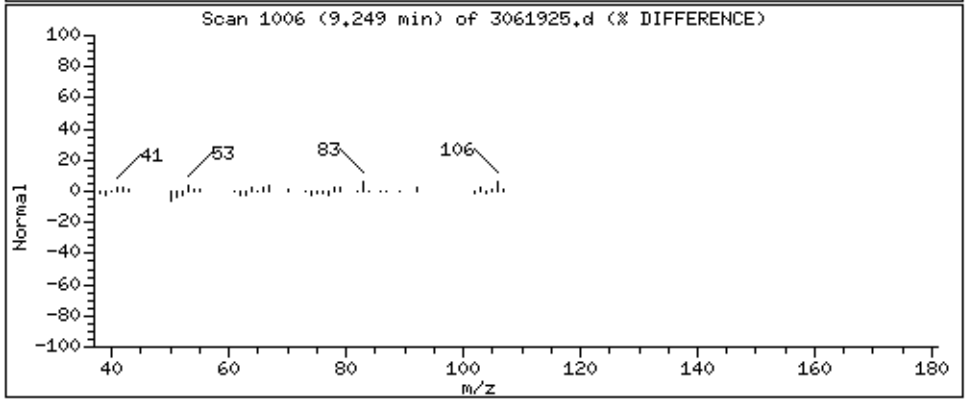


Data File: /chem/msd3.i/19JUN24.b/3061925.d

Date : 20-JUN-2024 02:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7470

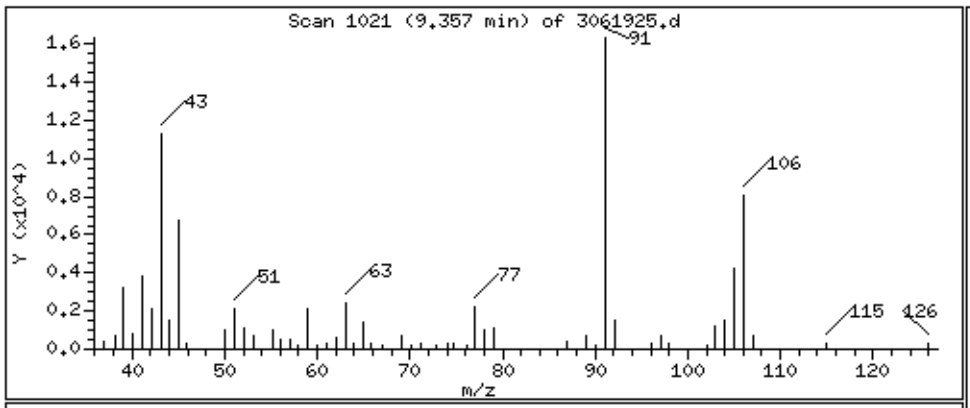
Operator: ACE

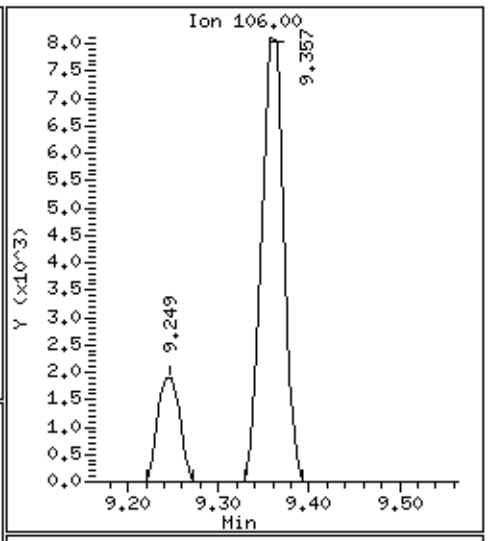
Column phase: RTX-624

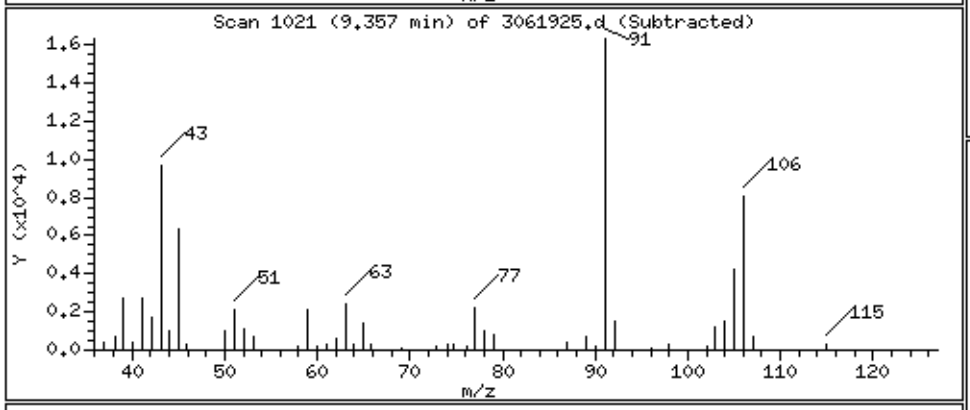
Column diameter: 0.25

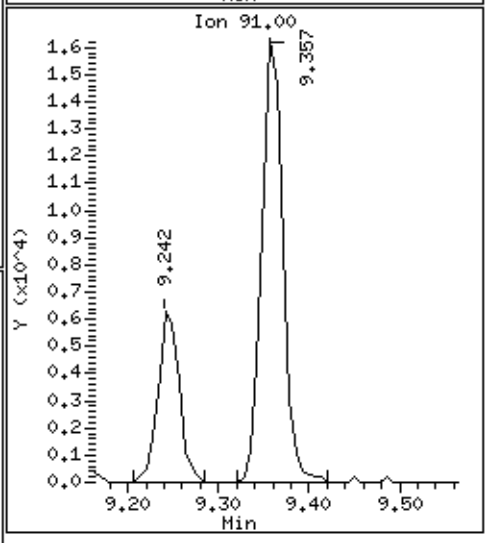
158 m,p-Xylene

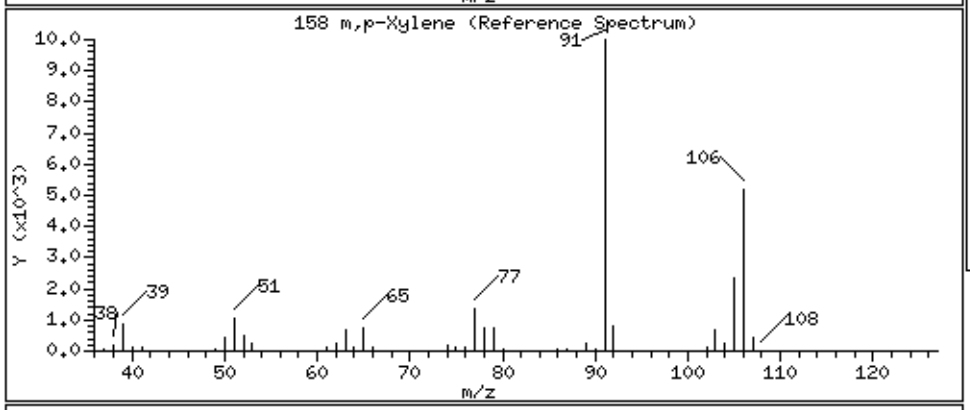
Concentration: 6.146 PPBV

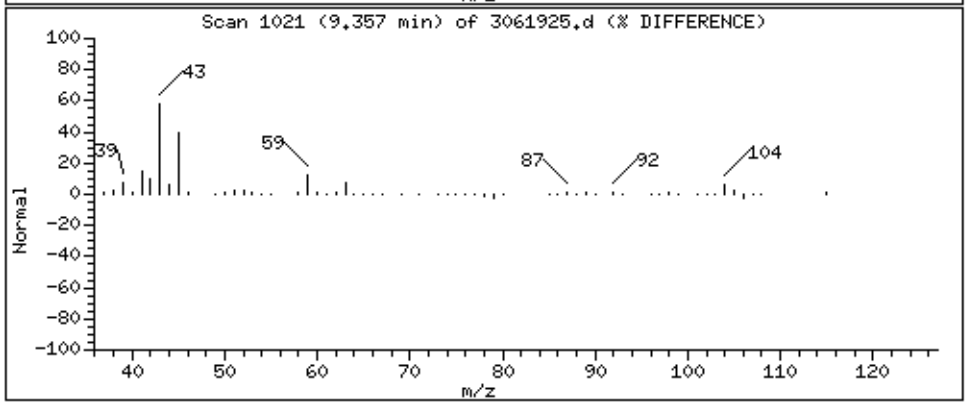


Data File: /chem/msd3.i/19JUN24.b/3061925.d

Date : 20-JUN-2024 02:59

Client ID:

Instrument: msd3.i

Sample Info: 200mL N7470

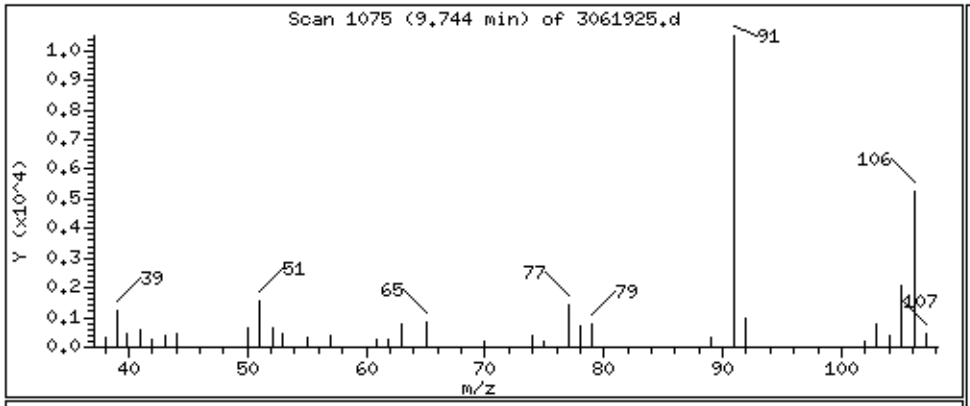
Operator: ACE

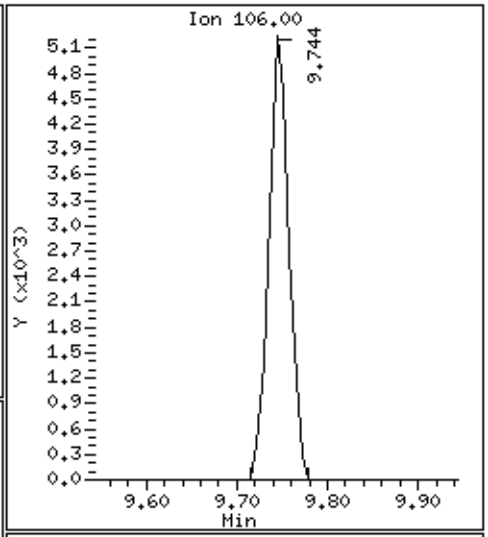
Column phase: RTX-624

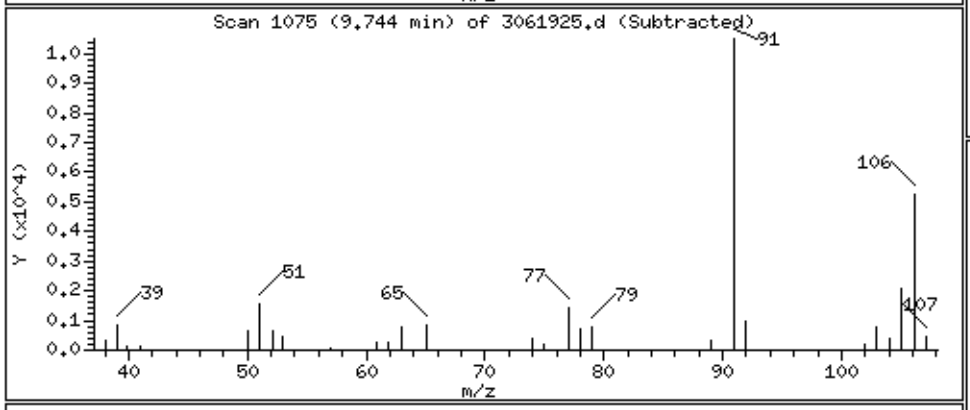
Column diameter: 0.25

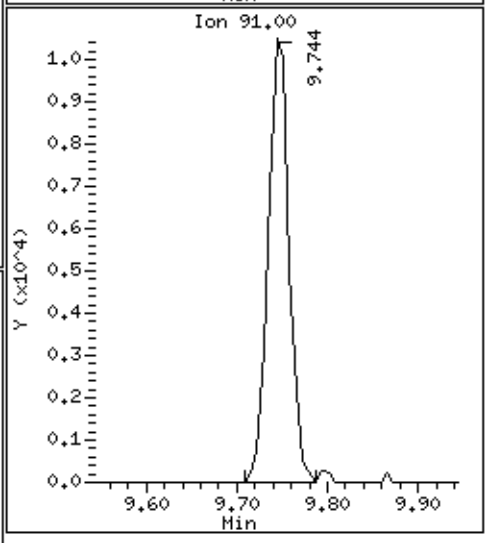
164 o-Xylene

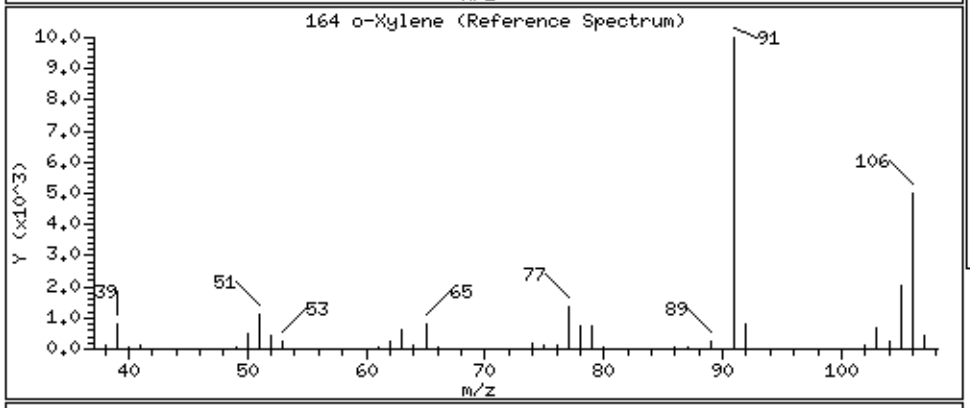
Concentration: 3.824 PPBV

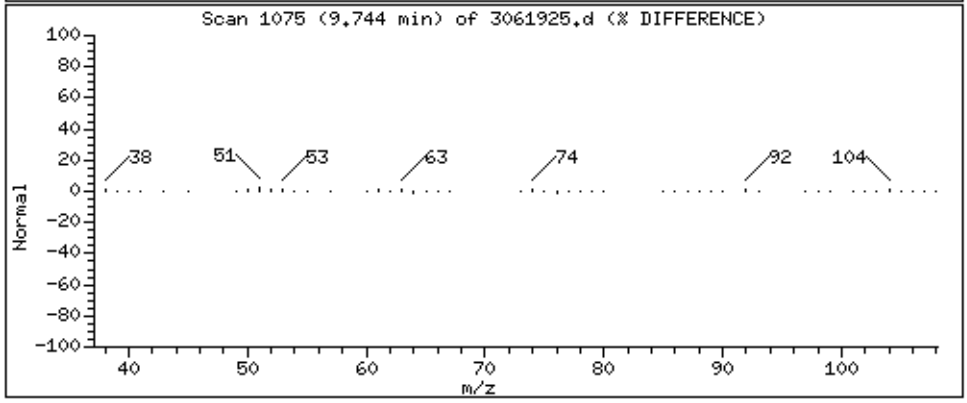


EPA METHOD TO-15 GC/MS FULL SCAN
Titan 1A Semi Annual Groundwater

eurofins | Air Toxics

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV035_JUN24 | | |
| **Lab ID:** | 2406264R2-13A | **Date/Time Analyzed:** | 6/20/24 03:34 AM |
| **Date/Time Collected:** | 6/6/24 09:26 AM | **Dilution Factor:** | 2.10 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061926 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.2 | 3.7 | 4.2 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.1 | 5.7 | 6.3 | Not Detected U |
| Benzene | 71-43-2 | 0.79 | 3.0 | 3.4 | 8.6 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.90 | 3.7 | 4.2 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.1 | 4.1 | 4.6 | 4.5 J |
| m,p-Xylene | 108-38-3 | 0.65 | 4.1 | 9.1 | 12 |
| o-Xylene | 95-47-6 | 1.1 | 4.1 | 4.6 | 5.3 |
| Toluene | 108-88-3 | 0.99 | 3.6 | 7.9 | 24 |
| trans-1,2-Dichloroethene | 156-60-5 | 1.9 | 3.7 | 4.2 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.7 | 5.1 | 5.6 | 1500 |
| Vinyl Chloride | 75-01-4 | 2.2 | 2.4 | 2.7 | Not Detected U |

U = The analyte was not detected above the MDL.
J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 91 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 103 |
| Toluene-d8 | 2037-26-5 | 70-130 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061926.d
Lab Smp Id: 2406264-13A
Inj Date : 20-JUN-2024 03:34
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N8280
Misc Info : 6.1 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 9
Dil Factor: 2.10000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | | CAS #: 74-97-5 | |
| 5.432 | 5.432 (1.000) | 130 | 94208 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 72297 | | | | 47.79- 107.79 | 76.74 |
| 5.432 | 5.432 (1.000) | 49 | 138655 | | | | 131.33- 191.33 | 147.18 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | | CAS #: 17060-07-0 | |
| 6.026 | 6.019 (1.109) | 65 | 111187 | 22.6592 | 22.659 | | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.109) | 67 | 58358 | | | | 23.17- 83.17 | 52.49 |
| 102 Benzene | | | | | | | CAS #: 71-43-2 | |
| 5.990 | 5.990 (0.933) | 78 | 8821 | 1.29051 | 2.710 | | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 2604 | | | | 0.00- 53.69 | 29.52 |
| * 108 1,4-Difluorobenzene | | | | | | | CAS #: 540-36-3 | |
| 6.420 | 6.420 (1.000) | 114 | 339493 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 49290 | | | | 0.00- 45.65 | 14.52 |
| 111 Trichloroethene | | | | | | | CAS #: 79-01-6 | |
| 6.628 | 6.628 (1.032) | 95 | 437747 | 132.824 | 278.93 | | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 495972 | | | | 80.23- 140.23 | 113.30 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 111 Trichloroethene (continued) | | | | | | | |
| 6.628 | 6.628 (1.032) | 97 | 281938 | | | 34.78- 94.78 | 64.41 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 319419 | 24.2025 | 24.202 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 35734 | | | 0.00- 41.42 | 11.19 |
| 7.760 | 7.760 (1.209) | 100 | 215064 | | | 37.54- 97.54 | 67.33 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 28198 | 2.98006 | 6.258 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 16542 | | | 27.89- 87.89 | 58.66 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 347010 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 173105 | | | 22.92- 82.92 | 49.88 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.250 | 9.242 (1.011) | 106 | 2005 | 0.49579 | 1.041 | 80.00- 120.00 | 100.00(a) |
| 9.242 | 9.242 (1.010) | 91 | 5806 | | | 281.09- 341.09 | 289.58 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 6687 | 1.32663 | 2.786 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.364 (1.023) | 91 | 13349 | | | 170.33- 230.33 | 199.63 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.744 (1.066) | 106 | 2794 | 0.58453 | 1.228 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.744 (1.066) | 91 | 5806 | | | 181.23- 241.23 | 207.80 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 264801 | 25.6775 | 25.678 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 285797 | | | 88.49- 148.49 | 107.93 |
| 10.288 | 10.288 (1.124) | 176 | 255457 | | | 66.73- 126.73 | 96.47 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061926.d
Lab Smp Id: 2406264-13A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 6.1 Hg->9.9 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 94208 | 4.66 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 339493 | 3.58 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 347010 | 6.76 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:38

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-13A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 6.1 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.659 | 90.64 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.202 | 96.81 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.678 | 102.71 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061926.d



Date : 20-JUN-2024 03:34

Client ID:

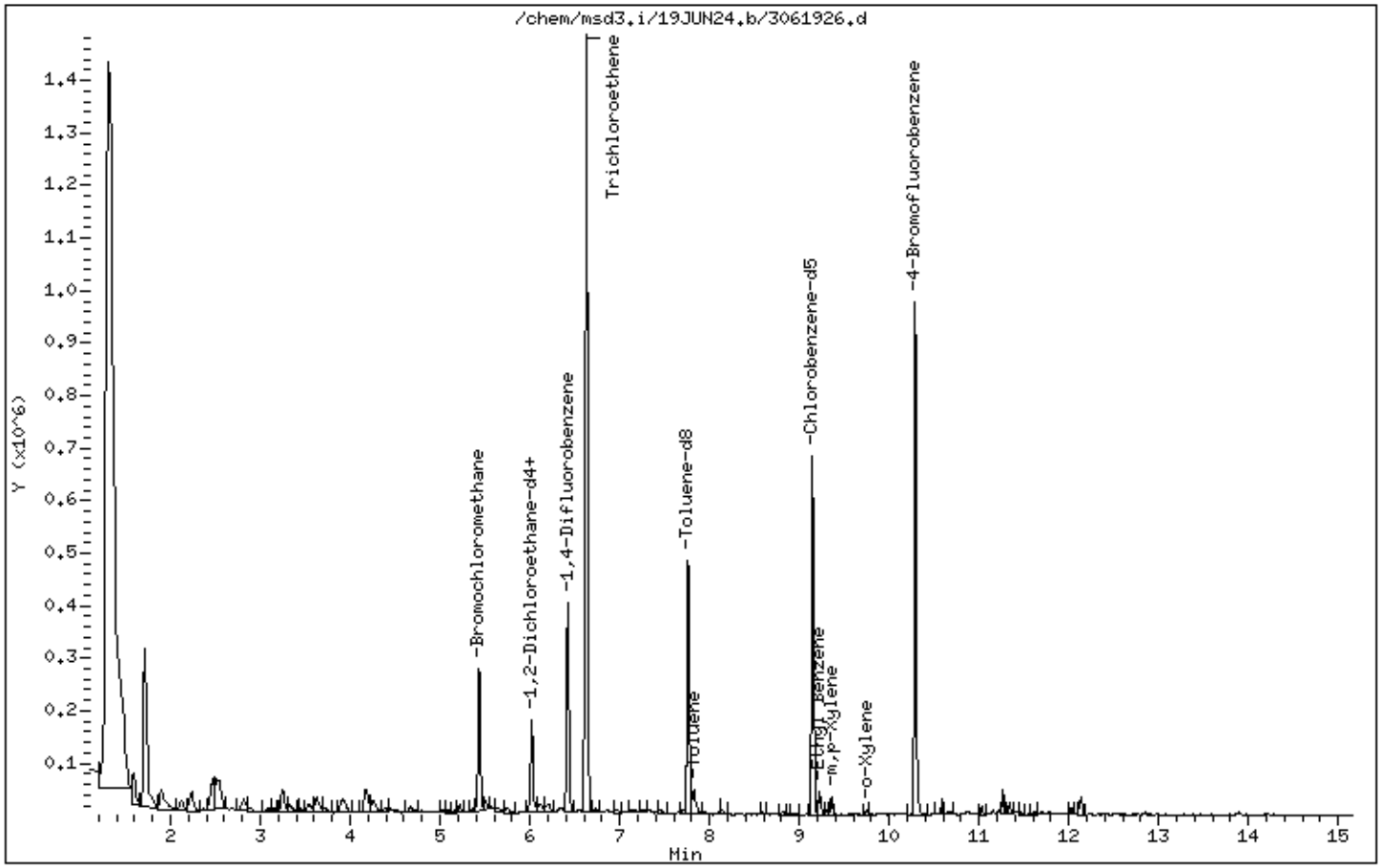
Instrument: msd3.i

Sample Info: 200mL N8280

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061926.d

Date : 20-JUN-2024 03:34

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8280

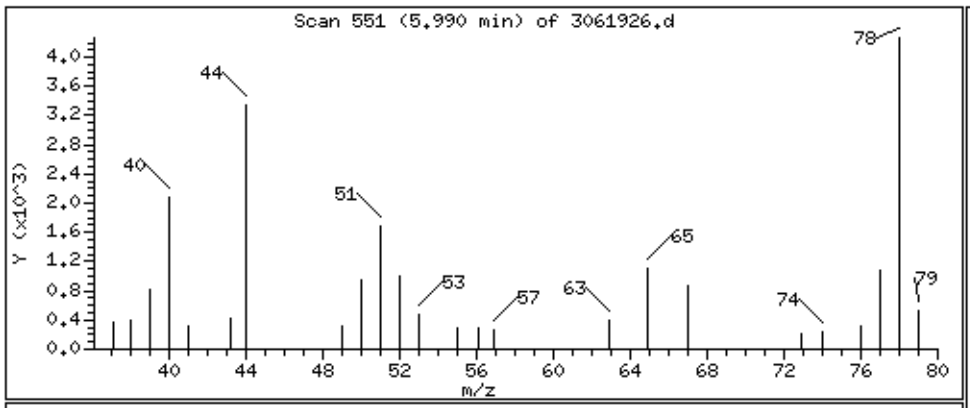
Operator: ACE

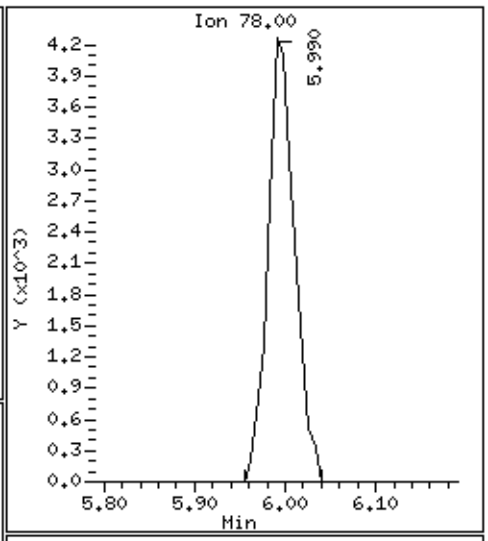
Column phase: RTX-624

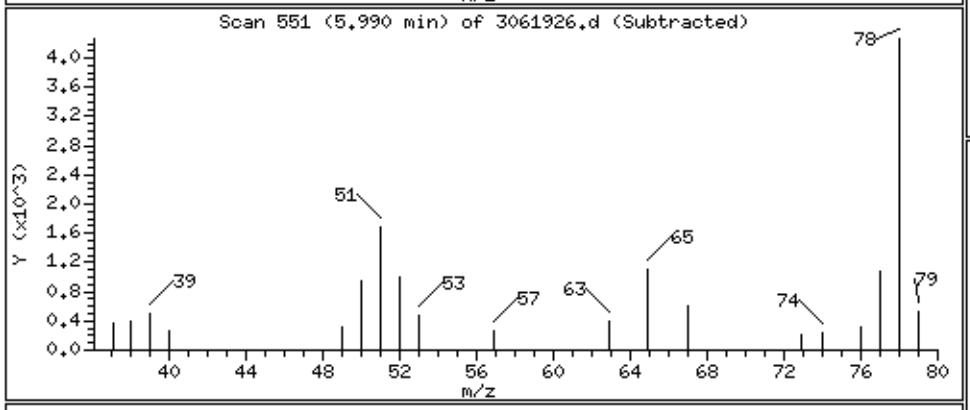
Column diameter: 0.25

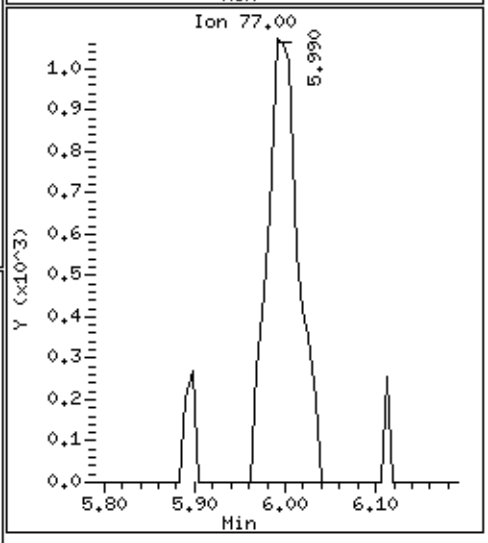
102 Benzene

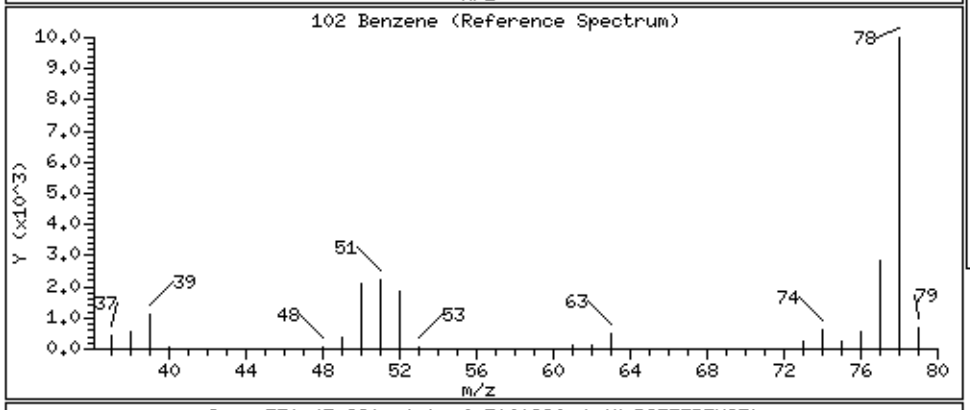
Concentration: 2.710 PPBV

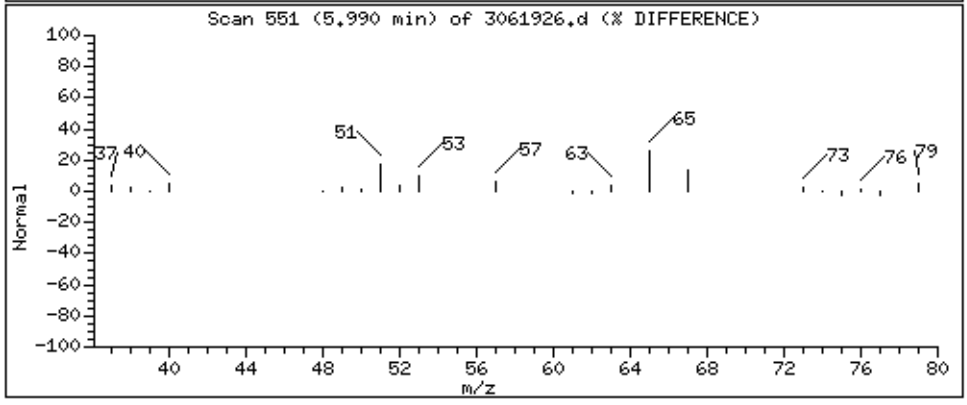


Data File: /chem/msd3.i/19JUN24.b/3061926.d

Date : 20-JUN-2024 03:34

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8280

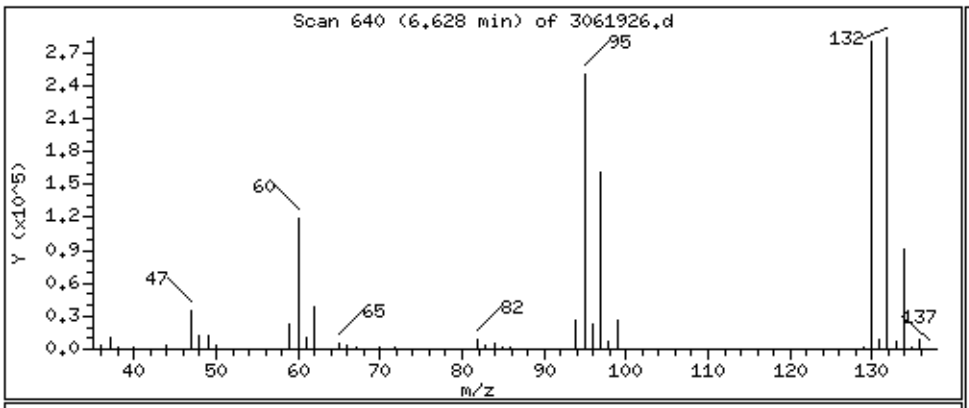
Operator: ACE

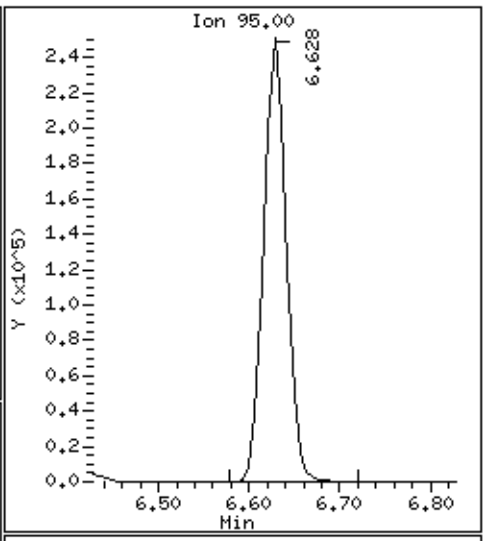
Column phase: RTX-624

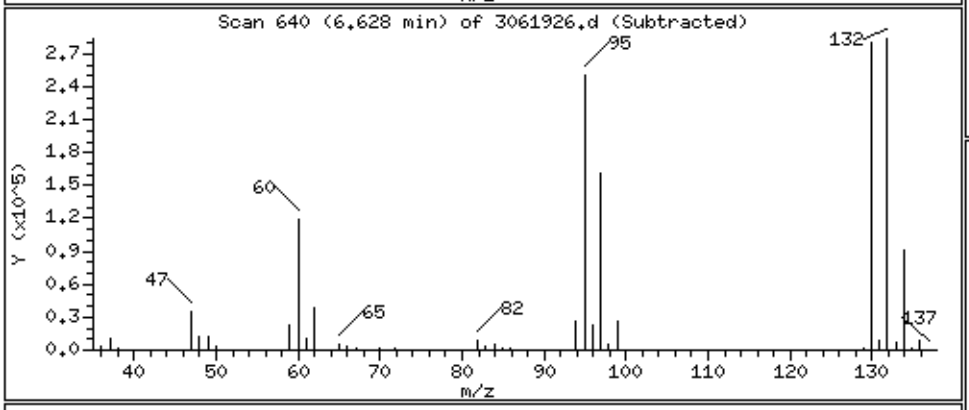
Column diameter: 0.25

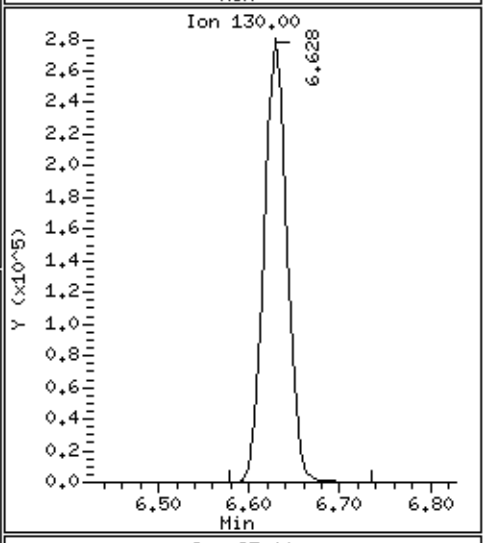
111 Trichloroethene

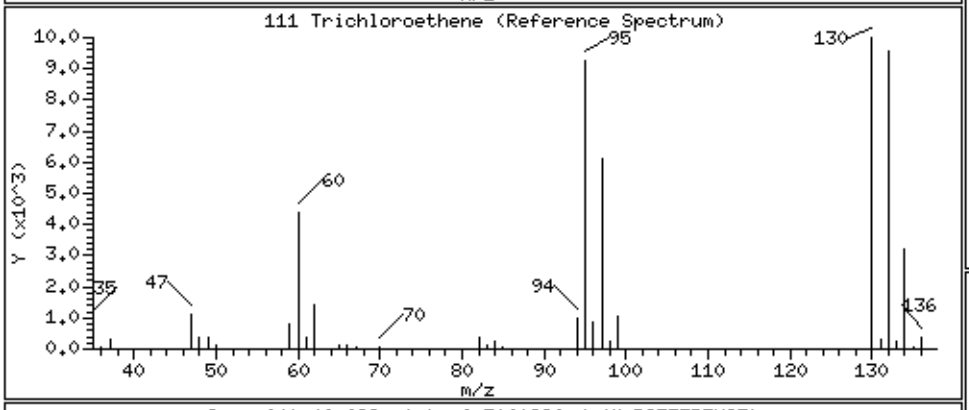
Concentration: 278.93 PPBV

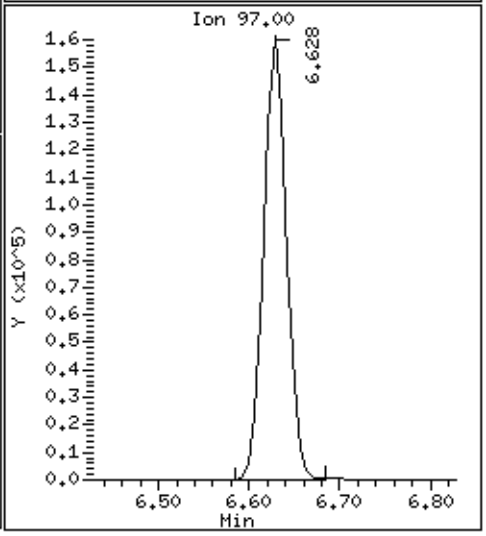


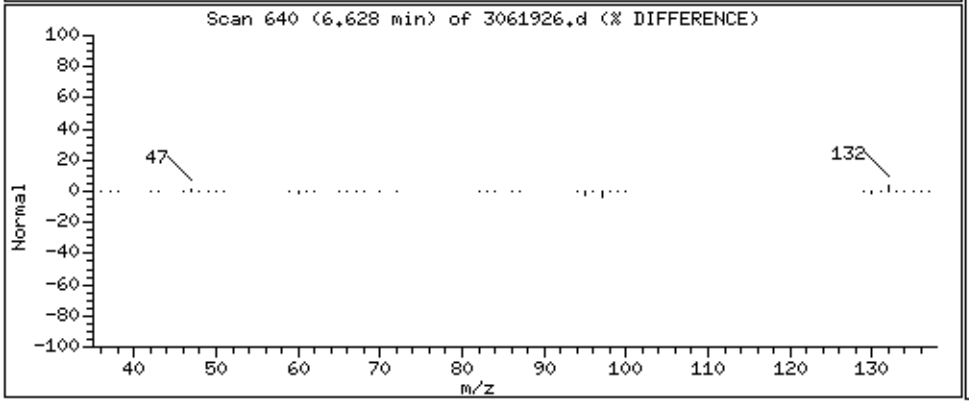



Data File: /chem/msd3.i/19JUN24.b/3061926.d

Date : 20-JUN-2024 03:34

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8280

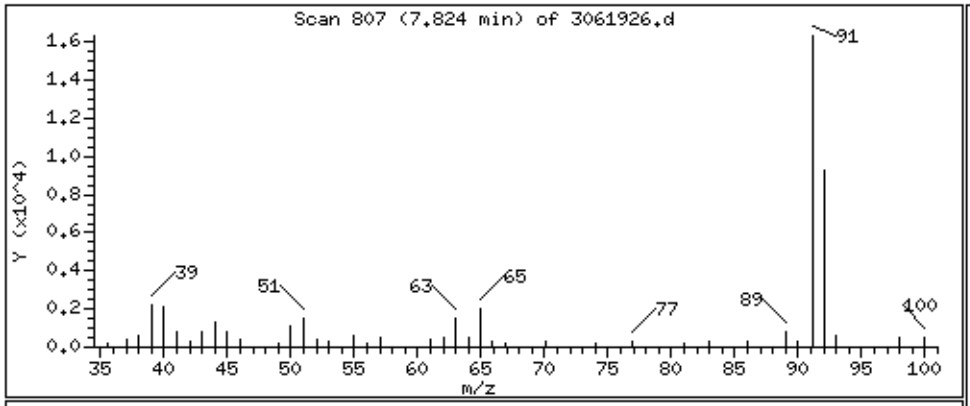
Operator: ACE

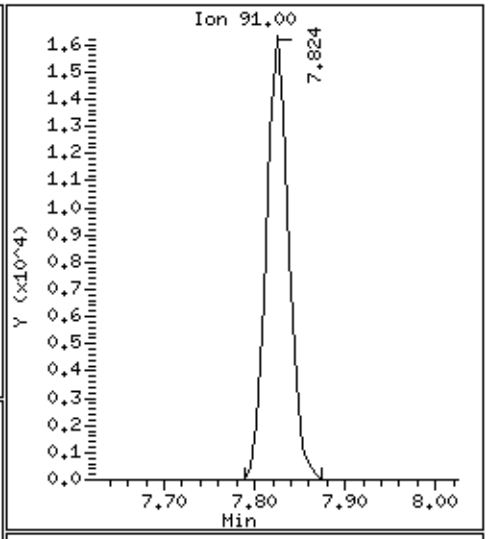
Column phase: RTX-624

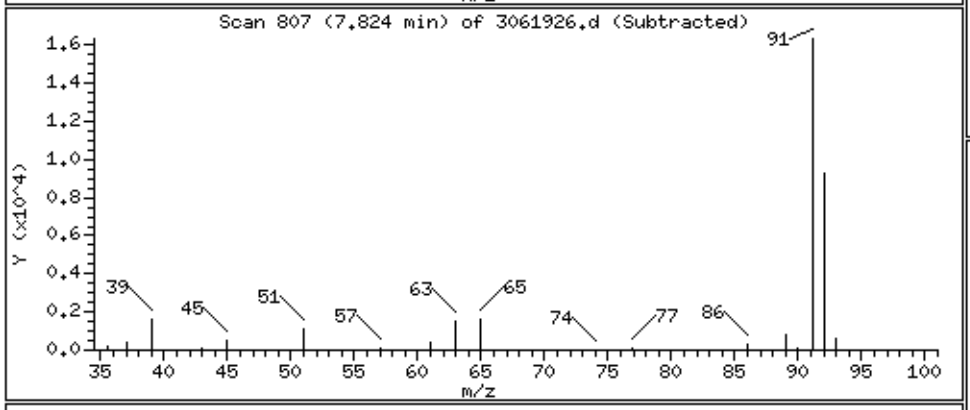
Column diameter: 0.25

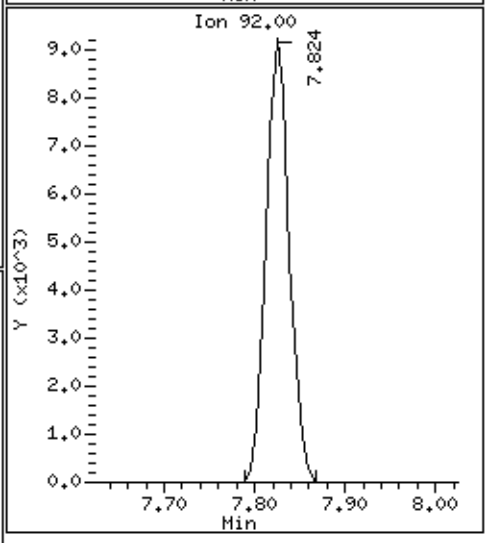
137 Toluene

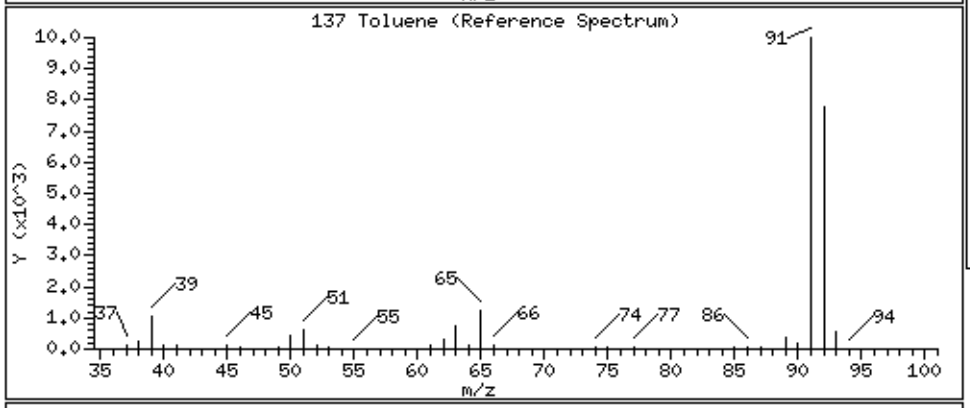
Concentration: 6.258 PPBV

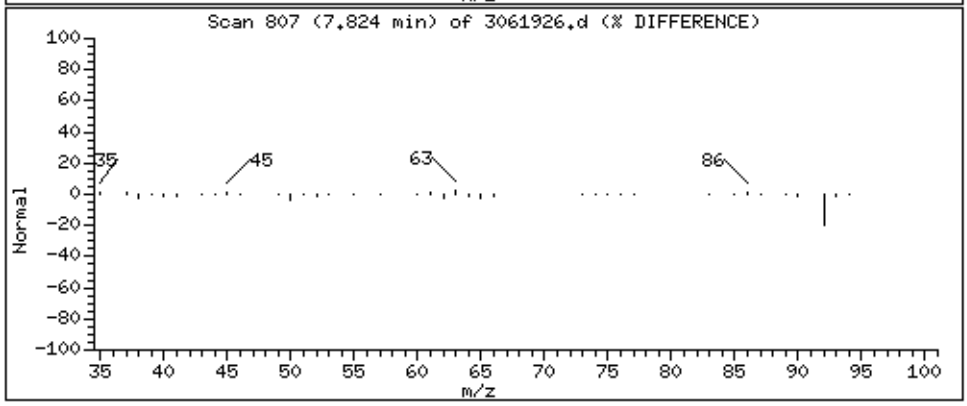


Data File: /chem/msd3.i/19JUN24.b/3061926.d

Date : 20-JUN-2024 03:34

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8280

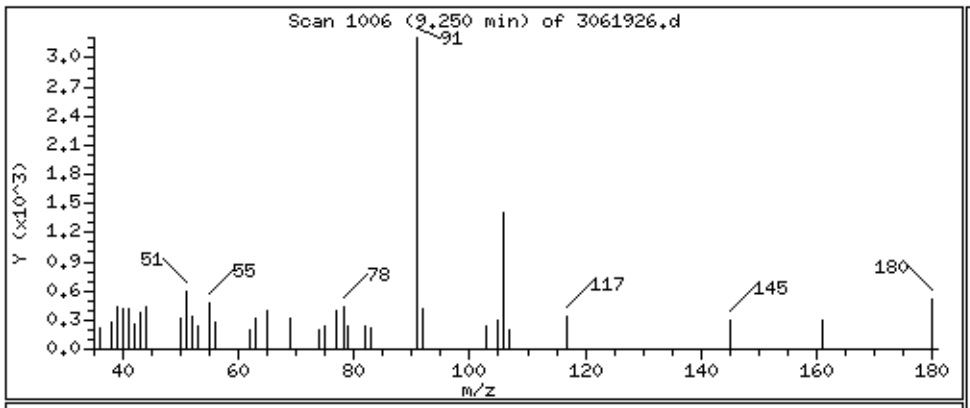
Operator: ACE

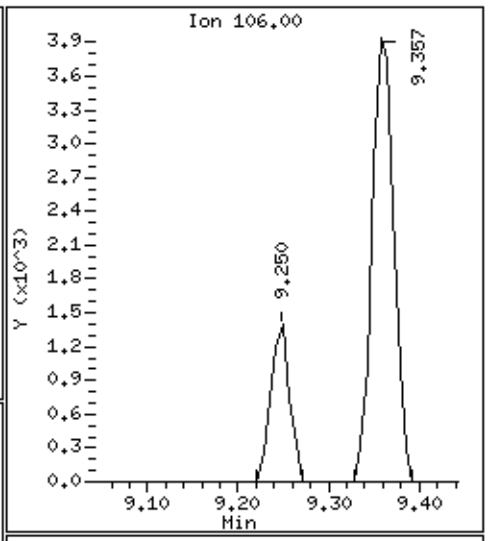
Column phase: RTX-624

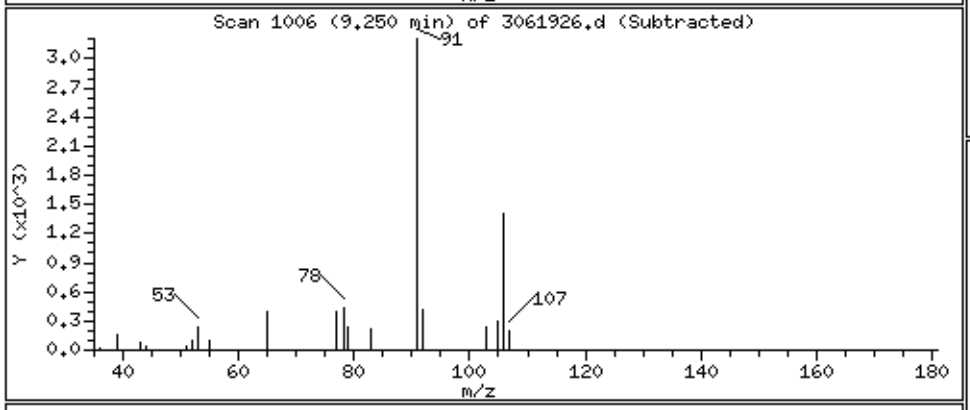
Column diameter: 0.25

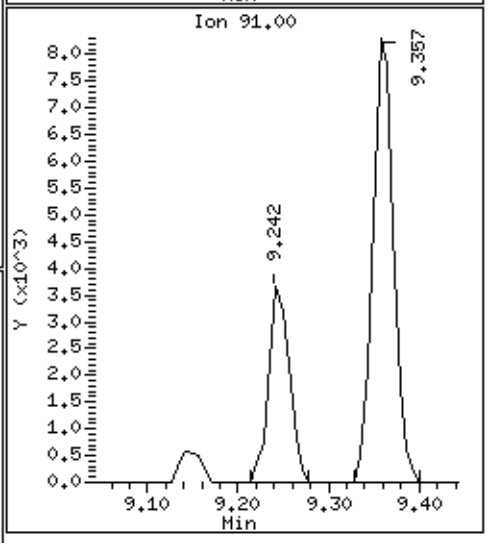
155 Ethyl Benzene

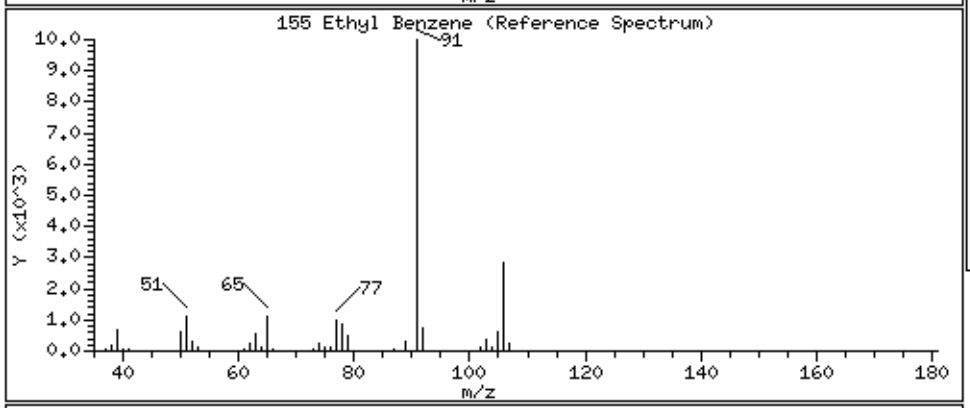
Concentration: 1.041 PPBV

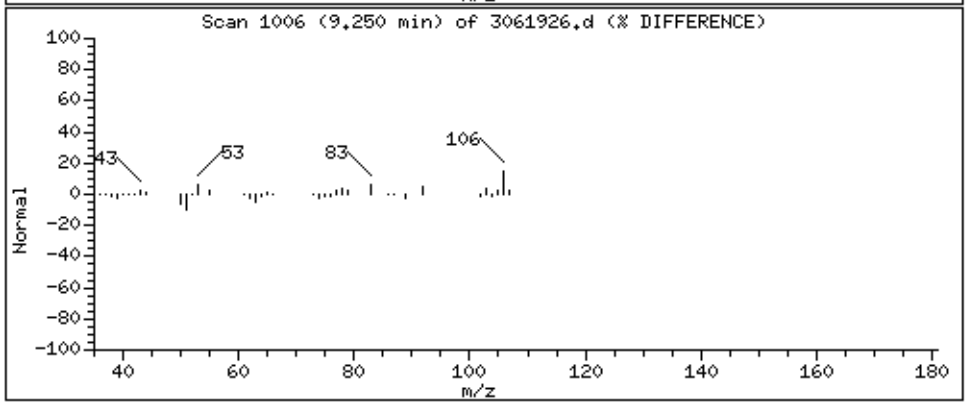


Data File: /chem/msd3.i/19JUN24.b/3061926.d

Date : 20-JUN-2024 03:34

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8280

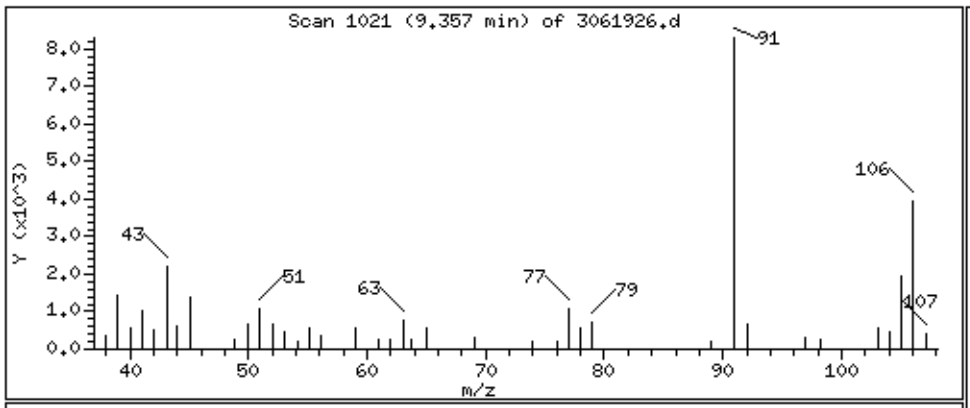
Operator: ACE

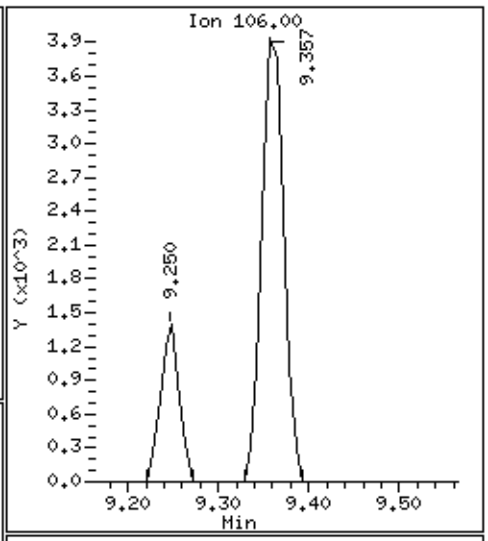
Column phase: RTX-624

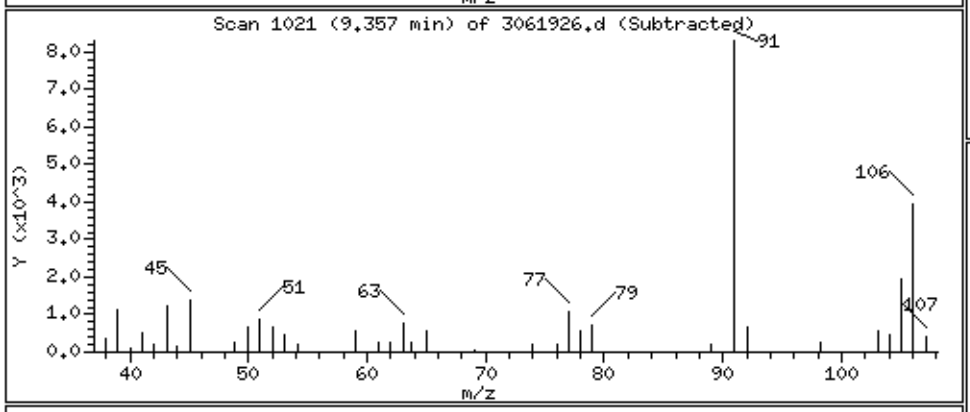
Column diameter: 0.25

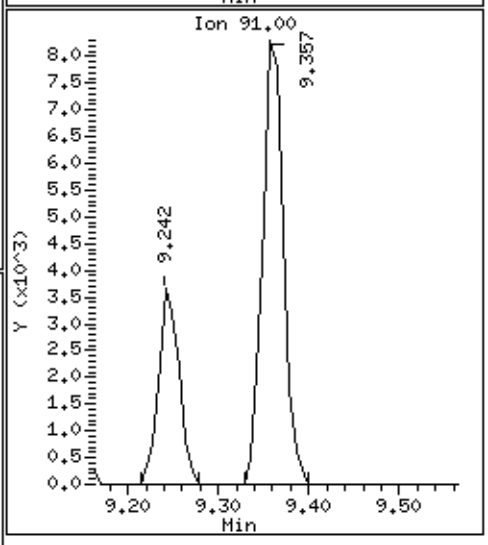
158 m,p-Xylene

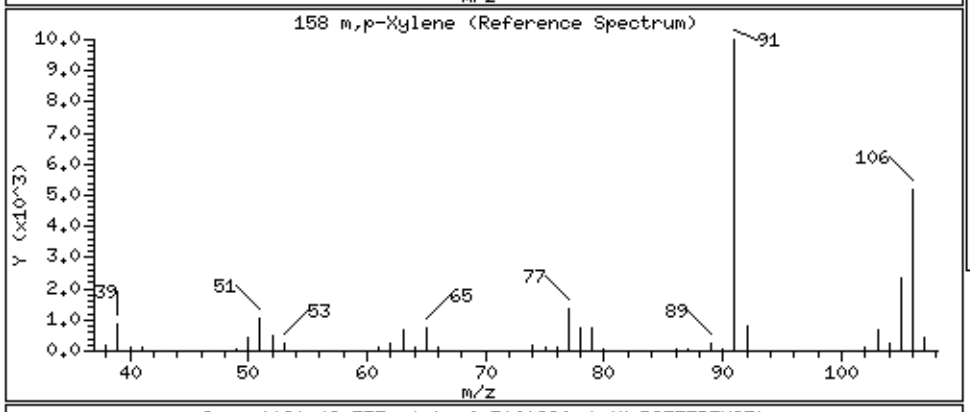
Concentration: 2.786 PPBV

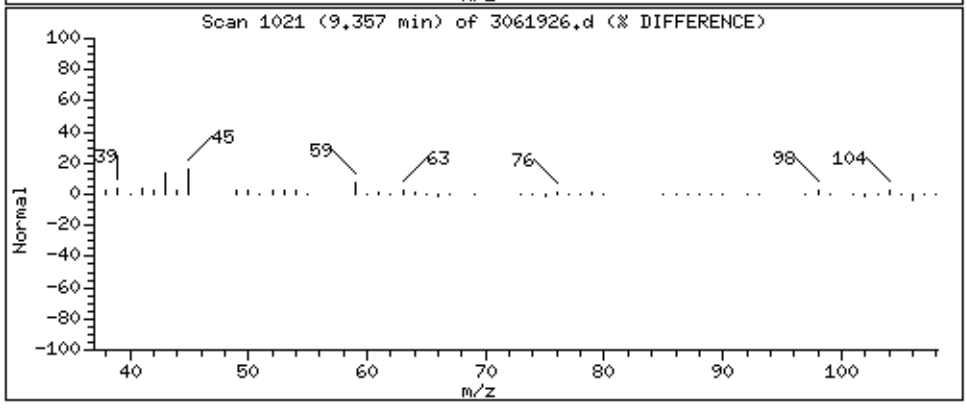


Data File: /chem/msd3.i/19JUN24.b/3061926.d

Date : 20-JUN-2024 03:34

Client ID:

Instrument: msd3.i

Sample Info: 200mL N8280

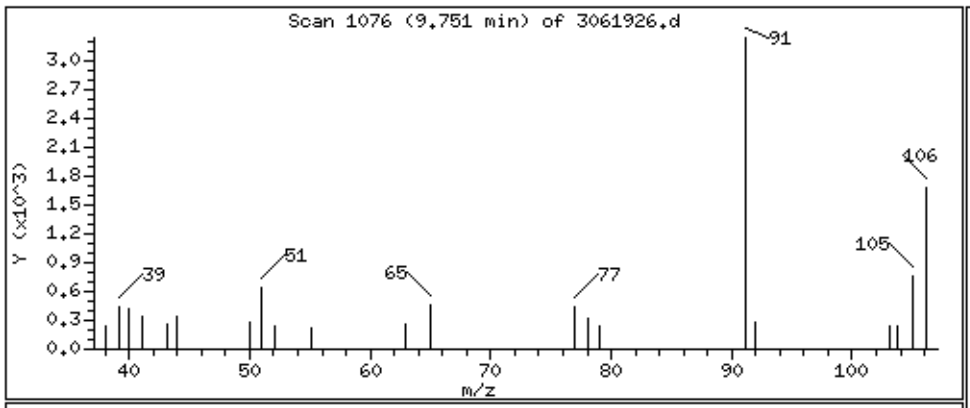
Operator: ACE

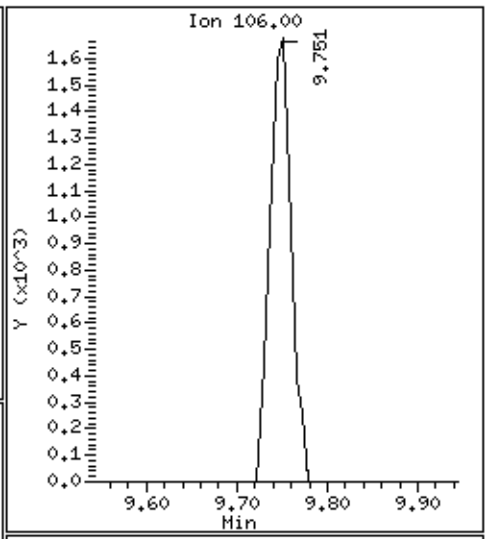
Column phase: RTX-624

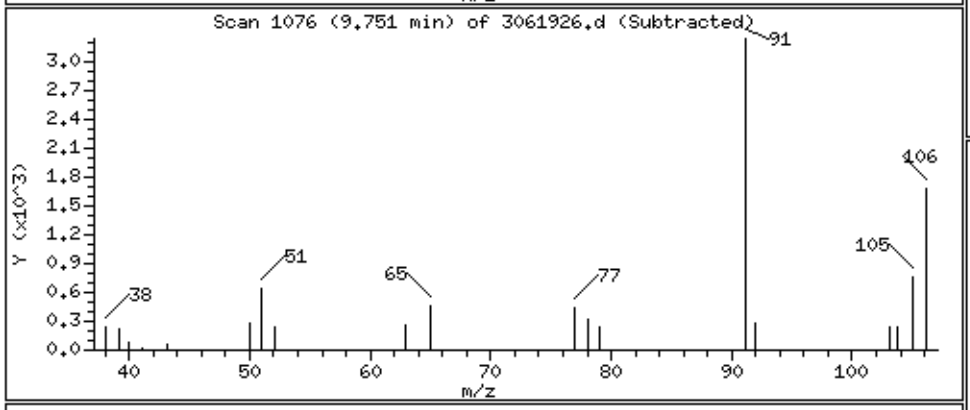
Column diameter: 0.25

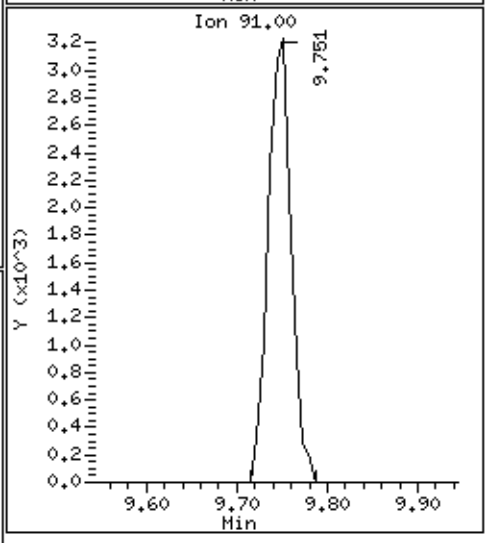
164 o-Xylene

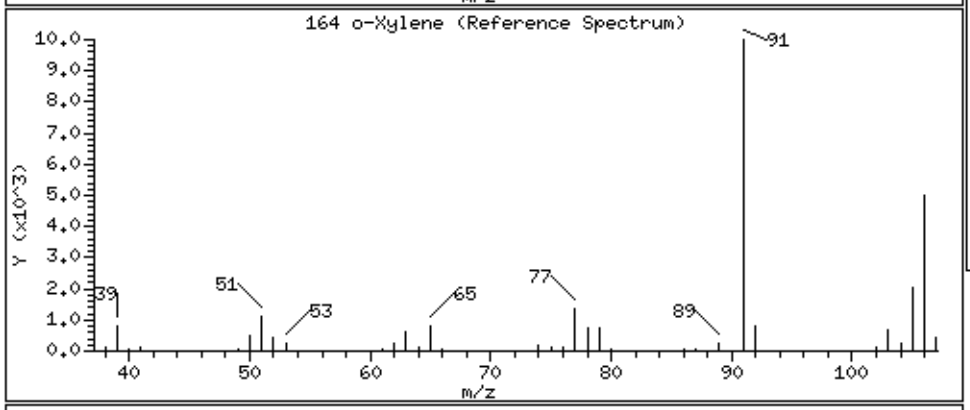
Concentration: 1.228 PPBV

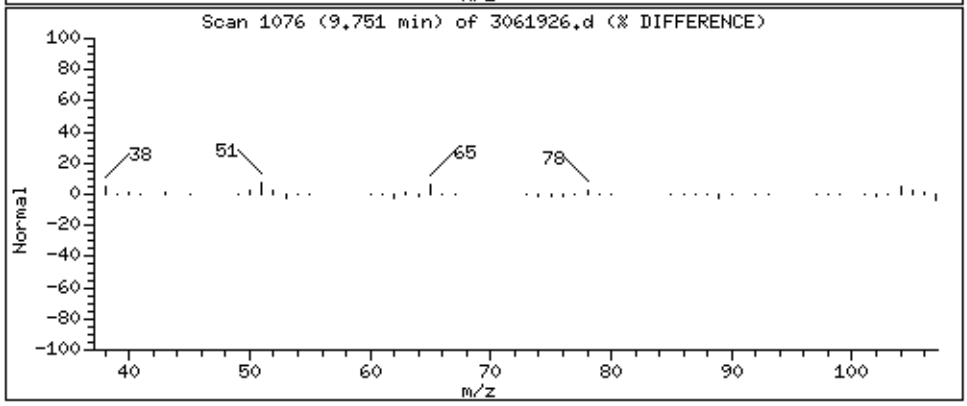


EPA METHOD TO-15 GC/MS FULL SCAN
Titan 1A Semi Annual Groundwater

| | | | |
|---|---|---|---|
| **Client ID:** | T1AMF-SV035_JUN24_FD | | |
| **Lab ID:** | 2406264R2-14A | **Date/Time Analyzed:** | 6/20/24 04:09 AM |
| **Date/Time Collected:** | 6/6/24 09:22 AM | **Dilution Factor:** | 2.15 |
| **Media:** | 1 Liter Summa Canister | **Instrument/Filename:** | msd3.i / 3061927 |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 2.2 | 3.8 | 4.3 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 2.2 | 5.8 | 6.5 | Not Detected U |
| Benzene | 71-43-2 | 0.81 | 3.1 | 3.4 | 9.3 |
| cis-1,2-Dichloroethene | 156-59-2 | 0.93 | 3.8 | 4.3 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 1.1 | 4.2 | 4.7 | 4.7 |
| m,p-Xylene | 108-38-3 | 0.67 | 4.2 | 9.3 | 13 |
| o-Xylene | 95-47-6 | 1.1 | 4.2 | 4.7 | 5.7 |
| Toluene | 108-88-3 | 1.0 | 3.6 | 8.1 | 27 |
| trans-1,2-Dichloroethene | 156-60-5 | 2.0 | 3.8 | 4.3 | Not Detected U |
| Trichloroethene | 79-01-6 | 1.7 | 5.2 | 5.8 | 1500 |
| Vinyl Chloride | 75-01-4 | 2.3 | 2.5 | 2.7 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 102 |
| Toluene-d8 | 2037-26-5 | 70-130 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061927.d
Lab Smp Id: 2406264-14A
Inj Date : 20-JUN-2024 04:09
Operator : ACE Inst ID: msd3.i
Smp Info : 200mL N6955
Misc Info : 6.7 Hg->9.9 psi
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 10
Dil Factor: 2.15000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | | | CAS #: 74-97-5 | |
| 5.439 | 5.432 (1.000) | 130 | 92482 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 72754 | | | | 47.79- 107.79 | 78.67 |
| 5.432 | 5.432 (1.000) | 49 | 137429 | | | | 131.33- 191.33 | 148.60 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | | CAS #: 17060-07-0 | |
| 6.019 | 6.019 (1.107) | 65 | 110458 | 22.9308 | 22.931 | | 80.00- 120.00 | 100.00 |
| 6.026 | 6.019 (1.108) | 67 | 57511 | | | | 23.17- 83.17 | 52.07 |
| 102 Benzene | | | | | | | CAS #: 71-43-2 | |
| 5.990 | 5.990 (0.933) | 78 | 9277 | 1.35782 | 2.919 | | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 2281 | | | | 0.00- 53.69 | 24.59 |
| * 108 1,4-Difluorobenzene | | | | | | | CAS #: 540-36-3 | |
| 6.420 | 6.420 (1.000) | 114 | 339343 | 25.0000 | | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 49047 | | | | 0.00- 45.65 | 14.45 |
| 111 Trichloroethene | | | | | | | CAS #: 79-01-6 | |
| 6.628 | 6.628 (1.032) | 95 | 423769 | 128.640 | 276.58 | | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 479407 | | | | 80.23- 140.23 | 113.13 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 111 Trichloroethene (continued) | | | | | | | |
| 6.628 | 6.628 (1.032) | 97 | 274390 | | | 34.78- 94.78 | 64.75 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.760 (1.210) | 98 | 319877 | 24.2479 | 24.248 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 35762 | | | 0.00- 41.42 | 11.18 |
| 7.760 | 7.760 (1.209) | 100 | 214195 | | | 37.54- 97.54 | 66.96 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 31269 | 3.30608 | 7.108 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 18048 | | | 27.89- 87.89 | 57.72 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 344875 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 173978 | | | 22.92- 82.92 | 50.45 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 2033 | 0.50582 | 1.088 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 6064 | | | 281.09- 341.09 | 298.28 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 7221 | 1.44144 | 3.099 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.364 (1.023) | 91 | 15139 | | | 170.33- 230.33 | 209.65 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.744 (1.066) | 106 | 2924 | 0.61552 | 1.323 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 6145 | | | 181.23- 241.23 | 210.16 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 262176 | 25.5803 | 25.580 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 287139 | | | 88.49- 148.49 | 109.52 |
| 10.288 | 10.288 (1.124) | 176 | 255691 | | | 66.73- 126.73 | 97.53 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061927.d
Lab Smp Id: 2406264-14A
Analysis Type: VOA
Quant Type: ISTD
Operator: ACE
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 6.7 Hg->9.9 psi

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 92482 | 2.75 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 339343 | 3.53 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 344875 | 6.10 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.44 | 0.13 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:38

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 2406264-14A
Level: LOW Operator: ACE
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 6.7 Hg->9.9 psi

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.931 | 91.72 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.248 | 96.99 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.580 | 102.32 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061927.d



Date : 20-JUN-2024 04:09

Client ID:

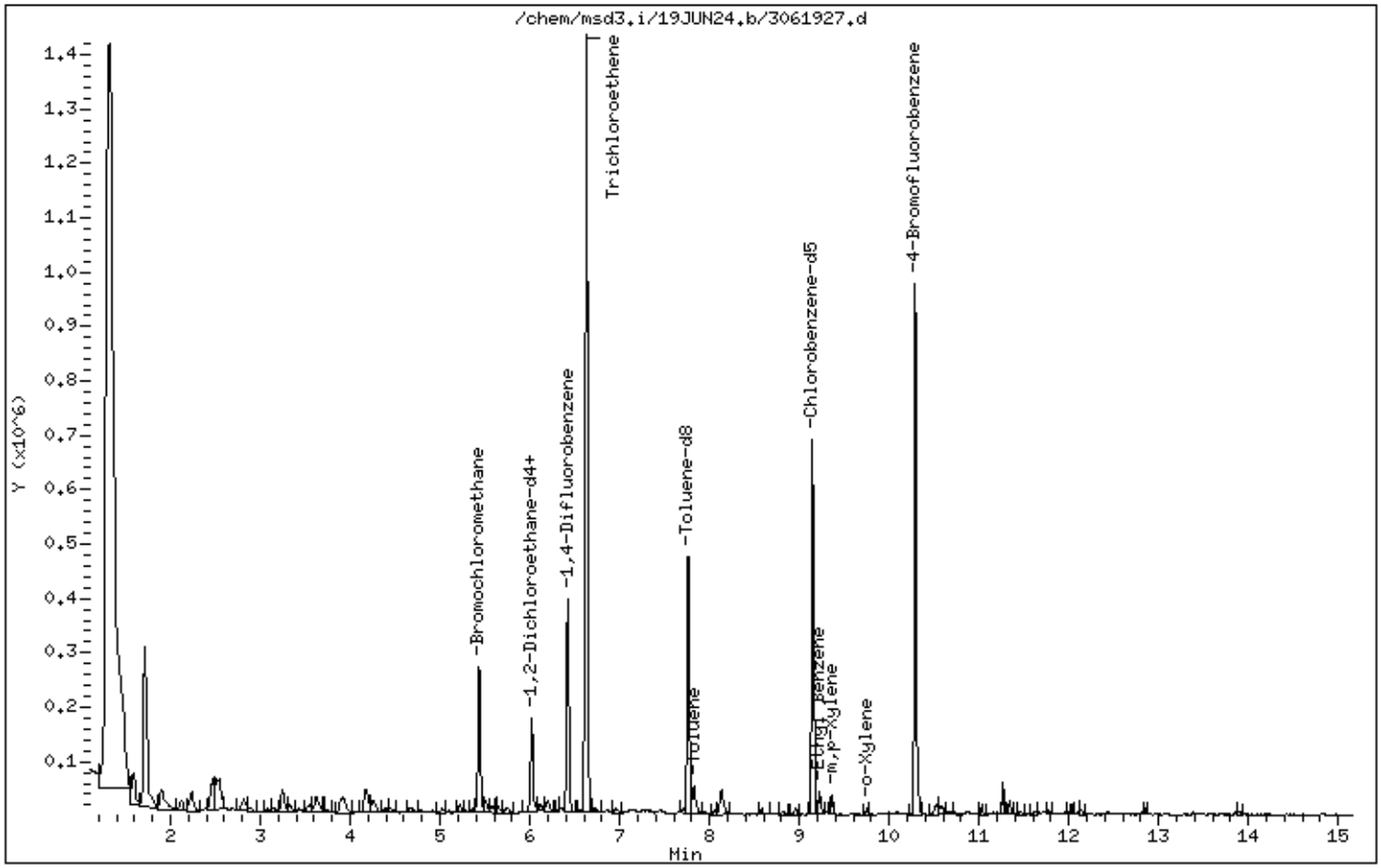
Instrument: msd3.i

Sample Info: 200mL N6955

Operator: ACE

Column phase: RTX-624

Column diameter: 0.25



Data File: /chem/msd3.i/19JUN24.b/3061927.d

Date : 20-JUN-2024 04:09

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6955

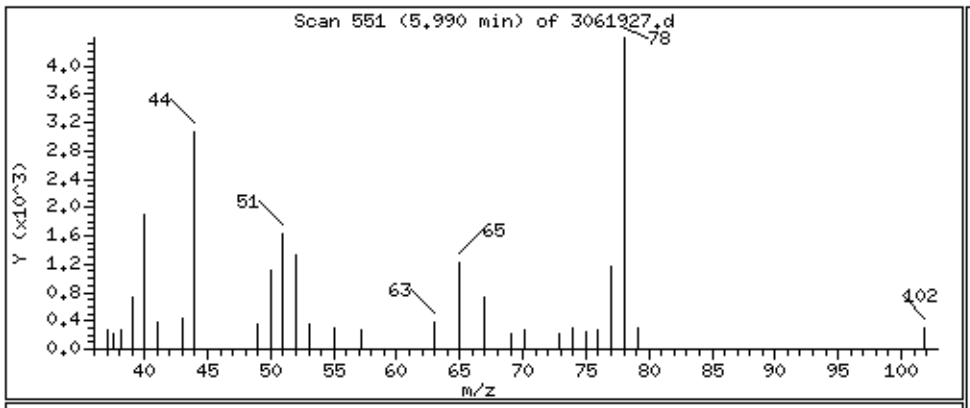
Operator: ACE

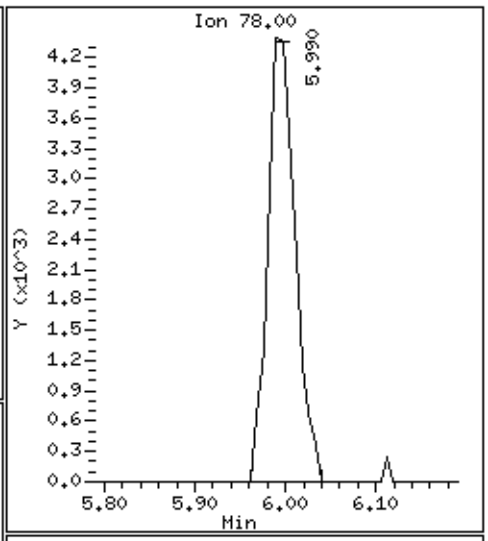
Column phase: RTX-624

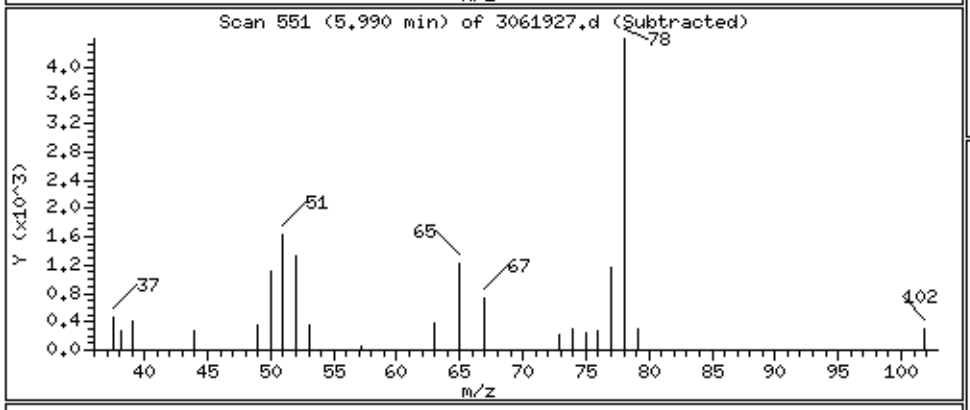
Column diameter: 0.25

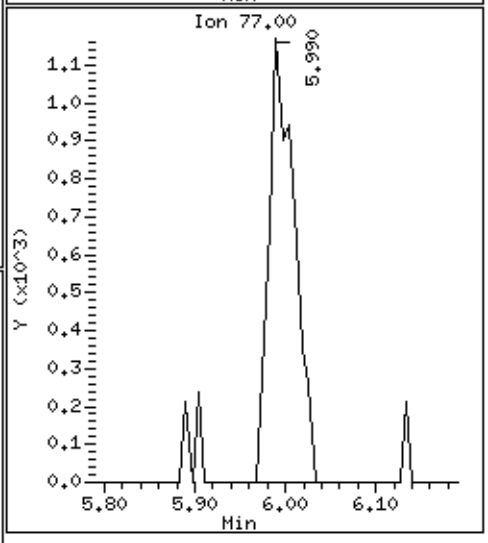
102 Benzene

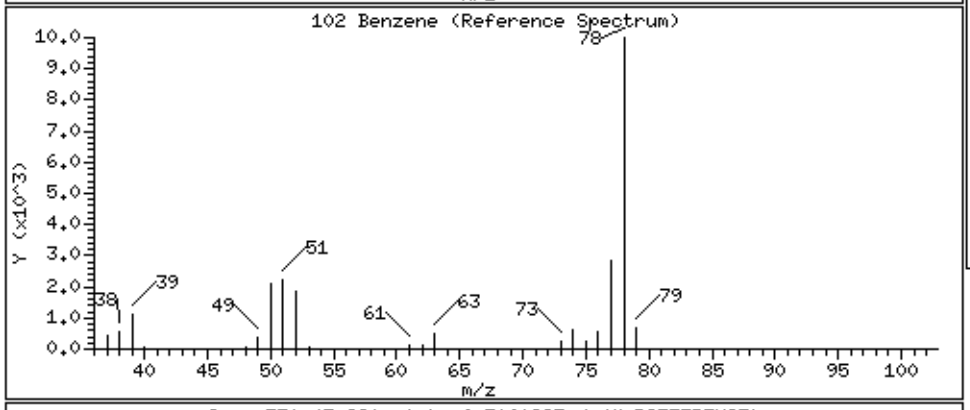
Concentration: 2.919 PPBV

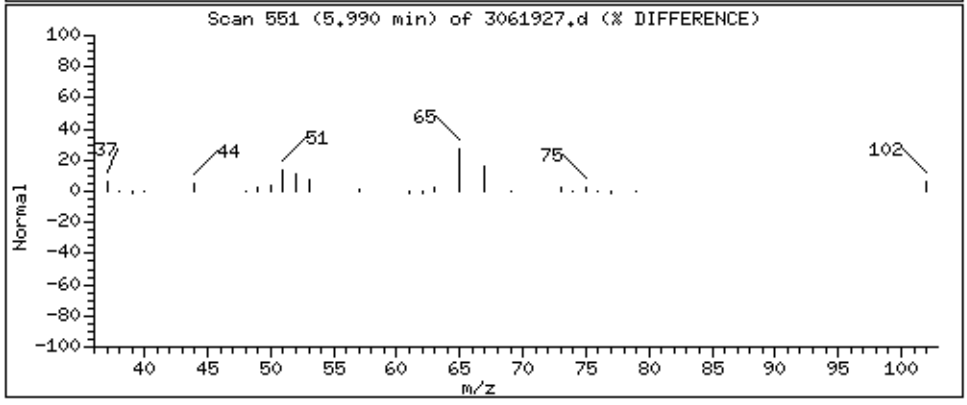


Data File: /chem/msd3.i/19JUN24.b/3061927.d

Date : 20-JUN-2024 04:09

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6955

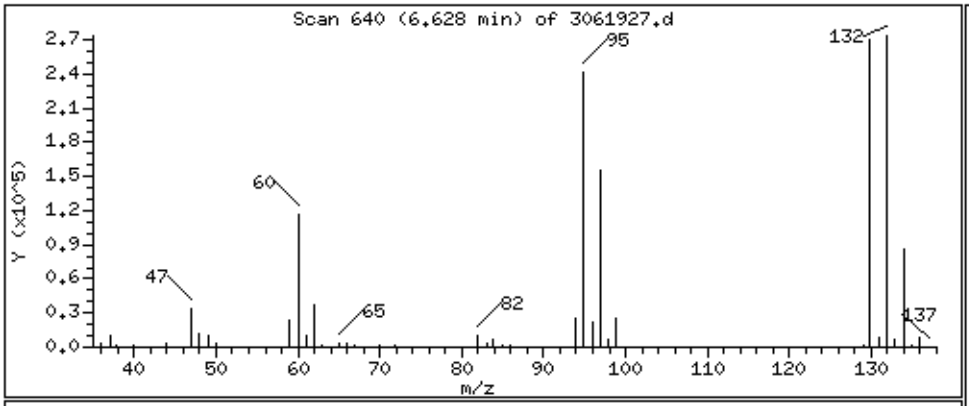
Operator: ACE

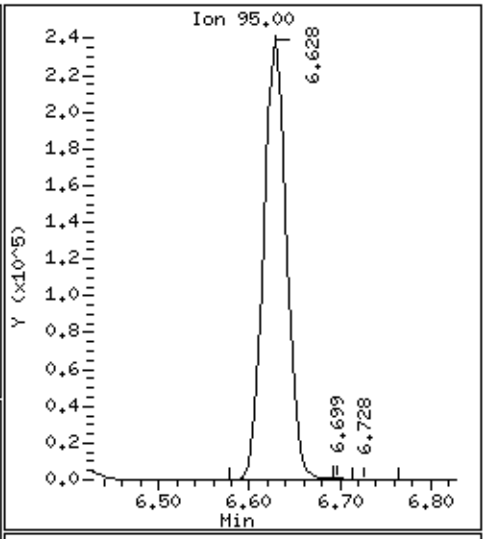
Column phase: RTX-624

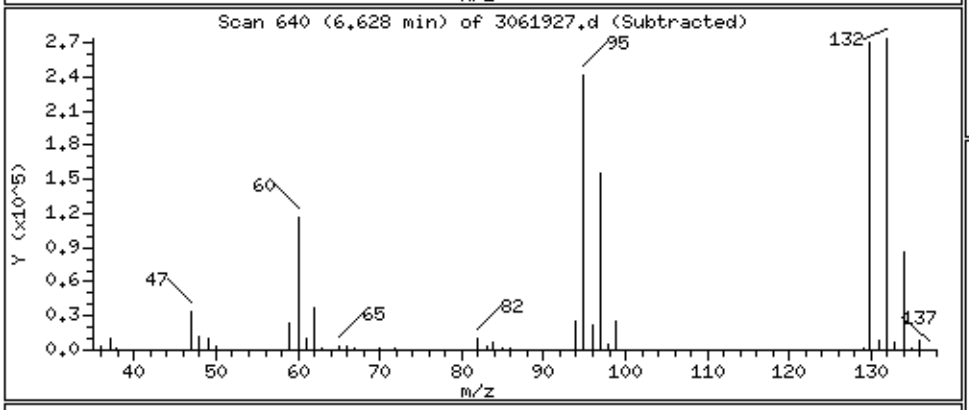
Column diameter: 0.25

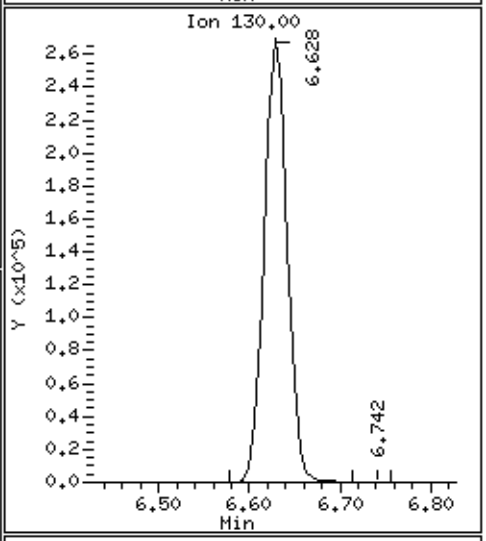
111 Trichloroethene

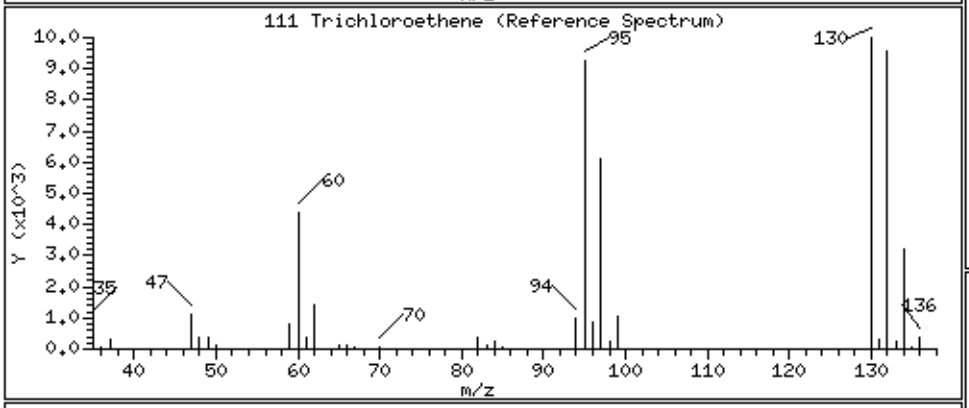
Concentration: 276.58 PPBV

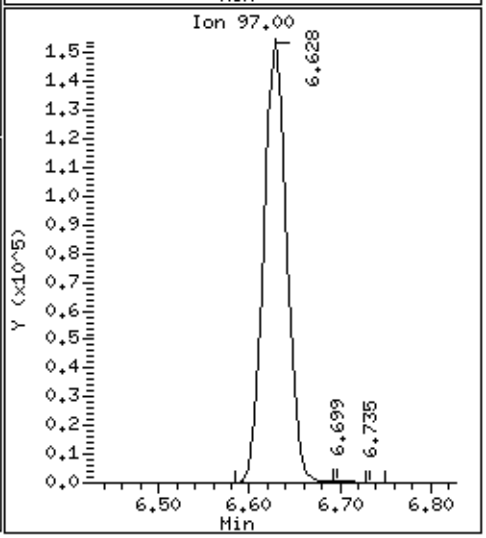


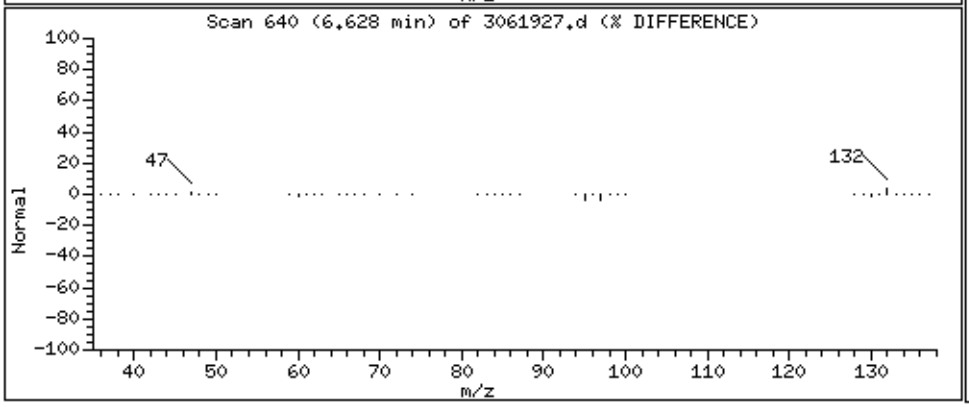



Data File: /chem/msd3.i/19JUN24.b/3061927.d

Date : 20-JUN-2024 04:09

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6955

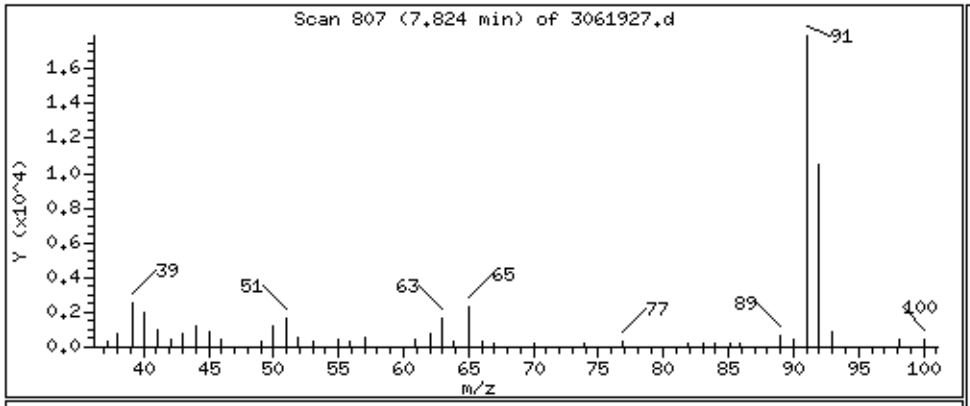
Operator: ACE

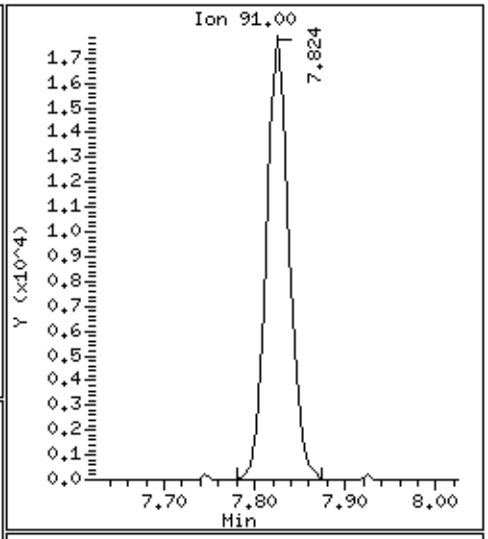
Column phase: RTX-624

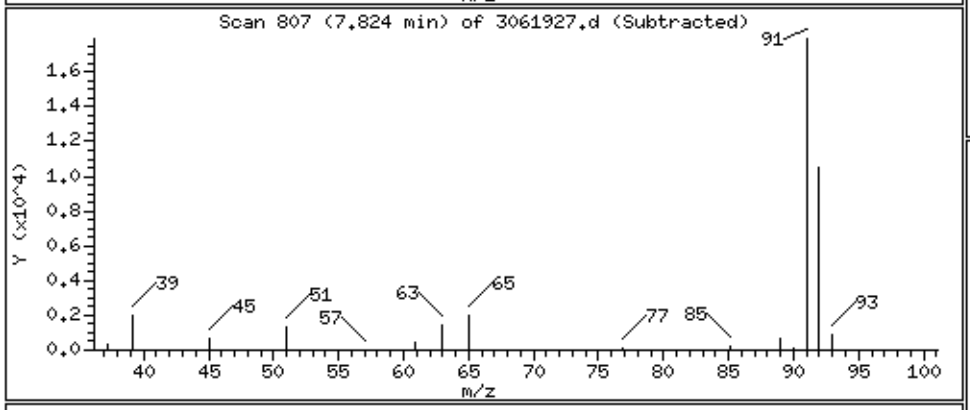
Column diameter: 0.25

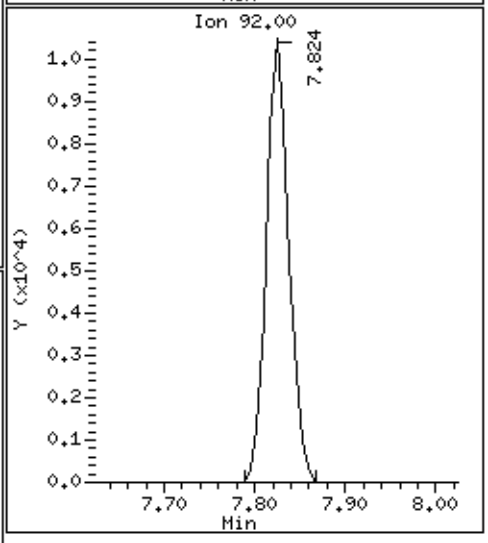
137 Toluene

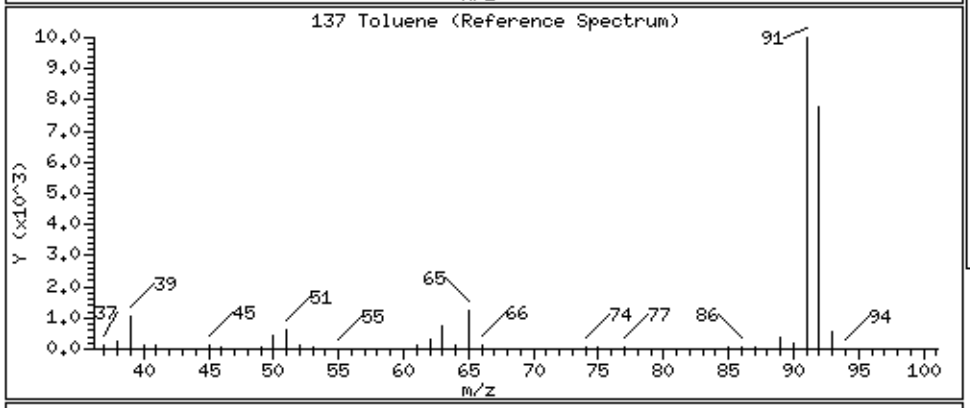
Concentration: 7.108 PPBV

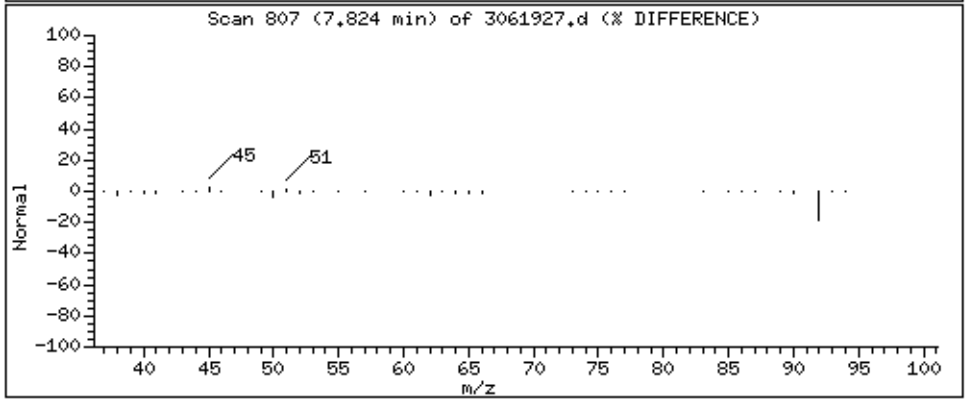


Data File: /chem/msd3.i/19JUN24.b/3061927.d

Date : 20-JUN-2024 04:09

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6955

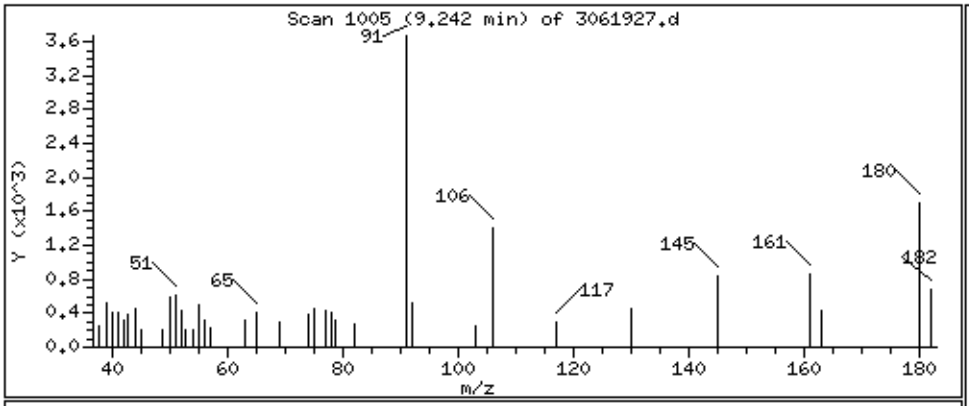
Operator: ACE

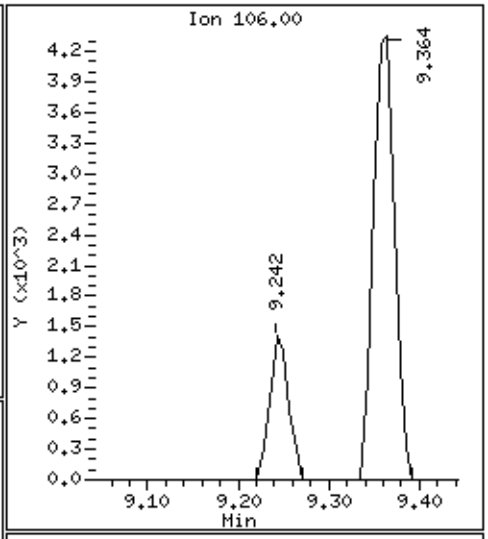
Column phase: RTX-624

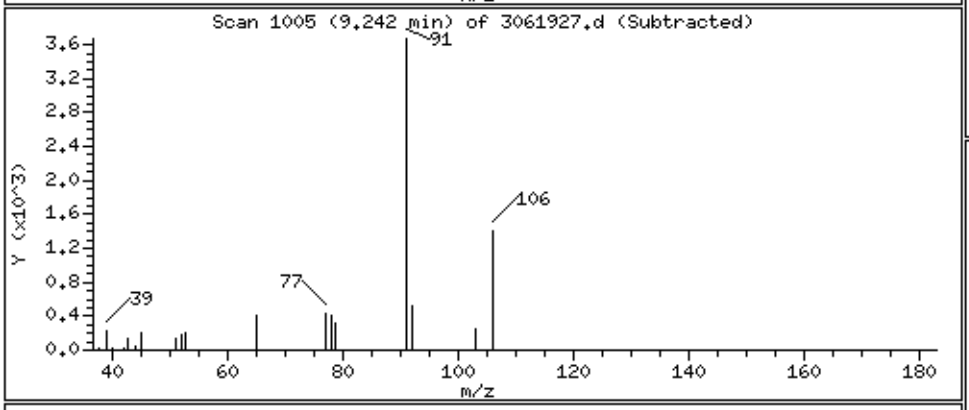
Column diameter: 0.25

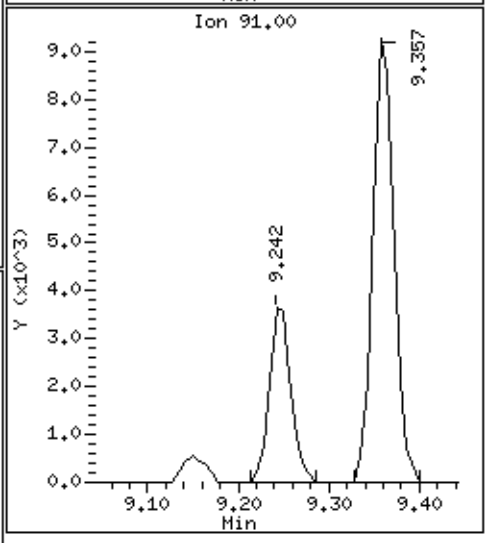
155 Ethyl Benzene

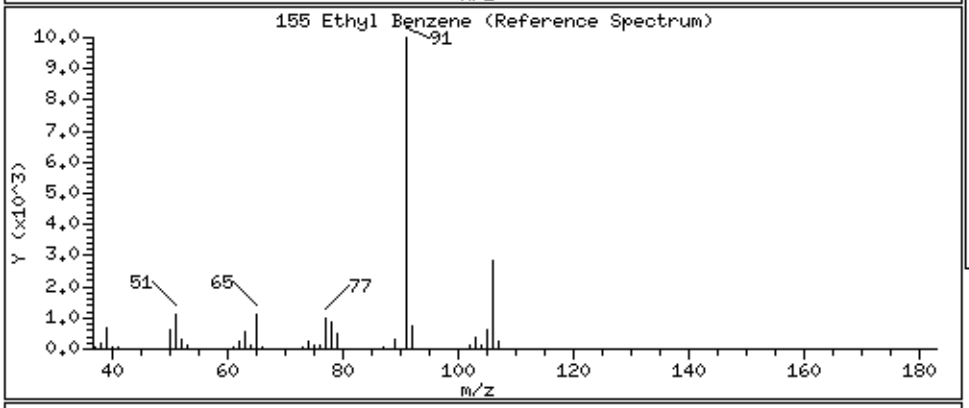
Concentration: 1.088 PPBV

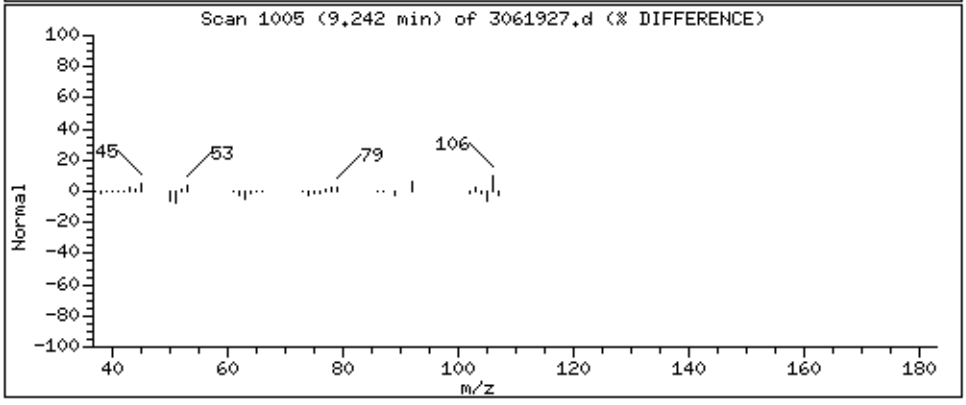


Data File: /chem/msd3.i/19JUN24.b/3061927.d

Page 6

Date : 20-JUN-2024 04:09

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6955

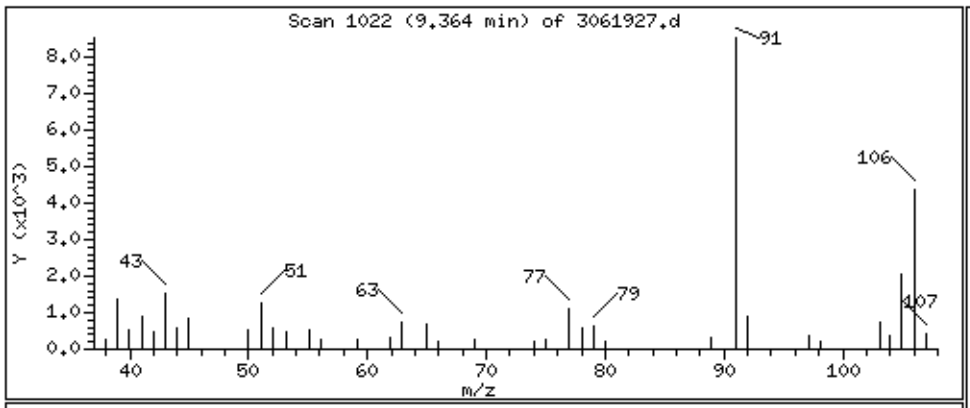
Operator: ACE

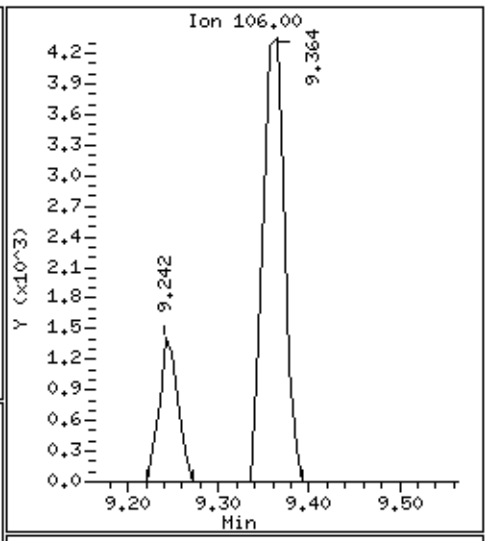
Column phase: RTX-624

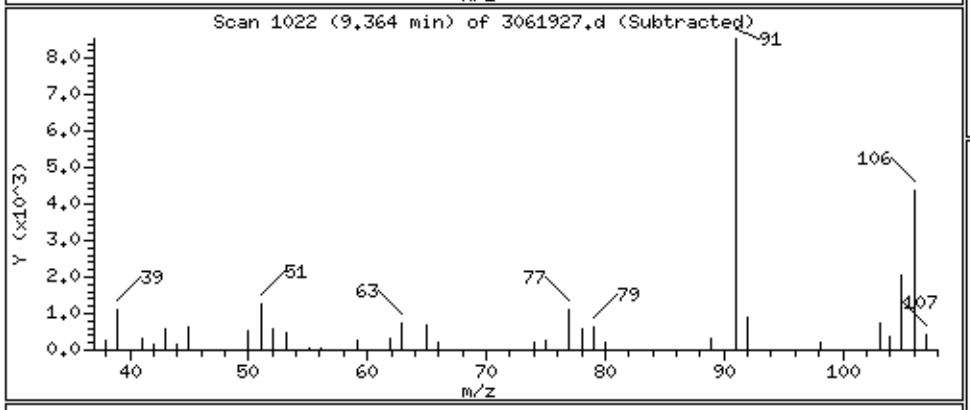
Column diameter: 0.25

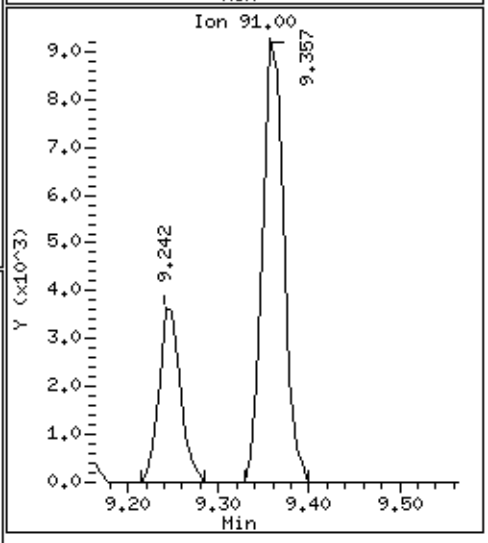
158 m,p-Xylene

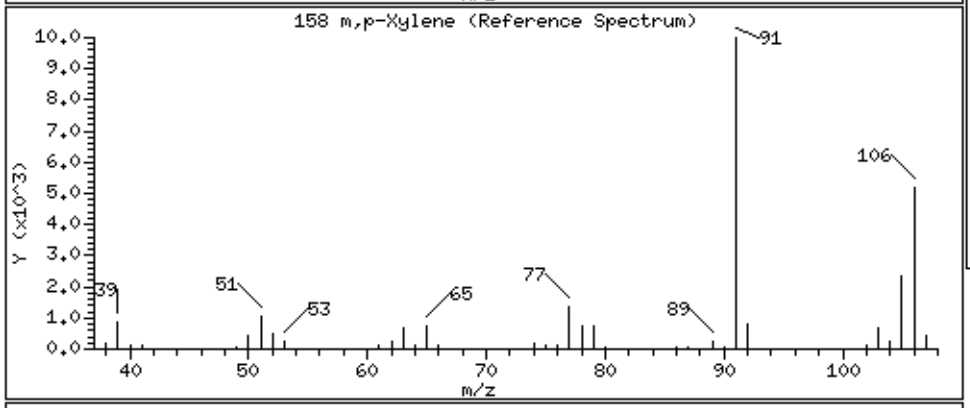
Concentration: 3.099 PPBV

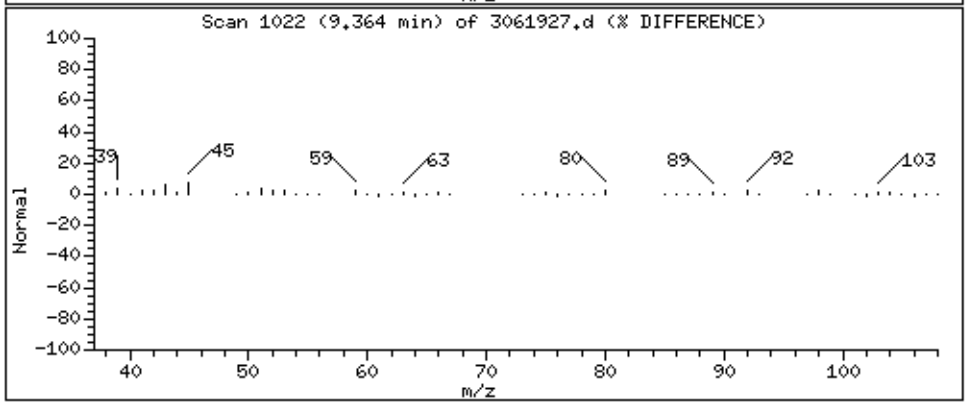


Data File: /chem/msd3.i/19JUN24.b/3061927.d

Page 7

Date : 20-JUN-2024 04:09

Client ID:

Instrument: msd3.i

Sample Info: 200mL N6955

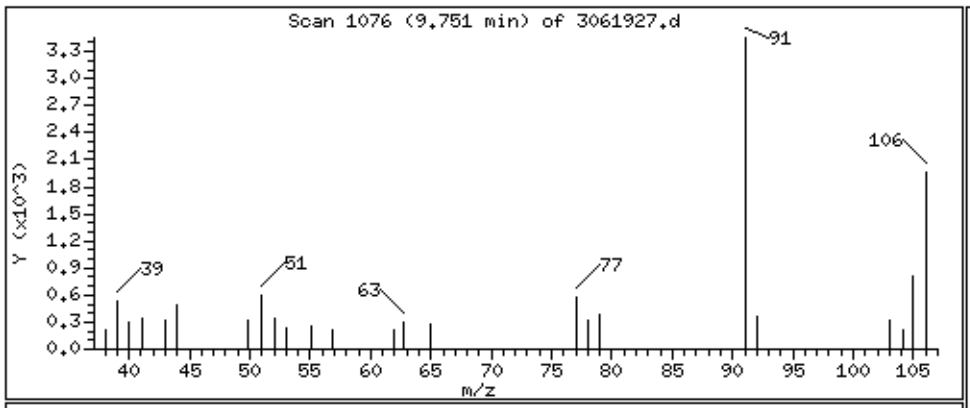
Operator: ACE

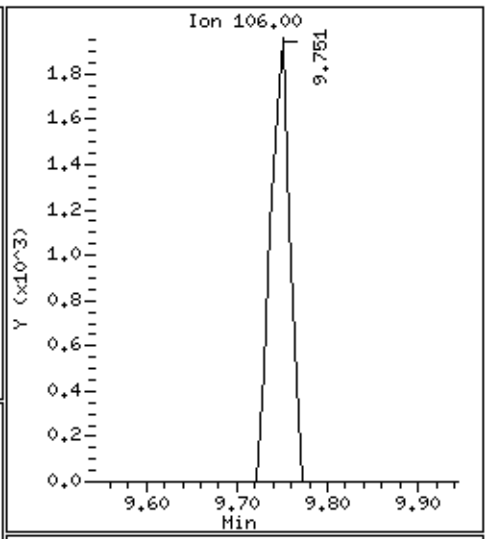
Column phase: RTX-624

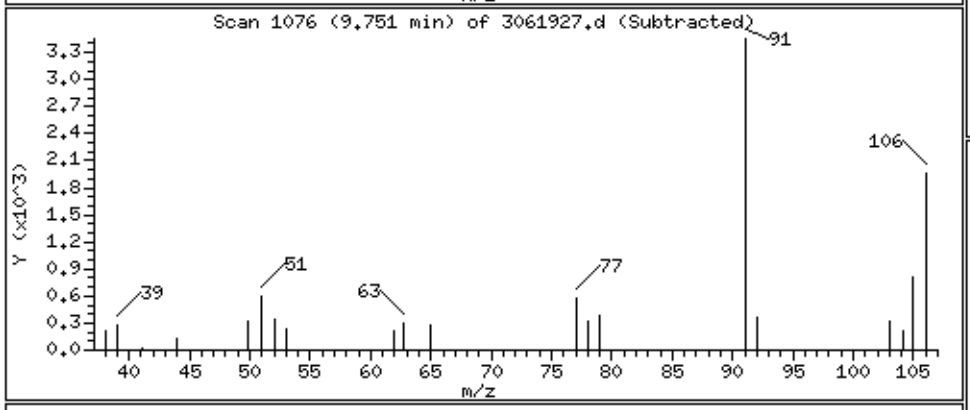
Column diameter: 0.25

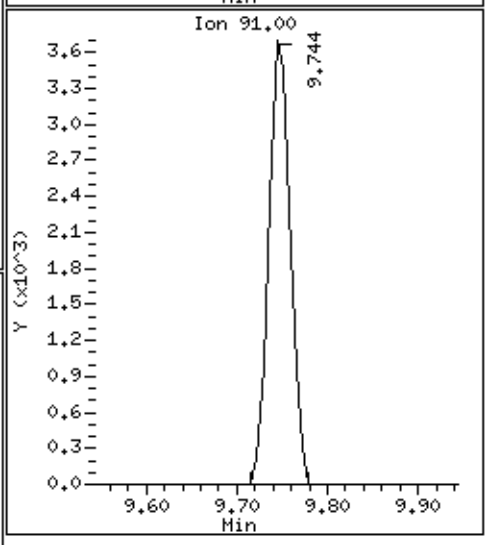
164 o-Xylene

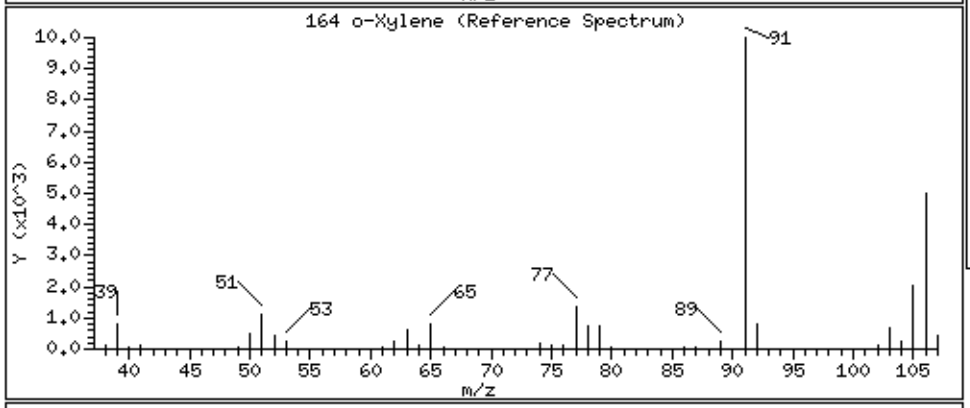
Concentration: 1.323 PPBV

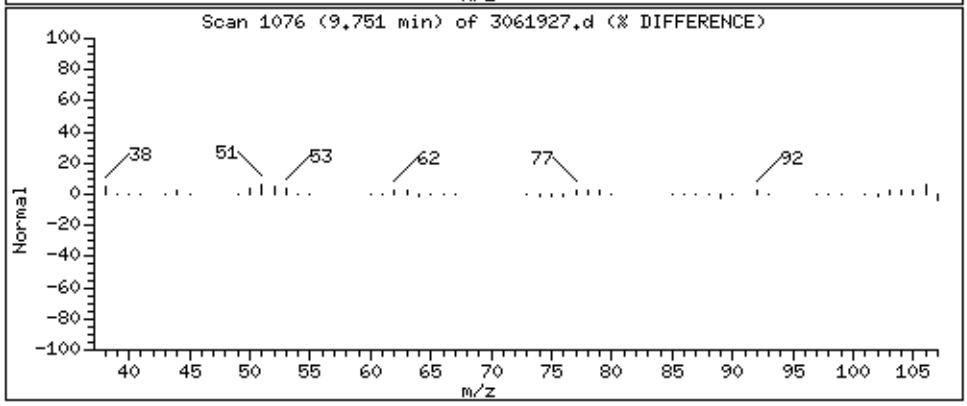


# QC Results and Raw Data

| | | | |
|---|---|---|---|
| **Client ID:** | Lab Blank | | |
| **Lab ID:** | 2406264R2-15A | **Date/Time Analyzed:** | 6/19/24 12:03 PM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061906d |

| Compound | CAS# | MDL (ug/m3) | LOD (ug/m3) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 1.0 | 1.8 | 2.0 | Not Detected U |
| 1,4-Dichlorobenzene | 106-46-7 | 1.0 | 2.7 | 3.0 | Not Detected U |
| Benzene | 71-43-2 | 0.38 | 1.4 | 1.6 | Not Detected U |
| cis-1,2-Dichloroethene | 156-59-2 | 0.43 | 1.8 | 2.0 | Not Detected U |
| Ethyl Benzene | 100-41-4 | 0.52 | 2.0 | 2.2 | Not Detected U |
| m,p-Xylene | 108-38-3 | 0.31 | 2.0 | 4.3 | Not Detected U |
| o-Xylene | 95-47-6 | 0.52 | 2.0 | 2.2 | Not Detected U |
| Toluene | 108-88-3 | 0.47 | 1.7 | 3.8 | Not Detected U |
| trans-1,2-Dichloroethene | 156-60-5 | 0.91 | 1.8 | 2.0 | Not Detected U |
| Trichloroethene | 79-01-6 | 0.80 | 2.4 | 2.7 | Not Detected U |
| Vinyl Chloride | 75-01-4 | 1.1 | 1.2 | 1.3 | Not Detected U |

U = The analyte was not detected above the MDL.
D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 90 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 101 |
| Toluene-d8 | 2037-26-5 | 70-130 | 93 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061906d.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 19-JUN-2024 12:03
Operator : TO Inst ID: msd3.i
Smp Info : 200mL N1876
Misc Info : Humid
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:36 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PAR28661.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.424 | 5.432 (1.000) | 130 | 105127 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.424 | 5.432 (1.000) | 128 | 81533 | | | 47.79- 107.79 | 77.56 |
| 5.424 | 5.432 (1.000) | 49 | 156199 | | | 131.33- 191.33 | 148.58 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.110) | 65 | 123397 | 22.5356 | 22.536 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.110) | 67 | 63842 | | | 23.17- 83.17 | 51.74 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.413 | 6.420 (1.000) | 114 | 370217 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.413 | 6.420 (1.000) | 88 | 53696 | | | 0.00- 45.65 | 14.50 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.210) | 98 | 335897 | 23.3389 | 23.339 | 80.00- 120.00 | 100.00 |
| 7.752 | 7.760 (1.209) | 70 | 34996 | | | 0.00- 41.42 | 10.42 |
| 7.760 | 7.760 (1.210) | 100 | 224980 | | | 37.54- 97.54 | 66.98 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 371455 | 25.0000 | | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 153 Chlorobenzene-d5 (continued) | | | | | | | |
| 9.142 | 9.149 (1.000) | 82 | 187546 | | | 22.92- 82.92 | 50.49 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 279653 | 25.3331 | 25.333 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 309402 | | | 88.49- 148.49 | 110.64 |
| 10.288 | 10.288 (1.124) | 176 | 269944 | | | 66.73- 126.73 | 96.53 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061906d.d
Lab Smp Id: Lab Blank
Analysis Type: VOA
Quant Type: ISTD
Operator: TO
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: Humid

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Client Smp ID: Lab Blank
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 105127 | 16.79 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 370217 | 12.95 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 371455 | 14.28 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.42 | -0.14 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.41 | -0.12 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:36

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Level: LOW Operator: TO
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: PAR28661.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: Humid

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.536 | 90.14 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 23.339 | 93.36 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.333 | 101.33 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061906d.d



Date : 19-JUN-2024 12:03

Client ID: Lab Blank

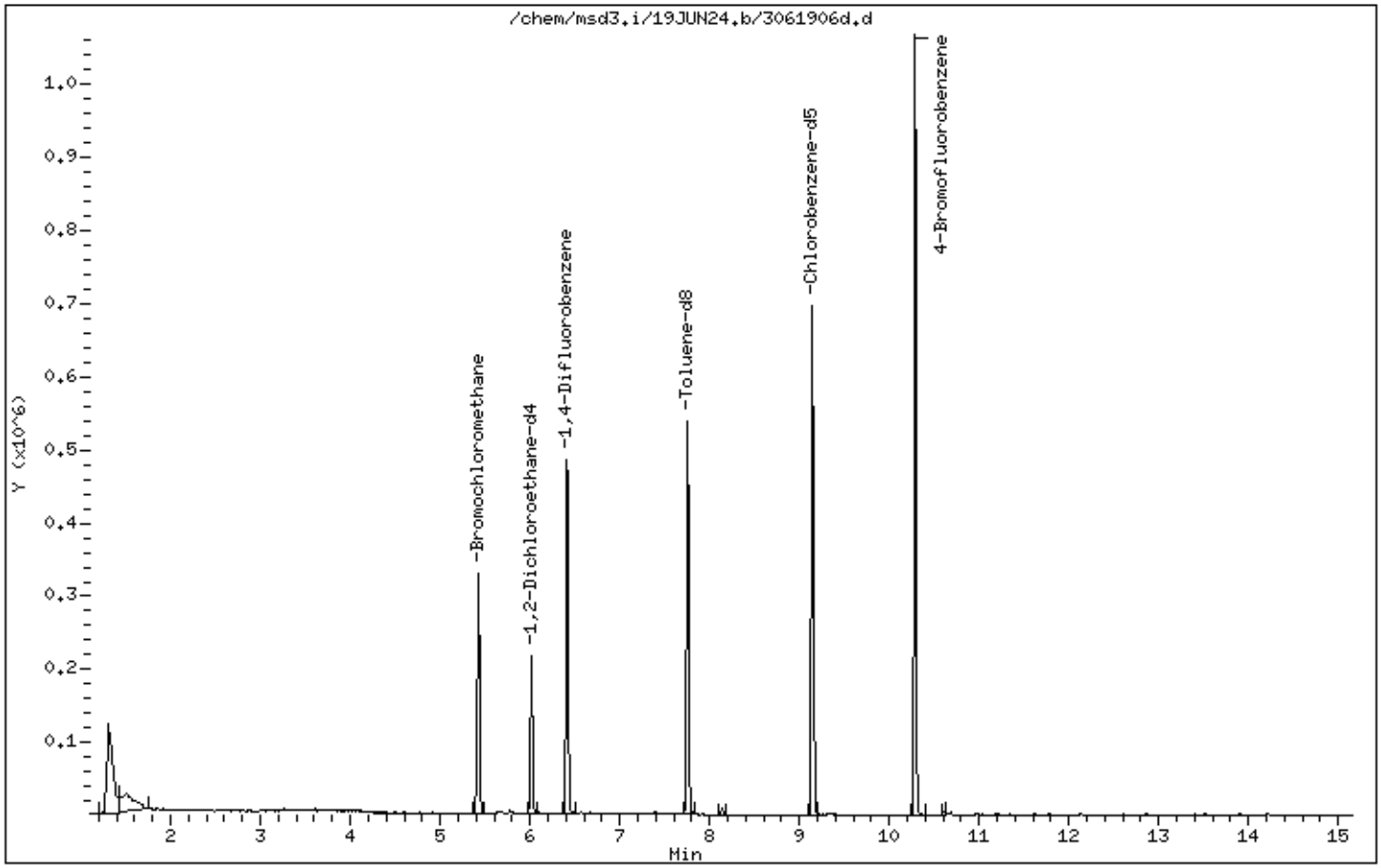
Instrument: msd3.i

Sample Info: 200mL N1876

Operator: TO

Column phase: RTX-624

Column diameter: 0.25



**LEVEL-IV VALIDATABLE**

MODIFIED EPA METHOD TO-15

SURROGATE RECOVERY FORM

Lab Name : Eurofins Air Toxics _____ SDG No. :2406264R2

| | CLIENT SAMPLE NO. | SURROGATE % RECOVERY | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 1,2-Dichloroethane-d4 | # | Toluene-d8 | # | 4-Bromofluorobenzene | # | TOTAL OUT |
| 1 | T1AMF-SV003_JUN24 | 92 | | 99 | | 102 | | |
| 2 | T1AMF-SV010_JUN24 | 91 | | 98 | | 102 | | |
| 3 | T1AMF-SV027_JUN24 | 92 | | 97 | | 101 | | |
| 4 | T1AMF-SV028_JUN24 | 93 | | 98 | | 102 | | |
| 5 | T1AMF-SV028_JUN24_FD | 92 | | 97 | | 101 | | |
| 6 | T1AMF-SV028_JUN24_FD Lab Dupli | 91 | | 97 | | 103 | | |
| 7 | T1AMF-SV029_JUN24 | 91 | | 98 | | 103 | | |
| 8 | T1AMF-SV030_JUN24 | 92 | | 97 | | 103 | | |
| 9 | T1AMF-SV031_JUN24 | 91 | | 96 | | 102 | | |
| 10 | T1AMF-SV009B_JUN24 | 89 | | 98 | | 101 | | |
| 11 | T1AMF-SV032B_JUN24 | 90 | | 96 | | 103 | | |
| 12 | T1AMF-SV032A_JUN24 | 90 | | 98 | | 102 | | |
| 13 | T1AMF-SV034_JUN24 | 92 | | 97 | | 102 | | |
| 14 | T1AMF-SV035_JUN24 | 91 | | 97 | | 103 | | |
| 15 | T1AMF-SV035_JUN24_FD | 92 | | 97 | | 102 | | |
| 16 | Lab Blank | 90 | | 93 | | 101 | | |
| 17 | CCV | 94 | | 97 | | 101 | | |
| 18 | CCV | 92 | | 98 | | 103 | | |
| 19 | LCS | 92 | | 96 | | 102 | | |
| 20 | LCSD | 92 | | 96 | | 102 | | |

Surrogate Recovery Limits

| | |
|---|---|
| 1,2-Dichloroethane-d4 | 70 - 130 |
| Toluene-d8 | 70 - 130 |
| 4-Bromofluorobenzene | 70 - 130 |

* Designates Values Outside of QC limits

**LEVEL-IV VALIDATABLE**

MODIFIED EPA METHOD TO-15

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : Eurofins Air Toxics File ID: 3061903.d Date : 2024-06-19 09:34:00 SDG No. : 2406264R2

| | | Bromochloromethane | | RT | | 1,4-Difluorobenzene | | RT | | Chlorobenzene-d5 | | RT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24-HOUR CCV | 90010 | | 5.43 | | 327761 | | 6.42 | | 325037 | | 9.15 | |
| | UPPER LIMIT | 126013 | | 5.76 | | 458865 | | 6.75 | | 455051 | | 9.48 | |
| | LOWER LIMIT | 54006 | | 5.10 | | 196656 | | 6.09 | | 195022 | | 8.82 | |
| | CLIENT SAMPLE NO. | | | | | | | | | | | | |
| 1 | T1AMF-SV003_JUN24 | 89474 | | 5.44 | | 320369 | | 6.42 | | 335941 | | 9.15 | |
| 2 | T1AMF-SV010_JUN24 | 92424 | | 5.43 | | 324896 | | 6.42 | | 343029 | | 9.15 | |
| 3 | T1AMF-SV027_JUN24 | 96314 | | 5.43 | | 349107 | | 6.42 | | 361154 | | 9.15 | |
| 4 | T1AMF-SV028_JUN24 | 89798 | | 5.44 | | 328234 | | 6.42 | | 340997 | | 9.15 | |
| 5 | T1AMF-SV028_JUN24_FD | 91014 | | 5.43 | | 335366 | | 6.42 | | 341862 | | 9.15 | |
| 6 | T1AMF-SV028_JUN24_FD Lab Dupli | 92021 | | 5.44 | | 335678 | | 6.42 | | 344079 | | 9.15 | |
| 7 | T1AMF-SV029_JUN24 | 93438 | | 5.44 | | 334714 | | 6.42 | | 349586 | | 9.15 | |
| 8 | T1AMF-SV030_JUN24 | 94964 | | 5.43 | | 344504 | | 6.42 | | 357018 | | 9.15 | |
| 9 | T1AMF-SV031_JUN24 | 96082 | | 5.44 | | 346059 | | 6.42 | | 356539 | | 9.15 | |
| 10 | T1AMF-SV009B_JUN24 | 93975 | | 5.44 | | 333172 | | 6.42 | | 348483 | | 9.15 | |
| 11 | T1AMF-SV032B_JUN24 | 95475 | | 5.43 | | 342793 | | 6.42 | | 354043 | | 9.15 | |
| 12 | T1AMF-SV032A_JUN24 | 92766 | | 5.43 | | 326401 | | 6.42 | | 338925 | | 9.15 | |
| 13 | T1AMF-SV034_JUN24 | 98136 | | 5.43 | | 356423 | | 6.42 | | 367077 | | 9.15 | |
| 14 | T1AMF-SV035_JUN24 | 94208 | | 5.43 | | 339493 | | 6.42 | | 347010 | | 9.15 | |
| 15 | T1AMF-SV035_JUN24_FD | 92482 | | 5.44 | | 339343 | | 6.42 | | 344875 | | 9.15 | |
| 16 | Lab Blank | 105127 | | 5.42 | | 370217 | | 6.41 | | 371455 | | 9.15 | |
| 17 | CCV | 90010 | | 5.43 | | 327761 | | 6.42 | | 325037 | | 9.15 | |
| 18 | CCV | 88848 | | 5.43 | | 319557 | | 6.42 | | 314384 | | 9.15 | |
| 19 | LCS | 91935 | | 5.43 | | 330162 | | 6.42 | | 326352 | | 9.15 | |
| 20 | LCSD | 91657 | | 5.43 | | 333499 | | 6.42 | | 324852 | | 9.15 | |

Area Upper Limit = +40% of intenral standard area

Area Lower Limit = -40% of intenral standard area

RT Upper Limit = +0.33 minutes of internal standard RT

RT Lower Limit = -0.33 minutes of internal standard RT

* Designates Values Outside of QC limits

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab File ID: 3061917.d & 3061918.d

Lab Sample ID: 05A & 05AA

| CAS Number | Compound | Original Amount | Duplicate Amount | RPD | Result Less Than 5X RL |
|---|---|---|---|---|---|
| 75-35-4 | 1,1-Dichloroethene | ND | ND | 0 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ND | 0 | |
| 71-43-2 | Benzene | 26 | 26 | 0.52 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ND | 0 | |
| 100-41-4 | Ethyl Benzene | 2.463 | 2.759 | 11 | Y |
| 108-38-3 | m,p-Xylene | 4.823 | 4.746 | 1.6 | Y |
| 95-47-6 | o-Xylene | 1.192 | 1.314 | 9.7 | Y |
| 108-88-3 | Toluene | 7.303 | 7.32 | 0.23 | Y |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ND | 0 | |
| 79-01-6 | Trichloroethene | ND | ND | 0 | |
| 75-01-4 | Vinyl Chloride | ND | ND | 0 | |

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab File ID: 3061904c.d & 3061905c.d

Lab Sample ID: 17A & 17AA

| CAS Number | Compound | Original Amount | Duplicate Amount | RPD | Result Less Than 5X RL |
|---|---|---|---|---|---|
| 75-35-4 | 1,1-Dichloroethene | 102 | 89 | 14 | |
| 106-46-7 | 1,4-Dichlorobenzene | 101 | 101 | 0 | |
| 71-43-2 | Benzene | 95 | 94 | 1.1 | |
| 156-59-2 | cis-1,2-Dichloroethene | 93 | 91 | 2.2 | |
| 100-41-4 | Ethyl Benzene | 100 | 101 | 1.00 | |
| 108-38-3 | m,p-Xylene | 99 | 100 | 1.0 | |
| 95-47-6 | o-Xylene | 99 | 101 | 2.0 | |
| 108-88-3 | Toluene | 92 | 91 | 1.1 | |
| 156-60-5 | trans-1,2-Dichloroethene | 91 | 92 | 1.1 | |
| 79-01-6 | Trichloroethene | 99 | 97 | 2.0 | |
| 75-01-4 | Vinyl Chloride | 94 | 95 | 1.1 | |

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 18-APR-2024 09:31
End Cal Date : 24-APR-2024 01:06
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

Calibration File Names:
Level 2: /chem/msd3.i/23APR24.b/3042307.d
Level 3: /chem/msd3.i/23APR24.b/3042308.d
Level 4: /chem/msd3.i/23APR24.b/3042309.d
Level 5: /chem/msd3.i/23APR24.b/3042310.d
Level 6: /chem/msd3.i/23APR24.b/3042311.d
Level 7: /chem/msd3.i/23APR24.b/3042312.d
Level 8: /chem/msd3.i/23APR24.b/3042313.d
Level 9: /chem/msd3.i/23APR24.b/3042314.d

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 1 Dimethyl Ether | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 2 1,1-Dichloro-1-Fluoroethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 3 Freon 143a | +++++ | +++++ | +++++ | 0.30523 | 0.37100 | 0.37702 | | |
| | 0.36181 | 0.27107 | | | | | 0.33723 | 13.852 |
| 4 Freon 134a | +++++ | 0.72119 | 0.70420 | 0.52336 | 0.52292 | 0.55741 | | |
| | 0.55245 | 0.46348 | | | | | 0.57786 | 16.814 |
| 5 Propylene | +++++ | +++++ | 0.77776 | 0.68917 | 0.55183 | 0.61351 | | |
| | 0.64995 | 0.64651 | | | | | 0.65479 | 11.571 |
| 6 Propane | +++++ | +++++ | 0.22880 | 0.25542 | 0.21349 | 0.22284 | | |
| | 0.23289 | 0.23470 | | | | | 0.23136 | 6.085 |

US32TAR1

INITIAL CALIBRATION DATA

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Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 7 1,1-Difluoroethane | +++++ | +++++ | 0.44889 | 0.36911 | 0.34787 | 0.36855 | | |
| | 0.37256 | 0.35777 | | | | | 0.37746 | 9.580 |
| 8 Freon 12 | 1.54241 | 1.56672 | 1.62097 | 1.60242 | 1.25762 | 1.37796 | | |
| | 1.43356 | 1.44271 | | | | | 1.48055 | 8.455 |
| 9 Chlorodifluoromethane | +++++ | 0.18924 | 0.24469 | 0.19953 | 0.15516 | 0.17120 | | |
| | 0.17024 | 0.16682 | | | | | 0.18527 | 16.222 |
| 10 Freon 114 | 1.40804 | 1.35024 | 1.29615 | 1.36279 | 1.17198 | 1.22351 | | |
| | 1.28545 | 1.31396 | | | | | 1.30152 | 5.865 |
| 11 Freon 14 | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 12 Isobutane | +++++ | 1.48998 | 1.44089 | 1.44830 | 1.25214 | 1.31313 | | |
| | 1.36493 | 1.38236 | | | | | 1.38453 | 5.998 |
| 13 Freon 142b | +++++ | +++++ | 1.43876 | 1.35654 | 1.07715 | 1.13372 | | |
| | 1.18303 | 1.18223 | | | | | 1.22857 | 11.320 |
| 14 Acetaldehyde | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 15 Chloromethane | +++++ | +++++ | 0.86661 | 0.67727 | 0.67218 | 0.70827 | | |
| | 0.70855 | 0.65013 | | | | | 0.71383 | 10.947 |

US32TAR1

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 Hexafluoropropene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 17 Freon 13 | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 18 Butane | +++++ | +++++ | 0.18116 | 0.15164 | 0.13259 | 0.13363 | 0.13777 | 0.12193 | 0.14312 | 14.649 |
| 19 Vinyl Chloride | 0.69616 | 0.80550 | 0.81980 | 0.66054 | 0.59336 | 0.66247 | 0.68917 | 0.59843 | 0.69068 | 12.184 |
| 20 1,3-Butadiene | 0.81338 | 0.79437 | 0.66097 | 0.66462 | 0.54792 | 0.58727 | 0.59388 | 0.52824 | 0.64883 | 16.496 |
| 21 Vinyl Fluoride | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 22 Ethylene Oxide | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 23 Methanol | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 24 Bromomethane | +++++ | +++++ | 0.40518 | 0.47518 | 0.44807 | 0.52114 | 0.55257 | 0.55915 | 0.49355 | 12.412 |

US32TAR1

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Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 Isobutylene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 26 2-Butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 27 trans-2-butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 28 1-Butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 29 cis-2-Butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 30 Chloroethane | +++++ | +++++ | 0.38536 | 0.31345 | 0.29052 | 0.31927 | 0.33707 | 0.34165 | 0.33122 | 9.726 |
| 31 Isopentane | +++++ | +++++ | 1.04072 | 0.85546 | 0.96194 | 0.93154 | 0.93447 | 0.94699 | 0.94519 | 6.306 |
| 32 Vinyl Bromide | +++++ | 0.52342 | 0.61309 | 0.55313 | 0.53106 | 0.58046 | 0.60821 | 0.60881 | 0.57403 | 6.668 |
| 33 Freon 11 | 1.83641 | 1.80285 | 1.72892 | 1.54797 | 1.63886 | 1.65186 | 1.69723 | 1.74103 | 1.70564 | 5.456 |

US32TAR1

INITIAL CALIBRATION DATA

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Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 34 Dichlorofluoromethane | +++++ | 1.53285 | 1.52317 | 1.23917 | 1.17294 | 1.31548 | 1.36451 | 1.37229 | 1.36006 | 9.876 |
| 35 Pentane | +++++ | 1.44735 | 1.51433 | 1.41840 | 1.35200 | 1.41404 | 1.44984 | 1.47106 | 1.43815 | 3.534 |
| 36 1-Pentene | +++++ | +++++ | 0.83987 | 0.78490 | 0.69911 | 0.73005 | 0.75784 | 0.76439 | 0.76269 | 6.311 |
| 37 3-Methyl-1-butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 38 Ethyl Ether | +++++ | +++++ | 0.37748 | 0.34533 | 0.27498 | 0.29021 | 0.30103 | 0.30356 | 0.31543 | 12.168 |
| 39 Ethanol | +++++ | 0.18436 | 0.15266 | 0.18262 | 0.10055 | 0.10656 | 0.10931 | 0.11118 | 0.13532 | 27.382 |
| 40 Freon 123a | +++++ | +++++ | 1.10488 | 1.03219 | 0.98058 | 0.93242 | 0.94532 | 0.96848 | 0.99398 | 6.480 |
| 41 Freon 123 | +++++ | +++++ | 0.94985 | 1.08149 | 0.91929 | 0.86109 | 0.86805 | 0.84384 | 0.92060 | 9.586 |
| 42 Acrolein | +++++ | 0.45376 | 0.30802 | 0.32146 | 0.24344 | 0.23561 | 0.23653 | 0.23990 | 0.29124 | 27.546 |

US32TAR1

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Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 43 Freon 113 | 1.86595 | 1.62688 | 1.61512 | 1.24434 | 1.49765 | 1.41698 | 1.39875 | 1.39329 | 1.50737 | 12.705 |
| 44 1,1-Dichloroethene | 0.60515 | 0.64374 | 0.70492 | 0.59015 | 0.54121 | 0.59791 | 0.71158 | 0.73634 | 0.64138 | 10.842 |
| 45 2-Chloropropane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 46 2,3-Dimethylbutane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 47 Acetone | +++++ | +++++ | 0.42680 | 0.41978 | 0.30301 | 0.33798 | 0.34974 | 0.35251 | 0.36497 | 13.300 |
| 48 Carbon Disulfide | +++++ | +++++ | 2.11106 | 1.95784 | 1.44200 | 1.60640 | 1.67756 | 1.69837 | 1.74887 | 13.935 |
| 49 Iodomethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 50 Isoprene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 51 2-Methyl-2-butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

US32TAR1

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Start Cal Date : 18-APR-2024 09:31
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Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 52 2-Propanol | +++++ | 1.59656 | 1.58240 | 1.62245 | 1.31642 | 1.44540 | | |
| | 1.51827 | 1.54012 | | | | | 1.51737 | 6.996 |
| 53 trans-2-Pentene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 54 3-Chloropropene | +++++ | 0.32850 | 0.32028 | 0.31749 | 0.24397 | 0.27020 | | |
| | 0.28643 | 0.29557 | | | | | 0.29464 | 10.331 |
| 55 Cyclopentene | +++++ | +++++ | 1.44282 | 1.48469 | 1.30213 | 1.34016 | | |
| | 1.41190 | 1.42761 | | | | | 1.40155 | 4.845 |
| 56 Methyl Acetate | +++++ | +++++ | 1.59483 | 1.69469 | 1.38900 | 1.49856 | | |
| | 1.58305 | 1.58399 | | | | | 1.55735 | 6.638 |
| 57 Acetonitrile | +++++ | 0.65897 | 0.73844 | 0.74834 | 0.55568 | 0.63778 | | |
| | 0.67282 | 0.67595 | | | | | 0.66971 | 9.656 |
| 58 cis-2-Pentene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 59 Methylene Chloride | +++++ | +++++ | 1.14712 | 1.07953 | 0.86078 | 0.95197 | | |
| | 0.99215 | 0.98325 | | | | | 1.00247 | 9.972 |
| 60 Cyclopentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |

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INITIAL CALIBRATION DATA

Start Cal Date : 18-APR-2024 09:31
End Cal Date : 24-APR-2024 01:06
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 61 1,2-Dichloro-1-fluoroethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 62 tert-Butyl alcohol | +++++ | 1.56703 | 1.57171 | 1.60247 | 1.49502 | 1.50125 | 1.52466 | 1.57384 | 1.54800 | 2.650 |
| 63 Methyl tert-butyl ether | +++++ | 1.92056 | 1.95032 | 1.87485 | 1.79398 | 1.76698 | 1.75121 | 1.75247 | 1.83005 | 4.582 |
| 64 trans-1,2-Dichloroethene | 0.47268 | 0.43721 | 0.48794 | 0.44315 | 0.35780 | 0.40059 | 0.41677 | 0.42969 | 0.43073 | 9.472 |
| 65 2,2-Dimethylbutane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 66 Acrylonitrile | 0.64422 | 0.58003 | 0.58670 | 0.59640 | 0.44803 | 0.51586 | 0.54117 | 0.54380 | 0.55703 | 10.634 |
| 67 Hexane | 1.65487 | 1.52953 | 1.36816 | 1.34111 | 1.19658 | 1.19460 | 1.22132 | 1.23061 | 1.34210 | 12.707 |
| 68 1-Hexene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 69 Bromoethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

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| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 70 4-Methyl-1-pentene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 71 1,1-Dichloroethane | 1.24460 | 1.26119 | 1.31574 | 1.32803 | 1.11842 | 1.17721 | 1.23670 | 1.27584 | 1.24472 | 5.582 |
| 72 Isopropyl ether | +++++ | +++++ | 3.24648 | 3.13736 | 2.87519 | 2.89213 | 2.89682 | 2.86013 | 2.98469 | 5.518 |
| 73 Vinyl Acetate | +++++ | +++++ | 0.11404 | 0.12014 | 0.09644 | 0.10183 | 0.11301 | 0.11214 | 0.10960 | 7.979 |
| 74 Chloroprene | +++++ | +++++ | 1.26428 | 1.31386 | 1.11547 | 1.16905 | 1.21348 | 1.23187 | 1.21800 | 5.742 |
| 75 1-Propanol | +++++ | +++++ | 0.25710 | 0.20346 | 0.15090 | 0.16014 | 0.16563 | 0.16613 | 0.18389 | 21.811 |
| 76 2-Methylpentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 77 3-Methylpentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 78 1-Chloropropane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

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Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 79 Ethyl-tert-butyl ether | +++++ | +++++ | 2.75531 | 2.65379 | 2.48569 | 2.51261 | | |
| | 2.53286 | 2.50305 | | | | | 2.57389 | 4.168 |
| 80 2-Methyl-1-pentene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 81 2,4-Dimethylpentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 82 2,3-Dimethylpentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 83 tert-Butyl chloride | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 84 2,2-Dichloropropane | +++++ | 1.31945 | 1.29341 | 1.26298 | 1.17426 | 1.17411 | | |
| | 1.18343 | 1.19351 | | | | | 1.22874 | 5.020 |
| 85 cis-1,2-Dichloroethene | 0.46125 | 0.47677 | 0.47182 | 0.47609 | 0.36451 | 0.42051 | | |
| | 0.44224 | 0.45504 | | | | | 0.44603 | 8.532 |
| 86 2-Butanone | +++++ | +++++ | 0.34177 | 0.34187 | 0.28276 | 0.30720 | | |
| | 0.32374 | 0.33076 | | | | | 0.32135 | 7.126 |
| 87 Ethyl Acetate | +++++ | +++++ | 0.38512 | 0.37168 | 0.27937 | 0.28477 | | |
| | 0.29875 | 0.30863 | | | | | 0.32139 | 14.172 |

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| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 88 Methyl Acrylate | +++++ | +++++ | 1.60607 | 1.64484 | 1.39944 | 1.45742 | 1.52750 | 1.54470 | 1.53000 | 5.955 |
| 89 Tetrahydrofuran | 1.28654 | 1.07693 | 1.08622 | 0.98581 | 0.79039 | 0.83986 | 0.88563 | 0.90886 | 0.98253 | 16.509 |
| 91 trans-2-Hexene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 92 Chloroform | 1.35563 | 1.33982 | 1.45390 | 1.42088 | 1.15708 | 1.25447 | 1.33475 | 1.37612 | 1.33658 | 7.028 |
| 93 cis-2-Hexene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 94 Cyclohexane | 0.99540 | 0.93743 | 0.92644 | 0.89452 | 0.85339 | 0.83859 | 0.84916 | 0.85834 | 0.89416 | 6.158 |
| 95 Methylcyclopentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 96 1,1,1-Trichloroethane | 1.60340 | 1.53238 | 1.47206 | 1.46911 | 1.37215 | 1.39443 | 1.39735 | 1.42105 | 1.45774 | 5.405 |
| 97 Carbon Tetrachloride | 1.61055 | 1.58709 | 1.56807 | 1.56249 | 1.47251 | 1.49761 | 1.51807 | 1.54704 | 1.54543 | 3.009 |

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| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 98 sec-Butyl chloride | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | | |
| 99 1,1-Dichloropropene | +++++ | 0.10001 | 0.10593 | 0.10864 | 0.08893 | 0.09693 | 0.10082 | 0.10366 | 0.10070 | 6.439 | |
| 100 2,3,4-Trimethylpentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | | |
| 101 2,2,4-Trimethylpentane | 4.26844 | 4.27194 | 4.51433 | 4.12747 | 3.87811 | 4.11479 | 4.20640 | 4.16454 | 4.19325 | 4.283 | |
| 102 Benzene | 0.50968 | 0.52474 | 0.51595 | 0.52404 | 0.47043 | 0.48482 | 0.49512 | 0.50197 | 0.50334 | 3.816 | |
| 103 Isobutanol | +++++ | +++++ | 0.39361 | 0.28525 | 0.19888 | 0.19090 | 0.19163 | 0.19133 | 0.24193 | 34.299 | <- |
| 105 tert-Amyl methyl ether | +++++ | +++++ | 0.14228 | 0.13717 | 0.12791 | 0.13512 | 0.13480 | 0.13431 | 0.13527 | 3.436 | |
| 106 1,2-Dichloroethane | 0.25865 | 0.27354 | 0.27466 | 0.27214 | 0.23744 | 0.25358 | 0.26210 | 0.26839 | 0.26256 | 4.817 | |
| 107 Heptane | 0.25383 | 0.21439 | 0.19616 | 0.18555 | 0.18848 | 0.18567 | 0.18621 | 0.18482 | 0.19939 | 12.113 | |

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| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 109 Butanal | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 110 n-Butanol | +++++ | +++++ | 0.13527 | 0.12388 | 0.09763 | 0.10499 | 0.11072 | 0.11416 | 0.11444 | 11.778 |
| 111 Trichloroethene | 0.23758 | 0.24994 | 0.25444 | 0.25396 | 0.22305 | 0.23406 | 0.24296 | 0.24553 | 0.24269 | 4.438 |
| 112 Isobutyl chloride | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 113 Ethyl acrylate | +++++ | +++++ | 0.04543 | 0.03459 | 0.03257 | 0.03005 | 0.03070 | 0.03102 | 0.03406 | 17.035 |
| 114 1,2-Dichloropropane | 0.28441 | 0.23995 | 0.24045 | 0.24053 | 0.21628 | 0.22308 | 0.22499 | 0.22513 | 0.23685 | 9.012 |
| 115 2-Pentanone | +++++ | +++++ | 0.70658 | 0.73057 | 0.69131 | 0.66454 | 0.65813 | 0.66307 | 0.68570 | 4.227 |
| 116 Methyl Methacrylate | +++++ | 0.24043 | 0.21136 | 0.20244 | 0.19208 | 0.19232 | 0.19438 | 0.19242 | 0.20363 | 8.710 |
| 117 1,4-Dioxane | +++++ | 0.12076 | 0.13725 | 0.12669 | 0.12361 | 0.12524 | 0.12445 | 0.12834 | 0.12662 | 4.155 |

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| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 118 Dibromomethane | 0.23316 | 0.24540 | 0.24152 | 0.24634 | 0.21249 | 0.22899 | | |
| | 0.23945 | 0.23974 | | | | | 0.23589 | 4.703 |
| 119 Methacrylonitrile | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 120 2-Chloropentane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 121 2-Butanol | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 122 Bromodichloromethane | 0.41983 | 0.38665 | 0.39632 | 0.40576 | 0.36410 | 0.37925 | | |
| | 0.39259 | 0.39834 | | | | | 0.39286 | 4.288 |
| 123 1-Bromopropane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 124 Chloroacetonitrile | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 125 n-Butylchloride | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 126 cis-1,3-Dichloropropene | 0.34838 | 0.34464 | 0.31610 | 0.34757 | 0.31316 | 0.32974 | | |
| | 0.33797 | 0.34281 | | | | | 0.33505 | 4.162 |

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|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 127 Methylcyclohexane | 0.39648 | 0.38057 | 0.33993 | 0.33497 | 0.32409 | 0.33010 | | |
| | 0.32904 | 0.32274 | | | | | 0.34474 | 8.095 |
| 128 Thiophene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 129 2-Methylhexane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 130 3-Methylhexane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 131 4-Methyl-2-pentanone | 0.29812 | 0.26405 | 0.22395 | 0.22071 | 0.21330 | 0.20882 | | |
| | 0.20899 | 0.20581 | | | | | 0.23047 | 14.367 |
| 132 Cyclohexene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 135 1-Methoxy-2-propanol | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 136 Octane | 0.32287 | 0.27822 | 0.25531 | 0.23909 | 0.24015 | 0.23445 | | |
| | 0.23310 | 0.22766 | | | | | 0.25386 | 12.684 |
| 137 Toluene | 0.78471 | 0.74154 | 0.68333 | 0.68293 | 0.67720 | 0.66782 | | |
| | 0.66839 | 0.66840 | | | | | 0.69679 | 6.170 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 138 1-Heptene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 139 trans-1,3-Dichloropropene | 0.28676 | 0.27970 | 0.27634 | 0.27601 | 0.26307 | 0.27338 | 0.27798 | 0.27673 | 0.27625 | 2.399 |
| 140 2,3-Dichloro-1-propene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 141 1,1,2-Trichloroethane | 0.25345 | 0.25739 | 0.24496 | 0.22993 | 0.22045 | 0.21941 | 0.22369 | 0.22203 | 0.23391 | 6.678 |
| 142 Tetrachloroethene | 0.33635 | 0.36992 | 0.36041 | 0.35454 | 0.34844 | 0.34547 | 0.34740 | 0.34728 | 0.35123 | 2.922 |
| 143 2-Hexanone | +++++ | +++++ | 0.30106 | 0.29413 | 0.29864 | 0.29197 | 0.29159 | 0.28336 | 0.29346 | 2.116 |
| 144 1,3-Dichloropropane | 0.37820 | 0.34167 | 0.32451 | 0.32788 | 0.30706 | 0.30655 | 0.31305 | 0.31442 | 0.32667 | 7.329 |
| 145 Butyl Acetate | +++++ | +++++ | 0.34232 | 0.32050 | 0.31137 | 0.29172 | 0.28889 | 0.28849 | 0.30722 | 7.061 |
| 146 Dibromochloromethane | 0.44178 | 0.46173 | 0.47130 | 0.45502 | 0.45829 | 0.46166 | 0.47412 | 0.47444 | 0.46229 | 2.396 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 147 Bromodichloroethene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 148 1,2-Dibromoethane (EDB) | 0.41661 | 0.40683 | 0.39382 | 0.36945 | 0.36433 | 0.36919 | 0.37445 | 0.37227 | 0.38337 | 5.147 |
| 149 2-Methylheptane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 150 3-Methylheptane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 151 1-Bromo-2-Chloroethane | +++++ | +++++ | 0.42547 | 0.44098 | 0.39135 | 0.40974 | 0.41924 | 0.42059 | 0.41790 | 3.962 |
| 152 Diethyl Ketone | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 154 Chlorobenzene | 0.64590 | 0.61258 | 0.56831 | 0.56934 | 0.57208 | 0.56119 | 0.55922 | 0.54524 | 0.57923 | 5.728 |
| 155 Ethyl Benzene | 0.34499 | 0.28334 | 0.29447 | 0.27993 | 0.29172 | 0.28288 | 0.27884 | 0.27466 | 0.29135 | 7.771 |
| 156 Nonane | +++++ | 0.74003 | 0.70447 | 0.66323 | 0.67965 | 0.66256 | 0.65147 | 0.63540 | 0.67669 | 5.230 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 157 1,1,1,2-Tetrachloroethane | 0.35563 | 0.32382 | 0.32969 | 0.31387 | 0.32511 | 0.32948 | 0.33367 | 0.32859 | 0.32998 | 3.613 |
| 158 m,p-Xylene | 0.38806 | 0.37196 | 0.37479 | 0.34696 | 0.36238 | 0.35333 | 0.35311 | 0.35457 | 0.36315 | 3.849 |
| 159 2-Nitropropane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 160 bis(chloromethyl) Ether | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 161 1-Octene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 162 Epichlorohydrin | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 163 2-Chloroethyl Vinyl Ether | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 164 o-Xylene | 0.40209 | 0.34964 | 0.34797 | 0.32588 | 0.34054 | 0.33242 | 0.33325 | 0.32310 | 0.34436 | 7.320 |
| 165 Styrene | 0.64339 | 0.60920 | 0.60187 | 0.56893 | 0.59025 | 0.57007 | 0.56553 | 0.55555 | 0.58810 | 4.961 |

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|---|---|---|---|---|---|---|---|---|---|---|
| 166 2-Heptanone | +++++ | +++++ | 2.26292 | 2.29755 | 1.83581 | 1.69779 | 1.71158 | 1.67700 | 1.91377 | 15.124 |
| 167 Bromoform | 0.47985 | 0.44432 | 0.46220 | 0.45018 | 0.47109 | 0.47294 | 0.47940 | 0.47764 | 0.46720 | 2.921 |
| 168 Cumene | 1.08781 | 1.08680 | 1.06370 | 0.99495 | 1.05629 | 1.02865 | 1.01865 | 0.99104 | 1.04099 | 3.686 |
| 169 Cyclohexanone | +++++ | 0.54850 | 0.46370 | 0.40669 | 0.38129 | 0.36645 | 0.35965 | 0.35664 | 0.41185 | 17.214 |
| 171 Vinyl Cyclohexene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 172 D-Limonene | +++++ | +++++ | 0.42776 | 0.42305 | 0.43916 | 0.40816 | 0.39433 | 0.38844 | 0.41348 | 4.809 |
| 173 Ethyl Methacrylate | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 174 1-Chloro-2-Bromopropane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 175 1,1,2,2-Tetrachloroethane | 0.60370 | 0.57369 | 0.54421 | 0.52923 | 0.53384 | 0.51460 | 0.51060 | 0.50957 | 0.53993 | 6.182 |

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 18-APR-2024 09:31
End Cal Date : 24-APR-2024 01:06
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 176 1-Nitropropane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 177 Bromobenzene | +++++ | 0.38420 | 0.37407 | 0.36341 | 0.36785 | 0.35242 | 0.35057 | 0.34627 | 0.36268 | 3.803 |
| 178 Propylbenzene | 0.32257 | 0.31541 | 0.31928 | 0.29710 | 0.31386 | 0.30018 | 0.29865 | 0.29546 | 0.30782 | 3.586 |
| 179 1,2,3-Trichloropropane | 0.19923 | 0.17769 | 0.16355 | 0.15525 | 0.15811 | 0.15273 | 0.15189 | 0.15248 | 0.16387 | 10.175 |
| 180 Bromodichloroethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 181 trans-1,4-Dichloro-2-butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 182 Decane | +++++ | 1.11371 | 0.90143 | 0.73985 | 0.74979 | 0.71130 | 0.70358 | 0.65697 | 0.79666 | 20.004 |
| 183 4-Ethyltoluene | 0.35363 | 0.37151 | 0.32716 | 0.32450 | 0.33904 | 0.32680 | 0.32627 | 0.31513 | 0.33550 | 5.524 |
| 184 2-Chlorotoluene | 0.32107 | 0.29194 | 0.28243 | 0.27891 | 0.28190 | 0.27360 | 0.27431 | 0.26677 | 0.28387 | 5.908 |

US32TAR1

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Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | 0.46745 | 0.46422 | 0.46533 | 0.43457 | 0.45121 | 0.44279 | 0.45269 | 0.44143 | 0.45246 | 2.727 |
| 186 4-Chlorotoluene | +++++ | +++++ | 0.28404 | 0.28217 | 0.29891 | 0.27670 | 0.26718 | 0.26221 | 0.27853 | 4.702 |
| 187 Diisobutyl Ketone | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 188 alpha Methyl Styrene | 0.53107 | 0.51235 | 0.47664 | 0.45796 | 0.47466 | 0.46749 | 0.46099 | 0.45313 | 0.47929 | 5.804 |
| 189 tert-Butylbenzene | +++++ | 0.92359 | 0.89137 | 0.84643 | 0.84541 | 0.84302 | 0.85144 | 0.82020 | 0.86021 | 4.074 |
| 190 1,2,4-Trimethylbenzene | 1.01543 | 0.97599 | 0.92965 | 0.90214 | 0.92668 | 0.89012 | 0.88834 | 0.87232 | 0.92509 | 5.274 |
| 191 Pentachloroethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 192 sec-Butylbenzene | 0.30354 | 0.28276 | 0.29262 | 0.27716 | 0.27875 | 0.27454 | 0.27371 | 0.26951 | 0.28157 | 4.005 |
| 193 bis(2-Chloroethyl) Ether | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 18-APR-2024 09:31
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Quant Method : ISTD
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Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 194 p-Cymene | 1.19625 | 1.20042 | 1.18168 | 1.13009 | 1.16132 | 1.12736 | 1.12277 | 1.09226 | 1.15152 | 3.408 |
| 195 1,3-Dichlorobenzene | 0.78164 | 0.73321 | 0.68866 | 0.65917 | 0.68218 | 0.65105 | 0.64870 | 0.63947 | 0.68551 | 7.166 |
| 196 1,4-Dichlorobenzene | 0.75334 | 0.74271 | 0.69941 | 0.67618 | 0.69122 | 0.66662 | 0.66257 | 0.66294 | 0.69437 | 5.149 |
| 197 1,2,3-Trimethylbenzene | +++++ | +++++ | 0.40193 | 0.38449 | 0.41004 | 0.37408 | 0.36355 | 0.35834 | 0.38207 | 5.430 |
| 198 1-Nonene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 199 alpha-Chlorotoluene | 0.98062 | 0.89585 | 0.84943 | 0.84438 | 0.87686 | 0.86218 | 0.86691 | 0.85822 | 0.87930 | 5.003 |
| 200 1-Chlorohexane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 201 Undecane | +++++ | 1.32781 | 1.06101 | 0.91543 | 0.88800 | 0.83829 | 0.81732 | 0.78285 | 0.94724 | 20.126 |
| 202 Butylbenzene | 0.34962 | 0.33683 | 0.31362 | 0.31022 | 0.32073 | 0.30935 | 0.30296 | 0.29552 | 0.31736 | 5.642 |

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INITIAL CALIBRATION DATA

Start Cal Date : 18-APR-2024 09:31
End Cal Date : 24-APR-2024 01:06
Quant Method : ISTD
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Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 203 Butyl Ether | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 204 1,2-Dichlorobenzene | 0.74094 | 0.71274 | 0.66907 | 0.64219 | 0.65422 | 0.63868 | 0.63421 | 0.63019 | 0.66528 | 6.106 |
| 205 Hexachloroethane | +++++ | +++++ | 0.22170 | 0.22256 | 0.23463 | 0.23203 | 0.23447 | 0.23954 | 0.23082 | 3.105 |
| 206 1,2-Dibromo-3-chloropropane | +++++ | +++++ | 0.40926 | 0.40209 | 0.39946 | 0.39306 | 0.38422 | 0.37285 | 0.39349 | 3.353 |
| 207 Dodecane | +++++ | 1.00928 | 0.98725 | 0.96385 | 0.96445 | 0.94356 | 0.92759 | 0.88318 | 0.95417 | 4.319 |
| 208 1,3,5-Trichlorobenzene | +++++ | +++++ | 0.52381 | 0.53118 | 0.56713 | 0.53420 | 0.51853 | 0.51621 | 0.53184 | 3.505 |
| 209 1-Decene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 210 alpha-Pinene | +++++ | +++++ | 0.69171 | 0.67534 | 0.63894 | 0.63762 | 0.64453 | 0.64806 | 0.65603 | 3.390 |
| 211 1,4-Dichloro-2-Butene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |

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INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 212 3-Ethyltoluene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| 213 1,2,4-Trichlorobenzene | +++++ | +++++ | 0.71469 | 0.68493 | 0.66886 | 0.64552 | 0.63062 | 0.61116 | 0.65930 | 5.735 |
| 214 beta-Pinene | +++++ | +++++ | 0.53224 | 0.53323 | 0.50244 | 0.49877 | 0.50176 | 0.49675 | 0.51087 | 3.341 |
| 215 Hexachlorobutadiene | +++++ | +++++ | 0.50511 | 0.48799 | 0.47763 | 0.47421 | 0.47908 | 0.46151 | 0.48092 | 3.044 |
| 216 Naphthalene | +++++ | 1.63680 | 1.46081 | 1.39424 | 1.32515 | 1.28774 | 1.28318 | 1.24446 | 1.37605 | 9.922 |
| 217 Limonene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 218 Benzaldehyde | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 219 Indan | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 220 Indene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

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Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 221 Isobutylbenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 222 1,2,3-Trichlorobenzene | +++++ | +++++ | 0.71060 | 0.67759 | 0.64378 | 0.62766 | 0.61624 | 0.60041 | 0.64605 | 6.373 |
| 223 2-Ethyltoluene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 224 1-Undecene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 225 4-Ethyl-1,2-dimethylbenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 226 1,3-Diethylbenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 227 1,4-Diethylbenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 228 1,2,4,5-tetramethylbenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 229 1-Dodecene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

US32TAR1

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Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 230 Nitrobenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 231 Tridecane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 232 2-Methylnaphthalene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 233 1,3,5-Triethylbenzene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| M 234 1,2-Dichloroethene (Total) | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| M 235 Chlorobutane (Total) | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| M 236 Total Xylene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| M 237 3 and 4-Ethyltoluene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 238 Total Volatile Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

US32TAR1

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Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 239 TPH reference to Hexane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 240 TPH reference to Heptane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 241 TPH reference to Gasoline | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 242 TPH reference MineralSpirits | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 243 TPH reference to Stoddard | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 244 TVOC reference to Hexane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 245 TVOC reference to Heptane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 246 TVOC reference to Toluene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 247 TVOC reference to Toluene-d8 | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

US32TAR1

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Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 248 NMOC reference to Hexane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 249 NMOC reference to Heptane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 250 NMOC reference to Toluene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 251 C3 - C4 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 252 C4 - C5 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 253 C5 - C6 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 254 C6 - C7 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 255 C7 - C8 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 256 C8 - C9 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

US32TAR1

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Target Version : 3.60
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Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | 100.000 Level 8 | 200.000 Level 9 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 257 C9 - C10 Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 258 C10+ Hydrocarbons | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 259 C5 - C6 Aliphatic ref C5 + C6 | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 260 C6-C8 Aliphatic ref Heptane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 261 C8-C10 Aliphatic ref Decane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 262 C10-C12 Aliphatic ref Dodecan | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 263 C8-C10 Aromatic | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 264 C8-C10 Aromatic ref 1,2,3-TMB | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |
| 265 C10-C12 Aromatic | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ |

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 18-APR-2024 09:31
End Cal Date : 24-APR-2024 01:06
Quant Method : ISTD
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Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 266 C10-C12 Aromatic 1,2,4,5-TMB | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 267 C10-C12 Aromatic Naphthalene | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| $ 104 1,2-Dichloroethane-d4 | 1.27432 | 1.28441 | 1.29311 | 1.29692 | 1.26692 | 1.28758 | | |
| | 1.31044 | 1.40349 | | | | | 1.30215 | 3.308 |
| $ 133 Benzene-d6 | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| $ 134 Toluene-d8 | 0.98330 | 0.98577 | 0.97060 | 0.96491 | 0.96648 | 0.96328 | | |
| | 0.97076 | 0.96989 | | | | | 0.97187 | 0.854 |
| $ 170 4-Bromofluorobenzene | 0.74001 | 0.74557 | 0.73268 | 0.73541 | 0.74519 | 0.73880 | | |
| | 0.74494 | 0.76109 | | | | | 0.74296 | 1.175 |

Report Date: 25-Apr-2024 11:52

Calibration History

Method : /chem/msd3.i/23APR24.b/324q0423a.m
Start Cal Date: 18-APR-2024 09:31
End Cal Date : 24-APR-2024 01:06

Initial Calibration

| Injection Date | Sublist | Calibration File |
|---|---|---|
| Cal Level: 2 , Cal Amount: 0.50000 | | |
| 23-APR-2024 21:18 | AT23_Level2 | /chem/msd3.i/23APR24.b/3042307.d |
| Cal Level: 3 , Cal Amount: 1.00000 | | |
| 23-APR-2024 21:50 | AT23_Level3 | /chem/msd3.i/23APR24.b/3042308.d |
| Cal Level: 4 , Cal Amount: 2.00000 | | |
| 23-APR-2024 22:22 | AT23ICAL | /chem/msd3.i/23APR24.b/3042309.d |
| 18-APR-2024 09:31 | AT21spICAL | /chem/msd3.i/23APR24.b/3041803.d |
| Cal Level: 5 , Cal Amount: 5.00000 | | |
| 23-APR-2024 22:57 | AT23ICAL | /chem/msd3.i/23APR24.b/3042310.d |
| 18-APR-2024 10:06 | AT21spICAL | /chem/msd3.i/23APR24.b/3041804.d |
| Cal Level: 6 , Cal Amount: 20.00000 | | |
| 23-APR-2024 23:27 | AT23ICAL | /chem/msd3.i/23APR24.b/3042311.d |
| 18-APR-2024 10:37 | AT21spICAL | /chem/msd3.i/23APR24.b/3041805.d |
| Cal Level: 7 , Cal Amount: 50.00000 | | |
| 23-APR-2024 23:59 | AT23ICAL | /chem/msd3.i/23APR24.b/3042312.d |
| 18-APR-2024 11:08 | AT21spICAL | /chem/msd3.i/23APR24.b/3041806.d |
| Cal Level: 8 , Cal Amount: 100.00000 | | |
| 24-APR-2024 00:31 | AT23ICAL | /chem/msd3.i/23APR24.b/3042313.d |
| 18-APR-2024 11:41 | AT21spICAL | /chem/msd3.i/23APR24.b/3041807.d |

| Cal Level: 9 , Cal Amount: 200.00000 |
|---|
| 24-APR-2024 01:06 \| AT23ICAL \| /chem/msd3.i/23APR24.b/3042314.d |
| 18-APR-2024 12:16 \| AT21spICAL \| /chem/msd3.i/23APR24.b/3041808.d |

Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 7

| Ccal Level: 7 , Ccal Amount: 50.000 |
|---|
| 23-APR-2024 23:59 \| AT23ICAL \| /chem/msd3.i/23APR24.b/3042312a.d |
| Ccal Level: 7 , Ccal Amount: 50.000 |
| 23-APR-2024 23:59 \| AT23ICAL \| /chem/msd3.i/23APR24.b/3042312.d |
| Ccal Level: 7 , Ccal Amount: 50.000 |
| 18-APR-2024 11:08 \| AT21spCCV \| /chem/msd3.i/23APR24.b/3041806a.d |
| Ccal Level: 7 , Ccal Amount: 50.000 |
| 18-APR-2024 11:08 \| AT21spICAL \| /chem/msd3.i/23APR24.b/3041806.d |

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 18-APR-2024 09:31
End Cal Date : 24-APR-2024 01:06
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd3.i/23APR24.b/324q0423a.m
Cal Date : 26-Apr-2024 08:45 z8dr
Curve Type : Average

Calibration File Names:
Level 2: /chem/msd3.i/23APR24.b/3042307.d
Level 3: /chem/msd3.i/23APR24.b/3042308.d
Level 4: /chem/msd3.i/23APR24.b/3042309.d
Level 5: /chem/msd3.i/23APR24.b/3042310.d
Level 6: /chem/msd3.i/23APR24.b/3042311.d
Level 7: /chem/msd3.i/23APR24.b/3042312.d
Level 8: /chem/msd3.i/23APR24.b/3042313.d
Level 9: /chem/msd3.i/23APR24.b/3042314.d

jrf 4/26/24

Please see Calibration History page(s) for all the calibration files.

LD 4/26/24

| Compound | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | 20.000 Level 6 | 50.000 Level 7 | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 100.000 Level 8 | 200.000 Level 9 | | | | | | |
| 1 Dimethyl Ether | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 2 1,1-Dichloro-1-Fluoroethane | +++++ | +++++ | +++++ | +++++ | +++++ | +++++ | | |
| | +++++ | +++++ | | | | | +++++ | +++++ |
| 3 Freon 143a | +++++ | +++++ | +++++ | 0.30523 | 0.37100 | 0.37702 | | |
| | 0.36181 | 0.27107 | | | | | 0.33723 | 13.852 |
| 4 Freon 134a | +++++ | 0.72119 | 0.70420 | 0.52336 | 0.52292 | 0.55741 | | |
| | 0.55245 | 0.46348 | | | | | 0.57786 | 16.814 |
| 5 Propylene | +++++ | +++++ | 0.77776 | 0.68917 | 0.55183 | 0.61351 | | |
| | 0.64995 | 0.64651 | | | | | 0.65479 | 11.571 |
| 6 Propane | +++++ | +++++ | 0.22880 | 0.25542 | 0.21349 | 0.22284 | | |
| | 0.23289 | 0.23470 | | | | | 0.23136 | 6.085 |

# Initial Calibration Narrative
# 324Q0423A.m

A multi-point **AT-23** initial calibration was analyzed on MSD-3 on 04/23/24 and 4/24/24.

**ICAL: 0 out.**
Naphthalene @ 9.922%RSD.

The low point spike verification file is 3042307x.d for BTEXS.

**ICV: 2 out.** Vinyl Acetate @ 154% recovery and n-Butanol @ 167% recovery. File: 3042404.d
Naphthalene Recovery: @ 112%
**DOD QSM: 2 out.** Vinyl Acetate @ 154% recovery and n-Butanol @ 167% recovery. See File: 3042404a.d
**RCP: 0 out RCP.** See File: 3042404c.d

Naphthalene and Acrolein were adjusted in the ICV due to the certified concentration exceeding more than 15% of the nominal concentration

The concentrations for Acetonitrile, Ethanol, Acrolein, Tert-Butanol, and Naphthalene were adjusted in the calibration due to the certified concentration exceeding more than 15% of the nominal concentration.

-Ethanol was curved at 1.232ppbv→246.4ppbv
-Acrolein was curved at 1.165ppbv→233ppbv
-Acetonitrile was curved at 1.176ppbv→235.2ppbv
-Tert-Butanol was curved at 1.152ppbv →230.4ppbv
-Naphthalene calibrated 0.116ppbv→23.2ppbv

A multi-point **AT-21 Supplemental** initial calibration was analyzed on MSD-3 on 4/18/24.

-Freon 143a was curved at 5.0ppbv→200ppbv **(Raised RL)**

No ICV.

BFB tune files: 3042306, and 3042402.

The AT23MDL Expires 8/29/24.

z

# MSD3

| BFB Tune Verification: (176/174): (193,856/199,488) * 100 = 97.18% | | | |
|---|---|---|---|
| | 3329-901 | Exp. Date: | 4/4/2025 |
| BCM | 119983 | | |
| 1,4-DFB | 454158 | | |
| CB-d5 | 459698 | | |

| Verified CCV vs. ICAL midpoint (-40%): | jrf |
|---|---|
| Method: | 324Q0423a.m |

| | | Method TO-15/TO-14 | | | | | |
|---|---|---|---|---|---|---|---|
| | | SOP# 6 | | | | | |
| | | Vacuum: | NA | | | | |
| Surrogate # 3329-901 | | Exp Date: | 4/4/2025 | | | | |
| CCV | 3018-4439 | Exp Date: | 7/15/2024 | LCS | 3018-4441 | Exp Date | 7/15/2024 |
| CCV SP 1 # | 3018-4328 | Exp Date: | 5/21/2024 | LCS Sp #1 | | Exp Date | |
| CCV SP 2 # | 3018-4329 | Exp Date: | 5/21/2024 | LCS Sp #2 | | Exp Date | |
| CCV SP 3# | | Exp Date: | | LCS Sp #3 | | Exp Date | |
| CCV SP 4# | | Exp Date: | | | | | |

| Use | File # | Enter/Scan Sample IDs | Canister# | Cart Pos. | Pressure | Amount | DF | Verify Load | Loaded Init. | Date Analyzed | Time | Review Init | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| √ | 3041801 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | DF | mjs | 04/18/24 | 0824 | DF | |
| √ | 3041802 | BFB Tune Check | 3329-901 | 12 | 36ng | 50mL | 1.00 | DF | mjs | 04/18/24 | 0859 | DF | |
| √ | 3041803 | ICAL Level #4 | 3018-4329 | 1 | 2.0ppbv (5.0ppbv) | 80ml | 1.00 | DF | mjs | 04/18/24 | 0931 | mjb | Exp. 5/21/24 |
| √ | 3041804 | ICAL Level #5 | 3018-4329 | 1 | 5.0ppbv (5.0ppbv) | 200ml | 1.00 | DF | mjs | 04/18/24 | 1006 | mjb | |
| √ | 3041805 | ICAL Level #6 | 3018-4328 | 2 | 20ppbv (200ppbv) | 20ml | 1.00 | DF | mjs | 04/18/24 | 1037 | mjb | Exp. 5/21/24 |
| √ | 3041806 | ICAL Level #7 | 3018-4328 | 2 | 50ppbv (200ppbv) | 50ml | 1.00 | DF | mjs | 04/18/24 | 1108 | mjb | |
| √ | 3041807 | ICAL Level #8 | 3018-4328 | 2 | 100ppbv (200ppbv) | 100ml | 1.00 | DF | mjs | 04/18/24 | 1141 | mjb | |
| √ | 3041808 | ICAL Level #9 | 3018-4328 | 2 | 200ppbv (200ppbv) | 200ml | 1.00 | DF | mjs | 04/18/24 | 1216 | mjb | |
| √ | 3041809 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | DF | mjs | 04/18/24 | 1251 | mjb | |
| X | 3041810 | ICAL Level #2 | 3018-4458 | 3 | 0.5ppbv (5.0ppbv) | 20ml | 1.00 | DF | mjs | 04/18/24 | 1321 | mjb | exp. 7/15/24 |
| X | 3041811 | ICAL Level #3 | 3018-4458 | 3 | 1.0ppbv (5.0ppbv) | 40ml | 1.00 | DF | mjs | 04/18/24 | 1352 | mjb | |
| X | 3041812 | ICAL Level #4 | 3018-4458 | 3 | 2.0ppbv (5.0ppbv) | 80ml | 1.00 | DF | mjs | 04/18/24 | 1425 | mjb | |
| X | 3041813 | ICAL Level #5 | 3018-4458 | 3 | 5.0ppbv (5.0ppbv) | 200ml | 1.00 | DF | mjs | 04/18/24 | 1500 | mjb | |
| X | 3041814 | ICAL Level #6 | 3018-4439 | 13 | 20ppbv (200ppbv) | 20ml | 1.00 | DF | mjs | 04/18/24 | 1530 | mjb | exp. 7/15/24 |
| X | 3041815 | ICAL Level #7 | 3018-4439 | 13 | 50ppbv (200ppbv) | 50ml | 1.00 | DF | mjs | 04/18/24 | 1601 | mjb | |
| X | 3041816 | ICAL Level #8 | 3018-4439 | 13 | 100ppbv (200ppbv) | 100ml | 1.00 | DF | mjs | 04/18/24 | 1634 | mjb | |
| X | 3041817 | ICAL Level #9 | 3018-4439 | 13 | 200ppbv (200ppbv) | 200ml | 1.00 | DF | mjs | 04/18/24 | 1709 | mjb | |
| X | 3041818 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | DF | mjs | 04/18/24 | 1744 | mjb | |
| √ | 3041819 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | DF | mjs | 04/18/24 | 1819 | mjb | |
| √ | 3041820 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | jrf | mjs | 04/19/24 | 0706 | mjb | instrument idle |
| X | 3041821 | ICV | 3018-4441 | 14 | 50ppbv (200ppbv) | 50ml | 1.00 | jrf | mjs | 04/19/24 | 0738 | mjb | |
| √ | 3041822 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | jrf | jrf | 04/19/24 | 1336 | mjb | |
| T | 3041823 | CCV | 3018-4439 | 13 | 200ppbv (200ppbv) | 200mL | 1.00 | jrf | jrf | 04/19/24 | 1411 | mjb | Test Standard |
| √ | 3041824 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | jrf | jrf | 04/19/24 | 1445 | mjb | |

4/26/24

z

# MSD3

| BFB Tune Verification: (176/174): (164,032/169,344) * 100 = 96.86% | | | |
|---|---|---|---|
| | 3169-901 | Exp. Date: | 4/4/2025 |
| BCM | 106185 | | |
| 1,4-DFB | 390964 | | |
| CB-d5 | 392003 | | |

| Verified CCV vs. ICAL midpoint (-40%): | jrf |
|---|---|
| Method: | 324Q0423a.m |

| | | | | | |
|---|---|---|---|---|---|
| Surrogate # 3169-901 | | Method TO-15/TO-14 | | | |
| CCV | 3018-4439 | SOP# 6 | | | |
| CCV SP 1 # | 3018-4466 | Vacuum: | NA | | |
| CCV SP 2 # | | Exp Date: | 4/4/2025 | | |
| CCV SP 3# | | Exp Date: | 7/15/2024 | LCS | 3018-4441 |
| CCV SP 4# | | Exp Date: | 7/22/2024 | LCS Sp #1 | |
| | | Exp Date: | | LCS Sp #2 | |
| | | Exp Date: | | LCS Sp #3 | |
| | | Exp Date: | | | |

| Exp Date | 7/15/2024 |
|---|---|
| Exp Date | |
| Exp Date | |
| Exp Date | |

| Use | File # | Enter/Scan Sample IDs | Canister# | Cart Pos. | Pressure | Amount | DF | Verify Load | Loaded Init. | Date Analyzed | Time | Review Init | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| √ | 3042305 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | DF | DF | 04/23/24 | 1959 | DF | |
| √ | 3042306 | BFB Tune Check | 3169-901 | 12 | 36ng | 50mL | 1.00 | DF | DF | 04/23/24 | 2030 | DF | dynamic ramp ion 219 14.56->15.06 volts |
| √ | 3042307 | ICAL Level #2 | 3018-4466 | 3 | 0.5ppbv (5.0ppbv) | 20ml | 1.00 | DF | DF | 04/23/24 | 2118 | jrf | exp. 7/22/24 |
| √ | 3042308 | ICAL Level #3 | 3018-4466 | 3 | 1.0ppbv (5.0ppbv) | 40ml | 1.00 | DF | DF | 04/23/24 | 2150 | jrf | |
| √ | 3042309 | ICAL Level #4 | 3018-4466 | 3 | 2.0ppbv (5.0ppbv) | 80ml | 1.00 | jrf | DF | 04/23/24 | 2222 | jrf | |
| √ | 3042310 | ICAL Level #5 | 3018-4466 | 3 | 5.0ppbv (5.0ppbv) | 200ml | 1.00 | jrf | DF | 04/23/24 | 2257 | jrf | |
| √ | 3042311 | ICAL Level #6 | 3018-4439 | 13 | 20ppbv (200pppbv) | 20ml | 1.00 | jrf | DF | 04/23/24 | 2327 | jrf | exp. 7/15/24 |
| √ | 3042312 | ICAL Level #7 | 3018-4439 | 13 | 50ppbv (200pppbv) | 50ml | 1.00 | jrf | DF | 04/23/24 | 2359 | jrf | |
| √ | 3042313 | ICAL Level #8 | 3018-4439 | 13 | 100ppbv (200pppbv) | 100ml | 1.00 | jrf | DF | 04/24/24 | 0031 | jrf | |
| √ | 3042314 | ICAL Level #9 | 3018-4439 | 13 | 200ppbv (200pppbv) | 200ml | 1.00 | jrf | DF | 04/24/24 | 0106 | jrf | |
| √ | 3042315 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | jrf | DF | 04/24/24 | 0141 | jrf | |
| √ | 3042316 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | jrf | DF | 04/24/24 | 0216 | jrf | |

√04/26/24

z

# MSD3

| BFB Tune Verification: (176/174): (153216/157696) * 100 = 97.16% | | | |
|---|---|---|---|
| | 3169-901 | Exp. Date: | 4/4/2025 |
| BCM | 99858 | | |
| 1,4-DFB | 376895 | | |
| CB-d5 | 365862 | | |

| Verified CCV vs. ICAL midpoint (-40%): | jrf |
|---|---|
| Method: | 324Q0423a.m |

| | | | | | |
|---|---|---|---|---|---|
| Surrogate # 3169-901 | | Method TO-15/TO-14 | | | |
| CCV | 3018-4439 | SOP# 6 | | | |
| CCV SP 1 # | | Vacuum: | NA | | |
| CCV SP 2 # | | Exp Date: | 4/4/2025 | | |
| CCV SP 3# | | Exp Date: | 7/15/2024 | LCS | 3018-4441 |
| CCV SP 4# | | Exp Date: | | LCS Sp #1 | |
| | | Exp Date: | | LCS Sp #2 | |
| | | Exp Date: | | LCS Sp #3 | |
| | | Exp Date: | | | |

| Use | File # | Enter/Scan Sample IDs | Canister# | Cart Pos. | Pressure | Amount | DF | Verify Load | Loaded Init. | Date Analyzed | Time | Review Init | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| √ | 3042401 | System Blank | N1876 | 2 | Humid | 200mL | 1.00 | jrf | jrf | 04/24/24 | 1026 | jrf | leg validation 1+2 |
| √ | 3042402 | BFB Tune Check | 3169-901 | 2 | 36ng | 50mL | 1.00 | jrf | jrf | 04/24/24 | 1057 | jrf | Exp. 4/4/25. |
| √ | 3042403 | CCV | 3018-4439 | 13 | 50ppbv (200pppbv) | 50mL | 1.00 | jrf | jrf | 04/24/24 | 1128 | jrf | Exp. 7/15/24. |
| √ | 3042404 | ICV | 3018-4441 | 14 | 50ppbv (200pppbv) | 50mL | 1.00 | jrf | jrf | 04/24/24 | 1200 | jrf | Exp. 7/15/24. AT23: 2 out. |
| √ | 3042405 | LCSD | 3018-4441 | 14 | 50ppbv (200pppbv) | 50mL | 1.00 | jrf | jrf | 04/24/24 | 1231 | jrf | Exp. 7/15/24. AT23: 2 out. RPD ok. |
| √ | 3042406 | Lab Blank | N1876 | 4 | Humid | 200mL | 1.00 | jrf | jrf | 04/24/24 | 1321 | jrf | leg validation 3+4+5 |
| √ | 3042407 | 2404535-01A | N8309 | 1 | 4.5 Hg->9.9 psi | 200mL | 1.97 | DF | jrf | 04/24/24 | 1518 | DF | |
| √ | 3042408 | 2404535-02A | N7521 | 2 | 6.5 Hg->10.1 psi | 200mL | 2.15 | DF | jrf | 04/24/24 | 1553 | DF | |
| √ | 3042409 | 2404535-03A | N6689 | 3 | 4.1 Hg->10.2 psi | 200mL | 1.96 | DF | jrf | 04/24/24 | 1628 | DF | |
| √ | 3042410 | 2404537-01A | LC709 | 4 | 5.3 Hg->10 psi | 100mL | 4.08 | DF | jrf | 04/24/24 | 1700 | DF | dil TC |
| √ | 3042411 | 2404537-02A | 1039 | 5 | 11.4 Hg->10 psi | 40mL | 13.6 | DF | jrf | 04/24/24 | 1731 | DF | dil TC |
| √ | 3042412 | 2404537-06A | B2091 | 6 | 9.8 Hg->9.9 psi | 30mL | 16.6 | DF | jrf | 04/24/24 | 1802 | DF | dil TC |
| √ | 3042413 | 2404537-07A | 1L1517 | 7 | 5.9 Hg->9.9 psi | 45mL | 9.26 | DF | jrf | 04/24/24 | 1833 | DF | dil TC |
| √ | 3042414 | 2404537-08A | 34002006 | 8 | 5.9 Hg->9.8 psi | 30mL | 13.8 | DF | jrf | 04/24/24 | 1904 | DF | dil TC |
| √ | 3042415 | 2404537-09A | N5570 | 9 | 5.1 Hg->9.9 psi | 200mL | 2.02 | DF | jrf | 04/24/24 | 1939 | DF | "E" flag 1,1 DFA,> 400 |
| √ | 3042416 | System Blank | N1876 | 9 | Humid | 200mL | 1.00 | jrf | DF | 04/24/24 | 2201 | jrf | 1,1-DFA>RL. Ok for TO15. |
| √ | 3042417 | 2404535-04A | N3415 | 1 | 6.1 Hg->9.9 psi | 200mL | 2.10 | jrf | DF | 04/24/24 | 2237 | jrf | |
| √ | 3042418 | 2404535-05A | N6704 | 2 | 5.1 Hg->10 psi | 200mL | 2.02 | jrf | DF | 04/24/24 | 2312 | jrf | |
| √ | 3042419 | 2404535-06A | N6693 | 3 | 6.1 Hg->9.8 psi | 200mL | 2.09 | jrf | DF | 04/24/24 | 2347 | jrf | |
| √ | 3042420 | 2404535-07A | N2024 | 4 | 5.5 Hg->9.8 psi | 200mL | 2.04 | jrf | DF | 04/25/24 | 0022 | jrf | |
| √ | 3042421 | 2404535-08A | 1L4672 | 5 | 5.9 Hg->10 psi | 200mL | 2.09 | jrf | DF | 04/26/24 | 0057 | jrf | |
| √ | 3042422 | 2404535-09A | O0833 | 6 | 8.4 Hg->10 psi | 200mL | 2.33 | jrf | DF | 04/27/24 | 0132 | jrf | |
| √ | 3042423 | 2404535-10A | N6733 | 7 | 8.2 Hg->9.9 psi | 200mL | 2.30 | jrf | DF | 04/28/24 | 0207 | jrf | |
| √ | 3042424 | 2404535-11A | 1L4706 | 8 | 8.2 Hg->9.8 psi | 200mL | 2.29 | jrf | DF | 04/29/24 | 0242 | jrf | |

4/26/24

# IS and Associated Target Compounds and Surr.
# Instruction #: I1.20

Modified EPA Methods TO-14A/TO-15
Internal Standard and Associated Target Compounds and Surrogates

| Bromochloromethane* |
|---|
| **Target Compounds:** |
| Freon 12 |
| Freon 114 |
| Chloromethane |
| Vinyl Chloride |
| 1,3-Butadiene |
| Bromomethane |
| Chloroethane |
| Freon 11 |
| Ethanol |
| Freon 113 |
| 1,1-Dichloroethene |
| Acetone |
| 2-Propanol |
| Carbon Disulfide |
| 3-Chloropropene |
| Methylene Chloride |
| Methyl tert-butyl ether |
| trans-1,2-Dichloroethene |
| Hexane |
| 1,1-Dichloroethane |
| 2-Butanone (Methyl Ethyl Ketone) |
| cis-1,2-Dichloroethene |
| Tetrahydrofuran |
| Chloroform |
| 1,1,1-Trichloroethane |
| Cyclohexane |
| Carbon Tetrachloride |
| 2,2,4-Trimethylpentane |
| **Surrogates:** |
| 1,2-Dichloroethane-d4 |

| 1,4-Difluorobenzene |
|---|
| **Target Compounds:** |
| Benzene |
| 1,2-Dichloroethane |
| Heptane |
| Trichloroethene |
| 1,2-Dichloropropane |
| 1,4-Dioxane |
| Bromodichloromethane |
| cis-1,3-Dichloropropene |
| 4-Methyl-2-pentanone |
| Toluene |
| **Surrogates:** |
| Toluene-d8 |

| Chlorobenzene-d5 |
|---|
| **Target Compounds:** |
| trans-1,3-Dichloropropene |
| 1,1,2-Trichloroethane |
| Tetrachloroethene |
| 2-Hexanone |
| Dibromochloromethane |
| 1,2-Dibromoethane (EDB) |
| Chlorobenzene |
| Ethyl Benzene |
| m,p-Xylene |
| o-Xylene |
| Styrene |
| Bromoform |
| Cumene |
| 1,1,2,2-Tetrachloroethane |
| Propylbenzene |
| 4-Ethyltoluene |
| 1,3,5-Trimethylbenzene |
| 1,2,4-Trimethylbenzene |
| 1,3-Dichlorobenzene |
| 1,4-Dichlorobenzene |
| alpha-Chlorotoluene |
| 1,2-Dichlorobenzene |
| 1,2,4-Trichlorobenzene |
| Hexachlorobutadiene |
| **Surrogates:** |
| Bromofluorobenzene |

*Note: If Bromochloromethane (BCM) is required as a target compound, the internal standard mix is blended without BCM. Compounds and surrogates assigned to BCM are re-assigned to 1,4-Difluorobenzene for calibration and subsequent quantitation.

THE LINDE GROUP

Linde

# ISO/IEC 17025

ANAB

ACCREDITED

# Analysis Report

IS/Surr.

Std. ID: 3169-901
Rec'd: 4/14/23
By: MJB

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 1 of 2
Report ID: 37530
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117466144 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1581959 | **Cylinder # :** | CC-17972 |
| **Report Date:** | Apr-04-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75404616 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24100578 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Apr-04-2025 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

1st Review: All w/in ±15%, MJB 4/14/23
2nd Review: All w/in ±5% JL 4/14/23

Primary Reference Material intended for the calibration of gas analyzers or instrumentation. General instructions for proper use of gas mixtures are found in "ISO 16664: Gas analysis – handling of calibration gases and gas mixtures".

Contents under pressure, store in secure area and do not expose to temperatures greater than 150 °F.

Recommended Operating temperature within 32°F (0°C) and 125°F (52°C).

Recommended minimum sample size 10 mL.

Except where noted, results are reported in mole/mole ppm as determined by Gas Chromatography using qualified reference standards under ANA-50-741-ALP and ANA-50-742-ALP and meets ISO/IEC 17025 requirements. Every cylinder is analyzed and represents one unique lot.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor providing a level of confidence of 95% and has been carried out in accordance with ISO/IEC 17025 requirements.

This report is issued in accordance with the laboratory accreditation requirements of ANAB. It provides traceability of measurement to recognized national standards, and to units of measurement realized by the National Institute of Standards and Technology (NIST).

**Linde Spectra Environmental Gases**

**Linde North America, Inc.**

80 Industrial Drive, Alpha, NJ 08865
Phone: +1.908.329-9700 FAX: +1.908.329-9740
www.lideus.com

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ISO/IEC 17025

# Analysis Report

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 2 of 2
Report ID: 37530
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117466144 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1581959 | **Cylinder # :** | CC-17972 |
| **Report Date:** | Apr-04-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75404616 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24100578 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Apr-04-2025 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Reported Conc | Uncertainty |
|---|---|---|---|---|---|
| Bromochloromethane | 74-97-5 | 5.000 ppm | 2.571 | 5.271 ppm | ± 0.33 ppm |
| 1,2-Dichloroethane-d4 | 17060-07-0 | 5.000 ppm | 2.571 | 5.445 ppm | ± 0.32 ppm |
| 1,4-Difluorobenzene | 540-36-3 | 5.000 ppm | 2.571 | 5.331 ppm | ± 0.33 ppm |
| Toluene-d8 | 2037-26-5 | 5.000 ppm | 2.571 | 5.487 ppm | ± 0.35 ppm |
| Chlorobenzene-d5 | 3114-55-4 | 5.000 ppm | 2.571 | 5.230 ppm | ± 0.33 ppm |
| 4-Bromofluorobenzene | 460-00-4 | 5.000 ppm | 2.571 | 5.185 ppm | ± 0.33 ppm |
| Nitrogen | 7727-37-9 | Balance | | Balance | |

**ANALYST:** Lou Lorenzetti

**DATE:** Apr-04-2023

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# 4700 Precision Diluter Standards Preparation Report

**Dilution ID:** 4944

**Canister Size:** 6000cc **Canister ID:** 0254 **Target Final Psia:** 29.4

**Comment:** AT23 CCV 5.0ppbv, 100uL H2O, exp. 7/22/2024

**Date:** 4/22/2024 9:05:18 AM

**Report ID:** 3018-4466

**Prepared By:** mjs

## Channel Methods

| Ch. | Title | Init. Conc. | Target Conc. | Dilution Factor | Init. Psia | Target Psid | Final Psid | Target Psia | Final Psia | Duration | Final Conc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 100 percent | 1 | -0.05 | 11.93 | 11.93 | 11.88 | 11.88 | 00:06:46 | N/A |
| 6 | 3018-4465 | 200 ppb | 5 ppb | 40 | 11.88 | 0.74 | 0.74 | 12.62 | 12.62 | 00:02:50 | 5.03 ppb |
| 1 | Diluent | 100 percent | 100 percent | 1 | 12.62 | 16.78 | 16.77 | 29.40 | 29.40 | 00:10:48 | N/A |

**Total Duration: 00:20:31**

## Channel Configuration and Standards Inventory

| Ch. | Source | Init. Conc. | Cylinder ID | Expiration Date | Notes |
|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 488009Y | 9/9/9999 | E70263095101, Zero Air. No exp. date. |
| 6 | 3018-4465 | 200 ppb | 24889 | 7/22/2024 | AT23 CCV |

4/22/24

Verify Lot# of CCV/CAL (primary) is different than ICV/LCS (secondary)

initial/date MB 4/22/24

Verify Concentration and Expiration date from COA

initial/date MB 4/22/24

# 4700 Precision Diluter Standards Preparation Report

**Dilution ID:** 4943

**Canister Size:** 6000cc **Canister ID:** 24889 **Target Final Psia:** 29.7

**Comment:** AT23 CCV 200ppbv, 100uL H2O, exp. 7/22/2024

**Date:** 4/22/2024 8:15:29 AM

**Report ID:** 3018-4465

**Prepared By:** mjs

## Channel Methods

| Ch. | Title | Init. Conc. | Target Conc. | Dilution Factor | Init. Psia | Target Psid | Final Psid | Target Psia | Final Psia | Duration | Final Conc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 100 percent | 1 | 0.10 | 11.77 | 11.77 | 11.87 | 11.87 | 00:06:31 | N/A |
| 2 | AT23 CCV Part A 3169-799 | 1000 ppb | 200 ppb | 5 | 11.87 | 5.92 | 5.92 | 17.79 | 17.79 | 00:05:48 | 199.99 ppb |
| 3 | AT23 CCV Part B 3169-800 | 1000 ppb | 200 ppb | 5 | 17.79 | 5.92 | 5.92 | 23.71 | 23.71 | 00:05:56 | 199.99 ppb |
| 1 | Diluent | 100 percent | 100 percent | 1 | 23.71 | 5.99 | 5.99 | 29.70 | 29.70 | 00:04:30 | N/A |

**Total Duration: 00:22:53**

## Channel Configuration and Standards Inventory

| Ch. | Source | Init. Conc. | Cylinder ID | Expiration Date | Notes |
|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 488009Y | 9/9/9999 | Zero Air. E701263095101. Exp. 9/9/9999 = No Exp. Date. |
| 2 | AT23 CCV Part A 3169-799 | 1000 ppb | EB-0140173 | 7/25/2024 | Production #1571522 |
| 3 | AT23 CCV Part B 3169-800 | 1000 ppb | EB-0140118 | 7/30/2024 | Production #1571521 |

4/22/24

Verify Lot# of CCV/ECAL (primary) is different than ICV/LCS (secondary)

initial/date MJB 4/22/24

Verify Concentration and Expiration date from COA

initial/date MJB 4/22/24

# 4700 Precision Diluter Standards Preparation Report

**Dilution ID:** 4914

**Canister Size:** 6000cc **Canister ID:** N1856 **Target Final Psia:** 29.7

**Comment:** 200ppbv AT23 CCV, 100uL H2O. Exp. 7/15/24.

**Date:** 4/15/2024 10:22:53 AM

**Report ID:** 3018-4439

**Prepared By:** ef

## Channel Methods

| Ch. | Title | Init. Conc. | Target Conc. | Dilution Factor | Init. Psia | Target Psid | Final Psid | Target Psia | Final Psia | Duration | Final Conc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 100 percent | 1 | -0.02 | 11.93 | 11.93 | 11.91 | 11.91 | 00:06:58 | N/A |
| 2 | AT23 CCV Part A 3169-799 | 1000 ppb | 200 ppb | 5 | 11.91 | 5.94 | 5.94 | 17.85 | 17.85 | 00:06:08 | 199.89 ppb |
| 3 | AT23 CCV Part B 3169-800 | 1000 ppb | 200 ppb | 5 | 17.85 | 5.94 | 5.94 | 23.79 | 23.79 | 00:06:58 | 199.89 ppb |
| 1 | Diluent | 100 percent | 100 percent | 1 | 23.79 | 5.91 | 5.91 | 29.70 | 29.70 | 00:04:31 | N/A |

**Total Duration: 00:24:44**

## Channel Configuration and Standards Inventory

| Ch. | Source | Init. Conc. | Cylinder ID | Expiration Date | Notes |
|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 488009Y | 9/9/9999 | Zero Air. E701263095101. Exp. 9/9/9999 = No Exp. Date. |
| 2 | AT23 CCV Part A 3169-799 | 1000 ppb | EB-0140173 | 7/25/2024 | Production #1571522 |
| 3 | AT23 CCV Part B 3169-800 | 1000 ppb | EB-0140118 | 7/30/2024 | Production #1571521 |

MB 4/15/24

Verify Lot# of CCV/RCAL (primary) is different than ICV/LCS (secondary)

initial/date 4/15/24

Verify Concentration and Expiration date from COA

initial/date 4/15/24

# ISO 17034 Certificate

# Certified Reference Material

AT-23 1° Source
Part A

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 1 of 3
Report ID: 37130
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571522 | **Cylinder # :** | EB0140173 |
| **Report Date:** | Jan-25-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17034 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24108088 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-25-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig 3 on 3/16/23 | **Method of Analysis:** | GC-FID |

Std. ID: 3169-799
Rec'd: 2/8/23
By: MGJ

1st Review: 2 > ±15%.
MGJ 2/13/23

2ND REVIEW: 3 OUT > ±15%
2/13/23

Primary Reference Material intended for the calibration of gas analyzers or instrumentation. General instructions for proper use of gas mixtures are found in "ISO 16664: Gas analysis – handling of calibration gases and gas mixtures".

Contents under pressure, store in secure area and do not expose to temperatures greater than 150 °F.

Recommended Operating temperature within 32°F (0°C) and 125°F (52°C).

Recommended minimum sample size 10 mL.

Except where noted, results are reported in mole/mole ppm as determined by Gas Chromatography using qualified reference standards under ANA-50-741-ALP and ANA-50-742-ALP and meets ISO 17025 requirements. Every cylinder is analyzed and represents one unique lot.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor providing a level of confidence of 95% and has been carried out in accordance with ISO 17025 requirements.

This certificate is issued in accordance with the laboratory accreditation requirements of ANAB. It provides traceability of measurement to recognized national standards, and to units of measurement realized by the National Institute of Standards and Technology (NIST).

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# ISO 17034 Certificate

# Certified Reference Material

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 2 of 3
Report ID: 37130
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571522 | **Cylinder # :** | EB0140173 |
| **Report Date:** | Jan-25-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17034 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24108088 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-25-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Certified Conc | Uncertainty |
|---|---|---|---|---|---|
| Acetonitrile | 75-05-8 | 1.000 ppm | 2.571 | 1.176 ppm | ± 0.059 ppm |
| Acetone | 67-64-1 | 1.000 ppm | 2.571 | 1.046 ppm | ± 0.043 ppm |
| Isopropyl Alcohol | 67-63-0 | 1.000 ppm | 2.571 | 1.145 ppm | ± 0.045 ppm |
| Iodomethane | 74-88-4 | 1.000 ppm | 2.571 | 1.047 ppm | ± 0.042 ppm |
| Methylene Chloride | 75-09-2 | 1.000 ppm | 2.571 | 1.040 ppm | ± 0.039 ppm |
| Tert-Butanol | 75-65-0 | 1.000 ppm | 2.571 | 1.152 ppm | ± 0.044 ppm |
| Methyl Tert Butyl Ether | 1634-04-4 | 1.000 ppm | 2.571 | 1.037 ppm | ± 0.039 ppm |
| Vinyl Acetate | 108-05-4 | 1.000 ppm | 2.571 | 1.107 ppm | ± 0.044 ppm |
| Methyl Ethyl Ketone | 78-93-3 | 1.000 ppm | 2.571 | 1.052 ppm | ± 0.040 ppm |
| n-Hexane | 110-54-3 | 1.000 ppm | 2.571 | 1.041 ppm | ± 0.045 ppm |
| Chloroform | 67-66-3 | 1.000 ppm | 2.571 | 1.036 ppm | ± 0.036 ppm |
| Ethyl Acetate | 141-78-6 | 1.000 ppm | 2.571 | 1.036 ppm | ± 0.036 ppm |
| Diisopropyl Ether | 108-20-3 | 1.000 ppm | 2.571 | 1.035 ppm | ± 0.037 ppm |
| Tetrahydrofuran | 109-99-9 | 1.000 ppm | 2.571 | 1.033 ppm | ± 0.040 ppm |
| 1,2-Dichloroethane | 107-06-2 | 1.000 ppm | 2.571 | 1.045 ppm | ± 0.040 ppm |
| Benzene | 71-43-2 | 1.000 ppm | 2.571 | 1.045 ppm | ± 0.044 ppm |
| 1-Butanol | 71-36-3 | 1.000 ppm | 2.571 | 0.970 ppm | ± 0.044 ppm |
| Cyclohexane | 110-82-7 | 1.000 ppm | 2.571 | 1.038 ppm | ± 0.038 ppm |
| 1,2-Dichloropropane | 78-87-5 | 1.000 ppm | 2.571 | 1.038 ppm | ± 0.039 ppm |
| Trichloroethylene | 79-01-6 | 1.000 ppm | 2.571 | 1.041 ppm | ± 0.038 ppm |
| 1,4-Dioxane | 123-91-1 | 1.000 ppm | 2.571 | 1.043 ppm | ± 0.038 ppm |
| 2,2,4-Trimethylpentane | 540-84-1 | 1.000 ppm | 2.571 | 1.036 ppm | ± 0.038 ppm |
| n-Heptane | 142-82-5 | 1.000 ppm | 2.571 | 1.036 ppm | ± 0.039 ppm |
| Methyl Isobutyl Ketone | 108-10-1 | 1.000 ppm | 2.571 | 1.038 ppm | ± 0.038 ppm |
| Toluene | 108-88-3 | 1.000 ppm | 2.571 | 1.045 ppm | ± 0.046 ppm |
| Methyl Butyl Ketone | 591-78-6 | 1.000 ppm | 2.571 | 1.050 ppm | ± 0.039 ppm |
| Tetrachloroethylene | 127-18-4 | 1.000 ppm | 2.571 | 1.043 ppm | ± 0.038 ppm |

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# ISO 17034 Certificate

# Certified Reference Material

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630


Report ID: 37130
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571522 | **Cylinder # :** | EB0140173 |
| **Report Date:** | Jan-25-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17034 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24108088 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-25-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Certified Conc | Uncertainty |
|---|---|---|---|---|---|
| Chlorobenzene | 108-90-7 | 1.000 ppm | 2.571 | 1.042 ppm | ± 0.036 ppm |
| Ethylbenzene | 100-41-4 | 1.000 ppm | 2.571 | 1.042 ppm | ± 0.036 ppm |
| p-Xylene | 106-42-3 | 0.500 ppm | 2.571 | 0.525 ppm | ± 0.018 ppm |
| m-Xylene | 108-38-3 | 0.500 ppm | 2.571 | 0.524 ppm | ± 0.018 ppm |
| o-Xylene | 95-47-6 | 1.000 ppm | 2.571 | 1.045 ppm | ± 0.035 ppm |
| Cumene | 98-82-8 | 1.000 ppm | 2.571 | 1.038 ppm | ± 0.035 ppm |
| Naphthalene | 91-20-3 | 0.100 ppm | 2.571 | 0.116 ppm | ± 0.007 ppm |
| Nitrogen | 7727-37-9 | Balance | | Balance | |

**ANALYST:** Lou Lorenzetti

**DATE:** Jan-25-2023

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ISO/IEC 17025

# Analysis Report

AT-23 1° source Part B

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 1 of 5
Report ID: 37157
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571521 | **Cylinder # :** | EB0140118 |
| **Report Date:** | Jan-30-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24099162 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-30-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

Std. ID: 3169-800
Rec'd: 2/8/23
By: MJS

1st Review: 27±15%
MJS 2/13/23.

2ND REVIEW: 27 ± 15%
& 2/13/23

Primary Reference Material intended for the calibration of gas analyzers or instrumentation. General instructions for proper use of gas mixtures are found in "ISO 16664: Gas analysis – handling of calibration gases and gas mixtures".

Contents under pressure, store in secure area and do not expose to temperatures greater than 150 °F.

Recommended Operating temperature within 32°F (0°C) and 125°F (52°C).

Recommended minimum sample size 10 mL.

Except where noted, results are reported in mole/mole ppm as determined by Gas Chromatography using qualified reference standards under ANA-50-741-ALP and ANA-50-742-ALP and meets ISO/IEC 17025 requirements. Every cylinder is analyzed and represents one unique lot.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor providing a level of confidence of 95% and has been carried out in accordance with ISO/IEC 17025 requirements.

This report is issued in accordance with the laboratory accreditation requirements of ANAB. It provides traceability of measurement to recognized national standards, and to units of measurement realized by the National Institute of Standards and Technology (NIST).

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ISO/IEC 17025

# Analysis Report

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 2 of 5
Report ID: 37157
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571521 | **Cylinder # :** | EB0140118 |
| **Report Date:** | Jan-30-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24099162 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-30-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Reported Conc | Uncertainty |
|---|---|---|---|---|---|
| 1,1,1,2-Tetrafluoroethane | 811-97-2 | 1.000 ppm | 2.571 | 1.054 ppm | ± 0.035 ppm |
| 1,1-Difluoroethane | 75-37-6 | 1.000 ppm | 2.571 | 1.063 ppm | ± 0.033 ppm |
| Propylene | 115-07-1 | 1.000 ppm | 2.571 | 1.059 ppm | ± 0.033 ppm |
| Chlorodifluoromethane | 75-45-6 | 1.000 ppm | 2.571 | 1.055 ppm | ± 0.032 ppm |
| Freon-12 | 75-71-8 | 1.000 ppm | 2.571 | 1.067 ppm | ± 0.029 ppm |
| Chloromethane | 74-87-3 | 1.000 ppm | 2.571 | 1.057 ppm | ± 0.030 ppm |
| Isobutane | 75-28-5 | 1.000 ppm | 2.571 | 1.071 ppm | ± 0.032 ppm |
| Freon-114 | 76-14-2 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.028 ppm |
| Vinyl Chloride | 75-01-4 | 1.000 ppm | 2.571 | 1.063 ppm | ± 0.032 ppm |
| 1,3-Butadiene | 106-99-0 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.036 ppm |
| n-Butane | 106-97-8 | 1.000 ppm | 2.571 | 1.056 ppm | ± 0.035 ppm |
| Bromomethane | 74-83-9 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.034 ppm |
| Chloroethane | 75-00-3 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.037 ppm |
| Dichlorofluoromethane | 75-43-4 | 1.000 ppm | 2.571 | 1.068 ppm | ± 0.037 ppm |
| Vinyl Bromide | 593-60-2 | 1.000 ppm | 2.571 | 1.065 ppm | ± 0.037 ppm |
| Ethanol (No Stability Guarantee) | 64-17-5 | 1.000 ppm | 2.571 | 1.232 ppm | ± 0.11 ppm |
| Acrolein | 107-02-8 | 1.000 ppm | 2.571 | 1.165 ppm | ± 0.074 ppm |
| Isopentane | 78-78-4 | 1.000 ppm | 2.571 | 1.070 ppm | ± 0.030 ppm |
| Freon-11 | 75-69-4 | 1.000 ppm | 2.571 | 1.068 ppm | ± 0.032 ppm |
| n-Pentane | 109-66-0 | 1.000 ppm | 2.571 | 1.071 ppm | ± 0.037 ppm |
| Acrylonitrile | 107-13-1 | 1.000 ppm | 2.571 | 1.064 ppm | ± 0.037 ppm |
| 1,1-Dichloroethene | 75-35-4 | 1.000 ppm | 2.571 | 1.068 ppm | ± 0.036 ppm |
| Carbon Disulfide | 75-15-0 | 1.000 ppm | 2.571 | 1.067 ppm | ± 0.036 ppm |
| 3-Chloropropene | 107-05-1 | 1.000 ppm | 2.571 | 1.057 ppm | ± 0.038 ppm |
| Freon-113 | 76-13-1 | 1.000 ppm | 2.571 | 1.050 ppm | ± 0.031 ppm |
| Trans-1,2-Dichloroethene | 156-60-5 | 1.000 ppm | 2.571 | 1.092 ppm | ± 0.038 ppm |
| 1,1-Dichloroethane | 75-34-3 | 1.000 ppm | 2.571 | 1.056 ppm | ± 0.039 ppm |

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ISO/IEC 17025

# Analysis Report

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630


**Report ID:** 37157
**Revision:** 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571521 | **Cylinder # :** | EB0140118 |
| **Report Date:** | Jan-30-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24099162 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-30-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Reported Conc | Uncertainty |
|---|---|---|---|---|---|
| Cis-1,2-Dichloroethene | 156-59-2 | 1.000 ppm | 2.571 | 1.055 ppm | ± 0.036 ppm |
| 2,2-Dichloropropane | 594-20-7 | 1.000 ppm | 2.571 | 1.064 ppm | ± 0.041 ppm |
| Ethyl Tert Butyl Ether | 637-92-3 | 1.000 ppm | 2.571 | 1.066 ppm | ± 0.038 ppm |
| 1,1,1-Trichloroethane | 71-55-6 | 1.000 ppm | 2.571 | 1.059 ppm | ± 0.038 ppm |
| 1,1-Dichloropropene | 563-58-6 | 1.000 ppm | 2.571 | 1.067 ppm | ± 0.037 ppm |
| Carbon Tetrachloride | 56-23-5 | 1.000 ppm | 2.571 | 1.067 ppm | ± 0.042 ppm |
| Tert Amyl Methyl Ether | 994-05-8 | 1.000 ppm | 2.571 | 1.065 ppm | ± 0.039 ppm |
| Dibromomethane | 74-95-3 | 1.000 ppm | 2.571 | 1.063 ppm | ± 0.037 ppm |
| Bromodichloromethane | 75-27-4 | 1.000 ppm | 2.571 | 1.084 ppm | ± 0.075 ppm |
| Methyl Methacrylate | 80-62-6 | 1.000 ppm | 2.571 | 1.057 ppm | ± 0.036 ppm |
| 1-Bromo-2-Chloroethane | 107-04-0 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.043 ppm |
| Cis-1,3-Dichloropropene | 10061-01-5 | 1.000 ppm | 2.571 | 1.059 ppm | ± 0.038 ppm |
| Methylcyclohexane | 108-87-2 | 1.000 ppm | 2.571 | 1.079 ppm | ± 0.039 ppm |
| Trans-1,3-Dichloropropene | 10061-02-6 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.038 ppm |
| 1,1,2-Trichloroethane | 79-00-5 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.036 ppm |
| 1,3-Dichloropropane | 142-28-9 | 1.000 ppm | 2.571 | 1.064 ppm | ± 0.038 ppm |
| Dibromochloromethane | 124-48-1 | 1.000 ppm | 2.571 | 1.069 ppm | ± 0.036 ppm |
| 1,2-Dibromoethane | 106-93-4 | 1.000 ppm | 2.571 | 1.056 ppm | ± 0.037 ppm |
| n-Octane | 111-65-9 | 1.000 ppm | 2.571 | 1.068 ppm | ± 0.036 ppm |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.036 ppm |
| Bromoform | 75-25-2 | 1.000 ppm | 2.571 | 1.070 ppm | ± 0.038 ppm |
| Cyclohexanone | 108-94-1 | 1.000 ppm | 2.571 | 1.073 ppm | ± 0.029 ppm |
| Styrene | 100-42-5 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.031 ppm |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1.000 ppm | 2.571 | 1.052 ppm | ± 0.031 ppm |
| 1,2,3-Trichloropropane | 96-18-4 | 1.000 ppm | 2.571 | 1.053 ppm | ± 0.029 ppm |
| Trans-1,4-Dichloro-2-Butene | 110-57-6 | 1.000 ppm | 2.571 | 1.044 ppm | ± 0.029 ppm |
| Nonane | 111-84-2 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.033 ppm |

**Linde Spectra Environmental Gases**

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**Linde North America, Inc.**

80 Industrial Drive, Alpha, NJ 08865
Phone: +1.908.329-9700 FAX: +1.908.329-9740

ISO/IEC 17025

# Analysis Report

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 4 of 5
Report ID: 37157
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571521 | **Cylinder # :** | EB0140118 |
| **Report Date:** | Jan-30-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24099162 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-30-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Reported Conc | Uncertainty |
|---|---|---|---|---|---|
| Bromobenzene | 108-86-1 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.035 ppm |
| 2-Chlorotoluene | 95-49-8 | 1.000 ppm | 2.571 | 1.055 ppm | ± 0.028 ppm |
| n-Propylbenzene | 103-65-1 | 1.000 ppm | 2.571 | 1.063 ppm | ± 0.029 ppm |
| 4-Ethyltoluene | 622-96-8 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.026 ppm |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1.000 ppm | 2.571 | 1.050 ppm | ± 0.028 ppm |
| alpha-Methyl Styrene (No Stability Gu | 98-83-9 | 1.000 ppm | 2.571 | 1.042 ppm | ± 0.025 ppm |
| Tert-Butyl Benzene | 98-06-6 | 1.000 ppm | 2.571 | 1.054 ppm | ± 0.027 ppm |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.027 ppm |
| 1,3-Dichlorobenzene | 541-73-1 | 1.000 ppm | 2.571 | 1.061 ppm | ± 0.024 ppm |
| Benzyl Chloride | 100-44-7 | 1.000 ppm | 2.571 | 1.064 ppm | ± 0.024 ppm |
| n-Decane | 124-18-5 | 1.000 ppm | 2.571 | 1.052 ppm | ± 0.024 ppm |
| 1,4-Dichlorobenzene | 106-46-7 | 1.000 ppm | 2.571 | 1.052 ppm | ± 0.023 ppm |
| sec-Butylbenzene | 135-98-8 | 1.000 ppm | 2.571 | 1.062 ppm | ± 0.027 ppm |
| 4-Isopropyltoluene | 99-87-6 | 1.000 ppm | 2.571 | 1.048 ppm | ± 0.023 ppm |
| 1,2-Dichlorobenzene | 95-50-1 | 1.000 ppm | 2.571 | 1.052 ppm | ± 0.023 ppm |
| n-Butylbenzene | 104-51-8 | 1.000 ppm | 2.571 | 1.050 ppm | ± 0.022 ppm |
| 1,2-Dibromo-3-Chloropropane | 96-12-8 | 1.000 ppm | 2.571 | 1.031 ppm | ± 0.034 ppm |
| n-Undecane | 1120-21-4 | 1.000 ppm | 2.571 | 1.060 ppm | ± 0.027 ppm |
| 1,2,4-Trichlorobenzene | 120-82-1 | 1.000 ppm | 2.571 | 1.089 ppm | ± 0.071 ppm |
| n-Dodecane | 112-40-3 | 1.000 ppm | 2.571 | 1.059 ppm | ± 0.051 ppm |

**Linde Spectra Environmental Gases**

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ISO/IEC 17025

# Analysis Report

**SHIPPED TO:**
Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 5 of 5
Report ID: 37157
Revision: 0

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1571521 | **Cylinder # :** | EB0140118 |
| **Report Date:** | Jan-30-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.#:** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | ISO-17025 | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24099162 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-30-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Method of Analysis:** | GC-FID |

| COMPONENT | CAS Number | Requested Conc | (k @ 95%) | Reported Conc | Uncertainty |
|---|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 87-61-6 | 1.000 ppm | 2.571 | 1.082 ppm | ± 0.10 ppm |
| Hexachloro-1,3-Butadiene | 87-68-3 | 1.000 ppm | 2.571 | 1.085 ppm | ± 0.052 ppm |
| Nitrogen | 7727-37-9 | Balance | | Balance | |

**ANALYST:** Lou Lorenzetti

**DATE:** Jan-30-2023

**Linde Spectra Environmental Gases**

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**Linde North America, Inc.**

80 Industrial Drive, Alpha, NJ 08865
Phone: +1.908.329-9700 FAX: +1.908.329-9740

# 4700 Precision Diluter Standards Preparation Report

**Dilution ID:** 4916

**Canister Size:** 6000cc **Canister ID:** 0916 **Target Final Psia:** 29.7

**Comment:** 200ppbv AT23 LCS, 100uL H2O. Exp. 7/15/24.

**Date:** 4/15/2024 12:01:16 PM

**Report ID:** 3018-4441

**Prepared By:** ef

## Channel Methods

| Ch. | Title | Init. Conc. | Target Conc. | Dilution Factor | Init. Psia | Target Psid | Final Psid | Target Psia | Final Psia | Duration | Final Conc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 100 percent | 1 | 0.21 | 11.67 | 11.67 | 11.88 | 11.88 | 00:06:44 | N/A |
| 2 | AT23 LCS 3169-801 | 1000 ppb | 200 ppb | 5 | 11.88 | 5.90 | 5.90 | 17.78 | 17.78 | 00:06:22 | 200.09 ppb |
| 1 | Diluent | 100 percent | 100 percent | 1 | 17.78 | 11.92 | 11.92 | 29.70 | 29.70 | 00:07:59 | N/A |

**Total Duration: 00:21:12**

## Channel Configuration and Standards Inventory

| Ch. | Source | Init. Conc. | Cylinder ID | Expiration Date | Notes |
|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 488009Y | 9/9/9999 | Zero Air. N701263095101. 9/9/9999 = no exp. |
| 2 | AT23 LCS 3169-801 | 1000 ppb | EB0139594 | 7/31/2024 | Production #1575260 |

mjb 04/15/24

Verify Lot# of OCV/ICAL (primary) is different than ICV/LCS (secondary)

Initial/date ef 4/15/24

Verify Concentration and Expiration date from COA

Initial/date ef 4/15/24




**SHIPPED TO:** AT-23 2° Source

Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630



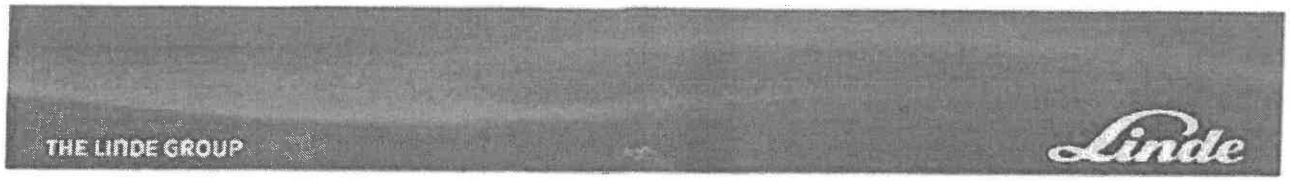
Std. ID: 3169-801
Recd: 2/9/23
BY: MJB

## ANALYSIS REPORT

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1575260 | **Cylinder # :** | EB0139594 |
| **Report Date:** | Jan-31-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.# :** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | QUALIFIED | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24086943 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-31-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |

1st Review: All w/in ±15%
2nd Review: All w/in +/-15%

| COMPONENT | CAS NUMBER | REQUESTED CONC | QUALIFIED CONC |
|---|---|---|---|
| 1,1,1,2-Tetrafluoroethane | 811-97-2 | 1.00 ppm | 1.03 ppm |
| 1,1-Difluoroethane | 75-37-6 | 1.00 ppm | 1.04 ppm |
| Propylene | 115-07-1 | 1.00 ppm | 1.04 ppm |
| Chlorodifluoromethane | 75-45-6 | 1.00 ppm | 1.03 ppm |
| Freon-12 | 75-71-8 | 1.00 ppm | 1.05 ppm |
| Chloromethane | 74-87-3 | 1.00 ppm | 1.04 ppm |
| Isobutane | 75-28-5 | 1.00 ppm | 1.05 ppm |
| Freon-114 | 76-14-2 | 1.00 ppm | 1.04 ppm |
| Vinyl Chloride | 75-01-4 | 1.00 ppm | 1.05 ppm |
| 1,3-Butadiene | 106-99-0 | 1.00 ppm | 1.04 ppm |
| n-Butane | 106-97-8 | 1.00 ppm | 1.04 ppm |
| Bromomethane | 74-83-9 | 1.00 ppm | 1.05 ppm |
| Chloroethane | 75-00-3 | 1.00 ppm | 1.05 ppm |
| Dichlorofluoromethane | 75-43-4 | 1.00 ppm | 1.04 ppm |
| Vinyl Bromide | 593-60-2 | 1.00 ppm | 1.04 ppm |
| Ethanol (Analytical Accuracy ± 10%) | 64-17-5 | 1.00 ppm | 1.14 ppm |
| Acetonitrile (Analytical Accuracy ± 10%) | 75-05-8 | 1.00 ppm | 1.05 ppm |
| Acrolein (Analytical Accuracy ± 10%) | 107-02-8 | 1.00 ppm | 1.14 ppm |
| Isopentane | 78-78-4 | 1.00 ppm | 1.05 ppm |
| Acetone | 67-64-1 | 1.00 ppm | 1.06 ppm |
| Freon-11 | 75-69-4 | 1.00 ppm | 1.04 ppm |
| Isopropyl Alcohol | 67-63-0 | 1.00 ppm | 1.06 ppm |
| n-Pentane | 109-66-0 | 1.00 ppm | 1.08 ppm |
| Acrylonitrile | 107-13-1 | 1.00 ppm | 1.07 ppm |
| Iodomethane | 74-88-4 | 1.00 ppm | 1.07 ppm |
| 1,1-Dichloroethene | 75-35-4 | 1.00 ppm | 1.01 ppm |
| Carbon Disulfide (Analytical Accuracy ± 10%) | 75-15-0 | 1.00 ppm | 1.01 ppm |
| Methylene Chloride | 75-09-2 | 1.00 ppm | 1.03 ppm |
| Tert-Butanol (Analytical Accuracy ± 10%) | 75-65-0 | 1.00 ppm | 1.08 ppm |
| 3-Chloropropene | 107-05-1 | 1.00 ppm | 1.03 ppm |



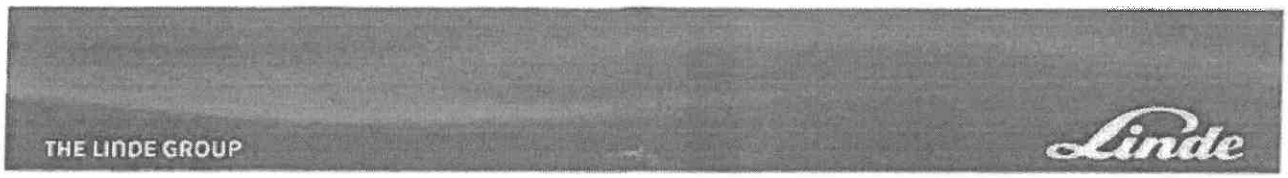

**SHIPPED TO:** Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630



## ANALYSIS REPORT

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1575260 | **Cylinder # :** | EB0139594 |
| **Report Date:** | Jan-31-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.# :** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | QUALIFIED | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24086943 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-31-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |

| COMPONENT | CAS NUMBER | REQUESTED CONC | QUALIFIED CONC |
|---|---|---|---|
| Freon-113 | 76-13-1 | 1.00 ppm | 1.00 ppm |
| Trans-1,2-Dichloroethene | 156-60-5 | 1.00 ppm | 1.07 ppm |
| 1,1-Dichloroethane | 75-34-3 | 1.00 ppm | 1.04 ppm |
| Methyl Tert Butyl Ether | 1634-04-4 | 1.00 ppm | 1.03 ppm |
| Vinyl Acetate | 108-05-4 | 1.00 ppm | 1.10 ppm |
| Methyl Ethyl Ketone | 78-93-3 | 1.00 ppm | 1.05 ppm |
| Cis-1,2-Dichloroethene | 156-59-2 | 1.00 ppm | 1.04 ppm |
| n-Hexane | 110-54-3 | 1.00 ppm | 1.02 ppm |
| Chloroform | 67-66-3 | 1.00 ppm | 1.05 ppm |
| Ethyl Acetate | 141-78-6 | 1.00 ppm | 1.05 ppm |
| Diisopropyl Ether | 108-20-3 | 1.00 ppm | 1.05 ppm |
| 2,2-Dichloropropane | 594-20-7 | 1.00 ppm | 1.05 ppm |
| Tetrahydrofuran | 109-99-9 | 1.00 ppm | 1.06 ppm |
| Ethyl Tert Butyl Ether | 637-92-3 | 1.00 ppm | 1.08 ppm |
| 1,2-Dichloroethane | 107-06-2 | 1.00 ppm | 1.06 ppm |
| 1,1,1-Trichloroethane | 71-55-6 | 1.00 ppm | 1.04 ppm |
| 1,1-Dichloropropene | 563-58-6 | 1.00 ppm | 1.04 ppm |
| Benzene | 71-43-2 | 1.00 ppm | 1.05 ppm |
| 1-Butanol (Analytical Accuracy ± 10%) | 71-36-3 | 1.00 ppm | 1.10 ppm |
| Carbon Tetrachloride | 56-23-5 | 1.00 ppm | 1.04 ppm |
| Cyclohexane | 110-82-7 | 1.00 ppm | 1.04 ppm |
| Tert Amyl Methyl Ether | 994-05-8 | 1.00 ppm | 1.06 ppm |
| Dibromomethane | 74-95-3 | 1.00 ppm | 1.03 ppm |
| 1,2-Dichloropropane | 78-87-5 | 1.00 ppm | 1.03 ppm |
| Trichloroethylene | 79-01-6 | 1.00 ppm | 1.05 ppm |
| 1,4-Dioxane | 123-91-1 | 1.00 ppm | 1.05 ppm |
| Bromodichloromethane | 75-27-4 | 1.00 ppm | 1.05 ppm |
| 2,2,4-Trimethylpentane | 540-84-1 | 1.00 ppm | 1.03 ppm |
| Methyl Methacrylate | 80-62-6 | 1.00 ppm | 1.04 ppm |
| Heptane | 142-82-5 | 1.00 ppm | 1.05 ppm |



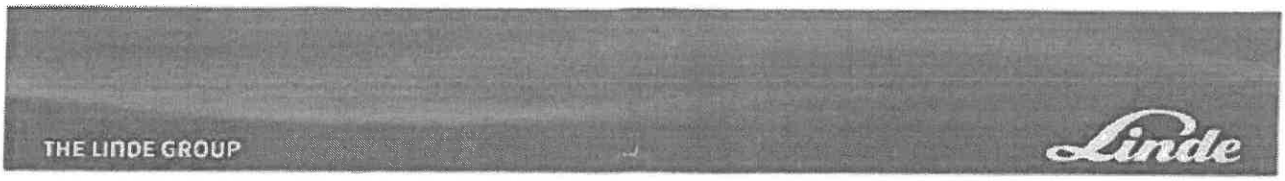

**SHIPPED TO:** Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630



## ANALYSIS REPORT

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1575260 | **Cylinder # :** | EB0139594 |
| **Report Date:** | Jan-31-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.# :** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | QUALIFIED | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24086943 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-31-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |

| COMPONENT | CAS NUMBER | REQUESTED CONC | QUALIFIED CONC |
|---|---|---|---|
| 1-Bromo-2-Chloroethane | 107-04-0 | 1.00 ppm | 1.05 ppm |
| Cis-1,3-Dichloropropene | 10061-01-5 | 1.00 ppm | 1.03 ppm |
| Methyl Isobutyl Ketone | 108-10-1 | 1.00 ppm | 1.02 ppm |
| Methylcyclohexane | 108-87-2 | 1.00 ppm | 1.03 ppm |
| Trans-1,3-Dichloropropene | 10061-02-6 | 1.00 ppm | 1.05 ppm |
| 1,1,2-Trichloroethane | 79-00-5 | 1.00 ppm | 1.05 ppm |
| Toluene | 108-88-3 | 1.00 ppm | 1.04 ppm |
| 1,3-Dichloropropane | 142-28-9 | 1.00 ppm | 1.04 ppm |
| Methyl Butyl Ketone | 591-78-6 | 1.00 ppm | 1.06 ppm |
| Dibromochloromethane | 124-48-1 | 1.00 ppm | 1.05 ppm |
| 1,2-Dibromoethane | 106-93-4 | 1.00 ppm | 1.05 ppm |
| n-Octane | 111-65-9 | 1.00 ppm | 1.06 ppm |
| Tetrachloroethylene | 127-18-4 | 1.00 ppm | 1.05 ppm |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | 1.00 ppm | 1.04 ppm |
| Chlorobenzene | 108-90-7 | 1.00 ppm | 1.04 ppm |
| Ethylbenzene | 100-41-4 | 1.00 ppm | 1.05 ppm |
| p-xylene | 106-42-3 | 0.500 ppm | 0.513 ppm |
| m-xylene | 108-38-3 | 0.500 ppm | 0.511 ppm |
| Bromoform | 75-25-2 | 1.00 ppm | 1.03 ppm |
| Cyclohexanone | 108-94-1 | 1.00 ppm | 1.07 ppm |
| Styrene | 100-42-5 | 1.00 ppm | 1.06 ppm |
| o-xylene | 95-47-6 | 1.00 ppm | 1.04 ppm |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1.00 ppm | 1.04 ppm |
| 1,2,3-Trichloropropane | 96-18-4 | 1.00 ppm | 1.07 ppm |
| Trans-1,4-Dichloro-2-Butene | 110-57-6 | 1.00 ppm | 1.04 ppm |
| Nonane | 111-84-2 | 1.00 ppm | 1.07 ppm |
| Cumene | 98-82-8 | 1.00 ppm | 1.02 ppm |
| Bromobenzene | 108-86-1 | 1.00 ppm | 1.04 ppm |




**SHIPPED TO:** Eurofins Air Toxics
180 Blue Ravine Rd. Ste. B
Folsom, CA 95630



## ANALYSIS REPORT

| | | | |
|---|---|---|---|
| **Sales#:** | 117457419 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1575260 | **Cylinder # :** | EB0139594 |
| **Report Date:** | Jan-31-2023 | **Cylinder Pressure:** | 2000 psig |
| **P.O.# :** | 75313336 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | QUALIFIED | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24086943 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 4000 Liters |
| **Expiration Date:** | Jul-31-2024 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |

| COMPONENT | CAS NUMBER | REQUESTED CONC | QUALIFIED CONC |
|---|---|---|---|
| 2-Chlorotoluene | 95-49-8 | 1.00 ppm | 1.06 ppm |
| n-Propylbenzene | 103-65-1 | 1.00 ppm | 1.05 ppm |
| 4-Ethyltoluene | 622-96-8 | 1.00 ppm | 1.05 ppm |
| 1,3,5-Trimethylbenzene | 108-67-8 | 1.00 ppm | 1.05 ppm |
| alpha-Methyl Styrene (Analytical Accuracy ± 10%) | 98-83-9 | 1.00 ppm | 1.04 ppm |
| Tert-Butyl Benzene | 98-06-6 | 1.00 ppm | 1.06 ppm |
| 1,2,4-Trimethylbenzene | 95-63-6 | 1.00 ppm | 1.06 ppm |
| 1,3-Dichlorobenzene | 541-73-1 | 1.00 ppm | 1.06 ppm |
| Benzyl Chloride (Analytical Accuracy ± 10%) | 100-44-7 | 1.00 ppm | 1.06 ppm |
| n-Decane | 124-18-5 | 1.00 ppm | 1.05 ppm |
| 1,4-Dichlorobenzene | 106-46-7 | 1.00 ppm | 1.04 ppm |
| sec-Butylbenzene | 135-98-8 | 1.00 ppm | 1.05 ppm |
| 4-Isopropyltoluene | 99-87-6 | 1.00 ppm | 1.06 ppm |
| 1,2-Dichlorobenzene | 95-50-1 | 1.00 ppm | 1.06 ppm |
| n-Butylbenzene | 104-51-8 | 1.00 ppm | 1.05 ppm |
| 1,2-Dibromo-3-Chloropropane | 96-12-8 | 1.00 ppm | 1.05 ppm |
| n-Undecane | 1120-21-4 | 1.00 ppm | 1.05 ppm |
| 1,2,4-Trichlorobenzene | 120-82-1 | 1.00 ppm | 1.10 ppm |
| Naphthalene (Analytical Accuracy ± 10%) | 91-20-3 | 0.100 ppm | 0.114 ppm |
| n-Dodecane | 112-40-3 | 1.00 ppm | 1.06 ppm |
| 1,2,3-Trichlorobenzene | 87-61-6 | 1.00 ppm | 1.10 ppm |
| Hexachloro-1,3-Butadiene | 87-68-3 | 1.00 ppm | 1.10 ppm |
| Nitrogen | 7727-37-9 | Balance | Balance |

**ANALYST:** Lou Lorenzetti **DATE:** Jan-31-2023

Linde Gas North America LLC
(908) 329-9700 Main (908) 329-9740 Fax
www.Lindeus.com

# 4700 Precision Diluter Standards Preparation Report

**Dilution ID:** 4777

**Canister Size:** 6000cc **Canister ID:** N0076 **Target Final Psia:** 29.7

**Comment:** 5.0ppbv AT23 Supplemental CCV, 100uL H2O. Exp. 5/21/24.

**Date:** 2/22/2024 7:35:42 AM

**Report ID:** 3018-4329

**Prepared By:** ef

## Channel Methods

| Ch. | Title | Init. Conc. | Target Conc. | Dilution Factor | Init. Psia | Target Psid | Final Psid | Target Psia | Final Psia | Duration | Final Conc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 100 percent | 1 | 0.09 | 11.86 | 11.86 | 11.94 | 11.94 | 00:10:07 | N/A |
| 6 | 3018-4328 | 200 ppb | 5 ppb | 40 | 11.94 | 0.74 | 0.74 | 12.68 | 12.68 | 00:03:15 | 5 ppb |
| 1 | Diluent | 100 percent | 100 percent | 1 | 12.68 | 17.02 | 17.02 | 29.70 | 29.70 | 00:17:45 | N/A |

**Total Duration: 00:31:14**

## Channel Configuration and Standards Inventory

| Ch. | Source | Init. Conc. | Cylinder ID | Expiration Date | Notes |
|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 488009Y | 9/9/9999 | N701263095101, Zero Air. No exp. date. |
| 6 | 3018-4328 | 200 ppb | N1781 | 5/21/2024 | AT23 Supplemental CCV. |

Verify Lot# of CCV/ICAL (primary) is different than ICV/LCS (secondary)

initial/date ef 2/22/24

Verify Concentration and Expiration date from COA

initial/date ef 2/22/24

2/22/24

# 4700 Precision Diluter Standards Preparation Report

**Dilution ID:** 4776

**Canister Size:** 6000cc **Canister ID:** N1781 **Target Final Psia:** 29.7

**Comment:** 200ppbv AT21 Supplemental CCV, 100uL H2O. Exp. 5/21/24.

**Date:** 2/21/2024 3:22:06 PM

**Report ID:** 3018-4328

**Prepared By:** ef

## Channel Methods

| Ch. | Title | Init. Conc. | Target Conc. | Dilution Factor | Init. Psia | Target Psid | Final Psid | Target Psia | Final Psia | Duration | Final Conc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 100 percent | 1 | 0.10 | 11.83 | 11.83 | 11.93 | 11.93 | 00:10:07 | N/A |
| 2 | 3169-159c | 1000 ppb | 200 ppb | 5 | 11.93 | 5.92 | 5.92 | 17.85 | 17.85 | 00:09:50 | 199.92 ppb |
| 1 | Diluent | 100 percent | 100 percent | 1 | 17.85 | 11.85 | 11.86 | 29.70 | 29.71 | 00:13:44 | N/A |

**Total Duration: 00:33:48**

## Channel Configuration and Standards Inventory

| Ch. | Source | Init. Conc. | Cylinder ID | Expiration Date | Notes |
|---|---|---|---|---|---|
| 1 | Diluent | 100 percent | 488009Y | 9/9/9999 | Zero Air lot # N701263095101. |
| 2 | 3169-159c | 1000 ppb | CC-748779 | 2/1/2025 | TO-15 Supplemental CCV. Original production #1540452. Current # 1603451. |

AM 2/22/24

Verify Lot# of CCV/ICAL (primary) is different than ICV/LCS (secondary)

initial/date ef 2/21/24

Verify Concentration and Expiration date from COA

initial/date ef 2/21/24

THE LINDE GROUP

Linde

Recert

**SHIPPED TO:** Eurofins Air Toxics
AT-21 Supplemental CCV 180 Blue Ravine Rd. Ste. B
Folsom, CA 95630

**PAGE:** 1 of 1

Original Production#:
1540452

Std. ID: 3169-159C
Recd: 2/12/24
BY: MJB

## ANALYSIS REPORT

| | | | |
|---|---|---|---|
| **Sales#:** | 117492265 | **Cylinder Size:** | 152 (8" X 47.5") |
| **Production#:** | 1603451 | **Cylinder # :** | CC-748779 |
| **Report Date:** | Feb-01-2024 | **Cylinder Pressure:** | 1800 psig |
| **P.O.# :** | 75696909 | **Cylinder Valve:** | CGA 350 / Steel |
| **Blend Type:** | QUALIFIED | **Cylinder Volume:** | 29.5 Liter |
| **Material#:** | 24106776 | **Cylinder Material:** | Aluminum |
| **Traceability:** | NIST by weight | **Gas Volume:** | 3600 Liters |
| **Expiration Date:** | Feb-01-2025 | **Blend Tolerance:** | 10% Relative |
| **Do NOT use under:** | 150 psig | **Analytical Accuracy:** | 5% Relative |

| COMPONENT | CAS NUMBER | REQUESTED CONC | QUALIFIED CONC |
|---|---|---|---|
| 1,1,1-Trifluoroethane | 420-46-2 | 1.00 ppm | 1.01 ppm |
| Propane | 74-98-6 | 1.00 ppm | 1.04 ppm |
| 1-Chloro-1,1-Difluoroethane | 75-68-3 | 1.00 ppm | 1.01 ppm |
| 2,2-Dichloro-1,1,1-Trifluoroethane | 306-83-2 | 1.00 ppm | 1.03 ppm |
| 1,2-Dichloro-1,1,2-Trifluoroethane | 354-23-4 | 1.00 ppm | 1.02 ppm |
| 1-Pentene | 109-67-1 | 1.00 ppm | 1.04 ppm |
| Ethyl Ether | 60-29-7 | 1.00 ppm | 1.04 ppm |
| Methyl Acetate | 79-20-9 | 1.00 ppm | 1.06 ppm |
| Cyclopentene | 142-29-0 | 1.00 ppm | 1.04 ppm |
| 1-Propanol | 71-23-8 | 1.00 ppm | 1.08 ppm |
| 2-Chloroprene | 126-99-8 | 1.00 ppm | 1.05 ppm |
| Methyl Acrylate | 96-33-3 | 1.00 ppm | 1.05 ppm |
| Isobutanol | 78-83-1 | 1.00 ppm | 1.09 ppm |
| 2-Pentanone | 107-87-9 | 1.00 ppm | 1.05 ppm |
| Ethyl Acrylate | 140-88-5 | 1.00 ppm | 1.05 ppm |
| n-Butyl Acetate | 123-86-4 | 1.00 ppm | 1.04 ppm |
| 2-Heptanone | 110-43-0 | 1.00 ppm | 1.07 ppm |
| alpha-Pinene (No Stability Guarantee) | 80-56-8 | 1.00 ppm | 1.11 ppm |
| 4-Chlorotoluene | 106-43-4 | 1.00 ppm | 1.04 ppm |
| beta-Pinene (No Stability Guarantee) | 127-91-3 | 1.00 ppm | 1.08 ppm |
| 1,2,3-Trimethylbenzene | 526-73-8 | 1.00 ppm | 1.05 ppm |
| d-Limonene (No Stability Guarantee) | 5989-27-5 | 1.00 ppm | 1.11 ppm |
| Hexachloroethane | 67-72-1 | 1.00 ppm | 1.03 ppm |
| 1,3,5-Trichlorobenzene | 108-70-3 | 1.00 ppm | 1.04 ppm |
| Nitrogen | 7727-37-9 | Balance | Balance |

**ANALYST:** Lou Lorenzetti **DATE:** Feb-01-2024

1st Review: All w/in ±15%. MJB 2/12/24
2nd Review: All w/in ±15%. 2/12/24

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(908) 329-9700 Main (908) 329-9740 Fax
www.Lindeus.com

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042307.d
Lab Smp Id: ICAL Level #2 Client Smp ID: ICAL Levl #2
Inj Date : 23-APR-2024 21:18
Operator : DF Inst ID: msd3.i
Smp Info : 20ml 3018-4466
Misc Info : 0.5ppbv (5.0ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 21:18 Cal File: 3042307.d
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23_Level2.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.439 (1.000) | 130 | 104933 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.439 (1.000) | 128 | 82973 | | | 47.79- 107.79 | 79.07 |
| 5.432 | 5.439 (1.000) | 49 | 175240 | | | 131.33- 191.33 | 167.00 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 393969 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 60984 | | | 0.00- 45.65 | 15.48 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 399290 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 213137 | | | 22.92- 82.92 | 53.38 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.109) | 65 | 133718 | 25.0000 | 24.466 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.109) | 67 | 69390 | | | 23.17- 83.17 | 51.89 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 387391 | 25.0000 | 25.294 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 42857 | | | 0.00- 41.42 | 11.06 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | AMOUNTS ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.767 | 7.767 (1.208) | 100 | 257316 | | | 37.54- 97.54 | 66.42 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 295479 | 25.0000 | 24.901 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 353190 | | | 88.49- 148.49 | 119.53 |
| 10.295 | 10.295 (1.124) | 176 | 281619 | | | 66.73- 126.73 | 95.31 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.270) | 85 | 3237 | 0.50000 | 0.5209 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 712 | | | 2.88- 62.88 | 22.00 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 2955 | 0.50000 | 0.5409 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 660 | | | 2.10- 62.10 | 22.34 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.759 (0.324) | 62 | 1461 | 0.50000 | 0.5040 | 80.00- 120.00 | 100.00 |
| 1.744 | 1.759 (0.321) | 64 | 355 | | | 3.10- 63.10 | 24.30 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 1707 | 0.50000 | 0.6268 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 3090 | | | 78.74- 138.74 | 181.02 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 3854 | 0.50000 | 0.5383 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 2736 | | | 34.93- 94.93 | 70.99 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.068 | 3.061 (0.565) | 151 | 3916 | 0.50000 | 0.6189 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 1952 | | | 35.07- 95.07 | 49.85 |
| 3.075 | 3.061 (0.566) | 101 | 1436 | | | 87.45- 147.45 | 36.67 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.082 | 3.097 (0.567) | 96 | 1270 | 0.50000 | 0.4718 | 80.00- 120.00 | 100.00(a) |
| 3.096 | 3.097 (0.570) | 98 | 806 | | | 33.27- 93.27 | 63.46 |
| 3.089 | 3.097 (0.569) | 61 | 2660 | | | 159.05- 219.05 | 209.45 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 992 | 0.50000 | 0.5487 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.742) | 61 | 2225 | | | 232.13- 292.13 | 224.29 |
| 4.021 | 4.028 (0.740) | 96 | 949 | | | 127.26- 187.26 | 95.67 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.142 | 4.142 (0.763) | 52 | 1352 | 0.50000 | 0.5783 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.142 (0.761) | 53 | 1661 | | | 86.45- 146.45 | 122.86 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.784) | 57 | 3473 | 0.50000 | 0.6165 | 80.00- 120.00 | 100.00(T) |
| 4.264 | 4.257 (0.785) | 43 | 3291 | | | 40.97- 100.97 | 94.76 |
| 0.000 | 4.257 (0.000) | 86 | 0 | | | 0.00- 42.68 | 0.00 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.558 (0.838) | 63 | 2612 | 0.50000 | 0.5000 | 80.00- 120.00 | 100.00 |
| 4.543 | 4.558 (0.836) | 65 | 1039 | | | 0.47- 60.47 | 39.78 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.188 | 5.188 (0.955) | 98 | 968 | 0.50000 | 0.5171 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.955) | 96 | 1386 | | | 125.53- 185.53 | 143.18 |
| 5.188 | 5.188 (0.955) | 61 | 2121 | | | 219.86- 279.86 | 219.11 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.432 | 5.425 (1.000) | 42 | 2700 | 0.50000 | 0.6547 | 80.00- 120.00 | 100.00 |
| 5.439 | 5.425 (1.001) | 71 | 621 | | | 0.00- 58.54 | 23.00 |
| 5.439 | 5.425 (1.001) | 72 | 602 | | | 0.00- 59.59 | 22.30 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.503 | 5.518 (1.013) | 83 | 2845 | 0.50000 | 0.5071 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.518 (1.014) | 85 | 1685 | | | 35.77- 95.77 | 59.23 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.033) | 84 | 2089 | 0.50000 | 0.5566 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.033) | 56 | 3770 | | | 125.79- 185.79 | 180.47 |
| 5.611 | 5.611 (1.033) | 41 | 1631 | | | 61.55- 121.55 | 78.08 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.639 | 5.639 (1.038) | 97 | 3365 | 0.50000 | 0.5500 | 80.00- 120.00 | 100.00 |
| 5.639 | 5.639 (1.038) | 99 | 1917 | | | 32.84- 92.84 | 56.97 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.061) | 119 | 3380 | 0.50000 | 0.5211 | 80.00- 120.00 | 100.00 |
| 5.761 | 5.761 (1.061) | 117 | 3334 | | | 75.19- 135.19 | 98.64 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.998 | 5.998 (1.104) | 57 | 8958 | 0.50000 | 0.5090 | 80.00- 120.00 | 100.00 |
| 6.005 | 5.998 (1.105) | 56 | 3599 | | | 3.09- 63.09 | 40.18 |
| 5.998 | 5.998 (1.104) | 41 | 2569 | | | 0.00- 57.28 | 28.68 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.998 | 5.998 (0.933) | 78 | 4016 | 0.50000 | 0.5063 | 80.00- 120.00 | 100.00 |
| 6.005 | 5.998 (0.934) | 77 | 1017 | | | 0.00- 53.69 | 25.32 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.105 (0.949) | 62 | 2038 | 0.50000 | 0.4925 | 80.00- 120.00 | 100.00(a) |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 106 1,2-Dichloroethane (continued) | | | | | | | |
| 6.098 | 6.105 (0.949) | 64 | 1037 | | | 1.80- 61.80 | 50.88 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 2000 | 0.50000 | 0.6365 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.184 (0.961) | 43 | 5172 | | | 207.73- 267.73 | 258.60 |
| 6.184 | 6.184 (0.962) | 57 | 2330 | | | 84.83- 144.83 | 116.50 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 1872 | 0.50000 | 0.4895 | 80.00- 120.00 | 100.00(a) |
| 6.635 | 6.635 (1.032) | 130 | 1937 | | | 80.23- 140.23 | 103.47 |
| 6.635 | 6.635 (1.032) | 97 | 1340 | | | 34.78- 94.78 | 71.58 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.742 | 6.735 (1.049) | 83 | 3124 | 0.50000 | 0.5750 | 80.00- 120.00 | 100.00(a) |
| 6.735 | 6.735 (1.048) | 98 | 1345 | | | 14.83- 74.83 | 43.05 |
| 6.735 | 6.735 (1.048) | 55 | 3478 | | | 71.50- 131.50 | 111.33 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 2241 | 0.50000 | 0.6004 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.893 (1.071) | 62 | 1559 | | | 40.39- 100.39 | 69.57 |
| 6.886 | 6.893 (1.071) | 41 | 1140 | | | 31.86- 91.86 | 50.87 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.008 | 7.008 (0.765) | 174 | 1862 | 0.50000 | 0.4942 | 80.00- 120.00 | 100.00(a) |
| 7.008 | 7.008 (0.765) | 93 | 1957 | | | 62.68- 122.68 | 105.10 |
| 7.008 | 7.008 (0.765) | 95 | 1522 | | | 47.70- 107.70 | 81.74 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 3308 | 0.50000 | 0.5343 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 2089 | | | 34.96- 94.96 | 63.15 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.574 (1.178) | 75 | 2745 | 0.50000 | 0.5199 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.574 (1.177) | 77 | 1127 | | | 1.26- 61.26 | 41.06 |
| 7.566 | 7.574 (1.177) | 39 | 2308 | | | 35.06- 95.06 | 84.08 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.710 | 7.710 (1.199) | 58 | 2349 | 0.50000 | 0.6468 | 80.00- 120.00 | 100.00 |
| 7.710 | 7.710 (1.199) | 43 | 5903 | | | 259.88- 319.88 | 251.30 |
| 7.710 | 7.710 (1.199) | 85 | 946 | | | 7.58- 67.58 | 40.27 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 6183 | 0.50000 | 0.5631 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 3264 | | | 27.89- 87.89 | 52.79 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 2544 | 0.50000 | 0.6359 | 80.00- 120.00 | 100.00 |
| 7.867 | 7.860 (1.224) | 85 | 1960 | | | 63.53- 123.53 | 77.04 |
| 7.860 | 7.860 (1.223) | 43 | 5250 | | | 246.00- 306.00 | 206.37 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 2290 | 0.50000 | 0.5190 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 1656 | | | 1.83- 61.83 | 72.31 |
| 8.118 | 8.118 (0.887) | 39 | 2509 | | | 31.97- 91.97 | 109.56 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.283 | 8.290 (0.905) | 97 | 2024 | 0.50000 | 0.5418 | 80.00- 120.00 | 100.00 |
| 8.283 | 8.290 (0.905) | 99 | 1386 | | | 32.52- 92.52 | 68.48 |
| 8.290 | 8.290 (0.905) | 83 | 1854 | | | 58.90- 118.90 | 91.60 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 2686 | 0.50000 | 0.4788 | 80.00- 120.00 | 100.00(a) |
| 8.318 | 8.318 (0.908) | 129 | 2374 | | | 45.32- 105.32 | 88.38 |
| 8.318 | 8.318 (0.908) | 131 | 2207 | | | 44.17- 104.17 | 82.17 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 2980 | 0.50000 | 0.5789 | 80.00- 120.00 | 100.00(a) |
| 8.447 | 8.447 (1.314) | 41 | 2449 | | | 59.72- 119.72 | 82.18 |
| 8.447 | 8.447 (1.314) | 78 | 913 | | | 3.08- 63.08 | 30.64 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 3528 | 0.50000 | 0.4778 | 80.00- 120.00 | 100.00(a) |
| 8.626 | 8.626 (0.942) | 127 | 2957 | | | 47.27- 107.27 | 83.82 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 3327 | 0.50000 | 0.5434 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 3078 | | | 64.18- 124.18 | 92.52 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.185 (1.002) | 112 | 5158 | 0.50000 | 0.5575 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.185 (1.002) | 114 | 1764 | | | 1.91- 61.91 | 34.20 |
| 9.171 | 9.185 (1.002) | 77 | 3672 | | | 22.97- 82.97 | 71.19 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.250 | 9.250 (1.010) | 106 | 2755 | 0.50000 | 0.5920 | 80.00- 120.00 | 100.00 |
| 9.250 | 9.250 (1.010) | 91 | 7999 | | | 281.09- 341.09 | 290.34 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.013) | 131 | 2840 | 0.50000 | 0.5389 | 80.00- 120.00 | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 3170 | | | 37.10- 97.10 | 111.62 |
| 9.264 | 9.271 (1.012) | 95 | 999 | | | 4.93- 64.93 | 35.18 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 3099 | 0.50000 | 0.5343 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 6271 | | | 170.33- 230.33 | 202.36 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 3211 | 0.50000 | 0.5838 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 6633 | | | 181.23- 241.23 | 206.57 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 5138 | 0.50000 | 0.5470 | 80.00- 120.00 | 100.00 |
| 9.780 | 9.780 (1.068) | 78 | 2757 | | | 17.26- 77.26 | 53.66 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 3832 | 0.50000 | 0.5135 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 1961 | | | 21.45- 81.45 | 51.17 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 8687 | 0.50000 | 0.5225 | 80.00- 120.00 | 100.00 |
| 10.088 | 10.095 (1.102) | 120 | 2646 | | | 0.00- 56.93 | 30.46 |
| 10.095 | 10.095 (1.102) | 51 | 1622 | | | 0.00- 42.24 | 18.67 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.475 (1.143) | 83 | 4821 | 0.50000 | 0.5590 | 80.00- 120.00 | 100.00 |
| 10.474 | 10.475 (1.144) | 85 | 3068 | | | 34.97- 94.97 | 63.64 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 2576 | 0.50000 | 0.5240 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 11934 | | | 383.60- 443.60 | 463.28 |
| 10.496 | 10.496 (1.146) | 105 | 455 | | | 0.00- 46.14 | 17.66 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.525 (1.149) | 110 | 1591 | 0.50000 | 0.6079 | 80.00- 120.00 | 100.00 |
| 10.525 | 10.525 (1.149) | 75 | 5059 | | | 324.28- 384.28 | 317.98 |
| 10.517 | 10.518 (1.149) | 61 | 1438 | | | 57.24- 117.24 | 90.38 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.611 | 10.611 (1.159) | 126 | 2564 | 0.50000 | 0.5655 | 80.00- 120.00 | 100.00(a) |
| 10.603 | 10.611 (1.158) | 91 | 7999 | | | 282.78- 342.78 | 311.97 |
| 10.603 | 10.603 (1.158) | 65 | 1532 | | | 17.33- 77.33 | 59.75 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.611 (1.158) | 120 | 2824 | 0.50000 | 0.5270 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 105 | 9689 | | | 298.94- 358.94 | 343.09 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 3733 | 0.50000 | 0.5166 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 185 1,3,5-Trimethylbenzene (continued) | | | | | | | |
| 10.675 | 10.675 (1.166) | 105 | 7916 | | | 172.08- 232.08 | 212.05 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 4241 | 0.50000 | 0.5540 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 2465 | | | 25.64- 85.64 | 58.12 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 8109 | 0.50000 | 0.5488 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.206) | 120 | 3515 | | | 16.63- 76.63 | 43.35 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 2424 | 0.50000 | 0.5390 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 11674 | | | 436.99- 496.99 | 481.60 |
| 11.191 | 11.198 (1.222) | 91 | 2208 | | | 41.69- 101.69 | 91.09 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 9553 | 0.50000 | 0.5194 | 80.00- 120.00 | 100.00(a) |
| 11.341 | 11.341 (1.239) | 134 | 2589 | | | 0.00- 57.62 | 27.10 |
| 11.334 | 11.341 (1.238) | 91 | 2713 | | | 0.00- 53.03 | 28.40 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 6242 | 0.50000 | 0.5701 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 3843 | | | 34.18- 94.18 | 61.57 |
| 11.348 | 11.348 (1.239) | 111 | 2474 | | | 10.06- 70.06 | 39.63 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.449 (1.250) | 146 | 6016 | 0.50000 | 0.5424 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.250) | 148 | 3705 | | | 33.55- 93.55 | 61.59 |
| 11.441 | 11.449 (1.250) | 111 | 2400 | | | 7.98- 67.98 | 39.89 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 7831 | 0.50000 | 0.5576 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 1681 | | | 0.00- 52.77 | 21.47 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.749 | 11.750 (1.283) | 134 | 2792 | 0.50000 | 0.5508 | 80.00- 120.00 | 100.00 |
| 11.742 | 11.742 (1.282) | 91 | 9786 | | | 310.82- 370.82 | 350.50 |
| 11.742 | 11.742 (1.282) | 92 | 5003 | | | 151.53- 211.53 | 179.19 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 5917 | 0.50000 | 0.5569 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 3762 | | | 33.00- 93.00 | 63.58 |
| 11.821 | 11.821 (1.291) | 111 | 2659 | | | 10.87- 70.87 | 44.94 |

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042307.d
Lab Smp Id: ICAL Level #2
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 0.5ppbv (5.0ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Levl #2
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 104933 | -1.18 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 393969 | 0.77 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 399290 | 1.86 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.43 | -0.13 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042307.d

Page 1

Date : 23-APR-2024 21:18

Client ID: ICAL Levl #2

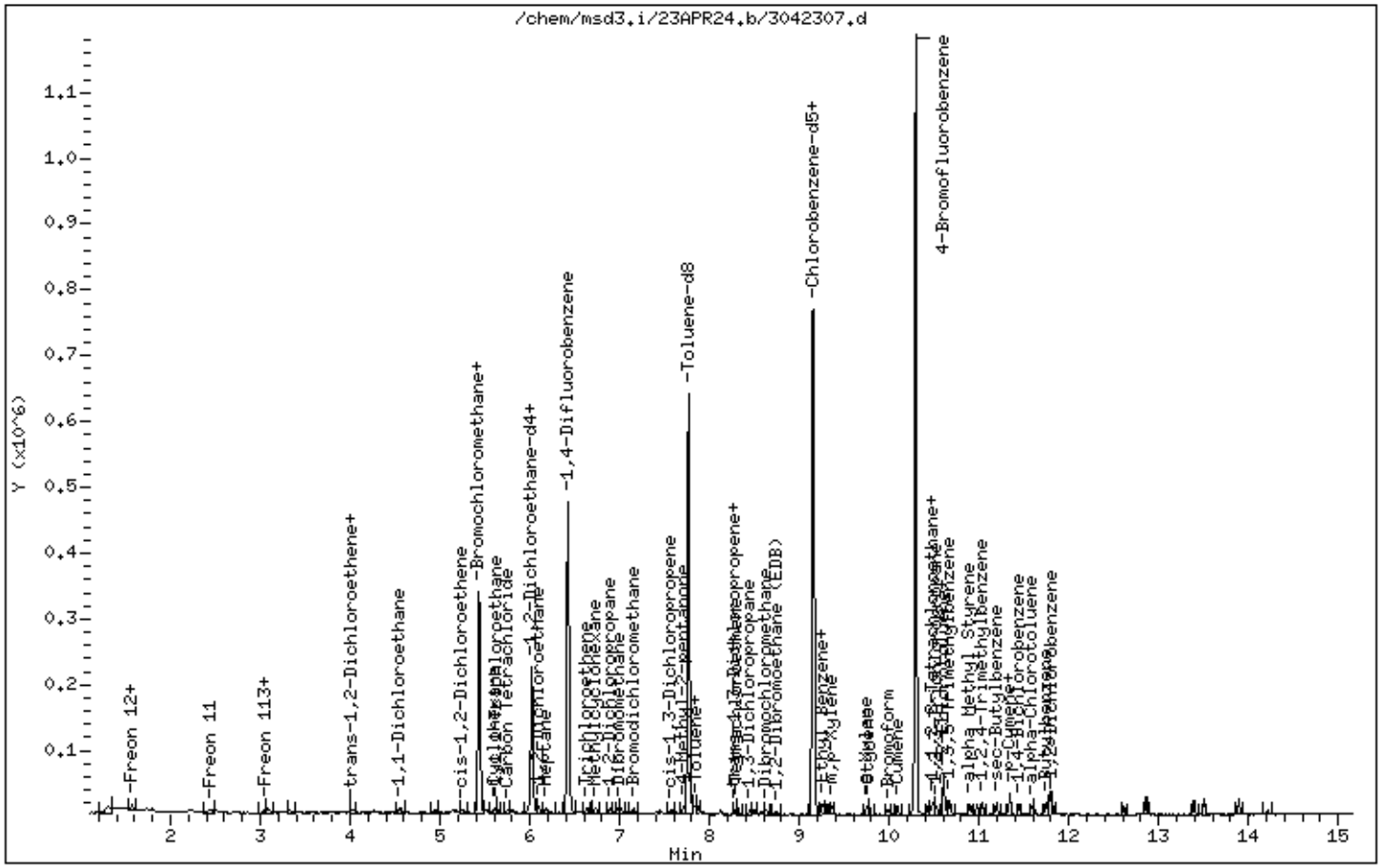
Instrument: msd3.i

Sample Info: 20ml 3018-4466

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042308.d
Lab Smp Id: ICAL Level #3 Client Smp ID: ICAL Level #3
Inj Date : 23-APR-2024 21:50
Operator : DF Inst ID: msd3.i
Smp Info : 40ml 3018-4466
Misc Info : 1.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 21:50 Cal File: 3042308.d
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23_Level3.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ======= | ========== | ===== |
| 4 Freon 134a | | | | | | CAS #: 811-97-2 | | |
| 1.423 | 1.409 (0.262) | 83 | 3045 | 1.00000 | 1.248 | 80.00- 120.00 | | 100.00(a) |
| 1.381 | 1.409 (0.254) | 69 | 2917 | | | 64.17- 124.17 | | 95.80 |
| 1.479 | 1.493 (0.272) | 51 | 11034 | | | 365.46- 425.46 | | 362.36 |
| 8 Freon 12 | | | | | | CAS #: 75-71-8 | | |
| 1.451 | 1.465 (0.267) | 85 | 6615 | 1.00000 | 1.058 | 80.00- 120.00 | | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 2169 | | | 2.88- 62.88 | | 32.79 |
| 9 Chlorodifluoromethane | | | | | | CAS #: 75-45-6 | | |
| 1.479 | 1.493 (0.272) | 67 | 799 | 1.00000 | 1.021 | 80.00- 120.00 | | 100.00 |
| 1.479 | 1.493 (0.272) | 51 | 11034 | | | 1257.55-1317.55 | | 1380.98 |
| 10 Freon 114 | | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 5701 | 1.00000 | 1.037 | 80.00- 120.00 | | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 1791 | | | 2.10- 62.10 | | 31.42 |
| 12 Isobutane | | | | | | CAS #: 75-28-5 | | |
| 1.577 | 1.591 (0.290) | 43 | 6291 | 1.00000 | 1.076 | 80.00- 120.00 | | 100.00(Ta) |
| 1.577 | 1.591 (0.290) | 42 | 3194 | | | 1.69- 61.69 | | 50.77 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 12 Isobutane (continued) | | | | | | | |
| 0.000 | 1.577 (0.000) | 58 | 0 | | | 0.00- 33.32 | 0.00 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.759 (0.324) | 62 | 3401 | 1.00000 | 1.166 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.759 (0.324) | 64 | 2582 | | | 3.10- 63.10 | 75.92 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 3354 | 1.00000 | 1.224 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 3084 | | | 78.74- 138.74 | 91.95 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.416 (0.442) | 106 | 2210 | 1.00000 | 0.9118 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.416 (0.442) | 108 | 2232 | | | 64.21- 124.21 | 101.00 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 7612 | 1.00000 | 1.057 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 4986 | | | 34.93- 94.93 | 65.50 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.472 (0.453) | 67 | 6472 | 1.00000 | 1.127 | 80.00- 120.00 | 100.00(a) |
| 2.458 | 2.472 (0.453) | 69 | 2513 | | | 1.95- 61.95 | 38.83 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 6111 | 1.00000 | 1.006 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 1388 | | | 0.00- 44.64 | 22.71 |
| 2.514 | 2.514 (0.463) | 72 | 388 | | | 0.00- 37.90 | 6.35 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 959 | 1.23200 | 1.678 | 80.00- 120.00 | 100.00(a) |
| 2.766 | 2.752 (0.509) | 45 | 2139 | | | 224.40- 284.40 | 223.04 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.046 | 3.061 (0.561) | 55 | 2232 | 1.16500 | 1.815 | 80.00- 120.00 | 100.00(a) |
| 3.046 | 3.061 (0.561) | 56 | 3014 | | | 108.02- 168.02 | 135.04 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 6869 | 1.00000 | 1.079 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 4670 | | | 35.07- 95.07 | 67.99 |
| 3.061 | 3.061 (0.563) | 101 | 8304 | | | 87.45- 147.45 | 120.89 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.097 (0.569) | 96 | 2718 | 1.00000 | 1.004 | 80.00- 120.00 | 100.00 |
| 3.097 | 3.097 (0.570) | 98 | 1879 | | | 33.27- 93.27 | 69.13 |
| 3.089 | 3.097 (0.569) | 61 | 4975 | | | 159.05- 219.05 | 183.04 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.631) | 45 | 6741 | 1.00000 | 1.052 | 80.00- 120.00 | 100.00(a) |
| 3.440 | 3.426 (0.633) | 43 | 2549 | | | 0.00- 48.18 | 37.81 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.584 | 3.584 (0.660) | 76 | 1387 | 1.00000 | 1.115 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.584 (0.658) | 41 | 4693 | | | 366.80- 426.80 | 338.36 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.691 | 3.684 (0.680) | 41 | 3272 | 1.17600 | 1.157 | 80.00- 120.00 | 100.00(a) |
| 3.677 | 3.684 (0.677) | 40 | 2304 | | | 22.74- 82.74 | 70.42 |
| 3.677 | 3.684 (0.677) | 38 | 755 | | | 0.00- 42.52 | 23.07 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.906 | 3.913 (0.719) | 59 | 7622 | 1.15200 | 1.166 | 80.00- 120.00 | 100.00(a) |
| 3.913 | 3.913 (0.720) | 41 | 1398 | | | 0.00- 51.85 | 18.34 |
| 3.906 | 3.913 (0.719) | 57 | 1456 | | | 0.00- 40.17 | 19.10 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.738) | 73 | 8109 | 1.00000 | 1.049 | 80.00- 120.00 | 100.00 |
| 3.999 | 4.006 (0.736) | 57 | 2900 | | | 0.00- 58.72 | 35.76 |
| 4.006 | 4.006 (0.738) | 41 | 3388 | | | 0.00- 59.38 | 41.78 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.021 | 4.028 (0.740) | 98 | 1846 | 1.00000 | 1.015 | 80.00- 120.00 | 100.00 |
| 4.021 | 4.028 (0.740) | 61 | 4841 | | | 232.13- 292.13 | 262.24 |
| 4.028 | 4.028 (0.742) | 96 | 3011 | | | 127.26- 187.26 | 163.11 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.142 (0.761) | 52 | 2449 | 1.00000 | 1.041 | 80.00- 120.00 | 100.00 |
| 4.142 | 4.142 (0.763) | 53 | 2906 | | | 86.45- 146.45 | 118.66 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.264 | 4.257 (0.785) | 57 | 6458 | 1.00000 | 1.140 | 80.00- 120.00 | 100.00 |
| 4.250 | 4.257 (0.782) | 43 | 6027 | | | 40.97- 100.97 | 93.33 |
| 4.250 | 4.257 (0.782) | 86 | 494 | | | 0.00- 42.68 | 7.65 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.839) | 63 | 5325 | 1.00000 | 1.013 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.558 (0.838) | 65 | 1937 | | | 0.47- 60.47 | 36.38 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.145 | 5.145 (0.947) | 77 | 5571 | 1.00000 | 1.074 | 80.00- 120.00 | 100.00(a) |
| 5.138 | 5.145 (0.946) | 79 | 2032 | | | 2.39- 62.39 | 36.47 |
| 5.145 | 5.145 (0.947) | 97 | 1440 | | | 0.00- 53.57 | 25.85 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 85 cis-1,2-Dichloroethene | | | | | | CAS #: 156-59-2 | |
| 5.188 | 5.188 (0.955) | 98 | 2013 | 1.00000 | 1.069 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.955) | 96 | 2852 | | | 125.53- 185.53 | 141.68 |
| 5.188 | 5.188 (0.955) | 61 | 5409 | | | 219.86- 279.86 | 268.70 |
| 89 Tetrahydrofuran | | | | | | CAS #: 109-99-9 | |
| 5.432 | 5.425 (1.000) | 42 | 4547 | 1.00000 | 1.096 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.425 (1.000) | 71 | 1354 | | | 0.00- 58.54 | 29.78 |
| 5.446 | 5.425 (1.003) | 72 | 1094 | | | 0.00- 59.59 | 24.06 |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.432 | 5.439 (1.000) | 130 | 105555 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.439 (1.000) | 128 | 82343 | | | 47.79- 107.79 | 78.01 |
| 5.432 | 5.439 (1.000) | 49 | 174252 | | | 131.33- 191.33 | 165.08 |
| 92 Chloroform | | | | | | CAS #: 67-66-3 | |
| 5.510 | 5.518 (1.014) | 83 | 5657 | 1.00000 | 1.002 | 80.00- 120.00 | 100.00 |
| 5.518 | 5.518 (1.016) | 85 | 3832 | | | 35.77- 95.77 | 67.74 |
| 94 Cyclohexane | | | | | | CAS #: 110-82-7 | |
| 5.611 | 5.611 (1.033) | 84 | 3958 | 1.00000 | 1.048 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.033) | 56 | 6255 | | | 125.79- 185.79 | 158.03 |
| 5.604 | 5.611 (1.032) | 41 | 3602 | | | 61.55- 121.55 | 91.01 |
| 96 1,1,1-Trichloroethane | | | | | | CAS #: 71-55-6 | |
| 5.632 | 5.639 (1.037) | 97 | 6470 | 1.00000 | 1.051 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.639 (1.037) | 99 | 3984 | | | 32.84- 92.84 | 61.58 |
| 97 Carbon Tetrachloride | | | | | | CAS #: 56-23-5 | |
| 5.754 | 5.761 (1.059) | 119 | 6701 | 1.00000 | 1.027 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.761 (1.059) | 117 | 7143 | | | 75.19- 135.19 | 106.60 |
| 99 1,1-Dichloropropene | | | | | | CAS #: 563-58-6 | |
| 5.804 | 5.804 (0.903) | 110 | 1581 | 1.00000 | 0.9932 | 80.00- 120.00 | 100.00(a) |
| 5.804 | 5.804 (0.903) | 75 | 4402 | | | 234.16- 294.16 | 278.43 |
| 102 Benzene | | | | | | CAS #: 71-43-2 | |
| 5.998 | 5.998 (0.933) | 78 | 8295 | 1.00000 | 1.042 | 80.00- 120.00 | 100.00 |
| 5.998 | 5.998 (0.933) | 77 | 2221 | | | 0.00- 53.69 | 26.78 |
| 101 2,2,4-Trimethylpentane | | | | | | CAS #: 540-84-1 | |
| 5.998 | 5.998 (1.104) | 57 | 18037 | 1.00000 | 1.019 | 80.00- 120.00 | 100.00 |
| 6.005 | 5.998 (1.105) | 56 | 6830 | | | 3.09- 63.09 | 37.87 |
| 5.990 | 5.998 (1.103) | 41 | 6382 | | | 0.00- 57.28 | 35.38 |
| $ 104 1,2-Dichloroethane-d4 | | | | | | CAS #: 17060-07-0 | |
| 6.026 | 6.026 (1.109) | 65 | 135576 | 25.0000 | 24.659 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| $ 104 1,2-Dichloroethane-d4 (continued) | | | | | | | |
| 6.026 | 6.026 (1.109) | 67 | 71106 | | | 23.17- 83.17 | 52.45 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.105 (0.949) | 62 | 4324 | 1.00000 | 1.042 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.105 (0.949) | 64 | 1800 | | | 1.80- 61.80 | 41.63 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 3389 | 1.00000 | 1.075 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.184 (0.961) | 43 | 7153 | | | 207.73- 267.73 | 211.07 |
| 6.177 | 6.184 (0.961) | 57 | 4659 | | | 84.83- 144.83 | 137.47 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 395193 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 61604 | | | 0.00- 45.65 | 15.59 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 3951 | 1.00000 | 1.030 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.635 (1.032) | 130 | 4307 | | | 80.23- 140.23 | 109.01 |
| 6.628 | 6.635 (1.031) | 97 | 2589 | | | 34.78- 94.78 | 65.53 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.743 | 6.735 (1.049) | 83 | 6016 | 1.00000 | 1.104 | 80.00- 120.00 | 100.00(a) |
| 6.735 | 6.735 (1.048) | 98 | 2515 | | | 14.83- 74.83 | 41.81 |
| 6.735 | 6.735 (1.048) | 55 | 6399 | | | 71.50- 131.50 | 106.37 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.893 (1.071) | 63 | 3793 | 1.00000 | 1.013 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.893 (1.071) | 62 | 2986 | | | 40.39- 100.39 | 78.72 |
| 6.893 | 6.893 (1.072) | 41 | 2456 | | | 31.86- 91.86 | 64.75 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.986 | 6.979 (0.763) | 69 | 3771 | 1.00000 | 1.181 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 5654 | | | 145.81- 205.81 | 149.93 |
| 6.986 | 6.979 (0.763) | 100 | 1420 | | | 10.05- 70.05 | 37.66 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 7.000 | 6.993 (1.089) | 88 | 1909 | 1.00000 | 0.9538 | 80.00- 120.00 | 100.00 |
| 7.000 | 6.993 (1.089) | 58 | 1983 | | | 56.33- 116.33 | 103.88 |
| 7.000 | 6.993 (1.089) | 57 | 663 | | | 2.08- 62.08 | 34.73 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.008 | 7.008 (0.765) | 174 | 3849 | 1.00000 | 1.040 | 80.00- 120.00 | 100.00 |
| 7.015 | 7.008 (0.766) | 93 | 3544 | | | 62.68- 122.68 | 92.08 |
| 7.008 | 7.008 (0.765) | 95 | 2997 | | | 47.70- 107.70 | 77.86 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 6112 | 1.00000 | 0.9842 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 3930 | | | 34.96- 94.96 | 64.30 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.574 (1.178) | 75 | 5448 | 1.00000 | 1.029 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.574 (1.177) | 77 | 1757 | | | 1.26- 61.26 | 32.25 |
| 7.573 | 7.574 (1.178) | 39 | 4900 | | | 35.06- 95.06 | 89.94 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.710 | 7.710 (1.199) | 58 | 4174 | 1.00000 | 1.146 | 80.00- 120.00 | 100.00 |
| 7.710 | 7.710 (1.199) | 43 | 12185 | | | 259.88- 319.88 | 291.93 |
| 7.710 | 7.710 (1.199) | 85 | 1445 | | | 7.58- 67.58 | 34.62 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 389568 | 25.0000 | 25.357 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 42634 | | | 0.00- 41.42 | 10.94 |
| 7.767 | 7.767 (1.208) | 100 | 257041 | | | 37.54- 97.54 | 65.98 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.831 (1.217) | 91 | 11722 | 1.00000 | 1.064 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 6660 | | | 27.89- 87.89 | 56.82 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 4398 | 1.00000 | 1.096 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 4011 | | | 63.53- 123.53 | 91.20 |
| 7.860 | 7.860 (1.223) | 43 | 10565 | | | 246.00- 306.00 | 240.22 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 4387 | 1.00000 | 1.012 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 2198 | | | 1.83- 61.83 | 50.10 |
| 8.118 | 8.118 (0.887) | 39 | 3661 | | | 31.97- 91.97 | 83.45 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.290 | 8.290 (0.905) | 97 | 4037 | 1.00000 | 1.100 | 80.00- 120.00 | 100.00 |
| 8.283 | 8.290 (0.905) | 99 | 2376 | | | 32.52- 92.52 | 58.86 |
| 8.283 | 8.290 (0.905) | 83 | 3423 | | | 58.90- 118.90 | 84.79 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 5802 | 1.00000 | 1.053 | 80.00- 120.00 | 100.00 |
| 8.318 | 8.318 (0.908) | 129 | 4585 | | | 45.32- 105.32 | 79.02 |
| 8.318 | 8.318 (0.908) | 131 | 4419 | | | 44.17- 104.17 | 76.16 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 5401 | 1.00000 | 1.046 | 80.00- 120.00 | 100.00(a) |
| 8.447 | 8.447 (1.314) | 41 | 4507 | | | 59.72- 119.72 | 83.45 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane (continued) | | | | | | | |
| 8.447 | 8.447 (1.314) | 78 | 1853 | | | 3.08- 63.08 | 34.31 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 7242 | 1.00000 | 0.9988 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.942) | 127 | 5844 | | | 47.27- 107.27 | 80.70 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.748 | 8.741 (0.955) | 107 | 6381 | 1.00000 | 1.061 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 5819 | | | 64.18- 124.18 | 91.19 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 392113 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 212516 | | | 22.92- 82.92 | 54.20 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.185 (1.002) | 112 | 9608 | 1.00000 | 1.058 | 80.00- 120.00 | 100.00 |
| 9.185 | 9.185 (1.003) | 114 | 3456 | | | 1.91- 61.91 | 35.97 |
| 9.178 | 9.185 (1.002) | 77 | 5923 | | | 22.97- 82.97 | 61.65 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.250 | 9.250 (1.010) | 106 | 4444 | 1.00000 | 0.9725 | 80.00- 120.00 | 100.00 |
| 9.250 | 9.250 (1.010) | 91 | 14977 | | | 281.09- 341.09 | 337.02 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.012) | 131 | 5079 | 1.00000 | 0.9813 | 80.00- 120.00 | 100.00(a) |
| 9.271 | 9.271 (1.012) | 117 | 4831 | | | 37.10- 97.10 | 95.12 |
| 9.271 | 9.271 (1.012) | 95 | 1921 | | | 4.93- 64.93 | 37.82 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.017) | 43 | 11607 | 1.00000 | 1.094 | 80.00- 120.00 | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 9566 | | | 50.62- 110.62 | 82.42 |
| 9.314 | 9.314 (1.017) | 85 | 2930 | | | 0.00- 55.65 | 25.24 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 5834 | 1.00000 | 1.024 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 12882 | | | 170.33- 230.33 | 220.81 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 5484 | 1.00000 | 1.015 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 11995 | | | 181.23- 241.23 | 218.73 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 9555 | 1.00000 | 1.036 | 80.00- 120.00 | 100.00 |
| 9.780 | 9.780 (1.068) | 78 | 4796 | | | 17.26- 77.26 | 50.19 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 6969 | 1.00000 | 0.9510 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 3968 | | | 21.45- 81.45 | 56.94 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 17046 | 1.00000 | 1.044 | 80.00- 120.00 | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 4573 | | | 0.00- 56.93 | 26.83 |
| 10.095 | 10.095 (1.102) | 51 | 2487 | | | 0.00- 42.24 | 14.59 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.260 | 10.260 (1.120) | 55 | 8603 | 1.00000 | 1.332 | 80.00- 120.00 | 100.00(a) |
| 10.260 | 10.260 (1.120) | 98 | 2587 | | | 5.15- 65.15 | 30.07 |
| 10.260 | 10.260 (1.120) | 42 | 5789 | | | 41.99- 101.99 | 67.29 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 292348 | 25.0000 | 25.088 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 346945 | | | 88.49- 148.49 | 118.68 |
| 10.295 | 10.295 (1.124) | 176 | 281580 | | | 66.73- 126.73 | 96.32 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.432 (1.139) | 156 | 6026 | 1.00000 | 1.059 | 80.00- 120.00 | 100.00(a) |
| 10.431 | 10.432 (1.139) | 158 | 5821 | | | 67.47- 127.47 | 96.60 |
| 10.431 | 10.432 (1.139) | 77 | 8791 | | | 108.68- 168.68 | 145.88 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.475 (1.143) | 83 | 8998 | 1.00000 | 1.062 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.475 (1.143) | 85 | 5767 | | | 34.97- 94.97 | 64.09 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 4947 | 1.00000 | 1.025 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 21927 | | | 383.60- 443.60 | 443.24 |
| 10.496 | 10.496 (1.146) | 105 | 778 | | | 0.00- 46.14 | 15.73 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.525 (1.149) | 110 | 2787 | 1.00000 | 1.084 | 80.00- 120.00 | 100.00 |
| 10.525 | 10.525 (1.149) | 75 | 9673 | | | 324.28- 384.28 | 347.08 |
| 10.517 | 10.518 (1.149) | 61 | 2787 | | | 57.24- 117.24 | 100.00 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.611 | 10.611 (1.159) | 126 | 4579 | 1.00000 | 1.028 | 80.00- 120.00 | 100.00(a) |
| 10.603 | 10.611 (1.158) | 91 | 15266 | | | 282.78- 342.78 | 333.39 |
| 10.603 | 10.603 (1.158) | 65 | 2503 | | | 17.33- 77.33 | 54.66 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.611 (1.158) | 120 | 5827 | 1.00000 | 1.107 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 105 | 18601 | | | 298.94- 358.94 | 319.22 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.611 (1.158) | 57 | 17468 | 1.00000 | 1.398 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 71 | 5419 | | | 1.11- 61.11 | 31.02 |
| 10.611 | 10.611 (1.159) | 142 | 600 | | | 0.00- 34.44 | 3.43 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 7281 | 1.00000 | 1.026 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 15245 | | | 172.08- 232.08 | 209.38 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 8036 | 1.00000 | 1.069 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 4215 | | | 25.64- 85.64 | 52.45 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.983 (1.199) | 119 | 14486 | 1.00000 | 1.074 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.983 (1.199) | 134 | 3244 | | | 0.00- 55.10 | 22.39 |
| 10.976 | 10.976 (1.199) | 91 | 9878 | | | 34.53- 94.53 | 68.19 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 15308 | 1.00000 | 1.055 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.206) | 120 | 7141 | | | 16.63- 76.63 | 46.65 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 4435 | 1.00000 | 1.004 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 21189 | | | 436.99- 496.99 | 477.77 |
| 11.191 | 11.198 (1.222) | 91 | 3795 | | | 41.69- 101.69 | 85.57 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 18828 | 1.00000 | 1.042 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 5172 | | | 0.00- 57.62 | 27.47 |
| 11.341 | 11.341 (1.239) | 91 | 4671 | | | 0.00- 53.03 | 24.81 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 11500 | 1.00000 | 1.070 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 7232 | | | 34.18- 94.18 | 62.89 |
| 11.348 | 11.348 (1.239) | 111 | 4561 | | | 10.06- 70.06 | 39.66 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.449 | 11.449 (1.250) | 146 | 11649 | 1.00000 | 1.070 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.250) | 148 | 7223 | | | 33.55- 93.55 | 62.01 |
| 11.449 | 11.449 (1.250) | 111 | 4635 | | | 7.98- 67.98 | 39.79 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 14051 | 1.00000 | 1.019 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 3017 | | | 0.00- 52.77 | 21.47 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.750 (1.282) | 134 | 5283 | 1.00000 | 1.061 | 80.00- 120.00 | 100.00(a) |
| 11.742 | 11.742 (1.282) | 91 | 18507 | | | 310.82- 370.82 | 350.31 |
| 11.742 | 11.742 (1.282) | 92 | 9789 | | | 151.53- 211.53 | 185.29 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 20826 | 1.00000 | 1.402 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.287) | 43 | 20809 | | | 63.59- 123.59 | 99.92 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 11179 | 1.00000 | 1.071 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 6969 | | | 33.00- 93.00 | 62.34 |
| 11.814 | 11.821 (1.290) | 111 | 4628 | | | 10.87- 70.87 | 41.40 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.853 | 12.860 (1.404) | 57 | 15830 | 1.00000 | 1.058 | 80.00- 120.00 | 100.00 |
| 12.853 | 12.860 (1.404) | 43 | 15626 | | | 58.52- 118.52 | 98.71 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.641 | 13.648 (1.490) | 128 | 2978 | 0.11600 | 0.1380 | 80.00- 120.00 | 100.00(a) |
| 13.641 | 13.648 (1.490) | 127 | 331 | | | 0.00- 42.72 | 11.11 |

## QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042308.d
Lab Smp Id: ICAL Level #3
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 1.0ppbv (5.0ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #3
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 105555 | -0.59 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 395193 | 1.08 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 392113 | 0.03 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.43 | -0.13 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042308.d

Page 1

Date : 23-APR-2024 21:50

Client ID: ICAL Level #3

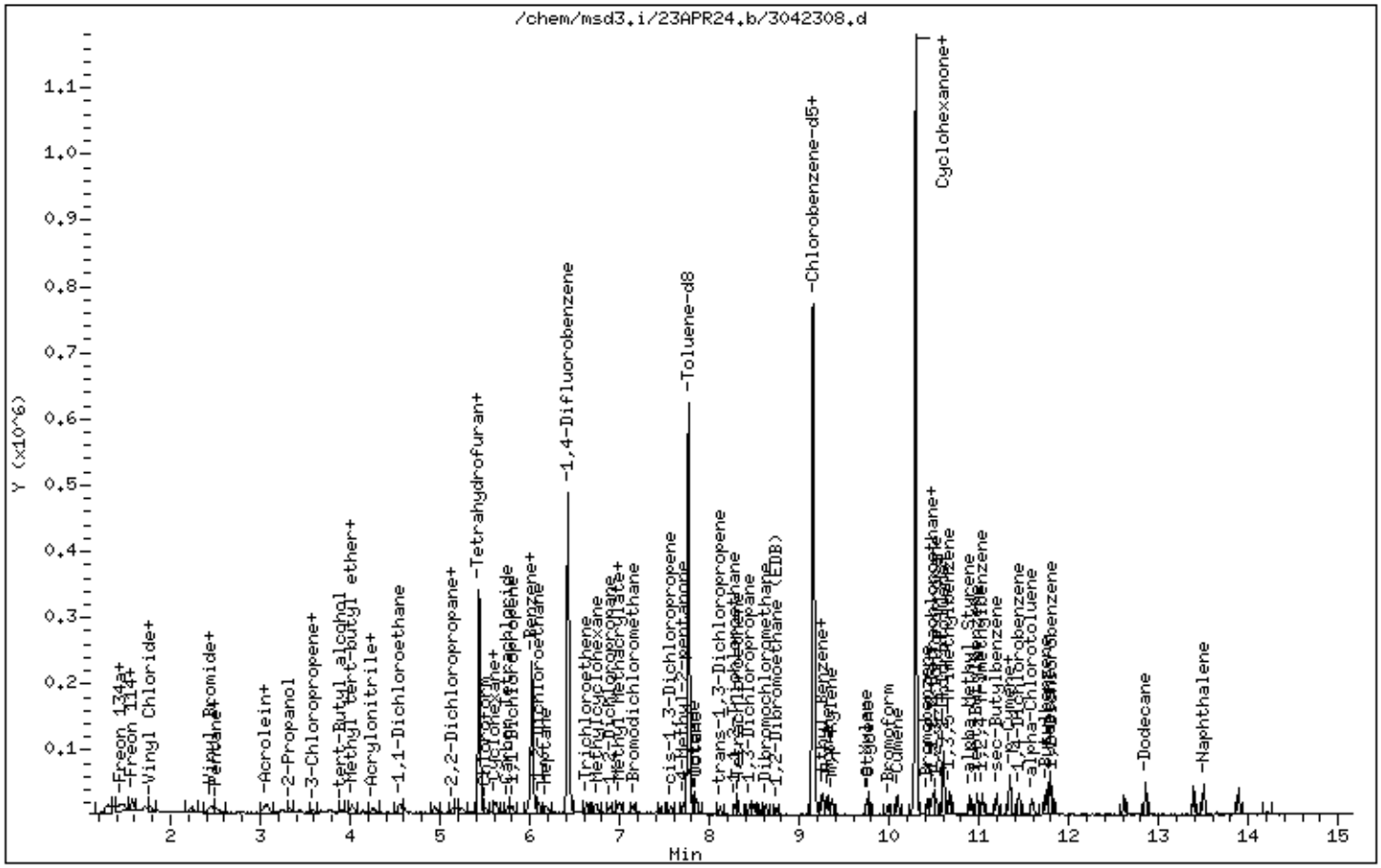
Instrument: msd3.i

Sample Info: 40ml 3018-4466

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3041803.d
Lab Smp Id: ICAL Level #4 Client Smp ID: ICAL Level #4
Inj Date : 18-APR-2024 09:31
Operator : mjs Inst ID: msd3.i
Smp Info : 80ml 3018-4329
Misc Info : 2.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 22:22 Cal File: 3042309.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT21spICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 120138 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 94112 | | | 47.79- 107.79 | 78.34 |
| 5.432 | 5.439 (1.000) | 49 | 197929 | | | 131.33- 191.33 | 164.75 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 463814 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 72133 | | | 0.00- 45.65 | 15.55 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 464193 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 248970 | | | 22.92- 82.92 | 53.64 |
| 6 Propane | | | | | CAS #: 74-98-6 | | |
| 1.437 | 1.423 (0.264) | 43 | 2199 | 2.00000 | 1.978 | 80.00- 120.00 | 100.00(a) |
| 1.437 | 1.437 (0.264) | 39 | 1839 | | | 37.94- 97.94 | 83.63 |
| 1.437 | 1.423 (0.264) | 41 | 2298 | | | 21.79- 81.79 | 104.50 |
| 13 Freon 142b | | | | | CAS #: 75-68-3 | | |
| 1.605 | 1.604 (0.295) | 65 | 13828 | 2.00000 | 2.342 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 13 Freon 142b (continued) | | | | | | | |
| 1.605 | 1.604 (0.295) | 45 | 4425 | | | 0.00- 58.87 | 32.00 |
| 36 1-Pentene | | | | | CAS #: 109-67-1 | | |
| 2.458 | 2.458 (0.452) | 55 | 8072 | 2.00000 | 2.202 | 80.00- 120.00 | 100.00(a) |
| 2.458 | 2.458 (0.452) | 42 | 11065 | | | 114.47- 174.47 | 137.08 |
| 38 Ethyl Ether | | | | | CAS #: 60-29-7 | | |
| 2.808 | 2.794 (0.516) | 74 | 3628 | 2.00000 | 2.393 | 80.00- 120.00 | 100.00 |
| 2.808 | 2.794 (0.516) | 59 | 6132 | | | 138.79- 198.79 | 169.02 |
| 2.808 | 2.794 (0.516) | 45 | 4292 | | | 114.58- 174.58 | 118.30 |
| 40 Freon 123a | | | | | CAS #: 354-23-4 | | |
| 2.892 | 2.906 (0.532) | 117 | 10619 | 2.00000 | 2.223 | 80.00- 120.00 | 100.00(a) |
| 2.906 | 2.892 (0.534) | 67 | 12422 | | | 102.78- 162.78 | 116.98 |
| 41 Freon 123 | | | | | CAS #: 306-83-2 | | |
| 2.990 | 2.990 (0.550) | 83 | 9129 | 2.00000 | 2.064 | 80.00- 120.00 | 100.00 |
| 2.990 | 2.990 (0.550) | 133 | 3180 | | | 0.00- 53.60 | 34.83 |
| 2.990 | 2.990 (0.550) | 85 | 7579 | | | 36.72- 96.72 | 83.02 |
| 55 Cyclopentene | | | | | CAS #: 142-29-0 | | |
| 3.598 | 3.591 (0.662) | 67 | 13867 | 2.00000 | 2.059 | 80.00- 120.00 | 100.00 |
| 3.591 | 3.591 (0.660) | 68 | 6700 | | | 8.38- 68.38 | 48.32 |
| 3.598 | 3.591 (0.662) | 53 | 3442 | | | 0.00- 54.97 | 24.82 |
| 56 Methyl Acetate | | | | | CAS #: 79-20-9 | | |
| 3.627 | 3.619 (0.667) | 43 | 15328 | 2.00000 | 2.048 | 80.00- 120.00 | 100.00(a) |
| 3.619 | 3.619 (0.665) | 74 | 3100 | | | 0.00- 45.84 | 20.22 |
| 74 Chloroprene | | | | | CAS #: 126-99-8 | | |
| 4.608 | 4.608 (0.847) | 53 | 12151 | 2.00000 | 2.076 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 88 | 5571 | | | 14.44- 74.44 | 45.85 |
| 4.608 | 4.608 (0.847) | 50 | 4172 | | | 0.00- 56.76 | 34.33 |
| 75 1-Propanol | | | | | CAS #: 71-23-8 | | |
| 4.723 | 4.715 (0.868) | 59 | 2471 | 2.00000 | 2.796 | 80.00- 120.00 | 100.00 |
| 4.723 | 4.715 (0.868) | 42 | 2071 | | | 63.00- 123.00 | 83.81 |
| 4.701 | 4.715 (0.864) | 41 | 570 | | | 28.69- 88.69 | 23.07 |
| 88 Methyl Acrylate | | | | | CAS #: 96-33-3 | | |
| 5.296 | 5.288 (0.974) | 55 | 15436 | 2.00000 | 2.099 | 80.00- 120.00 | 100.00(a) |
| 5.303 | 5.288 (0.975) | 85 | 2706 | | | 0.00- 43.17 | 17.53 |
| 5.296 | 5.288 (0.974) | 58 | 1878 | | | 0.00- 38.59 | 12.17 |
| 103 Isobutanol | | | | | CAS #: 78-83-1 | | |
| 5.998 | 5.990 (1.103) | 39 | 3783 | 2.00000 | 3.254 | 80.00- 120.00 | 100.00(a) |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 103 Isobutanol (continued) | | | | | | | |
| 5.998 | 5.990 (1.103) | 43 | 9246 | | | 402.02- 462.02 | 244.41 |
| 5.998 | 5.990 (1.103) | 41 | 7110 | | | 275.29- 335.29 | 187.95 |
| 113 Ethyl acrylate | | | | | CAS #: 140-88-5 | | |
| 6.764 | 6.764 (0.739) | 99 | 1687 | 2.00000 | 2.668 | 80.00- 120.00 | 100.00 |
| 6.764 | 6.764 (0.739) | 45 | 2466 | | | 144.38- 204.38 | 146.18 |
| 6.764 | 6.764 (0.739) | 55 | 21134 | | | 1723.57-1783.57 | 1252.76 |
| 115 2-Pentanone | | | | | CAS #: 107-87-9 | | |
| 6.864 | 6.857 (0.750) | 43 | 26239 | 2.00000 | 2.061 | 80.00- 120.00 | 100.00 |
| 6.857 | 6.857 (0.749) | 58 | 2558 | | | 0.00- 37.02 | 9.75 |
| 6.864 | 6.857 (0.750) | 86 | 3819 | | | 0.00- 43.48 | 14.55 |
| 145 Butyl Acetate | | | | | CAS #: 123-86-4 | | |
| 8.576 | 8.576 (1.334) | 56 | 12702 | 2.00000 | 2.228 | 80.00- 120.00 | 100.00(a) |
| 8.583 | 8.576 (1.335) | 73 | 4522 | | | 2.83- 62.83 | 35.60 |
| 8.576 | 8.576 (1.334) | 43 | 33172 | | | 240.40- 300.40 | 261.16 |
| 166 2-Heptanone | | | | | CAS #: 110-43-0 | | |
| 9.901 | 9.901 (1.821) | 58 | 21749 | 2.00000 | 2.365 | 80.00- 120.00 | 100.00 |
| 9.901 | 9.901 (1.821) | 43 | 38769 | | | 146.16- 206.16 | 178.26 |
| 210 alpha-Pinene | | | | | CAS #: 80-56-8 | | |
| 10.037 | 10.037 (1.096) | 93 | 25687 | 2.00000 | 2.109 | 80.00- 120.00 | 100.00 |
| 10.030 | 10.037 (1.095) | 77 | 7202 | | | 0.00- 59.07 | 28.04 |
| 214 beta-Pinene | | | | | CAS #: 127-91-3 | | |
| 10.697 | 10.696 (1.168) | 93 | 19765 | 2.00000 | 2.084 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 35220 | | | 151.21- 211.21 | 178.19 |
| 186 4-Chlorotoluene | | | | | CAS #: 106-43-4 | | |
| 10.725 | 10.725 (1.171) | 126 | 10548 | 2.00000 | 2.040 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 35220 | | | 296.65- 356.65 | 333.90 |
| 10.725 | 10.725 (1.171) | 63 | 4731 | | | 10.84- 70.84 | 44.85 |
| 172 D-Limonene | | | | | CAS #: 5989-27-5 | | |
| 11.277 | 11.277 (1.232) | 68 | 15885 | 2.00000 | 2.069 | 80.00- 120.00 | 100.00 |
| 11.277 | 11.277 (1.232) | 93 | 11230 | | | 41.19- 101.19 | 70.70 |
| 197 1,2,3-Trimethylbenzene | | | | | CAS #: 526-73-8 | | |
| 11.463 | 11.463 (1.252) | 120 | 14926 | 2.00000 | 2.104 | 80.00- 120.00 | 100.00(a) |
| 11.463 | 11.463 (1.252) | 105 | 33561 | | | 201.76- 261.76 | 224.85 |
| 11.463 | 11.463 (1.252) | 77 | 4736 | | | 0.00- 57.12 | 31.73 |
| 205 Hexachloroethane | | | | | CAS #: 67-72-1 | | |
| 12.022 | 12.014 (1.313) | 201 | 8233 | 2.00000 | 1.921 | 80.00- 120.00 | 100.00(a) |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 205 Hexachloroethane (continued) | | | | | | | |
| 12.014 | 12.014 (1.312) | 117 | 12206 | | | 114.78- 174.78 | 148.26 |
| 208 1,3,5-Trichlorobenzene | | | | | CAS #: 108-70-3 | | |
| 12.752 | 12.752 (1.393) | 180 | 19452 | 2.00000 | 1.970 | 80.00- 120.00 | 100.00(a) |
| 12.752 | 12.752 (1.393) | 182 | 17981 | | | 64.68- 124.68 | 92.44 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3041803.d
Lab Smp Id: ICAL Level #4
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 2.0ppbv (5.0ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #4
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 120138 | 13.14 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 463814 | 18.63 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 464193 | 18.42 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3041803.d



Date : 18-APR-2024 09:31

Client ID: ICAL Level #4

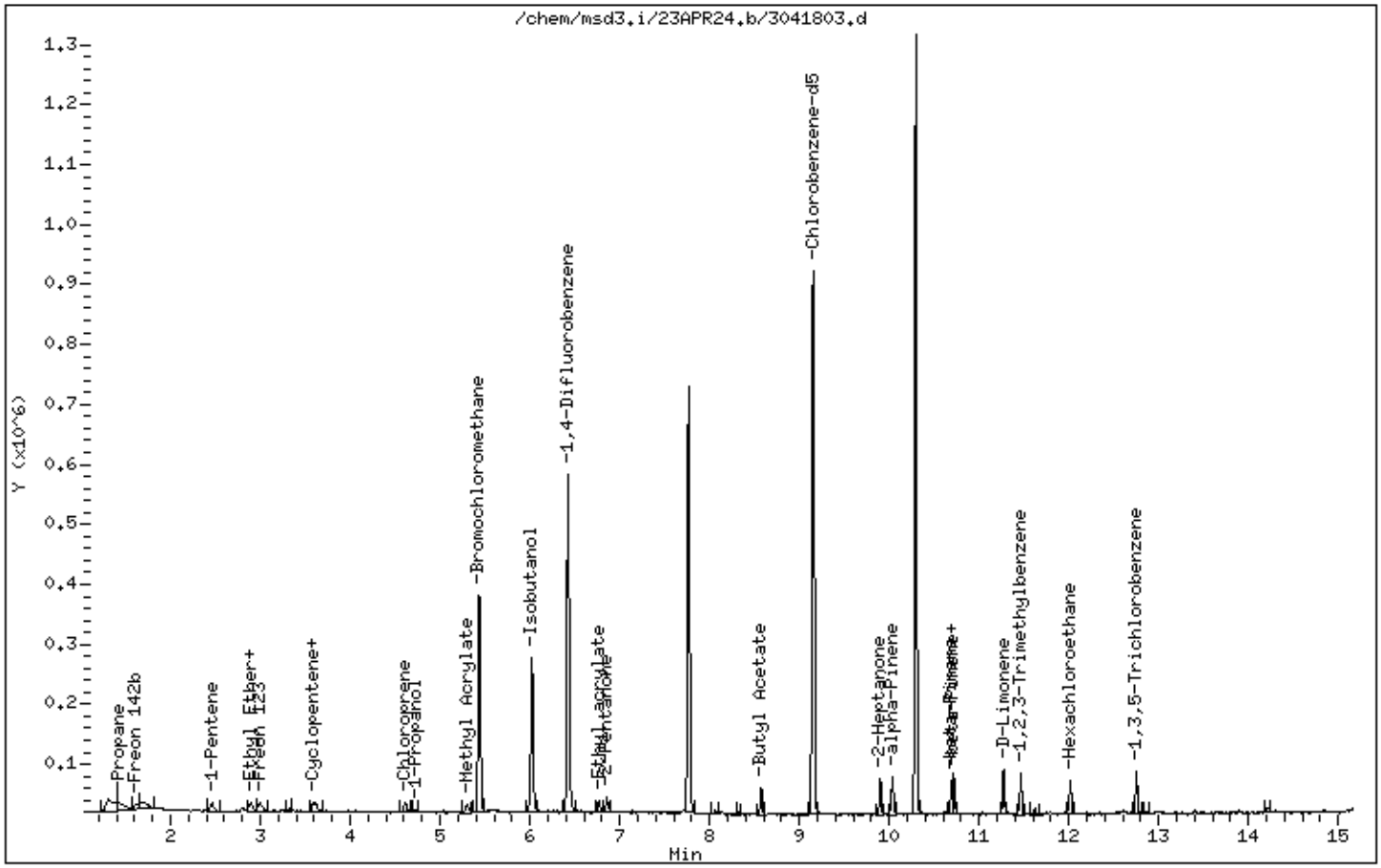
Instrument: msd3.i

Sample Info: 80ml 3018-4329

Operator: mjs

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042309.d
Lab Smp Id: ICAL Level #4 Client Smp ID: ICAL Level #4
Inj Date : 23-APR-2024 22:22
Operator : DF Inst ID: msd3.i
Smp Info : 80ml 3018-4466
Misc Info : 2.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 22:22 Cal File: 3042309.d
Als bottle: 3 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23ICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.423 | 1.409 (0.262) | 83 | 5897 | 2.00000 | 2.437 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 5510 | | | 64.17- 124.17 | 93.44 |
| 1.493 | 1.493 (0.274) | 51 | 21754 | | | 365.46- 425.46 | 368.90 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 6513 | 2.00000 | 2.376 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 4167 | | | 35.86- 95.86 | 63.98 |
| 1.437 | 1.437 (0.264) | 39 | 4456 | | | 41.66- 101.66 | 68.42 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.269) | 65 | 3759 | 2.00000 | 2.378 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.274) | 51 | 21754 | | | 568.10- 628.10 | 578.72 |
| 1.577 | 1.577 (0.290) | 47 | 1180 | | | 0.00- 50.57 | 31.39 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.269) | 85 | 13574 | 2.00000 | 2.190 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.269) | 87 | 4729 | | | 2.88- 62.88 | 34.84 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.493 (0.274) | 67 | 2049 | 2.00000 | 2.641 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 9 Chlorodifluoromethane (continued) | | | | | | | |
| 1.493 | 1.493 (0.274) | 51 | 21754 | | | 1257.55-1317.55 | 1061.69 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 10854 | 2.00000 | 1.992 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 3795 | | | 2.10- 62.10 | 34.96 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.577 | 1.591 (0.290) | 43 | 12066 | 2.00000 | 2.081 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.591 (0.290) | 42 | 3407 | | | 1.69- 61.69 | 28.24 |
| 1.591 | 1.577 (0.292) | 58 | 471 | | | 0.00- 33.32 | 3.90 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.675 (0.308) | 50 | 7257 | 2.00000 | 2.428 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.675 (0.308) | 52 | 2862 | | | 1.38- 61.38 | 39.44 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.731 (0.316) | 58 | 1517 | 2.00000 | 2.532 | 80.00- 120.00 | 100.00 |
| 1.716 | 1.731 (0.316) | 43 | 11141 | | | 866.38- 926.38 | 734.41 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.759 (0.323) | 62 | 6865 | 2.00000 | 2.374 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.759 (0.323) | 64 | 2833 | | | 3.10- 63.10 | 41.27 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 5535 | 2.00000 | 2.037 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 6354 | | | 78.74- 138.74 | 114.80 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 3393 | 2.00000 | 1.642 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 3140 | | | 64.19- 124.19 | 92.54 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.408) | 64 | 3227 | 2.00000 | 2.327 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.408) | 66 | 1150 | | | 2.32- 62.32 | 35.64 |
| 2.206 | 2.220 (0.406) | 49 | 1850 | | | 6.33- 66.33 | 57.33 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 8715 | 2.00000 | 2.202 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 5665 | | | 31.77- 91.77 | 65.00 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.416 (0.442) | 106 | 5134 | 2.00000 | 2.136 | 80.00- 120.00 | 100.00 |
| 2.416 | 2.416 (0.444) | 108 | 4900 | | | 64.21- 124.21 | 95.44 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.449) | 101 | 14478 | 2.00000 | 2.027 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 33 Freon 11 (continued) | | | | | | | |
| 2.444 | 2.444 (0.449) | 103 | 9770 | | | 34.93- 94.93 | 67.48 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.472 (0.452) | 67 | 12755 | 2.00000 | 2.240 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.472 (0.452) | 69 | 4599 | | | 1.95- 61.95 | 36.06 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.462) | 43 | 12681 | 2.00000 | 2.106 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.462) | 57 | 2708 | | | 0.00- 44.64 | 21.35 |
| 2.514 | 2.514 (0.462) | 72 | 1182 | | | 0.00- 37.90 | 9.32 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.766 | 2.752 (0.509) | 46 | 1575 | 2.46400 | 2.780 | 80.00- 120.00 | 100.00 |
| 2.766 | 2.752 (0.509) | 45 | 3644 | | | 224.40- 284.40 | 231.37 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.046 | 3.061 (0.560) | 55 | 3005 | 2.33000 | 2.464 | 80.00- 120.00 | 100.00 |
| 3.046 | 3.061 (0.560) | 56 | 4910 | | | 108.02- 168.02 | 163.39 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 13525 | 2.00000 | 2.143 | 80.00- 120.00 | 100.00 |
| 3.068 | 3.061 (0.564) | 153 | 8605 | | | 35.07- 95.07 | 63.62 |
| 3.061 | 3.061 (0.563) | 101 | 15440 | | | 87.45- 147.45 | 114.16 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.096 | 3.097 (0.569) | 96 | 5903 | 2.00000 | 2.198 | 80.00- 120.00 | 100.00 |
| 3.089 | 3.097 (0.568) | 98 | 3613 | | | 33.27- 93.27 | 61.21 |
| 3.089 | 3.097 (0.568) | 61 | 11064 | | | 159.05- 219.05 | 187.43 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.597) | 58 | 3574 | 2.00000 | 2.339 | 80.00- 120.00 | 100.00 |
| 3.247 | 3.247 (0.597) | 43 | 11985 | | | 329.45- 389.45 | 335.34 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.333 | 3.333 (0.613) | 76 | 17678 | 2.00000 | 2.414 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.433 | 3.426 (0.631) | 45 | 13251 | 2.00000 | 2.086 | 80.00- 120.00 | 100.00 |
| 3.433 | 3.426 (0.631) | 43 | 2934 | | | 0.00- 48.18 | 22.14 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.584 | 3.584 (0.659) | 76 | 2682 | 2.00000 | 2.174 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.584 (0.658) | 41 | 9250 | | | 366.80- 426.80 | 344.89 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.691 | 3.684 (0.679) | 41 | 7272 | 2.35200 | 2.593 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 57 Acetonitrile (continued) | | | | | | | |
| 3.691 | 3.684 (0.679) | 40 | 4117 | | | 22.74- 82.74 | 56.61 |
| 3.691 | 3.684 (0.679) | 38 | 1529 | | | 0.00- 42.52 | 21.03 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.784 | 3.784 (0.696) | 49 | 9606 | 2.00000 | 2.288 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.784 (0.694) | 84 | 5293 | | | 24.90- 84.90 | 55.10 |
| 3.777 | 3.784 (0.694) | 51 | 3159 | | | 0.00- 59.67 | 32.89 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.913 | 3.913 (0.719) | 59 | 15162 | 2.30400 | 2.339 | 80.00- 120.00 | 100.00 |
| 3.913 | 3.913 (0.719) | 41 | 3105 | | | 0.00- 51.85 | 20.48 |
| 3.906 | 3.913 (0.718) | 57 | 1989 | | | 0.00- 40.17 | 13.12 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.737) | 73 | 16332 | 2.00000 | 2.131 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.737) | 57 | 5857 | | | 0.00- 58.72 | 35.86 |
| 4.006 | 4.006 (0.737) | 41 | 4635 | | | 0.00- 59.38 | 28.38 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.035 | 4.028 (0.742) | 98 | 4086 | 2.00000 | 2.266 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.741) | 61 | 9876 | | | 232.13- 292.13 | 241.70 |
| 4.028 | 4.028 (0.741) | 96 | 5890 | | | 127.26- 187.26 | 144.15 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.142 | 4.142 (0.762) | 52 | 4913 | 2.00000 | 2.106 | 80.00- 120.00 | 100.00 |
| 4.142 | 4.142 (0.762) | 53 | 5946 | | | 86.45- 146.45 | 121.03 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.783) | 57 | 11457 | 2.00000 | 2.039 | 80.00- 120.00 | 100.00 |
| 4.264 | 4.257 (0.784) | 43 | 9671 | | | 40.97- 100.97 | 84.41 |
| 4.264 | 4.257 (0.784) | 86 | 1521 | | | 0.00- 42.68 | 13.28 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.838) | 63 | 11018 | 2.00000 | 2.114 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 65 | 3860 | | | 0.47- 60.47 | 35.03 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.558 | 4.558 (0.838) | 45 | 27186 | 2.00000 | 2.175 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 87 | 5261 | | | 0.00- 49.55 | 19.35 |
| 4.558 | 4.558 (0.838) | 59 | 3158 | | | 0.00- 40.42 | 11.62 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.615 | 4.608 (0.849) | 86 | 955 | 2.00000 | 2.081 | 80.00- 120.00 | 100.00 |
| 4.615 | 4.608 (0.849) | 43 | 15173 | | | 1727.95-1787.95 | 1588.80 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.945 | 4.945 (0.909) | 59 | 23073 | 2.00000 | 2.141 | 80.00- 120.00 | 100.00 |
| 4.945 | 4.945 (0.909) | 87 | 7530 | | | 3.90- 63.90 | 32.64 |
| 4.945 | 4.945 (0.909) | 41 | 4934 | | | 0.00- 49.72 | 21.38 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.145 (0.945) | 77 | 10831 | 2.00000 | 2.105 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.145 (0.945) | 79 | 3451 | | | 2.39- 62.39 | 31.86 |
| 5.145 | 5.145 (0.946) | 97 | 2782 | | | 0.00- 53.57 | 25.69 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.188 | 5.188 (0.954) | 98 | 3951 | 2.00000 | 2.116 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 96 | 6179 | | | 125.53- 185.53 | 156.39 |
| 5.188 | 5.188 (0.954) | 61 | 9696 | | | 219.86- 279.86 | 245.41 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.224 | 5.217 (0.960) | 72 | 2862 | 2.00000 | 2.127 | 80.00- 120.00 | 100.00 |
| 5.245 | 5.217 (0.964) | 43 | 32757 | | | 1138.34-1198.34 | 1144.55 |
| 5.224 | 5.217 (0.960) | 57 | 1871 | | | 10.83- 70.83 | 65.37 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.260 | 5.245 (0.967) | 45 | 3225 | 2.00000 | 2.397 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 61 | 9696 | | | 338.96- 398.96 | 300.65 |
| 5.245 | 5.245 (0.964) | 70 | 1539 | | | 24.53- 84.53 | 47.72 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.439 | 5.425 (1.000) | 42 | 9096 | 2.00000 | 2.211 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.425 (0.999) | 71 | 2352 | | | 0.00- 58.54 | 25.86 |
| 5.439 | 5.425 (1.000) | 72 | 2558 | | | 0.00- 59.59 | 28.12 |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 104675 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 81068 | | | 47.79- 107.79 | 77.45 |
| 5.432 | 5.439 (1.000) | 49 | 173402 | | | 131.33- 191.33 | 165.66 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.518 | 5.518 (1.014) | 83 | 12175 | 2.00000 | 2.176 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.518 (1.013) | 85 | 7815 | | | 35.77- 95.77 | 64.19 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.032) | 84 | 7758 | 2.00000 | 2.072 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.032) | 56 | 12287 | | | 125.79- 185.79 | 158.38 |
| 5.611 | 5.611 (1.032) | 41 | 8272 | | | 61.55- 121.55 | 106.63 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.639 | 5.639 (1.037) | 97 | 12327 | 2.00000 | 2.020 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 96 1,1,1-Trichloroethane (continued) | | | | | | | |
| 5.639 | 5.639 (1.037) | 99 | 7781 | | | 32.84- 92.84 | 63.12 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.059) | 119 | 13131 | 2.00000 | 2.029 | 80.00- 120.00 | 100.00 |
| 5.761 | 5.761 (1.059) | 117 | 13615 | | | 75.19- 135.19 | 103.69 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.804 | 5.804 (0.903) | 110 | 3415 | 2.00000 | 2.104 | 80.00- 120.00 | 100.00 |
| 5.804 | 5.804 (0.903) | 75 | 8896 | | | 234.16- 294.16 | 260.50 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.998 | 5.998 (0.933) | 78 | 16634 | 2.00000 | 2.050 | 80.00- 120.00 | 100.00 |
| 5.998 | 5.998 (0.933) | 77 | 4094 | | | 0.00- 53.69 | 24.61 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 6.005 | 5.998 (1.104) | 57 | 37803 | 2.00000 | 2.153 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.998 (1.101) | 56 | 13706 | | | 3.09- 63.09 | 36.26 |
| 6.005 | 5.998 (1.104) | 41 | 10984 | | | 0.00- 57.28 | 29.06 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.108) | 65 | 135356 | 25.0000 | 24.826 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.108) | 67 | 69905 | | | 23.17- 83.17 | 51.65 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.091 | 6.091 (0.948) | 87 | 4587 | 2.00000 | 2.104 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.091 (0.949) | 73 | 17779 | | | 365.76- 425.76 | 387.60 |
| 6.098 | 6.091 (0.949) | 55 | 6634 | | | 92.58- 152.58 | 144.63 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 8855 | 2.00000 | 2.092 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.105 (0.949) | 64 | 3296 | | | 1.80- 61.80 | 37.22 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 6324 | 2.00000 | 1.968 | 80.00- 120.00 | 100.00 |
| 6.184 | 6.184 (0.962) | 43 | 14662 | | | 207.73- 267.73 | 231.85 |
| 6.184 | 6.184 (0.962) | 57 | 7644 | | | 84.83- 144.83 | 120.87 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 402992 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 61782 | | | 0.00- 45.65 | 15.33 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.635 | 6.628 (1.032) | 56 | 4361 | 2.00000 | 2.364 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.628 (1.032) | 41 | 2697 | | | 47.73- 107.73 | 61.84 |
| 6.642 | 6.628 (1.033) | 43 | 2440 | | | 31.60- 91.60 | 55.95 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 8203 | 2.00000 | 2.097 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.635 (1.032) | 130 | 8805 | | | 80.23- 140.23 | 107.34 |
| 6.628 | 6.635 (1.031) | 97 | 5628 | | | 34.78- 94.78 | 68.61 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.742 | 6.735 (1.049) | 83 | 10959 | 2.00000 | 1.972 | 80.00- 120.00 | 100.00(a) |
| 6.742 | 6.735 (1.049) | 98 | 4864 | | | 14.83- 74.83 | 44.38 |
| 6.735 | 6.735 (1.048) | 55 | 12780 | | | 71.50- 131.50 | 116.62 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 7752 | 2.00000 | 2.030 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 5684 | | | 40.39- 100.39 | 73.32 |
| 6.893 | 6.893 (1.072) | 41 | 4710 | | | 31.86- 91.86 | 60.76 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.979 | 6.979 (0.762) | 69 | 6763 | 2.00000 | 2.076 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 11614 | | | 145.81- 205.81 | 171.73 |
| 6.986 | 6.979 (0.763) | 100 | 2712 | | | 10.05- 70.05 | 40.10 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 7.000 | 6.993 (1.089) | 88 | 4425 | 2.00000 | 2.168 | 80.00- 120.00 | 100.00 |
| 7.000 | 6.993 (1.089) | 58 | 3471 | | | 56.33- 116.33 | 78.44 |
| 7.000 | 6.993 (1.089) | 57 | 1731 | | | 2.08- 62.08 | 39.12 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.008 | 7.008 (0.765) | 174 | 7728 | 2.00000 | 2.048 | 80.00- 120.00 | 100.00 |
| 7.008 | 7.008 (0.765) | 93 | 7446 | | | 62.68- 122.68 | 96.35 |
| 7.008 | 7.008 (0.765) | 95 | 6421 | | | 47.70- 107.70 | 83.09 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 12777 | 2.00000 | 2.018 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 8281 | | | 34.96- 94.96 | 64.81 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.459 | 7.459 (1.160) | 63 | 13717 | 2.00000 | 2.036 | 80.00- 120.00 | 100.00 |
| 7.459 | 7.459 (1.160) | 65 | 4627 | | | 0.43- 60.43 | 33.73 |
| 7.459 | 7.459 (1.160) | 144 | 1571 | | | 0.00- 40.48 | 11.45 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.574 (1.178) | 75 | 10191 | 2.00000 | 1.887 | 80.00- 120.00 | 100.00 |
| 7.573 | 7.574 (1.178) | 77 | 3513 | | | 1.26- 61.26 | 34.47 |
| 7.573 | 7.574 (1.178) | 39 | 8021 | | | 35.06- 95.06 | 78.71 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.710 | 7.710 (1.199) | 58 | 7220 | 2.00000 | 1.943 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 131 4-Methyl-2-pentanone (continued) | | | | | | | |
| 7.710 | 7.710 (1.199) | 43 | 19705 | | | 259.88- 319.88 | 272.92 |
| 7.710 | 7.710 (1.199) | 85 | 2922 | | | 7.58- 67.58 | 40.47 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 391144 | 25.0000 | 24.967 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 43548 | | | 0.00- 41.42 | 11.13 |
| 7.767 | 7.767 (1.208) | 100 | 261861 | | | 37.54- 97.54 | 66.95 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 22030 | 2.00000 | 1.961 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 12881 | | | 27.89- 87.89 | 58.47 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 8231 | 2.00000 | 2.011 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 7430 | | | 63.53- 123.53 | 90.27 |
| 7.860 | 7.860 (1.223) | 43 | 22328 | | | 246.00- 306.00 | 271.27 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 8842 | 2.00000 | 2.001 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 4399 | | | 1.83- 61.83 | 49.75 |
| 8.118 | 8.118 (0.887) | 39 | 6542 | | | 31.97- 91.97 | 73.99 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.283 | 8.290 (0.905) | 97 | 7838 | 2.00000 | 2.094 | 80.00- 120.00 | 100.00 |
| 8.290 | 8.290 (0.905) | 99 | 4440 | | | 32.52- 92.52 | 56.65 |
| 8.283 | 8.290 (0.905) | 83 | 6480 | | | 58.90- 118.90 | 82.67 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 11532 | 2.00000 | 2.052 | 80.00- 120.00 | 100.00 |
| 8.318 | 8.318 (0.908) | 129 | 8623 | | | 45.32- 105.32 | 74.77 |
| 8.318 | 8.318 (0.908) | 131 | 8697 | | | 44.17- 104.17 | 75.42 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 10462 | 2.00000 | 1.987 | 80.00- 120.00 | 100.00(a) |
| 8.447 | 8.447 (1.314) | 41 | 8805 | | | 59.72- 119.72 | 84.16 |
| 8.447 | 8.447 (1.314) | 78 | 3364 | | | 3.08- 63.08 | 32.15 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.497 | 8.490 (0.928) | 58 | 9633 | 2.00000 | 2.052 | 80.00- 120.00 | 100.00 |
| 8.490 | 8.490 (0.927) | 43 | 20274 | | | 177.32- 237.32 | 210.46 |
| 8.490 | 8.490 (0.927) | 100 | 1732 | | | 0.00- 47.18 | 17.98 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 15080 | 2.00000 | 2.039 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.942) | 127 | 11601 | | | 47.27- 107.27 | 76.93 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 12601 | 2.00000 | 2.054 | 80.00- 120.00 | 100.00 |
| 8.748 | 8.741 (0.955) | 109 | 11635 | | | 64.18- 124.18 | 92.33 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 399961 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 213575 | | | 22.92- 82.92 | 53.40 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.185 (1.002) | 112 | 18184 | 2.00000 | 1.962 | 80.00- 120.00 | 100.00 |
| 9.185 | 9.185 (1.003) | 114 | 6150 | | | 1.91- 61.91 | 33.82 |
| 9.178 | 9.185 (1.002) | 77 | 12124 | | | 22.97- 82.97 | 66.67 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.250 | 9.250 (1.010) | 106 | 9422 | 2.00000 | 2.021 | 80.00- 120.00 | 100.00 |
| 9.250 | 9.250 (1.010) | 91 | 29862 | | | 281.09- 341.09 | 316.94 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.012) | 131 | 10549 | 2.00000 | 1.998 | 80.00- 120.00 | 100.00 |
| 9.271 | 9.271 (1.012) | 117 | 8100 | | | 37.10- 97.10 | 76.78 |
| 9.271 | 9.271 (1.012) | 95 | 3829 | | | 4.93- 64.93 | 36.30 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.017) | 43 | 22541 | 2.00000 | 2.082 | 80.00- 120.00 | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 17914 | | | 50.62- 110.62 | 79.47 |
| 9.314 | 9.314 (1.017) | 85 | 5625 | | | 0.00- 55.65 | 24.95 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 11992 | 2.00000 | 2.064 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 23754 | | | 170.33- 230.33 | 198.08 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 11134 | 2.00000 | 2.021 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 23722 | | | 181.23- 241.23 | 213.06 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 19258 | 2.00000 | 2.047 | 80.00- 120.00 | 100.00 |
| 9.780 | 9.780 (1.068) | 78 | 9514 | | | 17.26- 77.26 | 49.40 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 14789 | 2.00000 | 1.978 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 7634 | | | 21.45- 81.45 | 51.62 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 34035 | 2.00000 | 2.044 | 80.00- 120.00 | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 9118 | | | 0.00- 56.93 | 26.79 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 168 Cumene (continued) | | | | | | | | |
| 10.095 | 10.095 (1.102) | 51 | 4751 | | | | 0.00- 42.24 | 13.96 |
| 169 Cyclohexanone | | | | | | CAS #: 108-94-1 | | |
| 10.260 | 10.260 (1.120) | 55 | 14837 | 2.00000 | 2.252 | 80.00- 120.00 | | 100.00(a) |
| 10.267 | 10.260 (1.121) | 98 | 4451 | | | | 5.15- 65.15 | 30.00 |
| 10.260 | 10.260 (1.120) | 42 | 10067 | | | | 41.99- 101.99 | 67.85 |
| $ 170 4-Bromofluorobenzene | | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 293042 | 25.0000 | 24.654 | 80.00- 120.00 | | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 349289 | | | | 88.49- 148.49 | 119.19 |
| 10.295 | 10.295 (1.124) | 176 | 283911 | | | | 66.73- 126.73 | 96.88 |
| 177 Bromobenzene | | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.432 (1.139) | 156 | 11969 | 2.00000 | 2.063 | 80.00- 120.00 | | 100.00 |
| 10.431 | 10.432 (1.139) | 158 | 11350 | | | | 67.47- 127.47 | 94.83 |
| 10.431 | 10.432 (1.139) | 77 | 17083 | | | | 108.68- 168.68 | 142.73 |
| 175 1,1,2,2-Tetrachloroethane | | | | | | CAS #: 79-34-5 | | |
| 10.474 | 10.475 (1.144) | 83 | 17413 | 2.00000 | 2.016 | 80.00- 120.00 | | 100.00 |
| 10.467 | 10.475 (1.143) | 85 | 11391 | | | | 34.97- 94.97 | 65.42 |
| 178 Propylbenzene | | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 10216 | 2.00000 | 2.074 | 80.00- 120.00 | | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 42042 | | | | 383.60- 443.60 | 411.53 |
| 10.496 | 10.496 (1.146) | 105 | 1730 | | | | 0.00- 46.14 | 16.93 |
| 179 1,2,3-Trichloropropane | | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.525 (1.149) | 110 | 5233 | 2.00000 | 1.996 | 80.00- 120.00 | | 100.00 |
| 10.525 | 10.525 (1.149) | 75 | 18275 | | | | 324.28- 384.28 | 349.23 |
| 10.525 | 10.518 (1.149) | 61 | 4727 | | | | 57.24- 117.24 | 90.33 |
| 182 Decane | | | | | | CAS #: 124-18-5 | | |
| 10.611 | 10.611 (1.159) | 57 | 28843 | 2.00000 | 2.263 | 80.00- 120.00 | | 100.00 |
| 10.611 | 10.611 (1.159) | 71 | 8930 | | | | 1.11- 61.11 | 30.96 |
| 10.611 | 10.611 (1.159) | 142 | 1328 | | | | 0.00- 34.44 | 4.60 |
| 183 4-Ethyltoluene | | | | | | CAS #: 622-96-8 | | |
| 10.611 | 10.611 (1.159) | 120 | 10468 | 2.00000 | 1.950 | 80.00- 120.00 | | 100.00 |
| 10.611 | 10.611 (1.159) | 105 | 35698 | | | | 298.94- 358.94 | 341.02 |
| 184 2-Chlorotoluene | | | | | | CAS #: 95-49-8 | | |
| 10.611 | 10.611 (1.159) | 126 | 9037 | 2.00000 | 1.990 | 80.00- 120.00 | | 100.00 |
| 10.611 | 10.611 (1.159) | 91 | 27713 | | | | 282.78- 342.78 | 306.66 |
| 10.611 | 10.603 (1.159) | 65 | 4642 | | | | 17.33- 77.33 | 51.37 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 14889 | 2.00000 | 2.057 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 29605 | | | 172.08- 232.08 | 198.84 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 15251 | 2.00000 | 1.989 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 8574 | | | 25.64- 85.64 | 56.22 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.983 (1.199) | 119 | 28521 | 2.00000 | 2.072 | 80.00- 120.00 | 100.00 |
| 10.983 | 10.983 (1.199) | 134 | 7363 | | | 0.00- 55.10 | 25.82 |
| 10.976 | 10.976 (1.199) | 91 | 19058 | | | 34.53- 94.53 | 66.82 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 29746 | 2.00000 | 2.010 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.206) | 120 | 13927 | | | 16.63- 76.63 | 46.82 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 9363 | 2.00000 | 2.078 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 43333 | | | 436.99- 496.99 | 462.81 |
| 11.198 | 11.198 (1.223) | 91 | 7530 | | | 41.69- 101.69 | 80.42 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 37810 | 2.00000 | 2.052 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 10117 | | | 0.00- 57.62 | 26.76 |
| 11.341 | 11.341 (1.239) | 91 | 9260 | | | 0.00- 53.03 | 24.49 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 22035 | 2.00000 | 2.009 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 13740 | | | 34.18- 94.18 | 62.36 |
| 11.348 | 11.348 (1.239) | 111 | 8969 | | | 10.06- 70.06 | 40.70 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.449 | 11.449 (1.250) | 146 | 22379 | 2.00000 | 2.014 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.250) | 148 | 14223 | | | 33.55- 93.55 | 63.56 |
| 11.449 | 11.449 (1.250) | 111 | 8858 | | | 7.98- 67.98 | 39.58 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 27179 | 2.00000 | 1.932 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 6214 | | | 0.00- 52.77 | 22.86 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.750 (1.282) | 134 | 10035 | 2.00000 | 1.976 | 80.00- 120.00 | 100.00 |
| 11.742 | 11.742 (1.282) | 91 | 37009 | | | 310.82- 370.82 | 368.80 |
| 11.749 | 11.742 (1.283) | 92 | 19169 | | | 151.53- 211.53 | 191.02 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 33949 | 2.00000 | 2.240 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.287) | 43 | 33248 | | | 63.59- 123.59 | 97.94 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 21408 | 2.00000 | 2.011 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 13878 | | | 33.00- 93.00 | 64.83 |
| 11.821 | 11.821 (1.291) | 111 | 9018 | | | 10.87- 70.87 | 42.12 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.378) | 157 | 13095 | 2.00000 | 2.080 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.378) | 75 | 10947 | | | 48.09- 108.09 | 83.60 |
| 12.616 | 12.616 (1.378) | 155 | 9937 | | | 47.89- 107.89 | 75.88 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.404) | 57 | 31589 | 2.00000 | 2.069 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.404) | 43 | 29002 | | | 58.52- 118.52 | 91.81 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.463) | 180 | 22868 | 2.00000 | 2.168 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.463) | 182 | 21388 | | | 64.84- 124.84 | 93.53 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.504 | 13.512 (1.475) | 225 | 16162 | 2.00000 | 2.100 | 80.00- 120.00 | 100.00 |
| 13.504 | 13.512 (1.475) | 223 | 10274 | | | 32.80- 92.80 | 63.57 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.490) | 128 | 5422 | 0.23200 | 0.2463 | 80.00- 120.00 | 100.00(a) |
| 13.640 | 13.648 (1.490) | 127 | 867 | | | 0.00- 42.72 | 15.99 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.517) | 180 | 22737 | 2.00000 | 2.200 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.517) | 182 | 21439 | | | 65.07- 125.07 | 94.29 |
| 13.891 | 13.891 (1.517) | 145 | 7506 | | | 4.48- 64.48 | 33.01 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042309.d
Lab Smp Id: ICAL Level #4
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 2.0ppbv (5.0ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #4
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 104675 | -1.42 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 402992 | 3.08 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 399961 | 2.03 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042309.d

Page 1

Date : 23-APR-2024 22:22

Client ID: ICAL Level #4

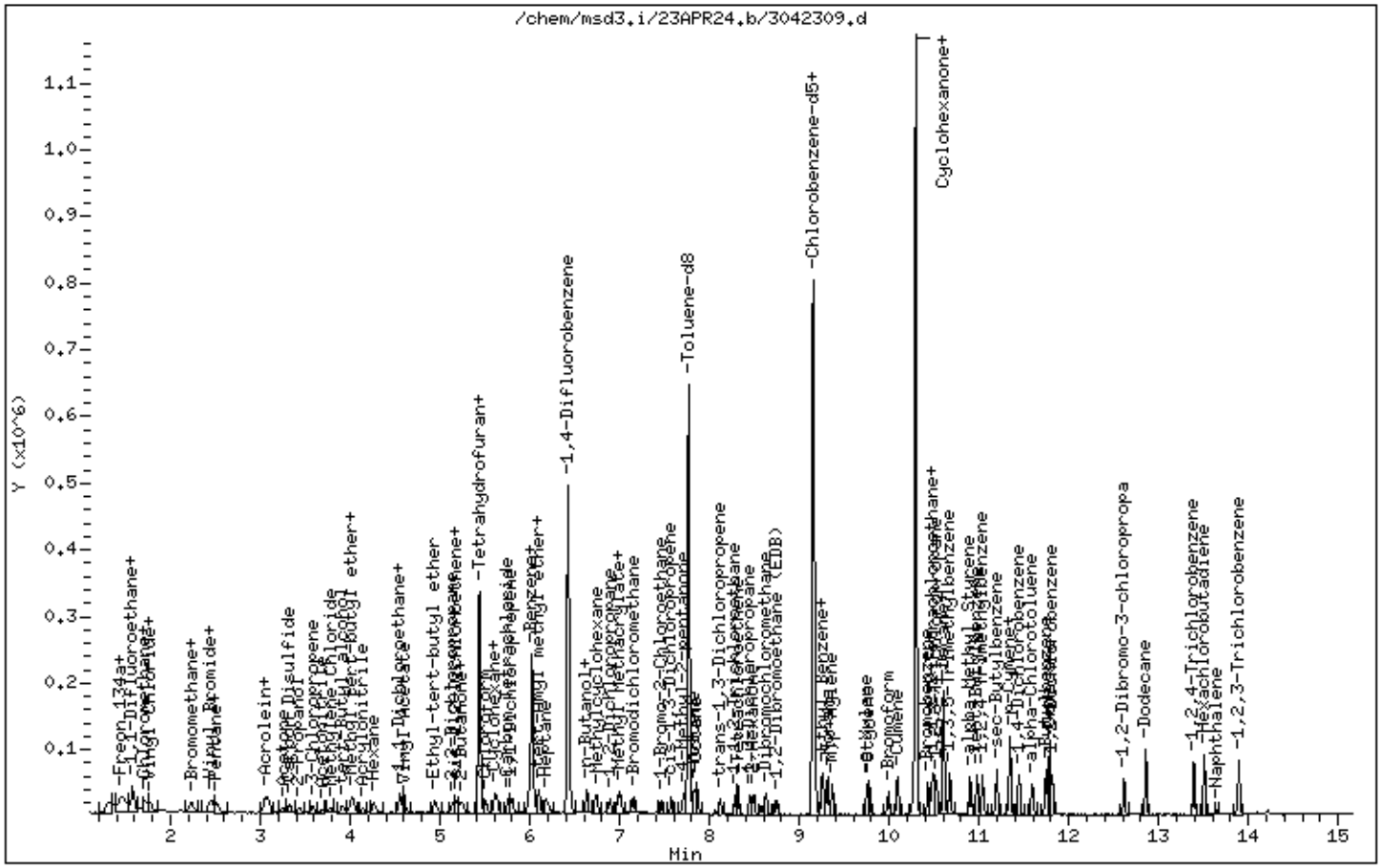
Instrument: msd3.i

Sample Info: 80ml 3018-4466

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3041804.d
Lab Smp Id: ICAL Level #5 Client Smp ID: ICAL Level #5
Inj Date : 18-APR-2024 10:06
Operator : mjs Inst ID: msd3.i
Smp Info : 200ml 3018-4329
Misc Info : 5.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 22:57 Cal File: 3042310.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT21spICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 126067 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 99297 | | | 47.79- 107.79 | 78.77 |
| 5.432 | 5.439 (1.000) | 49 | 208135 | | | 131.33- 191.33 | 165.10 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 490360 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 75735 | | | 0.00- 45.65 | 15.44 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 496101 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.157 (1.000) | 82 | 267400 | | | 22.92- 82.92 | 53.90 |
| 3 Freon 143a | | | | | CAS #: 420-46-2 | | |
| 1.367 | 1.395 (0.251) | 65 | 7696 | 5.00000 | 4.526 | 80.00- 120.00 | 100.00 |
| 1.381 | 1.395 (0.254) | 69 | 14051 | | | 237.43- 297.43 | 182.58 |
| 1.367 | 1.395 (0.251) | 64 | 1813 | | | 0.00- 57.02 | 23.56 |
| 6 Propane | | | | | CAS #: 74-98-6 | | |
| 1.437 | 1.423 (0.264) | 43 | 6440 | 5.00000 | 5.520 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 6 Propane (continued) | | | | | | | |
| 1.437 | 1.437 (0.264) | 39 | 4465 | | | 37.94- 97.94 | 69.33 |
| 1.423 | 1.423 (0.262) | 41 | 3895 | | | 21.79- 81.79 | 60.48 |
| 13 Freon 142b | | | | | CAS #: 75-68-3 | | |
| 1.604 | 1.604 (0.295) | 65 | 34203 | 5.00000 | 5.521 | 80.00- 120.00 | 100.00 |
| 1.618 | 1.604 (0.298) | 45 | 11065 | | | 0.00- 58.87 | 32.35 |
| 36 1-Pentene | | | | | CAS #: 109-67-1 | | |
| 2.444 | 2.458 (0.449) | 55 | 19790 | 5.00000 | 5.146 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.458 (0.449) | 42 | 27275 | | | 114.47- 174.47 | 137.82 |
| 38 Ethyl Ether | | | | | CAS #: 60-29-7 | | |
| 2.808 | 2.794 (0.516) | 74 | 8707 | 5.00000 | 5.474 | 80.00- 120.00 | 100.00 |
| 2.808 | 2.794 (0.516) | 59 | 14625 | | | 138.79- 198.79 | 167.97 |
| 2.808 | 2.794 (0.516) | 45 | 12313 | | | 114.58- 174.58 | 141.41 |
| 40 Freon 123a | | | | | CAS #: 354-23-4 | | |
| 2.892 | 2.906 (0.532) | 117 | 26025 | 5.00000 | 5.192 | 80.00- 120.00 | 100.00(a) |
| 2.892 | 2.892 (0.532) | 67 | 32898 | | | 102.78- 162.78 | 126.41 |
| 41 Freon 123 | | | | | CAS #: 306-83-2 | | |
| 2.990 | 2.990 (0.550) | 83 | 27268 | 5.00000 | 5.874 | 80.00- 120.00 | 100.00 |
| 2.990 | 2.990 (0.550) | 133 | 6683 | | | 0.00- 53.60 | 24.51 |
| 2.990 | 2.990 (0.550) | 85 | 16019 | | | 36.72- 96.72 | 58.75 |
| 55 Cyclopentene | | | | | CAS #: 142-29-0 | | |
| 3.583 | 3.591 (0.659) | 67 | 37434 | 5.00000 | 5.296 | 80.00- 120.00 | 100.00 |
| 3.583 | 3.591 (0.659) | 68 | 15715 | | | 8.38- 68.38 | 41.98 |
| 3.583 | 3.591 (0.659) | 53 | 9501 | | | 0.00- 54.97 | 25.38 |
| 56 Methyl Acetate | | | | | CAS #: 79-20-9 | | |
| 3.634 | 3.619 (0.668) | 43 | 42729 | 5.00000 | 5.441 | 80.00- 120.00 | 100.00 |
| 3.634 | 3.619 (0.668) | 74 | 7001 | | | 0.00- 45.84 | 16.38 |
| 74 Chloroprene | | | | | CAS #: 126-99-8 | | |
| 4.608 | 4.608 (0.847) | 53 | 33127 | 5.00000 | 5.394 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 88 | 14365 | | | 14.44- 74.44 | 43.36 |
| 4.608 | 4.608 (0.847) | 50 | 9775 | | | 0.00- 56.76 | 29.51 |
| 75 1-Propanol | | | | | CAS #: 71-23-8 | | |
| 4.744 | 4.715 (0.872) | 59 | 5130 | 5.00000 | 5.532 | 80.00- 120.00 | 100.00 |
| 4.701 | 4.715 (0.864) | 42 | 134 | | | 63.00- 123.00 | 2.61 |
| 4.744 | 4.715 (0.872) | 41 | 3169 | | | 28.69- 88.69 | 61.77 |
| 88 Methyl Acrylate | | | | | CAS #: 96-33-3 | | |
| 5.295 | 5.288 (0.974) | 55 | 41472 | 5.00000 | 5.375 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 88 Methyl Acrylate (continued) | | | | | | | |
| 5.295 | 5.288 (0.974) | 85 | 6368 | | | 0.00- 43.17 | 15.35 |
| 5.295 | 5.288 (0.974) | 58 | 4572 | | | 0.00- 38.59 | 11.02 |
| 103 Isobutanol | | | | | CAS #: 78-83-1 | | |
| 6.012 | 5.990 (1.105) | 39 | 7192 | 5.00000 | 5.895 | 80.00- 120.00 | 100.00 |
| 5.969 | 5.990 (1.097) | 43 | 496 | | | 402.02- 462.02 | 6.90 |
| 6.012 | 5.990 (1.105) | 41 | 17388 | | | 275.29- 335.29 | 241.77 |
| 113 Ethyl acrylate | | | | | CAS #: 140-88-5 | | |
| 6.764 | 6.764 (0.739) | 99 | 3432 | 5.00000 | 5.078 | 80.00- 120.00 | 100.00 |
| 6.771 | 6.764 (0.739) | 45 | 6099 | | | 144.38- 204.38 | 177.71 |
| 6.771 | 6.764 (0.739) | 55 | 56924 | | | 1723.57-1783.57 | 1658.62 |
| 115 2-Pentanone | | | | | CAS #: 107-87-9 | | |
| 6.864 | 6.857 (0.750) | 43 | 72487 | 5.00000 | 5.327 | 80.00- 120.00 | 100.00 |
| 6.864 | 6.857 (0.750) | 58 | 5135 | | | 0.00- 37.02 | 7.08 |
| 6.864 | 6.857 (0.750) | 86 | 10337 | | | 0.00- 43.48 | 14.26 |
| 145 Butyl Acetate | | | | | CAS #: 123-86-4 | | |
| 8.576 | 8.576 (1.334) | 56 | 31432 | 5.00000 | 5.216 | 80.00- 120.00 | 100.00 |
| 8.576 | 8.576 (1.334) | 73 | 11274 | | | 2.83- 62.83 | 35.87 |
| 8.576 | 8.576 (1.334) | 43 | 88940 | | | 240.40- 300.40 | 282.96 |
| 166 2-Heptanone | | | | | CAS #: 110-43-0 | | |
| 9.901 | 9.901 (1.821) | 58 | 57929 | 5.00000 | 6.003 | 80.00- 120.00 | 100.00 |
| 9.901 | 9.901 (1.821) | 43 | 101541 | | | 146.16- 206.16 | 175.29 |
| 210 alpha-Pinene | | | | | CAS #: 80-56-8 | | |
| 10.037 | 10.037 (1.096) | 93 | 67007 | 5.00000 | 5.147 | 80.00- 120.00 | 100.00 |
| 10.037 | 10.037 (1.096) | 77 | 20176 | | | 0.00- 59.07 | 30.11 |
| 214 beta-Pinene | | | | | CAS #: 127-91-3 | | |
| 10.696 | 10.696 (1.168) | 93 | 52907 | 5.00000 | 5.219 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 90054 | | | 151.21- 211.21 | 170.21 |
| 186 4-Chlorotoluene | | | | | CAS #: 106-43-4 | | |
| 10.725 | 10.725 (1.171) | 126 | 27997 | 5.00000 | 5.065 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 90054 | | | 296.65- 356.65 | 321.66 |
| 10.718 | 10.725 (1.171) | 63 | 12105 | | | 10.84- 70.84 | 43.24 |
| 172 D-Limonene | | | | | CAS #: 5989-27-5 | | |
| 11.277 | 11.277 (1.232) | 68 | 41975 | 5.00000 | 5.116 | 80.00- 120.00 | 100.00 |
| 11.277 | 11.277 (1.232) | 93 | 30322 | | | 41.19- 101.19 | 72.24 |
| 197 1,2,3-Trimethylbenzene | | | | | CAS #: 526-73-8 | | |
| 11.463 | 11.463 (1.252) | 120 | 38149 | 5.00000 | 5.032 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 197 1,2,3-Trimethylbenzene (continued) | | | | | | | |
| 11.463 | 11.463 (1.252) | 105 | 87829 | | | 201.76- 261.76 | 230.23 |
| 11.463 | 11.463 (1.252) | 77 | 10805 | | | 0.00- 57.12 | 28.32 |
| 205 Hexachloroethane | | | | | CAS #: 67-72-1 | | |
| 12.014 | 12.014 (1.312) | 201 | 22082 | 5.00000 | 4.821 | 80.00- 120.00 | 100.00 |
| 12.014 | 12.014 (1.312) | 117 | 31891 | | | 114.78- 174.78 | 144.42 |
| 208 1,3,5-Trichlorobenzene | | | | | CAS #: 108-70-3 | | |
| 12.759 | 12.752 (1.393) | 180 | 52704 | 5.00000 | 4.994 | 80.00- 120.00 | 100.00 |
| 12.766 | 12.752 (1.394) | 182 | 49468 | | | 64.68- 124.68 | 93.86 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3041804.d
Lab Smp Id: ICAL Level #5
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 5.0ppbv (5.0ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #5
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 126067 | 18.72 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 490360 | 25.42 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 496101 | 26.56 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3041804.d

Date : 18-APR-2024 10:06

Client ID: ICAL Level #5

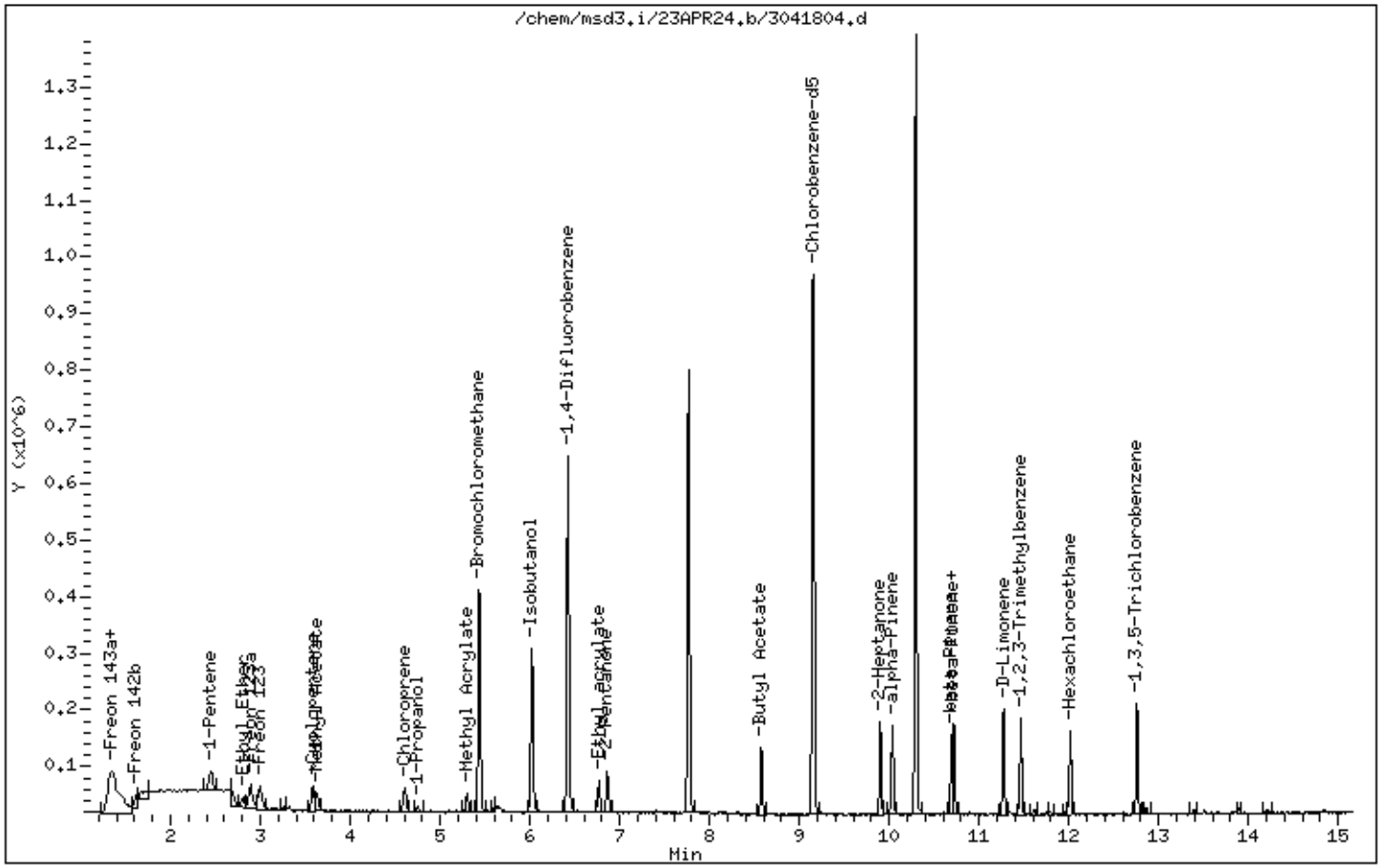
Instrument: msd3.i

Sample Info: 200ml 3018-4329

Operator: mjs

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042310.d
Lab Smp Id: ICAL Level #5 Client Smp ID: ICAL Level #5
Inj Date : 23-APR-2024 22:57
Operator : DF Inst ID: msd3.i
Smp Info : 200ml 3018-4466
Misc Info : 5.0ppbv (5.0ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 22:57 Cal File: 3042310.d
Als bottle: 3 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23ICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 12045 | 5.00000 | 4.528 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 8302 | | | 64.17- 124.17 | 68.92 |
| 1.493 | 1.493 (0.275) | 51 | 54371 | | | 365.46- 425.46 | 451.40 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 15861 | 5.00000 | 5.262 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 10736 | | | 35.86- 95.86 | 67.69 |
| 1.437 | 1.437 (0.264) | 39 | 11600 | | | 41.66- 101.66 | 73.14 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.270) | 65 | 8495 | 5.00000 | 4.889 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.275) | 51 | 54371 | | | 568.10- 628.10 | 640.04 |
| 1.562 | 1.577 (0.288) | 47 | 2288 | | | 0.00- 50.57 | 26.93 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.270) | 85 | 36879 | 5.00000 | 5.412 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 12423 | | | 2.88- 62.88 | 33.69 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.493 (0.275) | 67 | 4592 | 5.00000 | 5.385 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 9 Chlorodifluoromethane (continued) | | | | | | | |
| 1.493 | 1.493 (0.275) | 51 | 54371 | | | 1257.55-1317.55 | 1184.04 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.577 (0.290) | 135 | 31364 | 5.00000 | 5.235 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.577 (0.290) | 137 | 10227 | | | 2.10- 62.10 | 32.61 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.576 | 1.591 (0.290) | 43 | 33332 | 5.00000 | 5.230 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.591 (0.290) | 42 | 11165 | | | 1.69- 61.69 | 33.50 |
| 1.576 | 1.577 (0.290) | 58 | 1319 | | | 0.00- 33.32 | 3.96 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.660 | 1.675 (0.306) | 50 | 15587 | 5.00000 | 4.744 | 80.00- 120.00 | 100.00 |
| 1.660 | 1.675 (0.306) | 52 | 5953 | | | 1.38- 61.38 | 38.19 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.731 (0.316) | 58 | 3490 | 5.00000 | 5.298 | 80.00- 120.00 | 100.00 |
| 1.716 | 1.731 (0.316) | 43 | 27663 | | | 866.38- 926.38 | 792.64 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.744 | 1.759 (0.321) | 62 | 15202 | 5.00000 | 4.782 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.759 (0.324) | 64 | 5758 | | | 3.10- 63.10 | 37.88 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 15296 | 5.00000 | 5.122 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 14930 | | | 78.74- 138.74 | 97.61 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.094 | 2.108 (0.386) | 94 | 10936 | 5.00000 | 4.814 | 80.00- 120.00 | 100.00 |
| 2.094 | 2.108 (0.386) | 96 | 10181 | | | 64.19- 124.19 | 93.10 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.206 | 2.220 (0.406) | 64 | 7214 | 5.00000 | 4.732 | 80.00- 120.00 | 100.00 |
| 2.206 | 2.220 (0.406) | 66 | 3137 | | | 2.32- 62.32 | 43.48 |
| 2.206 | 2.220 (0.406) | 49 | 3642 | | | 6.33- 66.33 | 50.49 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.220 | 2.234 (0.409) | 43 | 19688 | 5.00000 | 4.525 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.234 (0.409) | 57 | 12514 | | | 31.77- 91.77 | 63.56 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.416 (0.442) | 106 | 12730 | 5.00000 | 4.818 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.416 (0.442) | 108 | 12007 | | | 64.21- 124.21 | 94.32 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.430 | 2.444 (0.447) | 101 | 35626 | 5.00000 | 4.538 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 33 Freon 11 (continued) | | | | | | | |
| 2.430 | 2.444 (0.447) | 103 | 23729 | | | 34.93- 94.93 | 66.61 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.472 (0.453) | 67 | 28519 | 5.00000 | 4.556 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.472 (0.453) | 69 | 9453 | | | 1.95- 61.95 | 33.15 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.500 | 2.514 (0.460) | 43 | 32644 | 5.00000 | 4.931 | 80.00- 120.00 | 100.00 |
| 2.500 | 2.514 (0.460) | 57 | 4865 | | | 0.00- 44.64 | 14.90 |
| 2.500 | 2.514 (0.460) | 72 | 2705 | | | 0.00- 37.90 | 8.29 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.808 | 2.752 (0.517) | 46 | 5178 | 6.16000 | 8.313 | 80.00- 120.00 | 100.00 |
| 2.808 | 2.752 (0.517) | 45 | 7274 | | | 224.40- 284.40 | 140.48 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.061 | 3.061 (0.563) | 55 | 8619 | 5.82500 | 6.429 | 80.00- 120.00 | 100.00 |
| 3.068 | 3.061 (0.565) | 56 | 10283 | | | 108.02- 168.02 | 119.31 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.046 | 3.061 (0.561) | 151 | 28638 | 5.00000 | 4.128 | 80.00- 120.00 | 100.00 |
| 3.046 | 3.061 (0.561) | 153 | 18570 | | | 35.07- 95.07 | 64.84 |
| 3.046 | 3.061 (0.561) | 101 | 33225 | | | 87.45- 147.45 | 116.02 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.075 | 3.097 (0.566) | 96 | 13582 | 5.00000 | 4.601 | 80.00- 120.00 | 100.00 |
| 3.075 | 3.097 (0.566) | 98 | 8644 | | | 33.27- 93.27 | 63.64 |
| 3.075 | 3.097 (0.566) | 61 | 31509 | | | 159.05- 219.05 | 231.99 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.268 | 3.247 (0.602) | 58 | 9661 | 5.00000 | 5.751 | 80.00- 120.00 | 100.00 |
| 3.268 | 3.247 (0.602) | 43 | 33888 | | | 329.45- 389.45 | 350.77 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.311 | 3.333 (0.610) | 76 | 45059 | 5.00000 | 5.597 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.483 | 3.426 (0.641) | 45 | 37340 | 5.00000 | 5.346 | 80.00- 120.00 | 100.00 |
| 3.490 | 3.426 (0.643) | 43 | 6824 | | | 0.00- 48.18 | 18.28 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.576 | 3.584 (0.658) | 76 | 7307 | 5.00000 | 5.388 | 80.00- 120.00 | 100.00 |
| 3.569 | 3.584 (0.657) | 41 | 27335 | | | 366.80- 426.80 | 374.09 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.705 | 3.684 (0.682) | 41 | 20254 | 5.88000 | 6.570 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 57 Acetonitrile (continued) | | | | | | | |
| 3.705 | 3.684 (0.682) | 40 | 10443 | | | 22.74- 82.74 | 51.56 |
| 3.662 | 3.684 (0.674) | 38 | 104 | | | 0.00- 42.52 | 0.51 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.784 (0.695) | 49 | 24845 | 5.00000 | 5.384 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.784 (0.695) | 84 | 14006 | | | 24.90- 84.90 | 56.37 |
| 3.770 | 3.784 (0.694) | 51 | 8345 | | | 0.00- 59.67 | 33.59 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.963 | 3.913 (0.730) | 59 | 42486 | 5.76000 | 5.963 | 80.00- 120.00 | 100.00 |
| 3.963 | 3.913 (0.730) | 41 | 9211 | | | 0.00- 51.85 | 21.68 |
| 3.963 | 3.913 (0.730) | 57 | 4226 | | | 0.00- 40.17 | 9.95 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.020 | 4.006 (0.740) | 73 | 43149 | 5.00000 | 5.122 | 80.00- 120.00 | 100.00 |
| 4.013 | 4.006 (0.739) | 57 | 14491 | | | 0.00- 58.72 | 33.58 |
| 4.013 | 4.006 (0.739) | 41 | 13768 | | | 0.00- 59.38 | 31.91 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.020 | 4.028 (0.740) | 98 | 10199 | 5.00000 | 5.144 | 80.00- 120.00 | 100.00 |
| 4.020 | 4.028 (0.740) | 61 | 27200 | | | 232.13- 292.13 | 266.69 |
| 4.020 | 4.028 (0.740) | 96 | 16522 | | | 127.26- 187.26 | 162.00 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.149 | 4.142 (0.764) | 52 | 13726 | 5.00000 | 5.353 | 80.00- 120.00 | 100.00 |
| 4.149 | 4.142 (0.764) | 53 | 16536 | | | 86.45- 146.45 | 120.47 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.250 | 4.257 (0.782) | 57 | 30865 | 5.00000 | 4.996 | 80.00- 120.00 | 100.00 |
| 4.242 | 4.257 (0.781) | 43 | 21968 | | | 40.97- 100.97 | 71.17 |
| 4.250 | 4.257 (0.782) | 86 | 3886 | | | 0.00- 42.68 | 12.59 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.558 (0.838) | 63 | 30564 | 5.00000 | 5.335 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.558 (0.838) | 65 | 9852 | | | 0.47- 60.47 | 32.23 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.565 | 4.558 (0.840) | 45 | 72205 | 5.00000 | 5.256 | 80.00- 120.00 | 100.00 |
| 4.565 | 4.558 (0.840) | 87 | 13883 | | | 0.00- 49.55 | 19.23 |
| 4.572 | 4.558 (0.842) | 59 | 7604 | | | 0.00- 40.42 | 10.53 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.615 | 4.608 (0.850) | 86 | 2765 | 5.00000 | 5.481 | 80.00- 120.00 | 100.00 |
| 4.615 | 4.608 (0.850) | 43 | 43995 | | | 1727.95-1787.95 | 1591.14 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 79 Ethyl-tert-butyl ether | | | | | | CAS #: 637-92-3 | |
| 4.952 | 4.945 (0.912) | 59 | 61076 | 5.00000 | 5.155 | 80.00- 120.00 | 100.00 |
| 4.952 | 4.945 (0.912) | 87 | 20989 | | | 3.90- 63.90 | 34.37 |
| 4.944 | 4.945 (0.910) | 41 | 12315 | | | 0.00- 49.72 | 20.16 |
| 84 2,2-Dichloropropane | | | | | | CAS #: 594-20-7 | |
| 5.138 | 5.145 (0.946) | 77 | 29067 | 5.00000 | 5.139 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.145 (0.946) | 79 | 9741 | | | 2.39- 62.39 | 33.51 |
| 5.138 | 5.145 (0.946) | 97 | 7646 | | | 0.00- 53.57 | 26.30 |
| 85 cis-1,2-Dichloroethene | | | | | | CAS #: 156-59-2 | |
| 5.181 | 5.188 (0.954) | 98 | 10957 | 5.00000 | 5.337 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.188 (0.954) | 96 | 17033 | | | 125.53- 185.53 | 155.45 |
| 5.181 | 5.188 (0.954) | 61 | 26295 | | | 219.86- 279.86 | 239.98 |
| 86 2-Butanone | | | | | | CAS #: 78-93-3 | |
| 5.231 | 5.217 (0.963) | 72 | 7868 | 5.00000 | 5.319 | 80.00- 120.00 | 100.00 |
| 5.253 | 5.217 (0.967) | 43 | 93302 | | | 1138.34-1198.34 | 1185.84 |
| 5.231 | 5.217 (0.963) | 57 | 4050 | | | 10.83- 70.83 | 51.47 |
| 87 Ethyl Acetate | | | | | | CAS #: 141-78-6 | |
| 5.253 | 5.245 (0.967) | 45 | 8554 | 5.00000 | 5.782 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.188 (0.954) | 61 | 26295 | | | 338.96- 398.96 | 307.40 |
| 5.260 | 5.245 (0.968) | 70 | 4295 | | | 24.53- 84.53 | 50.21 |
| 89 Tetrahydrofuran | | | | | | CAS #: 109-99-9 | |
| 5.439 | 5.425 (1.001) | 42 | 22688 | 5.00000 | 5.017 | 80.00- 120.00 | 100.00 |
| 5.439 | 5.425 (1.001) | 71 | 6413 | | | 0.00- 58.54 | 28.27 |
| 5.439 | 5.425 (1.001) | 72 | 6417 | | | 0.00- 59.59 | 28.28 |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.432 | 5.439 (1.000) | 130 | 115073 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.439 (1.000) | 128 | 91680 | | | 47.79- 107.79 | 79.67 |
| 5.432 | 5.439 (1.000) | 49 | 191536 | | | 131.33- 191.33 | 166.45 |
| 92 Chloroform | | | | | | CAS #: 67-66-3 | |
| 5.510 | 5.518 (1.014) | 83 | 32701 | 5.00000 | 5.315 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.518 (1.014) | 85 | 21652 | | | 35.77- 95.77 | 66.21 |
| 94 Cyclohexane | | | | | | CAS #: 110-82-7 | |
| 5.603 | 5.611 (1.032) | 84 | 20587 | 5.00000 | 5.002 | 80.00- 120.00 | 100.00 |
| 5.603 | 5.611 (1.032) | 56 | 32656 | | | 125.79- 185.79 | 158.62 |
| 5.603 | 5.611 (1.032) | 41 | 18678 | | | 61.55- 121.55 | 90.73 |
| 96 1,1,1-Trichloroethane | | | | | | CAS #: 71-55-6 | |
| 5.632 | 5.639 (1.037) | 97 | 33811 | 5.00000 | 5.039 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 96 1,1,1-Trichloroethane (continued) | | | | | | | |
| 5.632 | 5.639 (1.037) | 99 | 21498 | | | 32.84- 92.84 | 63.58 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.761 (1.059) | 119 | 35960 | 5.00000 | 5.055 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.761 (1.059) | 117 | 38234 | | | 75.19- 135.19 | 106.32 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.804 (0.902) | 110 | 9481 | 5.00000 | 5.394 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.804 (0.902) | 75 | 24476 | | | 234.16- 294.16 | 258.16 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.998 (0.933) | 78 | 45735 | 5.00000 | 5.206 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.998 (0.933) | 77 | 11347 | | | 0.00- 53.69 | 24.81 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.983 | 5.998 (1.102) | 57 | 94992 | 5.00000 | 4.922 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.998 (1.103) | 56 | 31376 | | | 3.09- 63.09 | 33.03 |
| 5.983 | 5.998 (1.102) | 41 | 28004 | | | 0.00- 57.28 | 29.48 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.109) | 65 | 149241 | 25.0000 | 24.900 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.109) | 67 | 77331 | | | 23.17- 83.17 | 51.82 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.091 | 6.091 (0.948) | 87 | 11971 | 5.00000 | 5.070 | 80.00- 120.00 | 100.00 |
| 6.091 | 6.091 (0.948) | 73 | 47052 | | | 365.76- 425.76 | 393.05 |
| 6.091 | 6.091 (0.948) | 55 | 14233 | | | 92.58- 152.58 | 118.90 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 23751 | 5.00000 | 5.182 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.105 (0.949) | 64 | 8897 | | | 1.80- 61.80 | 37.46 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.177 | 6.184 (0.961) | 71 | 16194 | 5.00000 | 4.653 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.184 (0.961) | 43 | 40834 | | | 207.73- 267.73 | 252.16 |
| 6.177 | 6.184 (0.961) | 57 | 19832 | | | 84.83- 144.83 | 122.47 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 436367 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.427 (1.000) | 88 | 66912 | | | 0.00- 45.65 | 15.33 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.649 | 6.628 (1.035) | 56 | 10811 | 5.00000 | 5.412 | 80.00- 120.00 | 100.00 |
| 6.649 | 6.628 (1.035) | 41 | 7342 | | | 47.73- 107.73 | 67.91 |
| 6.649 | 6.628 (1.035) | 43 | 6475 | | | 31.60- 91.60 | 59.89 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 111 Trichloroethene | | | | | | CAS #: 79-01-6 | |
| 6.628 | 6.635 (1.031) | 95 | 22164 | 5.00000 | 5.232 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.635 (1.031) | 130 | 23903 | | | 80.23- 140.23 | 107.85 |
| 6.628 | 6.635 (1.031) | 97 | 14984 | | | 34.78- 94.78 | 67.61 |
| 127 Methylcyclohexane | | | | | | CAS #: 108-87-2 | |
| 6.728 | 6.735 (1.047) | 83 | 29234 | 5.00000 | 4.858 | 80.00- 120.00 | 100.00 |
| 6.728 | 6.735 (1.047) | 98 | 13458 | | | 14.83- 74.83 | 46.04 |
| 6.728 | 6.735 (1.047) | 55 | 31447 | | | 71.50- 131.50 | 107.57 |
| 114 1,2-Dichloropropane | | | | | | CAS #: 78-87-5 | |
| 6.893 | 6.893 (1.072) | 63 | 20992 | 5.00000 | 5.078 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 15006 | | | 40.39- 100.39 | 71.48 |
| 6.886 | 6.893 (1.071) | 41 | 12920 | | | 31.86- 91.86 | 61.55 |
| 116 Methyl Methacrylate | | | | | | CAS #: 80-62-6 | |
| 6.979 | 6.979 (0.763) | 69 | 18093 | 5.00000 | 4.970 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.763) | 41 | 30893 | | | 145.81- 205.81 | 170.75 |
| 6.986 | 6.979 (0.764) | 100 | 7329 | | | 10.05- 70.05 | 40.51 |
| 117 1,4-Dioxane | | | | | | CAS #: 123-91-1 | |
| 7.007 | 6.993 (1.090) | 88 | 11057 | 5.00000 | 5.003 | 80.00- 120.00 | 100.00 |
| 7.000 | 6.993 (1.089) | 58 | 10009 | | | 56.33- 116.33 | 90.52 |
| 7.000 | 6.993 (1.089) | 57 | 4556 | | | 2.08- 62.08 | 41.20 |
| 118 Dibromomethane | | | | | | CAS #: 74-95-3 | |
| 7.007 | 7.008 (0.766) | 174 | 22017 | 5.00000 | 5.222 | 80.00- 120.00 | 100.00 |
| 7.007 | 7.008 (0.766) | 93 | 20262 | | | 62.68- 122.68 | 92.03 |
| 7.007 | 7.008 (0.766) | 95 | 16864 | | | 47.70- 107.70 | 76.60 |
| 122 Bromodichloromethane | | | | | | CAS #: 75-27-4 | |
| 7.151 | 7.151 (1.113) | 83 | 35412 | 5.00000 | 5.164 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 23047 | | | 34.96- 94.96 | 65.08 |
| 151 1-Bromo-2-Chloroethane | | | | | | CAS #: 107-04-0 | |
| 7.452 | 7.459 (1.159) | 63 | 38486 | 5.00000 | 5.276 | 80.00- 120.00 | 100.00 |
| 7.459 | 7.459 (1.160) | 65 | 11935 | | | 0.43- 60.43 | 31.01 |
| 7.459 | 7.459 (1.160) | 144 | 4284 | | | 0.00- 40.48 | 11.13 |
| 126 cis-1,3-Dichloropropene | | | | | | CAS #: 10061-01-5 | |
| 7.573 | 7.574 (1.178) | 75 | 30334 | 5.00000 | 5.187 | 80.00- 120.00 | 100.00 |
| 7.573 | 7.574 (1.178) | 77 | 10100 | | | 1.26- 61.26 | 33.30 |
| 7.566 | 7.574 (1.177) | 39 | 20351 | | | 35.06- 95.06 | 67.09 |
| 131 4-Methyl-2-pentanone | | | | | | CAS #: 108-10-1 | |
| 7.709 | 7.710 (1.199) | 58 | 19262 | 5.00000 | 4.788 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 131 4-Methyl-2-pentanone (continued) | | | | | | | |
| 7.709 | 7.710 (1.199) | 43 | 54486 | | | 259.88- 319.88 | 282.87 |
| 7.709 | 7.710 (1.199) | 85 | 7043 | | | 7.58- 67.58 | 36.56 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 421056 | 25.0000 | 24.821 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 46966 | | | 0.00- 41.42 | 11.15 |
| 7.767 | 7.767 (1.208) | 100 | 281063 | | | 37.54- 97.54 | 66.75 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.831 (1.217) | 91 | 59602 | 5.00000 | 4.900 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.831 (1.217) | 92 | 34878 | | | 27.89- 87.89 | 58.52 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 20866 | 5.00000 | 4.709 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 19494 | | | 63.53- 123.53 | 93.42 |
| 7.860 | 7.860 (1.223) | 43 | 55025 | | | 246.00- 306.00 | 263.71 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 24669 | 5.00000 | 4.996 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 8239 | | | 1.83- 61.83 | 33.40 |
| 8.118 | 8.118 (0.887) | 39 | 15878 | | | 31.97- 91.97 | 64.36 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.282 | 8.290 (0.905) | 97 | 20550 | 5.00000 | 4.915 | 80.00- 120.00 | 100.00 |
| 8.282 | 8.290 (0.905) | 99 | 12876 | | | 32.52- 92.52 | 62.66 |
| 8.282 | 8.290 (0.905) | 83 | 17892 | | | 58.90- 118.90 | 87.07 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.318 (0.908) | 166 | 31688 | 5.00000 | 5.047 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.318 (0.908) | 129 | 23187 | | | 45.32- 105.32 | 73.17 |
| 8.311 | 8.318 (0.908) | 131 | 23579 | | | 44.17- 104.17 | 74.41 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 28615 | 5.00000 | 5.018 | 80.00- 120.00 | 100.00 |
| 8.447 | 8.447 (1.314) | 41 | 26087 | | | 59.72- 119.72 | 91.17 |
| 8.447 | 8.447 (1.314) | 78 | 9192 | | | 3.08- 63.08 | 32.12 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.497 | 8.490 (0.929) | 58 | 26288 | 5.00000 | 5.011 | 80.00- 120.00 | 100.00 |
| 8.497 | 8.490 (0.929) | 43 | 55403 | | | 177.32- 237.32 | 210.75 |
| 8.497 | 8.490 (0.929) | 100 | 4741 | | | 0.00- 47.18 | 18.03 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 40668 | 5.00000 | 4.921 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 31926 | | | 47.27- 107.27 | 78.50 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | | ======= | ======= | ========== | ===== |
| 148 1,2-Dibromoethane (EDB) | | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 33020 | 5.00000 | 4.818 | 80.00- 120.00 | 100.00 | |
| 8.741 | 8.741 (0.955) | 109 | 31725 | | | 64.18- 124.18 | 96.08 | |
| * 153 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.157 (1.000) | 117 | 446883 | 25.0000 | | 80.00- 120.00 | 100.00 | |
| 9.149 | 9.157 (1.000) | 82 | 237443 | | | 22.92- 82.92 | 53.13 | |
| 154 Chlorobenzene | | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.185 (1.003) | 112 | 50886 | 5.00000 | 4.915 | 80.00- 120.00 | 100.00 | |
| 9.178 | 9.185 (1.003) | 114 | 16282 | | | 1.91- 61.91 | 32.00 | |
| 9.178 | 9.185 (1.003) | 77 | 31112 | | | 22.97- 82.97 | 61.14 | |
| 155 Ethyl Benzene | | | | | | CAS #: 100-41-4 | | |
| 9.249 | 9.250 (1.011) | 106 | 25019 | 5.00000 | 4.804 | 80.00- 120.00 | 100.00 | |
| 9.249 | 9.250 (1.011) | 91 | 78223 | | | 281.09- 341.09 | 312.65 | |
| 157 1,1,1,2-Tetrachloroethane | | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.013) | 131 | 28053 | 5.00000 | 4.756 | 80.00- 120.00 | 100.00 | |
| 9.271 | 9.271 (1.013) | 117 | 22204 | | | 37.10- 97.10 | 79.15 | |
| 9.271 | 9.271 (1.013) | 95 | 10330 | | | 4.93- 64.93 | 36.82 | |
| 156 Nonane | | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.018) | 43 | 59277 | 5.00000 | 4.900 | 80.00- 120.00 | 100.00 | |
| 9.314 | 9.314 (1.018) | 57 | 46936 | | | 50.62- 110.62 | 79.18 | |
| 9.314 | 9.314 (1.018) | 85 | 15060 | | | 0.00- 55.65 | 25.41 | |
| 158 m,p-Xylene | | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 31010 | 5.00000 | 4.777 | 80.00- 120.00 | 100.00 | |
| 9.364 | 9.364 (1.023) | 91 | 63013 | | | 170.33- 230.33 | 203.20 | |
| 164 o-Xylene | | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.066) | 106 | 29126 | 5.00000 | 4.732 | 80.00- 120.00 | 100.00 | |
| 9.751 | 9.751 (1.066) | 91 | 61652 | | | 181.23- 241.23 | 211.67 | |
| 165 Styrene | | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.069) | 104 | 50849 | 5.00000 | 4.837 | 80.00- 120.00 | 100.00 | |
| 9.780 | 9.780 (1.069) | 78 | 25060 | | | 17.26- 77.26 | 49.28 | |
| 167 Bromoform | | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.092) | 173 | 40236 | 5.00000 | 4.818 | 80.00- 120.00 | 100.00 | |
| 9.987 | 9.987 (1.092) | 171 | 20951 | | | 21.45- 81.45 | 52.07 | |
| 168 Cumene | | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.103) | 105 | 88925 | 5.00000 | 4.779 | 80.00- 120.00 | 100.00 | |
| 10.095 | 10.095 (1.103) | 120 | 24787 | | | 0.00- 56.93 | 27.87 | |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 168 Cumene (continued) | | | | | | | |
| 10.088 | 10.095 (1.103) | 51 | 11553 | | | 0.00- 42.24 | 12.99 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.259 | 10.260 (1.121) | 55 | 36349 | 5.00000 | 4.937 | 80.00- 120.00 | 100.00(a) |
| 10.267 | 10.260 (1.122) | 98 | 12224 | | | 5.15- 65.15 | 33.63 |
| 10.259 | 10.260 (1.121) | 42 | 25657 | | | 41.99- 101.99 | 70.59 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.125) | 174 | 328640 | 25.0000 | 24.746 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.125) | 95 | 390974 | | | 88.49- 148.49 | 118.97 |
| 10.295 | 10.295 (1.125) | 176 | 316981 | | | 66.73- 126.73 | 96.45 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.432 (1.140) | 156 | 32480 | 5.00000 | 5.010 | 80.00- 120.00 | 100.00 |
| 10.431 | 10.432 (1.140) | 158 | 30981 | | | 67.47- 127.47 | 95.38 |
| 10.431 | 10.432 (1.140) | 77 | 44459 | | | 108.68- 168.68 | 136.88 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.475 (1.144) | 83 | 47301 | 5.00000 | 4.901 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.475 (1.144) | 85 | 30625 | | | 34.97- 94.97 | 64.74 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.147) | 120 | 26554 | 5.00000 | 4.826 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.147) | 91 | 110753 | | | 383.60- 443.60 | 417.09 |
| 10.496 | 10.496 (1.147) | 105 | 4547 | | | 0.00- 46.14 | 17.12 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.525 (1.150) | 110 | 13876 | 5.00000 | 4.737 | 80.00- 120.00 | 100.00 |
| 10.524 | 10.525 (1.150) | 75 | 48974 | | | 324.28- 384.28 | 352.94 |
| 10.517 | 10.518 (1.150) | 61 | 12910 | | | 57.24- 117.24 | 93.04 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.611 (1.159) | 57 | 66125 | 5.00000 | 4.643 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.160) | 71 | 20761 | | | 1.11- 61.11 | 31.40 |
| 10.610 | 10.611 (1.160) | 142 | 2874 | | | 0.00- 34.44 | 4.35 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.611 (1.159) | 120 | 29003 | 5.00000 | 4.836 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.611 (1.159) | 105 | 94876 | | | 298.94- 358.94 | 327.12 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.611 (1.159) | 126 | 24928 | 5.00000 | 4.913 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.611 (1.159) | 91 | 77188 | | | 282.78- 342.78 | 309.64 |
| 10.603 | 10.603 (1.159) | 65 | 12088 | | | 17.33- 77.33 | 48.49 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.167) | 120 | 38840 | 5.00000 | 4.802 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.167) | 105 | 79192 | | | 172.08- 232.08 | 203.89 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.192) | 118 | 40931 | 5.00000 | 4.778 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.192) | 103 | 23190 | | | 25.64- 85.64 | 56.66 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.983 (1.200) | 119 | 75651 | 5.00000 | 4.920 | 80.00- 120.00 | 100.00 |
| 10.983 | 10.983 (1.200) | 134 | 18730 | | | 0.00- 55.10 | 24.76 |
| 10.976 | 10.976 (1.200) | 91 | 49041 | | | 34.53- 94.53 | 64.83 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.207) | 105 | 80630 | 5.00000 | 4.876 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.207) | 120 | 37019 | | | 16.63- 76.63 | 45.91 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.224) | 134 | 24772 | 5.00000 | 4.922 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.224) | 105 | 115657 | | | 436.99- 496.99 | 466.89 |
| 11.191 | 11.198 (1.223) | 91 | 18608 | | | 41.69- 101.69 | 75.12 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.240) | 119 | 101004 | 5.00000 | 4.907 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 134 | 28012 | | | 0.00- 57.62 | 27.73 |
| 11.341 | 11.341 (1.240) | 91 | 23280 | | | 0.00- 53.03 | 23.05 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.240) | 146 | 58914 | 5.00000 | 4.808 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.240) | 148 | 38396 | | | 34.18- 94.18 | 65.17 |
| 11.348 | 11.348 (1.240) | 111 | 23260 | | | 10.06- 70.06 | 39.48 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.449 | 11.449 (1.251) | 146 | 60435 | 5.00000 | 4.869 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.251) | 148 | 38720 | | | 33.55- 93.55 | 64.07 |
| 11.449 | 11.449 (1.251) | 111 | 23179 | | | 7.98- 67.98 | 38.35 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.267) | 91 | 75468 | 5.00000 | 4.801 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.267) | 126 | 16647 | | | 0.00- 52.77 | 22.06 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.749 | 11.750 (1.284) | 134 | 27726 | 5.00000 | 4.887 | 80.00- 120.00 | 100.00 |
| 11.742 | 11.742 (1.283) | 91 | 97568 | | | 310.82- 370.82 | 351.90 |
| 11.742 | 11.742 (1.283) | 92 | 50942 | | | 151.53- 211.53 | 183.73 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.288) | 57 | 81818 | 5.00000 | 4.832 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.288) | 43 | 77006 | | | 63.59- 123.59 | 94.12 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.821 (1.291) | 146 | 57397 | 5.00000 | 4.826 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.292) | 148 | 36810 | | | 33.00- 93.00 | 64.13 |
| 11.814 | 11.821 (1.291) | 111 | 23674 | | | 10.87- 70.87 | 41.25 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.379) | 157 | 35937 | 5.00000 | 5.109 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.379) | 75 | 28356 | | | 48.09- 108.09 | 78.90 |
| 12.616 | 12.616 (1.379) | 155 | 28052 | | | 47.89- 107.89 | 78.06 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.406) | 57 | 86146 | 5.00000 | 5.051 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.406) | 43 | 76798 | | | 58.52- 118.52 | 89.15 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.464) | 180 | 61217 | 5.00000 | 5.194 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.464) | 182 | 59446 | | | 64.84- 124.84 | 97.11 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.504 | 13.512 (1.476) | 225 | 43615 | 5.00000 | 5.074 | 80.00- 120.00 | 100.00 |
| 13.504 | 13.512 (1.476) | 223 | 28353 | | | 32.80- 92.80 | 65.01 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.492) | 128 | 14455 | 0.58000 | 0.5877 | 80.00- 120.00 | 100.00 |
| 13.640 | 13.648 (1.491) | 127 | 2034 | | | 0.00- 42.72 | 14.07 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.518) | 180 | 60561 | 5.00000 | 5.244 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.518) | 182 | 57783 | | | 65.07- 125.07 | 95.41 |
| 13.891 | 13.891 (1.518) | 145 | 20574 | | | 4.48- 64.48 | 33.97 |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042310.d
Lab Smp Id: ICAL Level #5
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 5.0ppbv (5.0ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #5
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 115073 | 8.37 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 436367 | 11.61 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 446883 | 14.00 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.43 | -0.13 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.15 | -0.08 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042310.d

Page 1

Date : 23-APR-2024 22:57

Client ID: ICAL Level #5

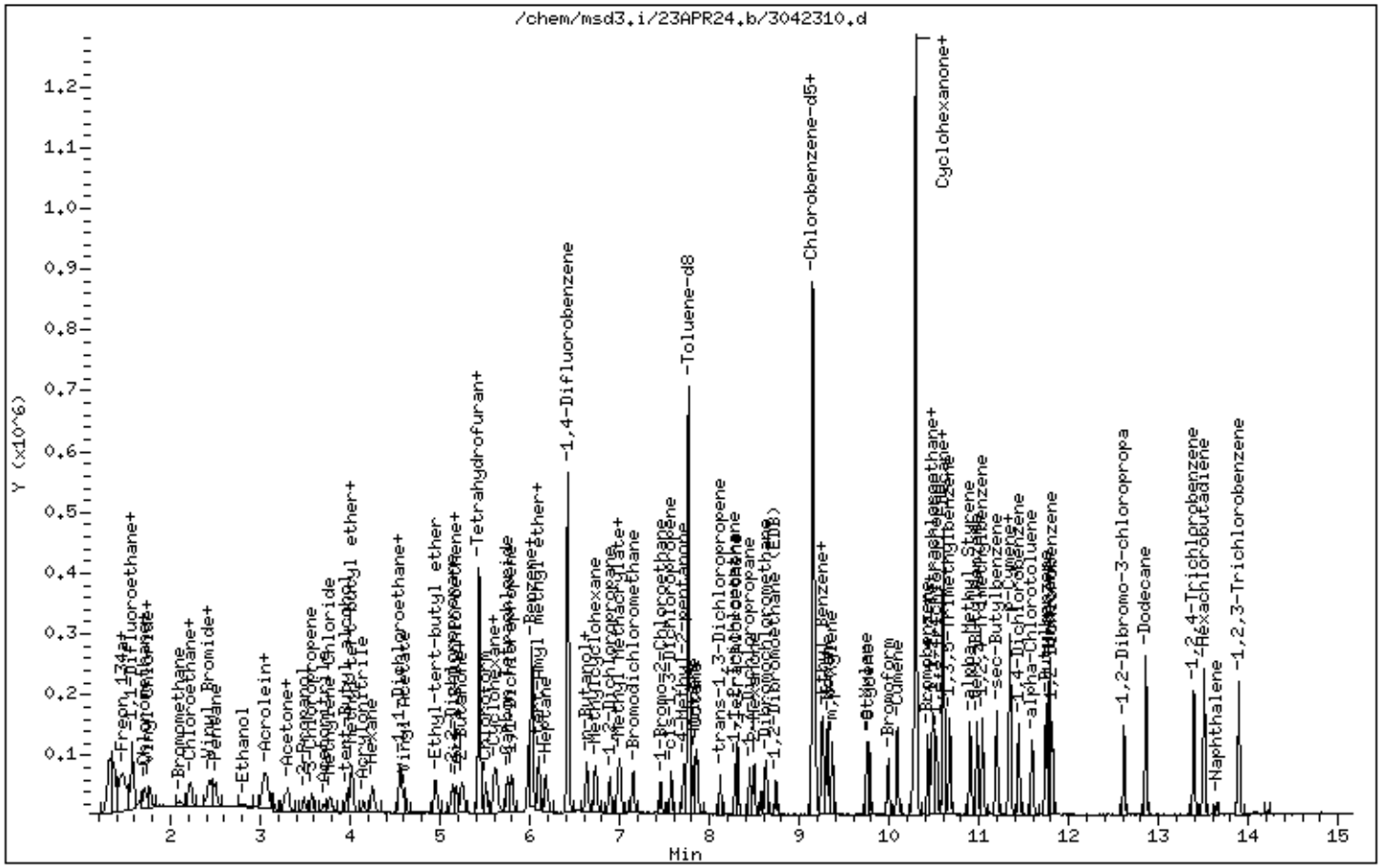
Instrument: msd3.i

Sample Info: 200ml 3018-4466

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3041805.d
Lab Smp Id: ICAL Level #6 Client Smp ID: ICAL Level #6
Inj Date : 18-APR-2024 10:37
Operator : mjs Inst ID: msd3.i
Smp Info : 20ml 3018-4328
Misc Info : 20ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 23:27 Cal File: 3042311.d
Als bottle: 2 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT21spICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.439 (1.000) | 130 | 118794 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 93112 | | | 47.79- 107.79 | 78.38 |
| 5.432 | 5.439 (1.000) | 49 | 196256 | | | 131.33- 191.33 | 165.21 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 449529 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 70071 | | | 0.00- 45.65 | 15.59 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 451897 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 243010 | | | 22.92- 82.92 | 53.78 |
| 3 Freon 143a | | | | | CAS #: 420-46-2 | | |
| 1.395 | 1.395 (0.257) | 65 | 35258 | 20.0000 | 22.003 | 80.00- 120.00 | 100.00 |
| 1.395 | 1.395 (0.257) | 69 | 94335 | | | 237.43- 297.43 | 267.56 |
| 1.367 | 1.395 (0.252) | 64 | 10052 | | | 0.00- 57.02 | 28.51 |
| 6 Propane | | | | | CAS #: 74-98-6 | | |
| 1.423 | 1.423 (0.262) | 43 | 20289 | 20.0000 | 18.455 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 6 Propane (continued) | | | | | | | |
| 1.423 | 1.437 (0.262) | 39 | 14159 | | | 37.94- 97.94 | 69.79 |
| 1.437 | 1.423 (0.264) | 41 | 10072 | | | 21.79- 81.79 | 49.64 |
| 13 Freon 142b | | | | | CAS #: 75-68-3 | | |
| 1.604 | 1.604 (0.295) | 65 | 102367 | 20.0000 | 17.535 | 80.00- 120.00 | 100.00 |
| 1.604 | 1.604 (0.295) | 45 | 29390 | | | 0.00- 58.87 | 28.71 |
| 36 1-Pentene | | | | | CAS #: 109-67-1 | | |
| 2.458 | 2.458 (0.453) | 55 | 66440 | 20.0000 | 18.333 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 42 | 98045 | | | 114.47- 174.47 | 147.57 |
| 38 Ethyl Ether | | | | | CAS #: 60-29-7 | | |
| 2.794 | 2.794 (0.514) | 74 | 26133 | 20.0000 | 17.435 | 80.00- 120.00 | 100.00 |
| 2.794 | 2.794 (0.514) | 59 | 42791 | | | 138.79- 198.79 | 163.74 |
| 2.794 | 2.794 (0.514) | 45 | 36951 | | | 114.58- 174.58 | 141.40 |
| 40 Freon 123a | | | | | CAS #: 354-23-4 | | |
| 2.892 | 2.906 (0.532) | 117 | 93190 | 20.0000 | 19.730 | 80.00- 120.00 | 100.00 |
| 2.892 | 2.892 (0.532) | 67 | 121608 | | | 102.78- 162.78 | 130.49 |
| 41 Freon 123 | | | | | CAS #: 306-83-2 | | |
| 2.990 | 2.990 (0.550) | 83 | 87365 | 20.0000 | 19.972 | 80.00- 120.00 | 100.00 |
| 2.990 | 2.990 (0.550) | 133 | 21898 | | | 0.00- 53.60 | 25.06 |
| 2.990 | 2.990 (0.550) | 85 | 57237 | | | 36.72- 96.72 | 65.51 |
| 55 Cyclopentene | | | | | CAS #: 142-29-0 | | |
| 3.591 | 3.591 (0.661) | 67 | 123748 | 20.0000 | 18.581 | 80.00- 120.00 | 100.00 |
| 3.591 | 3.591 (0.661) | 68 | 47470 | | | 8.38- 68.38 | 38.36 |
| 3.591 | 3.591 (0.661) | 53 | 30591 | | | 0.00- 54.97 | 24.72 |
| 56 Methyl Acetate | | | | | CAS #: 79-20-9 | | |
| 3.619 | 3.619 (0.666) | 43 | 132004 | 20.0000 | 17.838 | 80.00- 120.00 | 100.00 |
| 3.619 | 3.619 (0.666) | 74 | 21278 | | | 0.00- 45.84 | 16.12 |
| 74 Chloroprene | | | | | CAS #: 126-99-8 | | |
| 4.608 | 4.608 (0.848) | 53 | 106009 | 20.0000 | 18.316 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.848) | 88 | 46823 | | | 14.44- 74.44 | 44.17 |
| 4.608 | 4.608 (0.848) | 50 | 28587 | | | 0.00- 56.76 | 26.97 |
| 75 1-Propanol | | | | | CAS #: 71-23-8 | | |
| 4.715 | 4.715 (0.868) | 59 | 14341 | 20.0000 | 16.412 | 80.00- 120.00 | 100.00 |
| 4.715 | 4.715 (0.868) | 42 | 13304 | | | 63.00- 123.00 | 92.77 |
| 4.715 | 4.715 (0.868) | 41 | 8666 | | | 28.69- 88.69 | 60.43 |
| 88 Methyl Acrylate | | | | | CAS #: 96-33-3 | | |
| 5.288 | 5.288 (0.974) | 55 | 132996 | 20.0000 | 18.293 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 88 Methyl Acrylate (continued) | | | | | | | |
| 5.288 | 5.288 (0.974) | 85 | 18154 | | | 0.00- 43.17 | 13.65 |
| 5.288 | 5.288 (0.974) | 58 | 12404 | | | 0.00- 38.59 | 9.33 |
| 103 Isobutanol | | | | | CAS #: 78-83-1 | | |
| 5.997 | 5.990 (1.104) | 39 | 18901 | 20.0000 | 16.441 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (1.103) | 43 | 79450 | | | 402.02- 462.02 | 420.35 |
| 5.990 | 5.990 (1.103) | 41 | 56593 | | | 275.29- 335.29 | 299.42 |
| 113 Ethyl acrylate | | | | | CAS #: 140-88-5 | | |
| 6.764 | 6.764 (0.739) | 99 | 11774 | 20.0000 | 19.124 | 80.00- 120.00 | 100.00 |
| 6.764 | 6.764 (0.739) | 45 | 20473 | | | 144.38- 204.38 | 173.88 |
| 6.764 | 6.764 (0.739) | 55 | 198211 | | | 1723.57-1783.57 | 1683.46 |
| 115 2-Pentanone | | | | | CAS #: 107-87-9 | | |
| 6.857 | 6.857 (0.749) | 43 | 249920 | 20.0000 | 20.164 | 80.00- 120.00 | 100.00 |
| 6.857 | 6.857 (0.749) | 58 | 17533 | | | 0.00- 37.02 | 7.02 |
| 6.857 | 6.857 (0.749) | 86 | 33047 | | | 0.00- 43.48 | 13.22 |
| 145 Butyl Acetate | | | | | CAS #: 123-86-4 | | |
| 8.576 | 8.576 (1.334) | 56 | 111977 | 20.0000 | 20.271 | 80.00- 120.00 | 100.00 |
| 8.576 | 8.576 (1.334) | 73 | 37262 | | | 2.83- 62.83 | 33.28 |
| 8.576 | 8.576 (1.334) | 43 | 306735 | | | 240.40- 300.40 | 273.93 |
| 166 2-Heptanone | | | | | CAS #: 110-43-0 | | |
| 9.901 | 9.901 (1.823) | 58 | 174467 | 20.0000 | 19.185 | 80.00- 120.00 | 100.00 |
| 9.901 | 9.901 (1.823) | 43 | 308567 | | | 146.16- 206.16 | 176.86 |
| 210 alpha-Pinene | | | | | CAS #: 80-56-8 | | |
| 10.037 | 10.037 (1.096) | 93 | 230988 | 20.0000 | 19.479 | 80.00- 120.00 | 100.00 |
| 10.037 | 10.037 (1.096) | 77 | 68427 | | | 0.00- 59.07 | 29.62 |
| 214 beta-Pinene | | | | | CAS #: 127-91-3 | | |
| 10.696 | 10.696 (1.168) | 93 | 181641 | 20.0000 | 19.670 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 352734 | | | 151.21- 211.21 | 194.19 |
| 186 4-Chlorotoluene | | | | | CAS #: 106-43-4 | | |
| 10.725 | 10.725 (1.171) | 126 | 108061 | 20.0000 | 21.463 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 352734 | | | 296.65- 356.65 | 326.42 |
| 10.725 | 10.725 (1.171) | 63 | 44976 | | | 10.84- 70.84 | 41.62 |
| 172 D-Limonene | | | | | CAS #: 5989-27-5 | | |
| 11.277 | 11.277 (1.232) | 68 | 158763 | 20.0000 | 21.242 | 80.00- 120.00 | 100.00 |
| 11.277 | 11.277 (1.232) | 93 | 113646 | | | 41.19- 101.19 | 71.58 |
| 197 1,2,3-Trimethylbenzene | | | | | CAS #: 526-73-8 | | |
| 11.463 | 11.463 (1.252) | 120 | 148235 | 20.0000 | 21.464 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 197 1,2,3-Trimethylbenzene (continued) | | | | | | | |
| 11.463 | 11.463 (1.252) | 105 | 342312 | | | 201.76- 261.76 | 230.93 |
| 11.463 | 11.463 (1.252) | 77 | 39370 | | | 0.00- 57.12 | 26.56 |
| 205 Hexachloroethane | | | | | CAS #: 67-72-1 | | |
| 12.014 | 12.014 (1.312) | 201 | 84823 | 20.0000 | 20.330 | 80.00- 120.00 | 100.00 |
| 12.014 | 12.014 (1.312) | 117 | 123616 | | | 114.78- 174.78 | 145.73 |
| 208 1,3,5-Trichlorobenzene | | | | | CAS #: 108-70-3 | | |
| 12.752 | 12.752 (1.393) | 180 | 205026 | 20.0000 | 21.327 | 80.00- 120.00 | 100.00 |
| 12.759 | 12.752 (1.393) | 182 | 194831 | | | 64.68- 124.68 | 95.03 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3041805.d
Lab Smp Id: ICAL Level #6
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 20ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #6
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 118794 | 11.87 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 449529 | 14.98 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 451897 | 15.28 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.43 | -0.13 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3041805.d



Date : 18-APR-2024 10:37

Client ID: ICAL Level #6

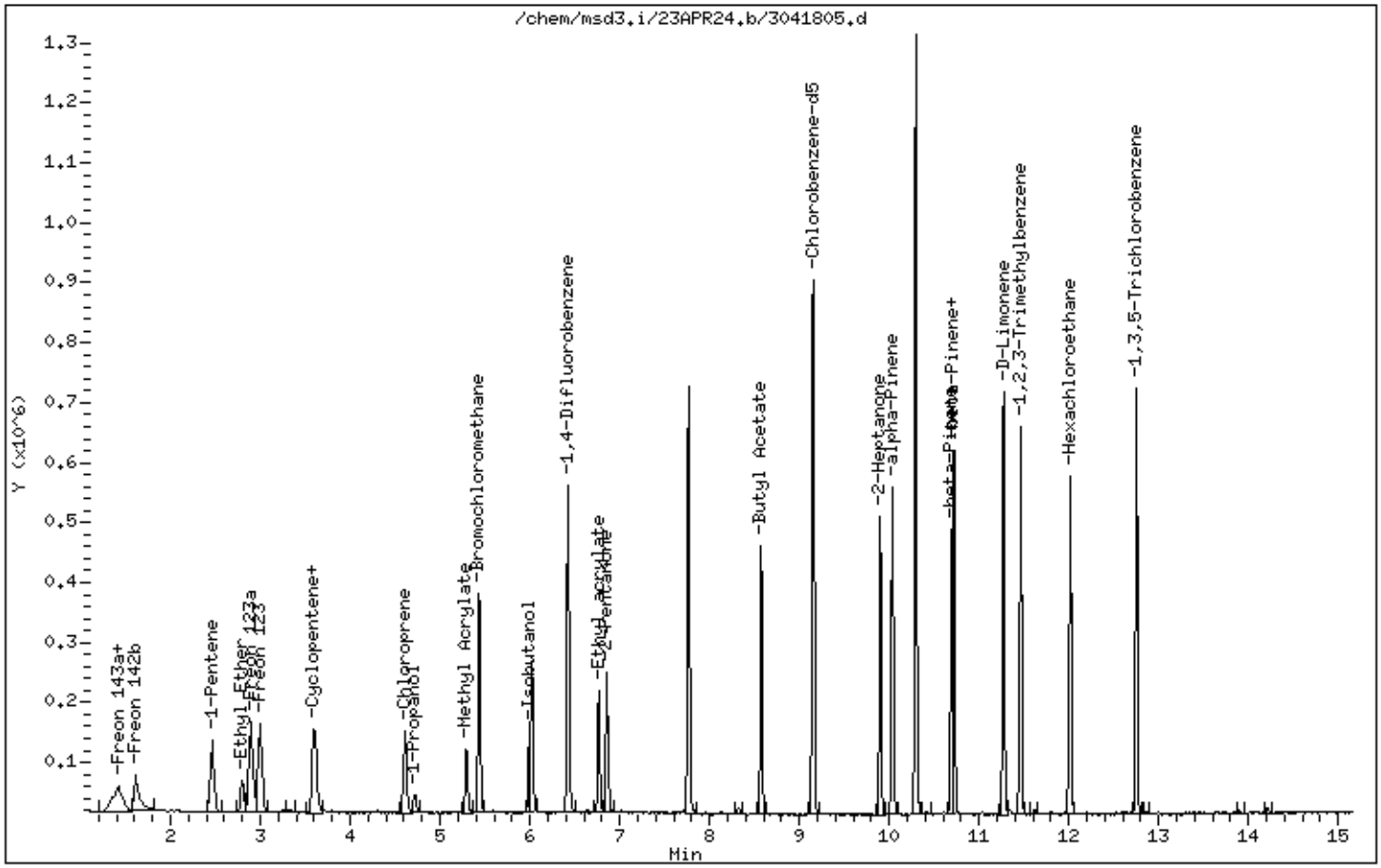
Instrument: msd3.i

Sample Info: 20ml 3018-4328

Operator: mjs

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042311.d
Lab Smp Id: ICAL Level #6 Client Smp ID: ICAL Level #6
Inj Date : 23-APR-2024 23:27
Operator : DF Inst ID: msd3.i
Smp Info : 20ml 3018-4439
Misc Info : 20ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 23:27 Cal File: 3042311.d
Als bottle: 13 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23ICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.395 | 1.409 (0.256) | 83 | 44081 | 20.0000 | 18.098 | 80.00- 120.00 | 100.00 |
| 1.395 | 1.409 (0.256) | 69 | 42264 | | | 64.17- 124.17 | 95.88 |
| 1.478 | 1.493 (0.272) | 51 | 176627 | | | 365.46- 425.46 | 400.69 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.423 | 1.437 (0.262) | 41 | 46518 | 20.0000 | 16.855 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 32824 | | | 35.86- 95.86 | 70.56 |
| 1.423 | 1.437 (0.262) | 39 | 33275 | | | 41.66- 101.66 | 71.53 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.464 | 1.465 (0.269) | 65 | 29325 | 20.0000 | 18.432 | 80.00- 120.00 | 100.00 |
| 1.478 | 1.493 (0.272) | 51 | 176627 | | | 568.10- 628.10 | 602.31 |
| 1.562 | 1.577 (0.287) | 47 | 6094 | | | 0.00- 50.57 | 20.78 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.464 | 1.465 (0.269) | 85 | 106014 | 20.0000 | 16.988 | 80.00- 120.00 | 100.00 |
| 1.464 | 1.465 (0.269) | 87 | 34415 | | | 2.88- 62.88 | 32.46 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.492 | 1.493 (0.274) | 67 | 13080 | 20.0000 | 16.750 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 9 Chlorodifluoromethane (continued) | | | | | | | |
| 1.478 | 1.493 (0.272) | 51 | 176627 | | | 1257.55-1317.55 | 1350.36 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.577 (0.290) | 135 | 98795 | 20.0000 | 18.009 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.577 (0.290) | 137 | 31606 | | | 2.10- 62.10 | 31.99 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.576 | 1.591 (0.290) | 43 | 105552 | 20.0000 | 18.087 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.591 (0.290) | 42 | 33758 | | | 1.69- 61.69 | 31.98 |
| 1.576 | 1.577 (0.290) | 58 | 3723 | | | 0.00- 33.32 | 3.53 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.675 (0.308) | 50 | 56663 | 20.0000 | 18.833 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.675 (0.308) | 52 | 18491 | | | 1.38- 61.38 | 32.63 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.731 (0.316) | 58 | 11177 | 20.0000 | 18.528 | 80.00- 120.00 | 100.00 |
| 1.716 | 1.731 (0.316) | 43 | 96162 | | | 866.38- 926.38 | 860.36 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.759 (0.323) | 62 | 50019 | 20.0000 | 17.182 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.759 (0.323) | 64 | 17989 | | | 3.10- 63.10 | 35.96 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 46188 | 20.0000 | 16.889 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 50872 | | | 78.74- 138.74 | 110.14 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 37771 | 20.0000 | 18.157 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 35857 | | | 64.19- 124.19 | 94.93 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.408) | 64 | 24490 | 20.0000 | 17.542 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.408) | 66 | 8171 | | | 2.32- 62.32 | 33.36 |
| 2.220 | 2.220 (0.408) | 49 | 9554 | | | 6.33- 66.33 | 39.01 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 81089 | 20.0000 | 20.354 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 49827 | | | 31.77- 91.77 | 61.45 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.416 (0.442) | 106 | 44767 | 20.0000 | 18.503 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.416 (0.442) | 108 | 41514 | | | 64.21- 124.21 | 92.73 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.449) | 101 | 138152 | 20.0000 | 19.217 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 33 Freon 11 (continued) | | | | | | | | |
| 2.444 | 2.444 (0.449) | 103 | 89978 | | | | 34.93- 94.93 | 65.13 |
| 34 Dichlorofluoromethane | | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.472 (0.452) | 67 | 98876 | 20.0000 | 17.248 | | 80.00- 120.00 | 100.00 |
| 2.472 | 2.472 (0.455) | 69 | 33145 | | | | 1.95- 61.95 | 33.52 |
| 35 Pentane | | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.462) | 43 | 113970 | 20.0000 | 18.802 | | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.462) | 57 | 17233 | | | | 0.00- 44.64 | 15.12 |
| 2.514 | 2.514 (0.462) | 72 | 8871 | | | | 0.00- 37.90 | 7.78 |
| 39 Ethanol | | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.506) | 46 | 10443 | 24.6400 | 18.309 | | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.506) | 45 | 27008 | | | | 224.40- 284.40 | 258.62 |
| 42 Acrolein | | | | | | CAS #: 107-02-8 | | |
| 3.061 | 3.061 (0.563) | 55 | 23907 | 23.3000 | 19.475 | | 80.00- 120.00 | 100.00 |
| 3.053 | 3.061 (0.561) | 56 | 31091 | | | | 108.02- 168.02 | 130.05 |
| 43 Freon 113 | | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 126248 | 20.0000 | 19.871 | | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 80808 | | | | 35.07- 95.07 | 64.01 |
| 3.061 | 3.061 (0.563) | 101 | 143360 | | | | 87.45- 147.45 | 113.55 |
| 44 1,1-Dichloroethene | | | | | | CAS #: 75-35-4 | | |
| 3.096 | 3.097 (0.569) | 96 | 45623 | 20.0000 | 16.877 | | 80.00- 120.00 | 100.00 |
| 3.089 | 3.097 (0.568) | 98 | 28751 | | | | 33.27- 93.27 | 63.02 |
| 3.089 | 3.097 (0.568) | 61 | 86074 | | | | 159.05- 219.05 | 188.66 |
| 47 Acetone | | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.597) | 58 | 25543 | 20.0000 | 16.605 | | 80.00- 120.00 | 100.00 |
| 3.247 | 3.247 (0.597) | 43 | 93038 | | | | 329.45- 389.45 | 364.24 |
| 48 Carbon Disulfide | | | | | | CAS #: 75-15-0 | | |
| 3.333 | 3.333 (0.613) | 76 | 121557 | 20.0000 | 16.491 | | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.630) | 45 | 110971 | 20.0000 | 17.351 | | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.630) | 43 | 20349 | | | | 0.00- 48.18 | 18.34 |
| 54 3-Chloropropene | | | | | | CAS #: 107-05-1 | | |
| 3.583 | 3.584 (0.659) | 76 | 20566 | 20.0000 | 16.561 | | 80.00- 120.00 | 100.00 |
| 3.583 | 3.584 (0.659) | 41 | 79666 | | | | 366.80- 426.80 | 387.37 |
| 57 Acetonitrile | | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.677) | 41 | 55087 | 23.5200 | 19.515 | | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 57 Acetonitrile (continued) | | | | | | | |
| 3.684 | 3.684 (0.677) | 40 | 29640 | | | 22.74- 82.74 | 53.81 |
| 3.684 | 3.684 (0.677) | 38 | 7948 | | | 0.00- 42.52 | 14.43 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.784 (0.694) | 49 | 72562 | 20.0000 | 17.173 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.784 (0.694) | 84 | 39611 | | | 24.90- 84.90 | 54.59 |
| 3.777 | 3.784 (0.694) | 51 | 19920 | | | 0.00- 59.67 | 27.45 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.913 | 3.913 (0.719) | 59 | 145183 | 23.0400 | 22.252 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.913 (0.718) | 41 | 32139 | | | 0.00- 51.85 | 22.14 |
| 3.906 | 3.913 (0.718) | 57 | 15832 | | | 0.00- 40.17 | 10.90 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.737) | 73 | 151228 | 20.0000 | 19.606 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.737) | 57 | 43407 | | | 0.00- 58.72 | 28.70 |
| 4.006 | 4.006 (0.737) | 41 | 44964 | | | 0.00- 59.38 | 29.73 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.741) | 98 | 30162 | 20.0000 | 16.614 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.741) | 61 | 78140 | | | 232.13- 292.13 | 259.07 |
| 4.028 | 4.028 (0.741) | 96 | 46386 | | | 127.26- 187.26 | 153.79 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.142 | 4.142 (0.762) | 52 | 37768 | 20.0000 | 16.086 | 80.00- 120.00 | 100.00 |
| 4.142 | 4.142 (0.762) | 53 | 44522 | | | 86.45- 146.45 | 117.88 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.783) | 57 | 100869 | 20.0000 | 17.832 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.257 (0.783) | 43 | 70980 | | | 40.97- 100.97 | 70.37 |
| 4.257 | 4.257 (0.783) | 86 | 12635 | | | 0.00- 42.68 | 12.53 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.838) | 63 | 94280 | 20.0000 | 17.971 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 65 | 28557 | | | 0.47- 60.47 | 30.29 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.550 | 4.558 (0.837) | 45 | 242372 | 20.0000 | 19.266 | 80.00- 120.00 | 100.00 |
| 4.550 | 4.558 (0.837) | 87 | 46404 | | | 0.00- 49.55 | 19.15 |
| 4.550 | 4.558 (0.837) | 59 | 25195 | | | 0.00- 40.42 | 10.40 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.615 | 4.608 (0.849) | 86 | 8130 | 20.0000 | 17.599 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 43 | 138704 | | | 1727.95-1787.95 | 1706.08 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 79 Ethyl-tert-butyl ether | | | | | | CAS #: 637-92-3 | |
| 4.937 | 4.945 (0.908) | 59 | 209538 | 20.0000 | 19.315 | 80.00- 120.00 | 100.00 |
| 4.944 | 4.945 (0.909) | 87 | 70355 | | | 3.90- 63.90 | 33.58 |
| 4.944 | 4.945 (0.909) | 41 | 40958 | | | 0.00- 49.72 | 19.55 |
| 84 2,2-Dichloropropane | | | | | | CAS #: 594-20-7 | |
| 5.145 | 5.145 (0.946) | 77 | 98987 | 20.0000 | 19.113 | 80.00- 120.00 | 100.00 |
| 5.145 | 5.145 (0.946) | 79 | 31838 | | | 2.39- 62.39 | 32.16 |
| 5.145 | 5.145 (0.946) | 97 | 23422 | | | 0.00- 53.57 | 23.66 |
| 85 cis-1,2-Dichloroethene | | | | | | CAS #: 156-59-2 | |
| 5.188 | 5.188 (0.954) | 98 | 30727 | 20.0000 | 16.344 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 96 | 49856 | | | 125.53- 185.53 | 162.25 |
| 5.188 | 5.188 (0.954) | 61 | 79780 | | | 219.86- 279.86 | 259.64 |
| 86 2-Butanone | | | | | | CAS #: 78-93-3 | |
| 5.217 | 5.217 (0.959) | 72 | 23836 | 20.0000 | 17.598 | 80.00- 120.00 | 100.00 |
| 5.238 | 5.217 (0.963) | 43 | 280867 | | | 1138.34-1198.34 | 1178.33 |
| 5.217 | 5.217 (0.959) | 57 | 10427 | | | 10.83- 70.83 | 43.74 |
| 87 Ethyl Acetate | | | | | | CAS #: 141-78-6 | |
| 5.245 | 5.245 (0.964) | 45 | 23550 | 20.0000 | 17.385 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 61 | 79780 | | | 338.96- 398.96 | 338.77 |
| 5.245 | 5.245 (0.964) | 70 | 12523 | | | 24.53- 84.53 | 53.18 |
| 89 Tetrahydrofuran | | | | | | CAS #: 109-99-9 | |
| 5.432 | 5.425 (0.999) | 42 | 66628 | 20.0000 | 16.089 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.425 (0.999) | 71 | 19191 | | | 0.00- 58.54 | 28.80 |
| 5.432 | 5.425 (0.999) | 72 | 20468 | | | 0.00- 59.59 | 30.72 |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.439 | 5.439 (1.000) | 130 | 105372 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 82575 | | | 47.79- 107.79 | 78.37 |
| 5.432 | 5.439 (1.000) | 49 | 172332 | | | 131.33- 191.33 | 163.55 |
| 92 Chloroform | | | | | | CAS #: 67-66-3 | |
| 5.510 | 5.518 (1.013) | 83 | 97539 | 20.0000 | 17.314 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.518 (1.013) | 85 | 63480 | | | 35.77- 95.77 | 65.08 |
| 94 Cyclohexane | | | | | | CAS #: 110-82-7 | |
| 5.611 | 5.611 (1.032) | 84 | 71939 | 20.0000 | 19.088 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.032) | 56 | 111037 | | | 125.79- 185.79 | 154.35 |
| 5.611 | 5.611 (1.032) | 41 | 65845 | | | 61.55- 121.55 | 91.53 |
| 96 1,1,1-Trichloroethane | | | | | | CAS #: 71-55-6 | |
| 5.639 | 5.639 (1.037) | 97 | 115669 | 20.0000 | 18.826 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 96 1,1,1-Trichloroethane (continued) | | | | | | | |
| 5.639 | 5.639 (1.037) | 99 | 73673 | | | 32.84- 92.84 | 63.69 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.059) | 119 | 124129 | 20.0000 | 19.056 | 80.00- 120.00 | 100.00 |
| 5.761 | 5.761 (1.059) | 117 | 129978 | | | 75.19- 135.19 | 104.71 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.804 | 5.804 (0.903) | 110 | 27557 | 20.0000 | 17.662 | 80.00- 120.00 | 100.00 |
| 5.804 | 5.804 (0.903) | 75 | 74120 | | | 234.16- 294.16 | 268.97 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.998 (0.933) | 78 | 145772 | 20.0000 | 18.692 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.998 (0.933) | 77 | 34402 | | | 0.00- 53.69 | 23.60 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.997 | 5.998 (1.103) | 57 | 326915 | 20.0000 | 18.497 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.998 (1.101) | 56 | 106606 | | | 3.09- 63.09 | 32.61 |
| 5.997 | 5.998 (1.103) | 41 | 88748 | | | 0.00- 57.28 | 27.15 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.108) | 65 | 133498 | 25.0000 | 24.324 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.108) | 67 | 72096 | | | 23.17- 83.17 | 54.01 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.091 | 6.091 (0.948) | 87 | 39637 | 20.0000 | 18.913 | 80.00- 120.00 | 100.00 |
| 6.091 | 6.091 (0.948) | 73 | 159227 | | | 365.76- 425.76 | 401.71 |
| 6.091 | 6.091 (0.948) | 55 | 48863 | | | 92.58- 152.58 | 123.28 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 73577 | 20.0000 | 18.086 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.105 (0.949) | 64 | 23399 | | | 1.80- 61.80 | 31.80 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 58406 | 20.0000 | 18.906 | 80.00- 120.00 | 100.00 |
| 6.176 | 6.184 (0.961) | 43 | 138592 | | | 207.73- 267.73 | 237.29 |
| 6.184 | 6.184 (0.962) | 57 | 66511 | | | 84.83- 144.83 | 113.88 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 387341 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 59602 | | | 0.00- 45.65 | 15.39 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.031) | 56 | 30254 | 20.0000 | 17.062 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.031) | 41 | 23143 | | | 47.73- 107.73 | 76.50 |
| 6.635 | 6.628 (1.032) | 43 | 18672 | | | 31.60- 91.60 | 61.72 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 69118 | 20.0000 | 18.382 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.635 (1.032) | 130 | 74876 | | | 80.23- 140.23 | 108.33 |
| 6.635 | 6.635 (1.032) | 97 | 43215 | | | 34.78- 94.78 | 62.52 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.735 | 6.735 (1.048) | 83 | 100426 | 20.0000 | 18.802 | 80.00- 120.00 | 100.00 |
| 6.735 | 6.735 (1.048) | 98 | 44794 | | | 14.83- 74.83 | 44.60 |
| 6.735 | 6.735 (1.048) | 55 | 100797 | | | 71.50- 131.50 | 100.37 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 67019 | 20.0000 | 18.263 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 48513 | | | 40.39- 100.39 | 72.39 |
| 6.893 | 6.893 (1.072) | 41 | 42594 | | | 31.86- 91.86 | 63.56 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.979 | 6.979 (0.762) | 69 | 59621 | 20.0000 | 18.865 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 105602 | | | 145.81- 205.81 | 177.12 |
| 6.979 | 6.979 (0.762) | 100 | 23677 | | | 10.05- 70.05 | 39.71 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.088) | 88 | 38302 | 20.0000 | 19.524 | 80.00- 120.00 | 100.00 |
| 6.993 | 6.993 (1.088) | 58 | 33441 | | | 56.33- 116.33 | 87.31 |
| 6.993 | 6.993 (1.088) | 57 | 12928 | | | 2.08- 62.08 | 33.75 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.008 (0.765) | 174 | 65955 | 20.0000 | 18.016 | 80.00- 120.00 | 100.00 |
| 7.007 | 7.008 (0.765) | 93 | 61285 | | | 62.68- 122.68 | 92.92 |
| 7.007 | 7.008 (0.765) | 95 | 50251 | | | 47.70- 107.70 | 76.19 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 112826 | 20.0000 | 18.536 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 71711 | | | 34.96- 94.96 | 63.56 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.459 | 7.459 (1.160) | 63 | 121270 | 20.0000 | 18.730 | 80.00- 120.00 | 100.00 |
| 7.459 | 7.459 (1.160) | 65 | 36871 | | | 0.43- 60.43 | 30.40 |
| 7.459 | 7.459 (1.160) | 144 | 13106 | | | 0.00- 40.48 | 10.81 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.574 (1.178) | 75 | 97041 | 20.0000 | 18.694 | 80.00- 120.00 | 100.00 |
| 7.573 | 7.574 (1.178) | 77 | 30879 | | | 1.26- 61.26 | 31.82 |
| 7.573 | 7.574 (1.178) | 39 | 64383 | | | 35.06- 95.06 | 66.35 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.709 | 7.710 (1.199) | 58 | 66096 | 20.0000 | 18.510 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 131 4-Methyl-2-pentanone (continued) | | | | | | | |
| 7.709 | 7.710 (1.199) | 43 | 193625 | | | 259.88- 319.88 | 292.95 |
| 7.709 | 7.710 (1.199) | 85 | 24352 | | | 7.58- 67.58 | 36.84 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 374356 | 25.0000 | 24.861 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 41512 | | | 0.00- 41.42 | 11.09 |
| 7.767 | 7.767 (1.208) | 100 | 249906 | | | 37.54- 97.54 | 66.76 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 209847 | 20.0000 | 19.438 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 122262 | | | 27.89- 87.89 | 58.26 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 74417 | 20.0000 | 18.920 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 69540 | | | 63.53- 123.53 | 93.45 |
| 7.860 | 7.860 (1.223) | 43 | 201715 | | | 246.00- 306.00 | 271.06 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 81656 | 20.0000 | 19.046 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 27268 | | | 1.83- 61.83 | 33.39 |
| 8.118 | 8.118 (0.887) | 39 | 50910 | | | 31.97- 91.97 | 62.35 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.290 | 8.290 (0.905) | 97 | 68426 | 20.0000 | 18.849 | 80.00- 120.00 | 100.00 |
| 8.290 | 8.290 (0.905) | 99 | 42821 | | | 32.52- 92.52 | 62.58 |
| 8.290 | 8.290 (0.905) | 83 | 60821 | | | 58.90- 118.90 | 88.89 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 108155 | 20.0000 | 19.841 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.318 (0.908) | 129 | 83105 | | | 45.32- 105.32 | 76.84 |
| 8.318 | 8.318 (0.908) | 131 | 80958 | | | 44.17- 104.17 | 74.85 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 95148 | 20.0000 | 18.799 | 80.00- 120.00 | 100.00 |
| 8.447 | 8.447 (1.314) | 41 | 82825 | | | 59.72- 119.72 | 87.05 |
| 8.447 | 8.447 (1.314) | 78 | 30636 | | | 3.08- 63.08 | 32.20 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.490 | 8.490 (0.927) | 58 | 92695 | 20.0000 | 20.353 | 80.00- 120.00 | 100.00 |
| 8.490 | 8.490 (0.927) | 43 | 193573 | | | 177.32- 237.32 | 208.83 |
| 8.497 | 8.490 (0.928) | 100 | 16113 | | | 0.00- 47.18 | 17.38 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 142251 | 20.0000 | 19.827 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.942) | 127 | 110476 | | | 47.27- 107.27 | 77.66 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.748 | 8.741 (0.955) | 107 | 113086 | 20.0000 | 19.007 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 107760 | | | 64.18- 124.18 | 95.29 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 387994 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 206315 | | | 22.92- 82.92 | 53.17 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.185 (1.002) | 112 | 177570 | 20.0000 | 19.753 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.185 (1.002) | 114 | 56779 | | | 1.91- 61.91 | 31.98 |
| 9.178 | 9.185 (1.002) | 77 | 97465 | | | 22.97- 82.97 | 54.89 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.249 | 9.250 (1.010) | 106 | 90547 | 20.0000 | 20.025 | 80.00- 120.00 | 100.00 |
| 9.249 | 9.250 (1.010) | 91 | 279450 | | | 281.09- 341.09 | 308.62 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.013) | 131 | 100913 | 20.0000 | 19.705 | 80.00- 120.00 | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 68921 | | | 37.10- 97.10 | 68.30 |
| 9.271 | 9.271 (1.013) | 95 | 35004 | | | 4.93- 64.93 | 34.69 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.017) | 43 | 210960 | 20.0000 | 20.088 | 80.00- 120.00 | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 170121 | | | 50.62- 110.62 | 80.64 |
| 9.314 | 9.314 (1.017) | 85 | 52826 | | | 0.00- 55.65 | 25.04 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 112481 | 20.0000 | 19.958 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 226409 | | | 170.33- 230.33 | 201.29 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 105703 | 20.0000 | 19.778 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 224067 | | | 181.23- 241.23 | 211.98 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 183210 | 20.0000 | 20.073 | 80.00- 120.00 | 100.00 |
| 9.780 | 9.780 (1.068) | 78 | 87478 | | | 17.26- 77.26 | 47.75 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 146225 | 20.0000 | 20.166 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 75636 | | | 21.45- 81.45 | 51.73 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 327866 | 20.0000 | 20.294 | 80.00- 120.00 | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 89042 | | | 0.00- 56.93 | 27.16 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 168 Cumene (continued) | | | | | | | |
| 10.095 | 10.095 (1.102) | 51 | 41048 | | | 0.00- 42.24 | 12.52 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.259 | 10.260 (1.120) | 55 | 118351 | 20.0000 | 18.516 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.260 (1.120) | 98 | 41307 | | | 5.15- 65.15 | 34.90 |
| 10.259 | 10.260 (1.120) | 42 | 85210 | | | 41.99- 101.99 | 72.00 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 289128 | 25.0000 | 25.075 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 339599 | | | 88.49- 148.49 | 117.46 |
| 10.295 | 10.295 (1.124) | 176 | 279985 | | | 66.73- 126.73 | 96.84 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.432 (1.139) | 156 | 114180 | 20.0000 | 20.285 | 80.00- 120.00 | 100.00 |
| 10.431 | 10.432 (1.139) | 158 | 109697 | | | 67.47- 127.47 | 96.07 |
| 10.431 | 10.432 (1.139) | 77 | 157973 | | | 108.68- 168.68 | 138.35 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.474 | 10.475 (1.144) | 83 | 165702 | 20.0000 | 19.774 | 80.00- 120.00 | 100.00 |
| 10.474 | 10.475 (1.144) | 85 | 106548 | | | 34.97- 94.97 | 64.30 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 97421 | 20.0000 | 20.393 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 400299 | | | 383.60- 443.60 | 410.90 |
| 10.496 | 10.496 (1.146) | 105 | 15304 | | | 0.00- 46.14 | 15.71 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.524 | 10.525 (1.149) | 110 | 49077 | 20.0000 | 19.298 | 80.00- 120.00 | 100.00 |
| 10.524 | 10.525 (1.149) | 75 | 172840 | | | 324.28- 384.28 | 352.18 |
| 10.517 | 10.518 (1.149) | 61 | 43229 | | | 57.24- 117.24 | 88.08 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.610 | 10.611 (1.159) | 57 | 232731 | 20.0000 | 18.823 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 71 | 71877 | | | 1.11- 61.11 | 30.88 |
| 10.610 | 10.611 (1.159) | 142 | 9888 | | | 0.00- 34.44 | 4.25 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.610 | 10.611 (1.159) | 120 | 105236 | 20.0000 | 20.211 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 105 | 346471 | | | 298.94- 358.94 | 329.23 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.610 | 10.611 (1.159) | 126 | 87501 | 20.0000 | 19.862 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 91 | 274344 | | | 282.78- 342.78 | 313.53 |
| 10.603 | 10.603 (1.158) | 65 | 41861 | | | 17.33- 77.33 | 47.84 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 140052 | 20.0000 | 19.944 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 282348 | | | 172.08- 232.08 | 201.60 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 147331 | 20.0000 | 19.807 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 83181 | | | 25.64- 85.64 | 56.46 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.983 (1.199) | 119 | 262412 | 20.0000 | 19.656 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.983 (1.199) | 134 | 64297 | | | 0.00- 55.10 | 24.50 |
| 10.976 | 10.976 (1.199) | 91 | 169745 | | | 34.53- 94.53 | 64.69 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 287638 | 20.0000 | 20.034 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.206) | 120 | 133705 | | | 16.63- 76.63 | 46.48 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 86522 | 20.0000 | 19.799 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 406796 | | | 436.99- 496.99 | 470.16 |
| 11.198 | 11.198 (1.223) | 91 | 64787 | | | 41.69- 101.69 | 74.88 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 360469 | 20.0000 | 20.170 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 99481 | | | 0.00- 57.62 | 27.60 |
| 11.341 | 11.341 (1.239) | 91 | 84078 | | | 0.00- 53.03 | 23.32 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 211744 | 20.0000 | 19.903 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 133553 | | | 34.18- 94.18 | 63.07 |
| 11.348 | 11.348 (1.239) | 111 | 84074 | | | 10.06- 70.06 | 39.71 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.448 | 11.449 (1.250) | 146 | 214552 | 20.0000 | 19.909 | 80.00- 120.00 | 100.00 |
| 11.448 | 11.449 (1.250) | 148 | 136091 | | | 33.55- 93.55 | 63.43 |
| 11.448 | 11.449 (1.250) | 111 | 82582 | | | 7.98- 67.98 | 38.49 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 272172 | 20.0000 | 19.944 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 61779 | | | 0.00- 52.77 | 22.70 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.749 | 11.750 (1.283) | 134 | 99554 | 20.0000 | 20.213 | 80.00- 120.00 | 100.00 |
| 11.742 | 11.742 (1.282) | 91 | 341058 | | | 310.82- 370.82 | 342.59 |
| 11.742 | 11.742 (1.282) | 92 | 180947 | | | 151.53- 211.53 | 181.76 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 275631 | 20.0000 | 18.749 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.287) | 43 | 258766 | | | 63.59- 123.59 | 93.88 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 203068 | 20.0000 | 19.668 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 128940 | | | 33.00- 93.00 | 63.50 |
| 11.814 | 11.821 (1.290) | 111 | 84248 | | | 10.87- 70.87 | 41.49 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.378) | 157 | 123991 | 20.0000 | 20.304 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.378) | 75 | 98849 | | | 48.09- 108.09 | 79.72 |
| 12.616 | 12.616 (1.378) | 155 | 95311 | | | 47.89- 107.89 | 76.87 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.852 | 12.860 (1.404) | 57 | 299361 | 20.0000 | 20.216 | 80.00- 120.00 | 100.00 |
| 12.852 | 12.860 (1.404) | 43 | 262573 | | | 58.52- 118.52 | 87.71 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.390 | 13.397 (1.462) | 180 | 207611 | 20.0000 | 20.290 | 80.00- 120.00 | 100.00 |
| 13.390 | 13.397 (1.462) | 182 | 198397 | | | 64.84- 124.84 | 95.56 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.504 | 13.512 (1.475) | 225 | 148253 | 20.0000 | 19.863 | 80.00- 120.00 | 100.00 |
| 13.504 | 13.512 (1.475) | 223 | 95299 | | | 32.80- 92.80 | 64.28 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.640 | 13.648 (1.490) | 128 | 47713 | 2.32000 | 2.234 | 80.00- 120.00 | 100.00 |
| 13.640 | 13.648 (1.490) | 127 | 6433 | | | 0.00- 42.72 | 13.48 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.517) | 180 | 199826 | 20.0000 | 19.930 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.517) | 182 | 190105 | | | 65.07- 125.07 | 95.14 |
| 13.891 | 13.891 (1.517) | 145 | 68227 | | | 4.48- 64.48 | 34.14 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042311.d
Lab Smp Id: ICAL Level #6
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 20ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #6
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 105372 | -0.77 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 387341 | -0.93 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 387994 | -1.02 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042311.d

Page 1

Date : 23-APR-2024 23:27

Client ID: ICAL Level #6

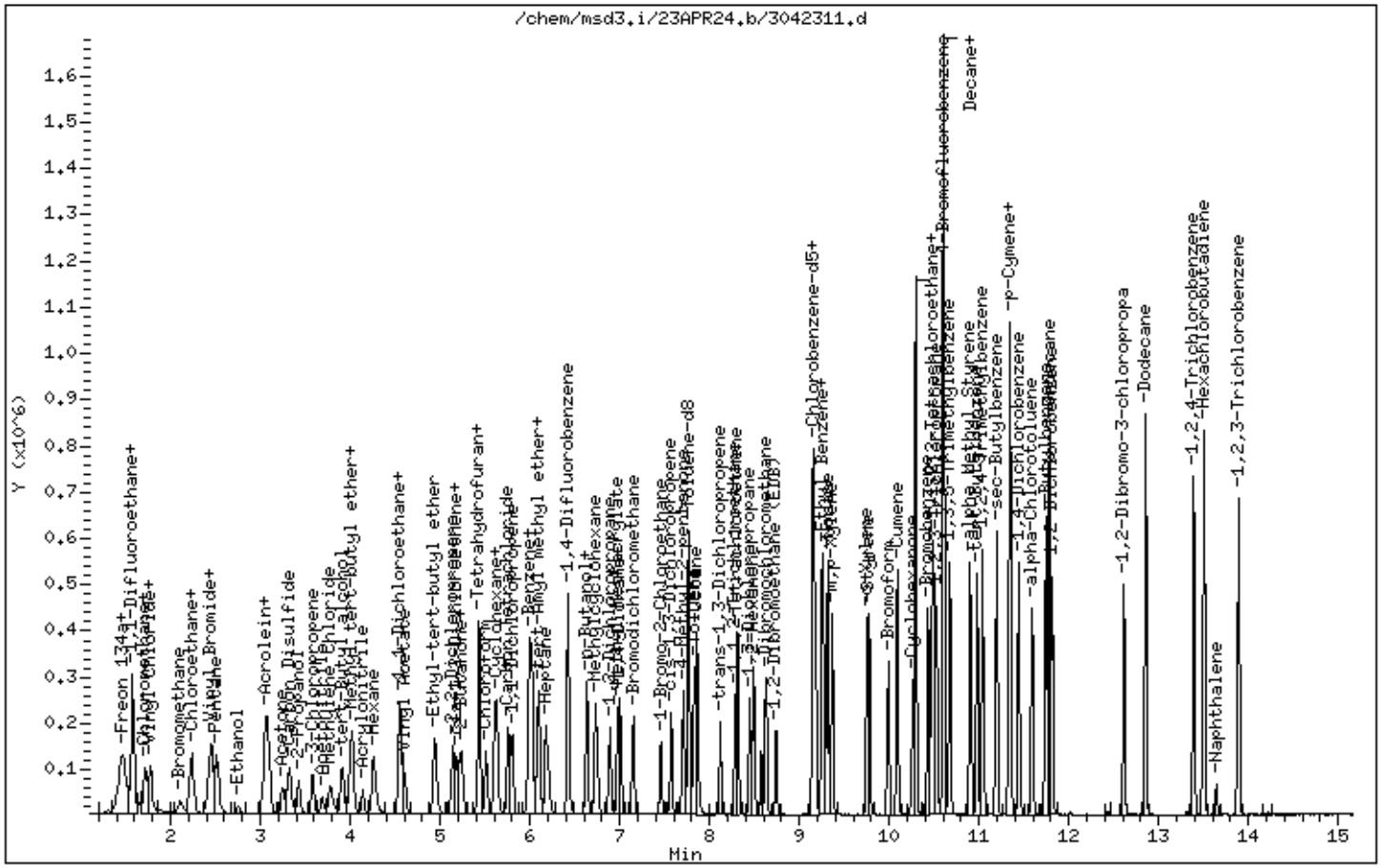
Instrument: msd3.i

Sample Info: 20ml 3018-4439

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3041806.d
Lab Smp Id: ICAL Level #7 Client Smp ID: ICAL Level #7
Inj Date : 18-APR-2024 11:08
Operator : mjs Inst ID: msd3.i
Smp Info : 50ml 3018-4328
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 25-Apr-2024 09:22 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 23:59 Cal File: 3042312.d
Als bottle: 2 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT21spICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 119983 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 92951 | | | 47.79- 107.79 | 77.47 |
| 5.432 | 5.432 (1.000) | 49 | 196196 | | | 131.33- 191.33 | 163.52 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 454158 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 70795 | | | 0.00- 45.65 | 15.59 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.156 (1.000) | 117 | 459698 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.156 (1.000) | 82 | 247843 | | | 22.92- 82.92 | 53.91 |
| 3 Freon 143a | | | | | CAS #: 420-46-2 | | |
| 1.395 | 1.395 (0.256) | 65 | 90473 | 50.0000 | 53.226 | 80.00- 120.00 | 100.00 |
| 1.395 | 1.395 (0.256) | 69 | 241950 | | | 237.43- 297.43 | 267.43 |
| 1.395 | 1.395 (0.256) | 64 | 24445 | | | 0.00- 57.02 | 27.02 |
| 6 Propane | | | | | CAS #: 74-98-6 | | |
| 1.423 | 1.423 (0.262) | 43 | 53475 | 50.0000 | 48.160 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 6 Propane (continued) | | | | | | | |
| 1.437 | 1.437 (0.264) | 39 | 36329 | | | 37.94- 97.94 | 67.94 |
| 1.423 | 1.423 (0.262) | 41 | 27695 | | | 21.79- 81.79 | 51.79 |
| 13 Freon 142b | | | | | CAS #: 75-68-3 | | |
| 1.604 | 1.604 (0.295) | 65 | 272054 | 50.0000 | 46.140 | 80.00- 120.00 | 100.00 |
| 1.604 | 1.604 (0.295) | 45 | 78547 | | | 0.00- 58.87 | 28.87 |
| 36 1-Pentene | | | | | CAS #: 109-67-1 | | |
| 2.458 | 2.458 (0.452) | 55 | 175188 | 50.0000 | 47.860 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.452) | 42 | 253096 | | | 114.47- 174.47 | 144.47 |
| 38 Ethyl Ether | | | | | CAS #: 60-29-7 | | |
| 2.794 | 2.794 (0.514) | 74 | 69640 | 50.0000 | 46.002 | 80.00- 120.00 | 100.00 |
| 2.794 | 2.794 (0.514) | 59 | 117545 | | | 138.79- 198.79 | 168.79 |
| 2.794 | 2.794 (0.514) | 45 | 100686 | | | 114.58- 174.58 | 144.58 |
| 40 Freon 123a | | | | | CAS #: 354-23-4 | | |
| 2.906 | 2.906 (0.534) | 117 | 223749 | 50.0000 | 46.903 | 80.00- 120.00 | 100.00 |
| 2.892 | 2.892 (0.532) | 67 | 297098 | | | 102.78- 162.78 | 132.78 |
| 41 Freon 123 | | | | | CAS #: 306-83-2 | | |
| 2.990 | 2.990 (0.550) | 83 | 206632 | 50.0000 | 46.768 | 80.00- 120.00 | 100.00 |
| 2.990 | 2.990 (0.550) | 133 | 48769 | | | 0.00- 53.60 | 23.60 |
| 2.990 | 2.990 (0.550) | 85 | 137860 | | | 36.72- 96.72 | 66.72 |
| 55 Cyclopentene | | | | | CAS #: 142-29-0 | | |
| 3.591 | 3.591 (0.660) | 67 | 321593 | 50.0000 | 47.810 | 80.00- 120.00 | 100.00 |
| 3.591 | 3.591 (0.660) | 68 | 123415 | | | 8.38- 68.38 | 38.38 |
| 3.591 | 3.591 (0.660) | 53 | 80292 | | | 0.00- 54.97 | 24.97 |
| 56 Methyl Acetate | | | | | CAS #: 79-20-9 | | |
| 3.619 | 3.619 (0.665) | 43 | 359604 | 50.0000 | 48.112 | 80.00- 120.00 | 100.00 |
| 3.626 | 3.626 (0.667) | 74 | 56973 | | | 0.00- 45.84 | 15.84 |
| 74 Chloroprene | | | | | CAS #: 126-99-8 | | |
| 4.608 | 4.608 (0.847) | 53 | 280533 | 50.0000 | 47.991 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 88 | 124670 | | | 14.44- 74.44 | 44.44 |
| 4.608 | 4.608 (0.847) | 50 | 75081 | | | 0.00- 56.76 | 26.76 |
| 75 1-Propanol | | | | | CAS #: 71-23-8 | | |
| 4.715 | 4.715 (0.867) | 59 | 38427 | 50.0000 | 43.540 | 80.00- 120.00 | 100.00 |
| 4.715 | 4.715 (0.867) | 42 | 35739 | | | 63.00- 123.00 | 93.00 |
| 4.715 | 4.715 (0.867) | 41 | 22553 | | | 28.69- 88.69 | 58.69 |
| 88 Methyl Acrylate | | | | | CAS #: 96-33-3 | | |
| 5.288 | 5.288 (0.972) | 55 | 349732 | 50.0000 | 47.628 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 88 Methyl Acrylate (continued) | | | | | | | |
| 5.288 | 5.288 (0.972) | 85 | 46068 | | | 0.00- 43.17 | 13.17 |
| 5.288 | 5.288 (0.972) | 58 | 30031 | | | 0.00- 38.59 | 8.59 |
| 103 Isobutanol | | | | | CAS #: 78-83-1 | | |
| 5.990 | 5.990 (1.101) | 39 | 45810 | 50.0000 | 39.453 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (1.101) | 43 | 197908 | | | 402.02- 462.02 | 432.02 |
| 5.990 | 5.990 (1.101) | 41 | 139855 | | | 275.29- 335.29 | 305.29 |
| 113 Ethyl acrylate | | | | | CAS #: 140-88-5 | | |
| 6.764 | 6.764 (0.739) | 99 | 27632 | 50.0000 | 44.120 | 80.00- 120.00 | 100.00 |
| 6.764 | 6.764 (0.739) | 45 | 48186 | | | 144.38- 204.38 | 174.38 |
| 6.764 | 6.764 (0.739) | 55 | 484546 | | | 1723.57-1783.57 | 1753.57 |
| 115 2-Pentanone | | | | | CAS #: 107-87-9 | | |
| 6.857 | 6.857 (0.749) | 43 | 610975 | 50.0000 | 48.457 | 80.00- 120.00 | 100.00 |
| 6.857 | 6.857 (0.749) | 58 | 42905 | | | 0.00- 37.02 | 7.02 |
| 6.857 | 6.857 (0.749) | 86 | 82371 | | | 0.00- 43.48 | 13.48 |
| 145 Butyl Acetate | | | | | CAS #: 123-86-4 | | |
| 8.576 | 8.576 (1.334) | 56 | 264971 | 50.0000 | 47.478 | 80.00- 120.00 | 100.00 |
| 8.576 | 8.576 (1.334) | 73 | 86980 | | | 2.83- 62.83 | 32.83 |
| 8.576 | 8.576 (1.334) | 43 | 716480 | | | 240.40- 300.40 | 270.40 |
| 166 2-Heptanone | | | | | CAS #: 110-43-0 | | |
| 9.901 | 9.901 (1.821) | 58 | 407413 | 50.0000 | 44.357 | 80.00- 120.00 | 100.00 |
| 9.901 | 9.901 (1.821) | 43 | 717695 | | | 146.16- 206.16 | 176.16 |
| 210 alpha-Pinene | | | | | CAS #: 80-56-8 | | |
| 10.037 | 10.037 (1.096) | 93 | 586228 | 50.0000 | 48.597 | 80.00- 120.00 | 100.00 |
| 10.037 | 10.037 (1.096) | 77 | 170412 | | | 0.00- 59.07 | 29.07 |
| 214 beta-Pinene | | | | | CAS #: 127-91-3 | | |
| 10.696 | 10.696 (1.168) | 93 | 458570 | 50.0000 | 48.816 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 830974 | | | 151.21- 211.21 | 181.21 |
| 186 4-Chlorotoluene | | | | | CAS #: 106-43-4 | | |
| 10.725 | 10.725 (1.171) | 126 | 254394 | 50.0000 | 49.670 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 830974 | | | 296.65- 356.65 | 326.65 |
| 10.725 | 10.725 (1.171) | 63 | 103898 | | | 10.84- 70.84 | 40.84 |
| 172 D-Limonene | | | | | CAS #: 5989-27-5 | | |
| 11.277 | 11.277 (1.232) | 68 | 375261 | 50.0000 | 49.356 | 80.00- 120.00 | 100.00 |
| 11.277 | 11.277 (1.232) | 93 | 267137 | | | 41.19- 101.19 | 71.19 |
| 197 1,2,3-Trimethylbenzene | | | | | CAS #: 526-73-8 | | |
| 11.463 | 11.463 (1.252) | 120 | 343932 | 50.0000 | 48.955 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 197 1,2,3-Trimethylbenzene (continued) | | | | | | | |
| 11.463 | 11.463 (1.252) | 105 | 797105 | | | 201.76- 261.76 | 231.76 |
| 11.463 | 11.463 (1.252) | 77 | 93261 | | | 0.00- 57.12 | 27.12 |
| 205 Hexachloroethane | | | | | CAS #: 67-72-1 | | |
| 12.014 | 12.014 (1.312) | 201 | 213327 | 50.0000 | 50.262 | 80.00- 120.00 | 100.00 |
| 12.014 | 12.014 (1.312) | 117 | 308856 | | | 114.78- 174.78 | 144.78 |
| 208 1,3,5-Trichlorobenzene | | | | | CAS #: 108-70-3 | | |
| 12.752 | 12.752 (1.393) | 180 | 491142 | 50.0000 | 50.222 | 80.00- 120.00 | 100.00 |
| 12.752 | 12.752 (1.393) | 182 | 465024 | | | 64.68- 124.68 | 94.68 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3041806.d
Lab Smp Id: ICAL Level #7
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 18-APR-2024
Calibration Time: 11:08
Client Smp ID: ICAL Level #7
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 119983 | 71990 | 167976 | 119983 | 0.00 |
| 108 1,4-Difluorobenze | 454158 | 272495 | 635821 | 454158 | 0.00 |
| 153 Chlorobenzene-d5 | 459698 | 275819 | 643577 | 459698 | 0.00 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | 0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | 0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3041806.d

Date : 18-APR-2024 11:08

Client ID: ICAL Level #7

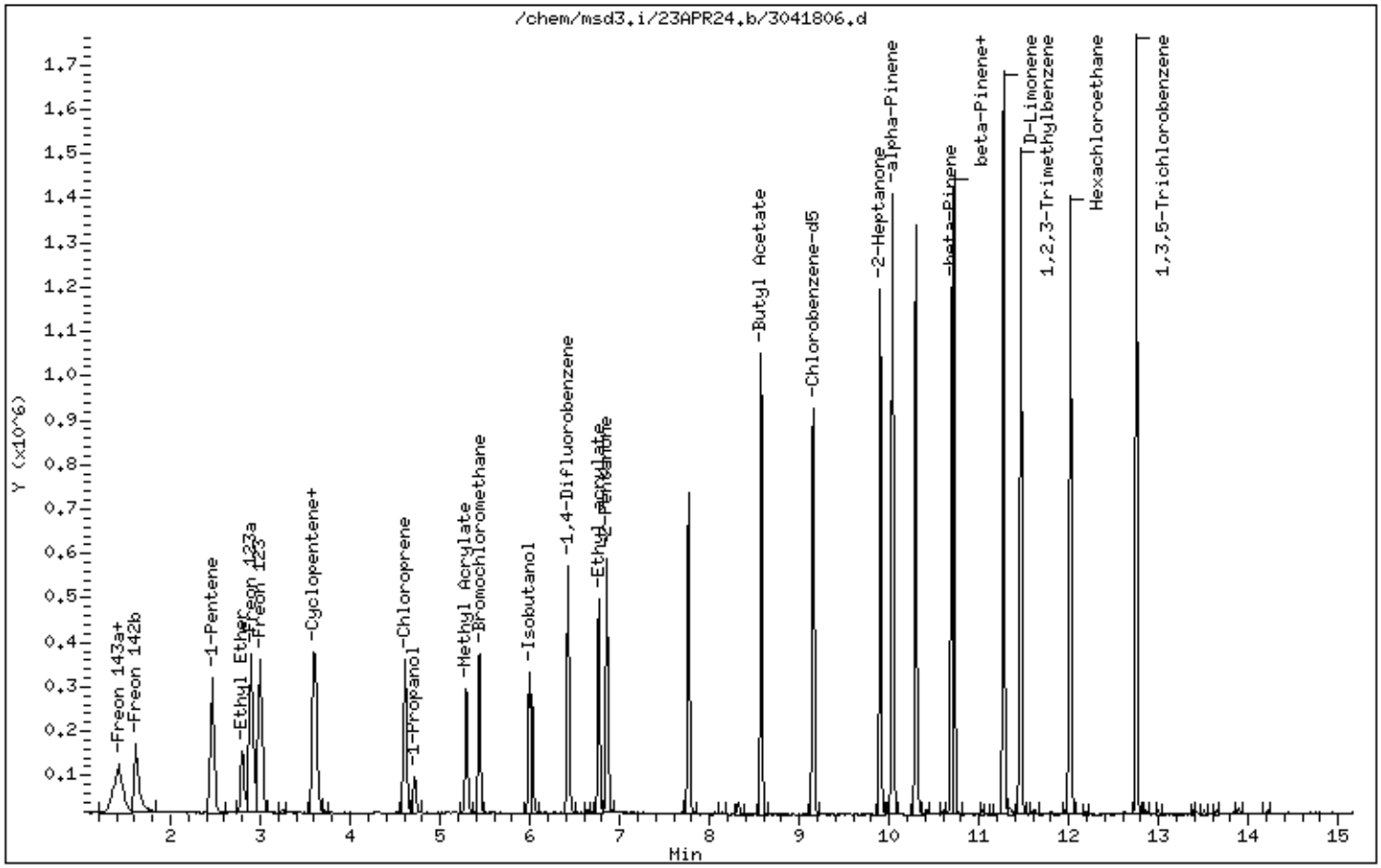
Instrument: msd3.i

Sample Info: 50ml 3018-4328

Operator: mjs

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042312.d
Lab Smp Id: ICAL Level #7 Client Smp ID: ICAL Level #7
Inj Date : 23-APR-2024 23:59
Operator : DF Inst ID: msd3.i
Smp Info : 50ml 3018-4439
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:44 z8dr Quant Type: ISTD
Cal Date : 23-APR-2024 23:59 Cal File: 3042312.d
Als bottle: 13 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23ICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 118377 | 50.0000 | 48.230 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 111479 | | | 64.17- 124.17 | 94.17 |
| 1.493 | 1.493 (0.274) | 51 | 468129 | | | 365.46- 425.46 | 395.46 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 130292 | 50.0000 | 46.848 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 85812 | | | 35.86- 95.86 | 65.86 |
| 1.437 | 1.437 (0.264) | 39 | 93364 | | | 41.66- 101.66 | 71.66 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.269) | 65 | 78270 | 50.0000 | 48.820 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.274) | 51 | 468129 | | | 568.10- 628.10 | 598.10 |
| 1.577 | 1.577 (0.290) | 47 | 16100 | | | 0.00- 50.57 | 20.57 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.269) | 85 | 292638 | 50.0000 | 46.536 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.269) | 87 | 96221 | | | 2.88- 62.88 | 32.88 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.493 (0.274) | 67 | 36358 | 50.0000 | 46.204 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 9 Chlorodifluoromethane (continued) | | | | | | | |
| 1.493 | 1.493 (0.274) | 51 | 468129 | | | 1257.55-1317.55 | 1287.55 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 259836 | 50.0000 | 47.003 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 83395 | | | 2.10- 62.10 | 32.10 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.591 | 1.591 (0.292) | 43 | 278870 | 50.0000 | 47.422 | 80.00- 120.00 | 100.00 |
| 1.591 | 1.591 (0.292) | 42 | 88374 | | | 1.69- 61.69 | 31.69 |
| 1.577 | 1.577 (0.290) | 58 | 9264 | | | 0.00- 33.32 | 3.32 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.675 | 1.675 (0.308) | 50 | 150415 | 50.0000 | 49.610 | 80.00- 120.00 | 100.00 |
| 1.689 | 1.689 (0.310) | 52 | 47202 | | | 1.38- 61.38 | 31.38 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.731 | 1.731 (0.318) | 58 | 28380 | 50.0000 | 46.686 | 80.00- 120.00 | 100.00 |
| 1.717 | 1.717 (0.316) | 43 | 254393 | | | 866.38- 926.38 | 896.38 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.759 | 1.759 (0.323) | 62 | 140689 | 50.0000 | 47.958 | 80.00- 120.00 | 100.00 |
| 1.759 | 1.759 (0.323) | 64 | 46571 | | | 3.10- 63.10 | 33.10 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.773 | 1.773 (0.326) | 54 | 124719 | 50.0000 | 45.256 | 80.00- 120.00 | 100.00 |
| 1.773 | 1.773 (0.326) | 39 | 135625 | | | 78.74- 138.74 | 108.74 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 110674 | 50.0000 | 52.795 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 104242 | | | 64.19- 124.19 | 94.19 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.408) | 64 | 67803 | 50.0000 | 48.196 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.408) | 66 | 21916 | | | 2.32- 62.32 | 32.32 |
| 2.220 | 2.220 (0.408) | 49 | 24636 | | | 6.33- 66.33 | 36.33 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 197832 | 50.0000 | 49.278 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 122197 | | | 31.77- 91.77 | 61.77 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.416 | 2.416 (0.444) | 106 | 123272 | 50.0000 | 50.560 | 80.00- 120.00 | 100.00 |
| 2.416 | 2.416 (0.444) | 108 | 116140 | | | 64.21- 124.21 | 94.21 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.449) | 101 | 350806 | 50.0000 | 48.423 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 33 Freon 11 (continued) | | | | | | | |
| 2.444 | 2.444 (0.449) | 103 | 227788 | | | 34.93- 94.93 | 64.93 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.472 | 2.472 (0.455) | 67 | 279368 | 50.0000 | 48.361 | 80.00- 120.00 | 100.00 |
| 2.472 | 2.472 (0.455) | 69 | 89253 | | | 1.95- 61.95 | 31.95 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.462) | 43 | 300300 | 50.0000 | 49.162 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.462) | 57 | 43974 | | | 0.00- 44.64 | 14.64 |
| 2.514 | 2.514 (0.462) | 72 | 23738 | | | 0.00- 37.90 | 7.90 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.506) | 46 | 27880 | 61.6000 | 48.507 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.506) | 45 | 70928 | | | 224.40- 284.40 | 254.40 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.061 | 3.061 (0.563) | 55 | 58292 | 58.2500 | 47.122 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 56 | 80457 | | | 108.02- 168.02 | 138.02 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 300923 | 50.0000 | 47.002 | 80.00- 120.00 | 100.00 |
| 3.068 | 3.068 (0.564) | 153 | 195800 | | | 35.07- 95.07 | 65.07 |
| 3.061 | 3.061 (0.563) | 101 | 353437 | | | 87.45- 147.45 | 117.45 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.097 | 3.097 (0.569) | 96 | 126978 | 50.0000 | 46.612 | 80.00- 120.00 | 100.00 |
| 3.097 | 3.097 (0.569) | 98 | 80334 | | | 33.27- 93.27 | 63.27 |
| 3.097 | 3.097 (0.569) | 61 | 240053 | | | 159.05- 219.05 | 189.05 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.597) | 58 | 71777 | 50.0000 | 46.303 | 80.00- 120.00 | 100.00 |
| 3.247 | 3.247 (0.597) | 43 | 257999 | | | 329.45- 389.45 | 359.45 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.333 | 3.333 (0.613) | 76 | 341151 | 50.0000 | 45.927 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.630) | 45 | 306959 | 50.0000 | 47.628 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.630) | 43 | 55811 | | | 0.00- 48.18 | 18.18 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.584 | 3.584 (0.659) | 76 | 57383 | 50.0000 | 45.854 | 80.00- 120.00 | 100.00 |
| 3.584 | 3.584 (0.659) | 41 | 227693 | | | 366.80- 426.80 | 396.80 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.677) | 41 | 159283 | 58.8000 | 55.996 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 57 Acetonitrile (continued) | | | | | | | |
| 3.684 | 3.684 (0.677) | 40 | 84004 | | | 22.74- 82.74 | 52.74 |
| 3.684 | 3.684 (0.677) | 38 | 19944 | | | 0.00- 42.52 | 12.52 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.784 | 3.784 (0.696) | 49 | 202170 | 50.0000 | 47.481 | 80.00- 120.00 | 100.00 |
| 3.784 | 3.784 (0.696) | 84 | 110985 | | | 24.90- 84.90 | 54.90 |
| 3.784 | 3.784 (0.696) | 51 | 59978 | | | 0.00- 59.67 | 29.67 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.913 | 3.913 (0.719) | 59 | 367280 | 57.6000 | 55.860 | 80.00- 120.00 | 100.00 |
| 3.913 | 3.913 (0.719) | 41 | 80258 | | | 0.00- 51.85 | 21.85 |
| 3.913 | 3.913 (0.719) | 57 | 37370 | | | 0.00- 40.17 | 10.17 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.737) | 73 | 375253 | 50.0000 | 48.277 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.737) | 57 | 107755 | | | 0.00- 58.72 | 28.72 |
| 4.006 | 4.006 (0.737) | 41 | 110264 | | | 0.00- 59.38 | 29.38 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.741) | 98 | 85073 | 50.0000 | 46.501 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.741) | 61 | 223006 | | | 232.13- 292.13 | 262.13 |
| 4.028 | 4.028 (0.741) | 96 | 133783 | | | 127.26- 187.26 | 157.26 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.142 | 4.142 (0.762) | 52 | 109554 | 50.0000 | 46.305 | 80.00- 120.00 | 100.00 |
| 4.142 | 4.142 (0.762) | 53 | 127571 | | | 86.45- 146.45 | 116.45 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.783) | 57 | 253698 | 50.0000 | 44.505 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.257 (0.783) | 43 | 180039 | | | 40.97- 100.97 | 70.97 |
| 4.257 | 4.257 (0.783) | 86 | 32163 | | | 0.00- 42.68 | 12.68 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.838) | 63 | 250004 | 50.0000 | 47.288 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 65 | 76182 | | | 0.47- 60.47 | 30.47 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.558 | 4.558 (0.838) | 45 | 614202 | 50.0000 | 48.450 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.837) | 87 | 120106 | | | 0.00- 49.55 | 19.55 |
| 4.551 | 4.551 (0.837) | 59 | 64002 | | | 0.00- 40.42 | 10.42 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.608 | 4.608 (0.847) | 86 | 21625 | 50.0000 | 46.454 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 43 | 380156 | | | 1727.95-1787.95 | 1757.95 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.945 | 4.945 (0.909) | 59 | 533603 | 50.0000 | 48.810 | 80.00- 120.00 | 100.00 |
| 4.945 | 4.945 (0.909) | 87 | 180892 | | | 3.90- 63.90 | 33.90 |
| 4.945 | 4.945 (0.909) | 41 | 105236 | | | 0.00- 49.72 | 19.72 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.145 | 5.145 (0.946) | 77 | 249345 | 50.0000 | 47.777 | 80.00- 120.00 | 100.00 |
| 5.145 | 5.145 (0.946) | 79 | 80765 | | | 2.39- 62.39 | 32.39 |
| 5.145 | 5.145 (0.946) | 97 | 58766 | | | 0.00- 53.57 | 23.57 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.188 | 5.188 (0.954) | 98 | 89304 | 50.0000 | 47.140 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 96 | 138898 | | | 125.53- 185.53 | 155.53 |
| 5.188 | 5.188 (0.954) | 61 | 223135 | | | 219.86- 279.86 | 249.86 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.959) | 72 | 65240 | 50.0000 | 47.798 | 80.00- 120.00 | 100.00 |
| 5.238 | 5.238 (0.963) | 43 | 762225 | | | 1138.34-1198.34 | 1168.34 |
| 5.217 | 5.217 (0.959) | 57 | 26636 | | | 10.83- 70.83 | 40.83 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.245 | 5.245 (0.964) | 45 | 60477 | 50.0000 | 44.304 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 61 | 223135 | | | 338.96- 398.96 | 368.96 |
| 5.245 | 5.245 (0.964) | 70 | 32976 | | | 24.53- 84.53 | 54.53 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.425 | 5.425 (0.997) | 42 | 178361 | 50.0000 | 42.740 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (0.999) | 71 | 50912 | | | 0.00- 58.54 | 28.54 |
| 5.432 | 5.432 (0.999) | 72 | 52777 | | | 0.00- 59.59 | 29.59 |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 106185 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 82598 | | | 47.79- 107.79 | 77.79 |
| 5.439 | 5.439 (1.000) | 49 | 171308 | | | 131.33- 191.33 | 161.33 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.518 | 5.518 (1.014) | 83 | 266411 | 50.0000 | 46.928 | 80.00- 120.00 | 100.00 |
| 5.518 | 5.518 (1.014) | 85 | 175219 | | | 35.77- 95.77 | 65.77 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.032) | 84 | 178092 | 50.0000 | 46.893 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.032) | 56 | 277448 | | | 125.79- 185.79 | 155.79 |
| 5.611 | 5.611 (1.032) | 41 | 163035 | | | 61.55- 121.55 | 91.55 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.639 | 5.639 (1.037) | 97 | 296136 | 50.0000 | 47.828 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 96 1,1,1-Trichloroethane (continued) | | | | | | | |
| 5.639 | 5.639 (1.037) | 99 | 186099 | | | 32.84- 92.84 | 62.84 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.059) | 119 | 318047 | 50.0000 | 48.453 | 80.00- 120.00 | 100.00 |
| 5.761 | 5.761 (1.059) | 117 | 334551 | | | 75.19- 135.19 | 105.19 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.804 | 5.804 (0.903) | 110 | 75796 | 50.0000 | 48.129 | 80.00- 120.00 | 100.00 |
| 5.804 | 5.804 (0.903) | 75 | 200226 | | | 234.16- 294.16 | 264.16 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.998 | 5.998 (0.933) | 78 | 379091 | 50.0000 | 48.159 | 80.00- 120.00 | 100.00 |
| 5.998 | 5.998 (0.933) | 77 | 89789 | | | 0.00- 53.69 | 23.69 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.998 | 5.998 (1.103) | 57 | 873858 | 50.0000 | 49.064 | 80.00- 120.00 | 100.00 |
| 5.998 | 5.998 (1.103) | 56 | 289123 | | | 3.09- 63.09 | 33.09 |
| 5.998 | 5.998 (1.103) | 41 | 238381 | | | 0.00- 57.28 | 27.28 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.108) | 65 | 136722 | 25.0000 | 24.720 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.108) | 67 | 72691 | | | 23.17- 83.17 | 53.17 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.091 | 6.091 (0.948) | 87 | 105657 | 50.0000 | 49.947 | 80.00- 120.00 | 100.00 |
| 6.091 | 6.091 (0.948) | 73 | 418149 | | | 365.76- 425.76 | 395.76 |
| 6.091 | 6.091 (0.948) | 55 | 129517 | | | 92.58- 152.58 | 122.58 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 198281 | 50.0000 | 48.289 | 80.00- 120.00 | 100.00 |
| 6.105 | 6.105 (0.950) | 64 | 63059 | | | 1.80- 61.80 | 31.80 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 145181 | 50.0000 | 46.560 | 80.00- 120.00 | 100.00 |
| 6.184 | 6.184 (0.962) | 43 | 345142 | | | 207.73- 267.73 | 237.73 |
| 6.184 | 6.184 (0.962) | 57 | 166711 | | | 84.83- 144.83 | 114.83 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 390964 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 61173 | | | 0.00- 45.65 | 15.65 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.031) | 56 | 82098 | 50.0000 | 45.872 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.031) | 41 | 63814 | | | 47.73- 107.73 | 77.73 |
| 6.628 | 6.628 (1.031) | 43 | 50571 | | | 31.60- 91.60 | 61.60 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 183021 | 50.0000 | 48.222 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.635 (1.032) | 130 | 201749 | | | 80.23- 140.23 | 110.23 |
| 6.635 | 6.635 (1.032) | 97 | 118558 | | | 34.78- 94.78 | 64.78 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.735 | 6.735 (1.048) | 83 | 258114 | 50.0000 | 47.877 | 80.00- 120.00 | 100.00 |
| 6.735 | 6.735 (1.048) | 98 | 115701 | | | 14.83- 74.83 | 44.83 |
| 6.735 | 6.735 (1.048) | 55 | 261985 | | | 71.50- 131.50 | 101.50 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 174430 | 50.0000 | 47.092 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 122782 | | | 40.39- 100.39 | 70.39 |
| 6.893 | 6.893 (1.072) | 41 | 107902 | | | 31.86- 91.86 | 61.86 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.979 | 6.979 (0.762) | 69 | 150781 | 50.0000 | 47.222 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 265090 | | | 145.81- 205.81 | 175.81 |
| 6.979 | 6.979 (0.762) | 100 | 60383 | | | 10.05- 70.05 | 40.05 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.088) | 88 | 97926 | 50.0000 | 49.454 | 80.00- 120.00 | 100.00 |
| 6.993 | 6.993 (1.088) | 58 | 84537 | | | 56.33- 116.33 | 86.33 |
| 6.993 | 6.993 (1.088) | 57 | 31413 | | | 2.08- 62.08 | 32.08 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.008 | 7.008 (0.765) | 174 | 179531 | 50.0000 | 48.538 | 80.00- 120.00 | 100.00 |
| 7.008 | 7.008 (0.765) | 93 | 166388 | | | 62.68- 122.68 | 92.68 |
| 7.008 | 7.008 (0.765) | 95 | 139490 | | | 47.70- 107.70 | 77.70 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 296549 | 50.0000 | 48.269 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 192642 | | | 34.96- 94.96 | 64.96 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.459 | 7.459 (1.160) | 63 | 320384 | 50.0000 | 49.024 | 80.00- 120.00 | 100.00 |
| 7.459 | 7.459 (1.160) | 65 | 97487 | | | 0.43- 60.43 | 30.43 |
| 7.459 | 7.459 (1.160) | 144 | 33579 | | | 0.00- 40.48 | 10.48 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.574 | 7.574 (1.178) | 75 | 257832 | 50.0000 | 49.208 | 80.00- 120.00 | 100.00 |
| 7.574 | 7.574 (1.178) | 77 | 80600 | | | 1.26- 61.26 | 31.26 |
| 7.574 | 7.574 (1.178) | 39 | 167739 | | | 35.06- 95.06 | 65.06 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.710 | 7.710 (1.199) | 58 | 163280 | 50.0000 | 45.303 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 131 4-Methyl-2-pentanone (continued) | | | | | | | |
| 7.710 | 7.710 (1.199) | 43 | 473310 | | | 259.88- 319.88 | 289.88 |
| 7.710 | 7.710 (1.199) | 85 | 61360 | | | 7.58- 67.58 | 37.58 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 376606 | 25.0000 | 24.779 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 43024 | | | 0.00- 41.42 | 11.42 |
| 7.767 | 7.767 (1.208) | 100 | 254350 | | | 37.54- 97.54 | 67.54 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 522189 | 50.0000 | 47.921 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 302287 | | | 27.89- 87.89 | 57.89 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 183324 | 50.0000 | 46.178 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 171465 | | | 63.53- 123.53 | 93.53 |
| 7.860 | 7.860 (1.223) | 43 | 505975 | | | 246.00- 306.00 | 276.00 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 214335 | 50.0000 | 49.482 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 68227 | | | 1.83- 61.83 | 31.83 |
| 8.118 | 8.118 (0.887) | 39 | 132830 | | | 31.97- 91.97 | 61.97 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.290 | 8.290 (0.905) | 97 | 172017 | 50.0000 | 46.899 | 80.00- 120.00 | 100.00 |
| 8.290 | 8.290 (0.905) | 99 | 107541 | | | 32.52- 92.52 | 62.52 |
| 8.283 | 8.283 (0.905) | 83 | 152927 | | | 58.90- 118.90 | 88.90 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 270854 | 50.0000 | 49.181 | 80.00- 120.00 | 100.00 |
| 8.318 | 8.318 (0.908) | 129 | 204001 | | | 45.32- 105.32 | 75.32 |
| 8.318 | 8.318 (0.908) | 131 | 200899 | | | 44.17- 104.17 | 74.17 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 239701 | 50.0000 | 46.921 | 80.00- 120.00 | 100.00 |
| 8.447 | 8.447 (1.314) | 41 | 215057 | | | 59.72- 119.72 | 89.72 |
| 8.447 | 8.447 (1.314) | 78 | 79295 | | | 3.08- 63.08 | 33.08 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.490 | 8.490 (0.927) | 58 | 228908 | 50.0000 | 49.747 | 80.00- 120.00 | 100.00 |
| 8.490 | 8.490 (0.927) | 43 | 474575 | | | 177.32- 237.32 | 207.32 |
| 8.490 | 8.490 (0.927) | 100 | 39328 | | | 0.00- 47.18 | 17.18 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 361941 | 50.0000 | 49.931 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.942) | 127 | 279672 | | | 47.27- 107.27 | 77.27 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 289451 | 50.0000 | 48.151 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 272604 | | | 64.18- 124.18 | 94.18 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.157 | 9.157 (1.000) | 117 | 392003 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.157 | 9.157 (1.000) | 82 | 207446 | | | 22.92- 82.92 | 52.92 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.185 | 9.185 (1.003) | 112 | 439974 | 50.0000 | 48.442 | 80.00- 120.00 | 100.00 |
| 9.185 | 9.185 (1.003) | 114 | 140384 | | | 1.91- 61.91 | 31.91 |
| 9.178 | 9.178 (1.002) | 77 | 233044 | | | 22.97- 82.97 | 52.97 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.250 | 9.250 (1.010) | 106 | 221782 | 50.0000 | 48.547 | 80.00- 120.00 | 100.00 |
| 9.250 | 9.250 (1.010) | 91 | 689934 | | | 281.09- 341.09 | 311.09 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.013) | 131 | 258312 | 50.0000 | 49.923 | 80.00- 120.00 | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 173321 | | | 37.10- 97.10 | 67.10 |
| 9.271 | 9.271 (1.013) | 95 | 90231 | | | 4.93- 64.93 | 34.93 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.017) | 43 | 519451 | 50.0000 | 48.956 | 80.00- 120.00 | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 418804 | | | 50.62- 110.62 | 80.62 |
| 9.314 | 9.314 (1.017) | 85 | 133228 | | | 0.00- 55.65 | 25.65 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 277013 | 50.0000 | 48.649 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 554941 | | | 170.33- 230.33 | 200.33 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 260621 | 50.0000 | 48.266 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 550517 | | | 181.23- 241.23 | 211.23 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 446935 | 50.0000 | 48.467 | 80.00- 120.00 | 100.00 |
| 9.780 | 9.780 (1.068) | 78 | 211208 | | | 17.26- 77.26 | 47.26 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 370788 | 50.0000 | 50.614 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 190754 | | | 21.45- 81.45 | 51.45 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 806471 | 50.0000 | 49.408 | 80.00- 120.00 | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 217213 | | | 0.00- 56.93 | 26.93 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 168 Cumene (continued) | | | | | | | |
| 10.095 | 10.095 (1.102) | 51 | 98730 | | | 0.00- 42.24 | 12.24 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.260 | 10.260 (1.120) | 55 | 287299 | 50.0000 | 44.488 | 80.00- 120.00 | 100.00 |
| 10.260 | 10.260 (1.120) | 98 | 100976 | | | 5.15- 65.15 | 35.15 |
| 10.260 | 10.260 (1.120) | 42 | 206820 | | | 41.99- 101.99 | 71.99 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 289610 | 25.0000 | 24.860 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 343157 | | | 88.49- 148.49 | 118.49 |
| 10.295 | 10.295 (1.124) | 176 | 280149 | | | 66.73- 126.73 | 96.73 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.432 | 10.432 (1.139) | 156 | 276298 | 50.0000 | 48.585 | 80.00- 120.00 | 100.00 |
| 10.432 | 10.432 (1.139) | 158 | 269302 | | | 67.47- 127.47 | 97.47 |
| 10.432 | 10.432 (1.139) | 77 | 383158 | | | 108.68- 168.68 | 138.68 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.475 | 10.475 (1.144) | 83 | 403453 | 50.0000 | 47.655 | 80.00- 120.00 | 100.00 |
| 10.475 | 10.475 (1.144) | 85 | 262135 | | | 34.97- 94.97 | 64.97 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 235343 | 50.0000 | 48.760 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 973373 | | | 383.60- 443.60 | 413.60 |
| 10.496 | 10.496 (1.146) | 105 | 37993 | | | 0.00- 46.14 | 16.14 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.525 | 10.525 (1.149) | 110 | 119738 | 50.0000 | 46.601 | 80.00- 120.00 | 100.00 |
| 10.525 | 10.525 (1.149) | 75 | 424208 | | | 324.28- 384.28 | 354.28 |
| 10.518 | 10.518 (1.149) | 61 | 104455 | | | 57.24- 117.24 | 87.24 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.611 | 10.611 (1.159) | 57 | 557664 | 50.0000 | 44.643 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 71 | 173478 | | | 1.11- 61.11 | 31.11 |
| 10.611 | 10.611 (1.159) | 142 | 24768 | | | 0.00- 34.44 | 4.44 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.611 | 10.611 (1.159) | 120 | 256210 | 50.0000 | 48.702 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 105 | 842767 | | | 298.94- 358.94 | 328.94 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.611 | 10.611 (1.159) | 126 | 214507 | 50.0000 | 48.192 | 80.00- 120.00 | 100.00 |
| 10.611 | 10.611 (1.159) | 91 | 670938 | | | 282.78- 342.78 | 312.78 |
| 10.603 | 10.603 (1.158) | 65 | 101528 | | | 17.33- 77.33 | 47.33 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 347148 | 50.0000 | 48.931 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 701508 | | | 172.08- 232.08 | 202.08 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 366513 | 50.0000 | 48.769 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 203934 | | | 25.64- 85.64 | 55.64 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.983 | 10.983 (1.199) | 119 | 660932 | 50.0000 | 49.001 | 80.00- 120.00 | 100.00 |
| 10.983 | 10.983 (1.199) | 134 | 165884 | | | 0.00- 55.10 | 25.10 |
| 10.976 | 10.976 (1.199) | 91 | 426484 | | | 34.53- 94.53 | 64.53 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 697860 | 50.0000 | 48.110 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.206) | 120 | 325384 | | | 16.63- 76.63 | 46.63 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 215240 | 50.0000 | 48.750 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 1005150 | | | 436.99- 496.99 | 466.99 |
| 11.198 | 11.198 (1.223) | 91 | 154312 | | | 41.69- 101.69 | 71.69 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 883857 | 50.0000 | 48.951 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 244087 | | | 0.00- 57.62 | 27.62 |
| 11.341 | 11.341 (1.239) | 91 | 203563 | | | 0.00- 53.03 | 23.03 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 510428 | 50.0000 | 47.487 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 327614 | | | 34.18- 94.18 | 64.18 |
| 11.348 | 11.348 (1.239) | 111 | 204477 | | | 10.06- 70.06 | 40.06 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.449 | 11.449 (1.250) | 146 | 522636 | 50.0000 | 48.002 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.250) | 148 | 332150 | | | 33.55- 93.55 | 63.55 |
| 11.449 | 11.449 (1.250) | 111 | 198480 | | | 7.98- 67.98 | 37.98 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 675951 | 50.0000 | 49.026 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 153933 | | | 0.00- 52.77 | 22.77 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.750 | 11.750 (1.283) | 134 | 242530 | 50.0000 | 48.738 | 80.00- 120.00 | 100.00 |
| 11.742 | 11.742 (1.282) | 91 | 826602 | | | 310.82- 370.82 | 340.82 |
| 11.742 | 11.742 (1.282) | 92 | 440268 | | | 151.53- 211.53 | 181.53 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 657222 | 50.0000 | 44.249 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.287) | 43 | 615095 | | | 63.59- 123.59 | 93.59 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 500732 | 50.0000 | 48.001 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 315470 | | | 33.00- 93.00 | 63.00 |
| 11.814 | 11.814 (1.290) | 111 | 204643 | | | 10.87- 70.87 | 40.87 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.378) | 157 | 308162 | 50.0000 | 49.945 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.378) | 75 | 240658 | | | 48.09- 108.09 | 78.09 |
| 12.616 | 12.616 (1.378) | 155 | 240025 | | | 47.89- 107.89 | 77.89 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.404) | 57 | 739756 | 50.0000 | 49.444 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.404) | 43 | 654818 | | | 58.52- 118.52 | 88.52 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.463) | 180 | 506089 | 50.0000 | 48.955 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.463) | 182 | 479986 | | | 64.84- 124.84 | 94.84 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.512 | 13.512 (1.476) | 225 | 371784 | 50.0000 | 49.302 | 80.00- 120.00 | 100.00 |
| 13.512 | 13.512 (1.476) | 223 | 233497 | | | 32.80- 92.80 | 62.80 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.490) | 128 | 117113 | 5.80000 | 5.428 | 80.00- 120.00 | 100.00 |
| 13.648 | 13.648 (1.490) | 127 | 14900 | | | 0.00- 42.72 | 12.72 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.517) | 180 | 492088 | 50.0000 | 48.577 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.517) | 182 | 467815 | | | 65.07- 125.07 | 95.07 |
| 13.891 | 13.891 (1.517) | 145 | 169692 | | | 4.48- 64.48 | 34.48 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042312.d
Lab Smp Id: ICAL Level #7
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #7
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 106185 | 0.00 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 390964 | 0.00 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 392003 | 0.00 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | 0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | 0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042312.d

Page 1

Date : 23-APR-2024 23:59

Client ID: ICAL Level #7

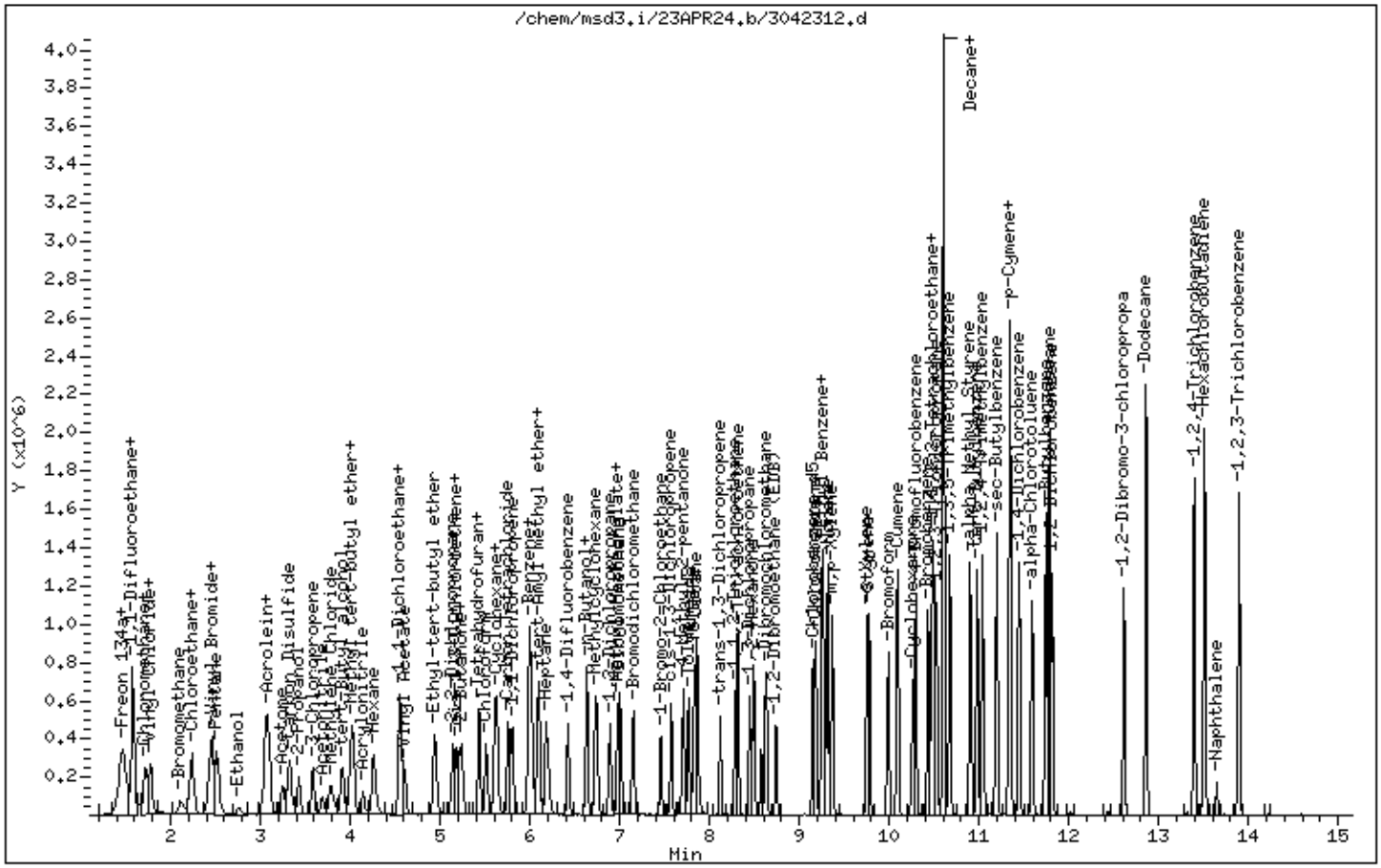
Instrument: msd3.i

Sample Info: 50ml 3018-4439

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3041807.d
Lab Smp Id: ICAL Level #8 Client Smp ID: ICAL Level #8
Inj Date : 18-APR-2024 11:41
Operator : mjs Inst ID: msd3.i
Smp Info : 100ml 3018-4328
Misc Info : 100ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 24-APR-2024 00:31 Cal File: 3042313.d
Als bottle: 2 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT21spICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 118285 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 92003 | | | 47.79- 107.79 | 77.78 |
| 5.439 | 5.439 (1.000) | 49 | 192470 | | | 131.33- 191.33 | 162.72 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 456464 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 71642 | | | 0.00- 45.65 | 15.69 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 465967 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 251207 | | | 22.92- 82.92 | 53.91 |
| 3 Freon 143a | | | | | CAS #: 420-46-2 | | |
| 1.409 | 1.395 (0.259) | 65 | 171189 | 100.000 | 107.29 | 80.00- 120.00 | 100.00 |
| 1.395 | 1.395 (0.256) | 69 | 462607 | | | 237.43- 297.43 | 270.23 |
| 1.395 | 1.395 (0.256) | 64 | 42504 | | | 0.00- 57.02 | 24.83 |
| 6 Propane | | | | | CAS #: 74-98-6 | | |
| 1.437 | 1.423 (0.264) | 43 | 110189 | 100.000 | 100.66 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | | ===== |
| 6 Propane (continued) | | | | | | | | |
| 1.437 | 1.437 (0.264) | 39 | 72330 | | | 37.94- | 97.94 | 65.64 |
| 1.437 | 1.423 (0.264) | 41 | 58496 | | | 21.79- | 81.79 | 53.09 |
| 13 Freon 142b | | | | | CAS #: 75-68-3 | | | |
| 1.618 | 1.604 (0.298) | 65 | 559739 | 100.000 | 96.293 | 80.00- | 120.00 | 100.00 |
| 1.618 | 1.604 (0.298) | 45 | 162709 | | | 0.00- | 58.87 | 29.07 |
| 36 1-Pentene | | | | | CAS #: 109-67-1 | | | |
| 2.458 | 2.458 (0.452) | 55 | 358563 | 100.000 | 99.363 | 80.00- | 120.00 | 100.00 |
| 2.458 | 2.458 (0.452) | 42 | 517690 | | | 114.47- | 174.47 | 144.38 |
| 38 Ethyl Ether | | | | | CAS #: 60-29-7 | | | |
| 2.808 | 2.794 (0.516) | 74 | 142427 | 100.000 | 95.433 | 80.00- | 120.00 | 100.00 |
| 2.794 | 2.794 (0.514) | 59 | 235608 | | | 138.79- | 198.79 | 165.42 |
| 2.794 | 2.794 (0.514) | 45 | 206733 | | | 114.58- | 174.58 | 145.15 |
| 40 Freon 123a | | | | | CAS #: 354-23-4 | | | |
| 2.906 | 2.906 (0.534) | 117 | 447270 | 100.000 | 95.105 | 80.00- | 120.00 | 100.00 |
| 2.906 | 2.892 (0.534) | 67 | 589909 | | | 102.78- | 162.78 | 131.89 |
| 41 Freon 123 | | | | | CAS #: 306-83-2 | | | |
| 2.990 | 2.990 (0.550) | 83 | 410711 | 100.000 | 94.292 | 80.00- | 120.00 | 100.00 |
| 2.990 | 2.990 (0.550) | 133 | 90197 | | | 0.00- | 53.60 | 21.96 |
| 2.990 | 2.990 (0.550) | 85 | 272675 | | | 36.72- | 96.72 | 66.39 |
| 55 Cyclopentene | | | | | CAS #: 142-29-0 | | | |
| 3.591 | 3.591 (0.660) | 67 | 668026 | 100.000 | 100.74 | 80.00- | 120.00 | 100.00 |
| 3.591 | 3.591 (0.660) | 68 | 253928 | | | 8.38- | 68.38 | 38.01 |
| 3.591 | 3.591 (0.660) | 53 | 164167 | | | 0.00- | 54.97 | 24.57 |
| 56 Methyl Acetate | | | | | CAS #: 79-20-9 | | | |
| 3.626 | 3.619 (0.667) | 43 | 749002 | 100.000 | 101.65 | 80.00- | 120.00 | 100.00 |
| 3.626 | 3.619 (0.667) | 74 | 115795 | | | 0.00- | 45.84 | 15.46 |
| 74 Chloroprene | | | | | CAS #: 126-99-8 | | | |
| 4.608 | 4.608 (0.847) | 53 | 574145 | 100.000 | 99.628 | 80.00- | 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 88 | 258258 | | | 14.44- | 74.44 | 44.98 |
| 4.608 | 4.608 (0.847) | 50 | 153572 | | | 0.00- | 56.76 | 26.75 |
| 75 1-Propanol | | | | | CAS #: 71-23-8 | | | |
| 4.715 | 4.715 (0.867) | 59 | 78368 | 100.000 | 90.070 | 80.00- | 120.00 | 100.00 |
| 4.715 | 4.715 (0.867) | 42 | 75931 | | | 63.00- | 123.00 | 96.89 |
| 4.715 | 4.715 (0.867) | 41 | 47829 | | | 28.69- | 88.69 | 61.03 |
| 88 Methyl Acrylate | | | | | CAS #: 96-33-3 | | | |
| 5.288 | 5.288 (0.972) | 55 | 722722 | 100.000 | 99.837 | 80.00- | 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 88 Methyl Acrylate (continued) | | | | | | | |
| 5.295 | 5.288 (0.974) | 85 | 95993 | | | 0.00- 43.17 | 13.28 |
| 5.288 | 5.288 (0.972) | 58 | 61204 | | | 0.00- 38.59 | 8.47 |
| 103 Isobutanol | | | | | CAS #: 78-83-1 | | |
| 5.990 | 5.990 (1.101) | 39 | 90670 | 100.000 | 79.209 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (1.101) | 43 | 400031 | | | 402.02- 462.02 | 441.19 |
| 5.990 | 5.990 (1.101) | 41 | 281417 | | | 275.29- 335.29 | 310.37 |
| 113 Ethyl acrylate | | | | | CAS #: 140-88-5 | | |
| 6.764 | 6.764 (0.739) | 99 | 57225 | 100.000 | 90.142 | 80.00- 120.00 | 100.00 |
| 6.764 | 6.764 (0.739) | 45 | 98757 | | | 144.38- 204.38 | 172.58 |
| 6.764 | 6.764 (0.739) | 55 | 980424 | | | 1723.57-1783.57 | 1713.28 |
| 115 2-Pentanone | | | | | CAS #: 107-87-9 | | |
| 6.857 | 6.857 (0.749) | 43 | 1226660 | 100.000 | 95.979 | 80.00- 120.00 | 100.00 |
| 6.857 | 6.857 (0.749) | 58 | 87729 | | | 0.00- 37.02 | 7.15 |
| 6.857 | 6.857 (0.749) | 86 | 166870 | | | 0.00- 43.48 | 13.60 |
| 145 Butyl Acetate | | | | | CAS #: 123-86-4 | | |
| 8.576 | 8.576 (1.334) | 56 | 527472 | 100.000 | 94.035 | 80.00- 120.00 | 100.00 |
| 8.576 | 8.576 (1.334) | 73 | 172066 | | | 2.83- 62.83 | 32.62 |
| 8.576 | 8.576 (1.334) | 43 | 1431296 | | | 240.40- 300.40 | 271.35 |
| 166 2-Heptanone | | | | | CAS #: 110-43-0 | | |
| 9.901 | 9.901 (1.821) | 58 | 809815 | 100.000 | 89.434 | 80.00- 120.00 | 100.00 |
| 9.901 | 9.901 (1.821) | 43 | 1415889 | | | 146.16- 206.16 | 174.84 |
| 210 alpha-Pinene | | | | | CAS #: 80-56-8 | | |
| 10.037 | 10.037 (1.096) | 93 | 1201325 | 100.000 | 98.247 | 80.00- 120.00 | 100.00 |
| 10.037 | 10.037 (1.096) | 77 | 348279 | | | 0.00- 59.07 | 28.99 |
| 214 beta-Pinene | | | | | CAS #: 127-91-3 | | |
| 10.696 | 10.696 (1.168) | 93 | 935215 | 100.000 | 98.218 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 1630866 | | | 151.21- 211.21 | 174.38 |
| 186 4-Chlorotoluene | | | | | CAS #: 106-43-4 | | |
| 10.725 | 10.725 (1.171) | 126 | 497990 | 100.000 | 95.924 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 1630866 | | | 296.65- 356.65 | 327.49 |
| 10.725 | 10.725 (1.171) | 63 | 201355 | | | 10.84- 70.84 | 40.43 |
| 172 D-Limonene | | | | | CAS #: 5989-27-5 | | |
| 11.277 | 11.277 (1.232) | 68 | 734980 | 100.000 | 95.368 | 80.00- 120.00 | 100.00 |
| 11.277 | 11.277 (1.232) | 93 | 518516 | | | 41.19- 101.19 | 70.55 |
| 197 1,2,3-Trimethylbenzene | | | | | CAS #: 526-73-8 | | |
| 11.463 | 11.463 (1.252) | 120 | 677610 | 100.000 | 95.152 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 197 1,2,3-Trimethylbenzene (continued) | | | | | | | |
| 11.463 | 11.463 (1.252) | 105 | 1565838 | | | 201.76- 261.76 | 231.08 |
| 11.463 | 11.463 (1.252) | 77 | 180458 | | | 0.00- 57.12 | 26.63 |
| 205 Hexachloroethane | | | | | CAS #: 67-72-1 | | |
| 12.014 | 12.014 (1.312) | 201 | 437026 | 100.000 | 101.58 | 80.00- 120.00 | 100.00 |
| 12.014 | 12.014 (1.312) | 117 | 629191 | | | 114.78- 174.78 | 143.97 |
| 208 1,3,5-Trichlorobenzene | | | | | CAS #: 108-70-3 | | |
| 12.759 | 12.752 (1.393) | 180 | 966470 | 100.000 | 97.497 | 80.00- 120.00 | 100.00 |
| 12.759 | 12.752 (1.393) | 182 | 923585 | | | 64.68- 124.68 | 95.56 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3041807.d
Lab Smp Id: ICAL Level #8
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 100ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #8
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 118285 | 11.40 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 456464 | 16.75 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 465967 | 18.87 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3041807.d

Page 1

Date : 18-APR-2024 11:41

Client ID: ICAL Level #8

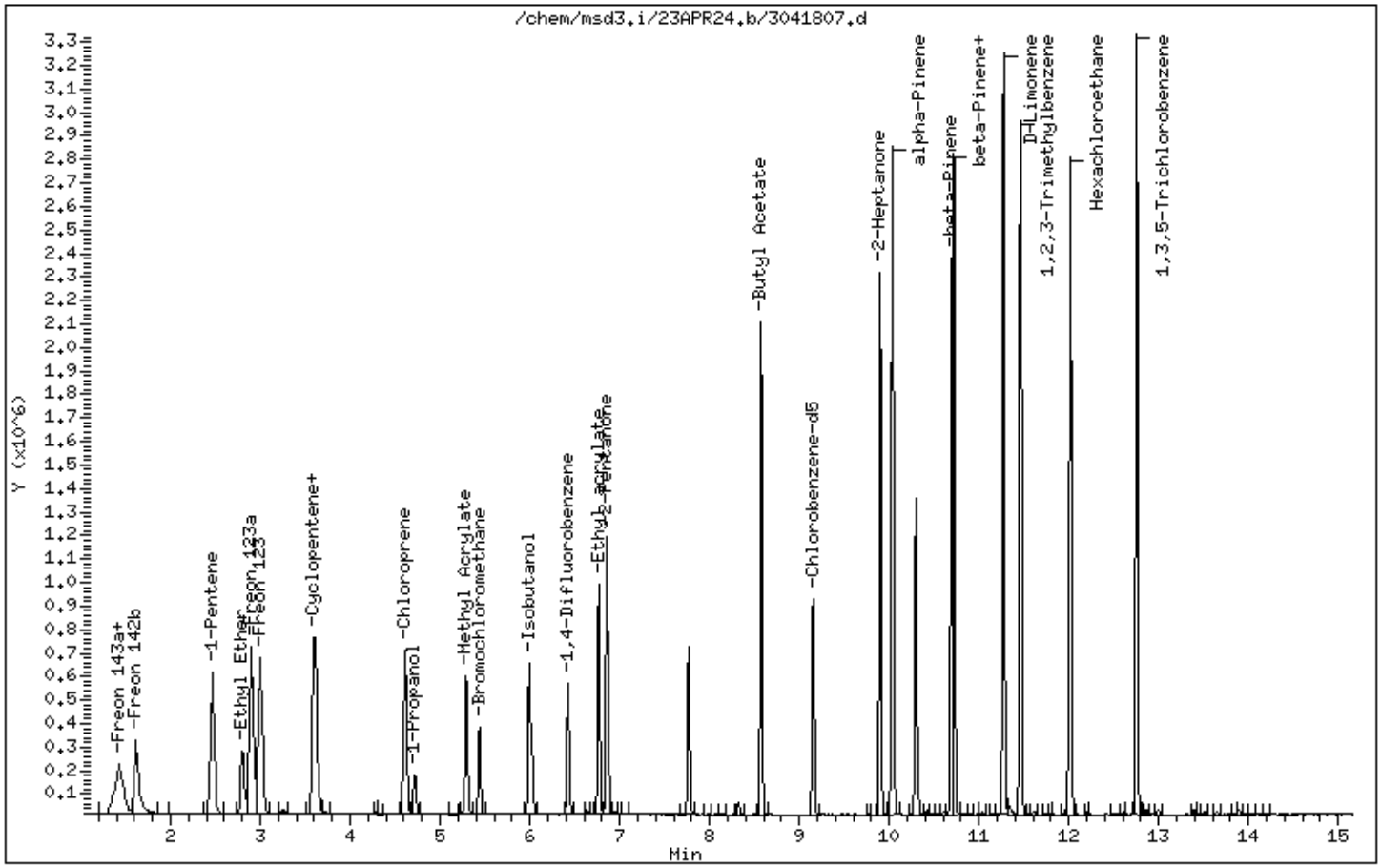
Instrument: msd3.i

Sample Info: 100ml 3018-4328

Operator: mjs

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042313.d
Lab Smp Id: ICAL Level #8 Client Smp ID: ICAL Level #8
Inj Date : 24-APR-2024 00:31
Operator : DF Inst ID: msd3.i
Smp Info : 100ml 3018-4439
Misc Info : 100ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 24-APR-2024 00:31 Cal File: 3042313.d
Als bottle: 13 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23ICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.423 | 1.409 (0.262) | 83 | 233889 | 100.000 | 95.603 | 80.00- 120.00 | 100.00 |
| 1.423 | 1.409 (0.262) | 69 | 218520 | | | 64.17- 124.17 | 93.43 |
| 1.492 | 1.493 (0.274) | 51 | 972848 | | | 365.46- 425.46 | 415.94 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.436 | 1.437 (0.264) | 41 | 275170 | 100.000 | 99.261 | 80.00- 120.00 | 100.00 |
| 1.436 | 1.437 (0.264) | 42 | 179505 | | | 35.86- 95.86 | 65.23 |
| 1.436 | 1.437 (0.264) | 39 | 193538 | | | 41.66- 101.66 | 70.33 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.478 | 1.465 (0.272) | 65 | 157731 | 100.000 | 98.702 | 80.00- 120.00 | 100.00 |
| 1.492 | 1.493 (0.274) | 51 | 972848 | | | 568.10- 628.10 | 616.78 |
| 1.576 | 1.577 (0.290) | 47 | 32982 | | | 0.00- 50.57 | 20.91 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.464 | 1.465 (0.269) | 85 | 606922 | 100.000 | 96.826 | 80.00- 120.00 | 100.00 |
| 1.464 | 1.465 (0.269) | 87 | 196368 | | | 2.88- 62.88 | 32.35 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.506 | 1.493 (0.277) | 67 | 72073 | 100.000 | 91.887 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 9 Chlorodifluoromethane (continued) | | | | | | | |
| 1.492 | 1.493 (0.274) | 51 | 972848 | | | 1257.55-1317.55 | 1349.81 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.577 (0.290) | 135 | 544220 | 100.000 | 98.766 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.577 (0.290) | 137 | 173490 | | | 2.10- 62.10 | 31.88 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.590 | 1.591 (0.292) | 43 | 577867 | 100.000 | 98.584 | 80.00- 120.00 | 100.00 |
| 1.590 | 1.591 (0.292) | 42 | 178573 | | | 1.69- 61.69 | 30.90 |
| 1.590 | 1.577 (0.292) | 58 | 18550 | | | 0.00- 33.32 | 3.21 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.688 | 1.675 (0.310) | 50 | 299977 | 100.000 | 99.260 | 80.00- 120.00 | 100.00 |
| 1.688 | 1.675 (0.310) | 52 | 90827 | | | 1.38- 61.38 | 30.28 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.730 | 1.731 (0.318) | 58 | 58329 | 100.000 | 96.264 | 80.00- 120.00 | 100.00 |
| 1.730 | 1.731 (0.318) | 43 | 529531 | | | 866.38- 926.38 | 907.83 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.759 (0.323) | 62 | 291774 | 100.000 | 99.782 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.759 (0.323) | 64 | 88995 | | | 3.10- 63.10 | 30.50 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.786 | 1.773 (0.328) | 54 | 251430 | 100.000 | 91.531 | 80.00- 120.00 | 100.00 |
| 1.786 | 1.773 (0.328) | 39 | 281058 | | | 78.74- 138.74 | 111.78 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.122 | 2.108 (0.390) | 94 | 233940 | 100.000 | 111.96 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 219932 | | | 64.19- 124.19 | 94.01 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.408) | 64 | 142706 | 100.000 | 101.77 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.408) | 66 | 43744 | | | 2.32- 62.32 | 30.65 |
| 2.220 | 2.220 (0.408) | 49 | 50917 | | | 6.33- 66.33 | 35.68 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 395624 | 100.000 | 98.866 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 246841 | | | 31.77- 91.77 | 62.39 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.416 | 2.416 (0.444) | 106 | 257498 | 100.000 | 105.96 | 80.00- 120.00 | 100.00 |
| 2.416 | 2.416 (0.444) | 108 | 239156 | | | 64.21- 124.21 | 92.88 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.458 | 2.444 (0.452) | 101 | 718554 | 100.000 | 99.507 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 33 Freon 11 (continued) | | | | | | | |
| 2.458 | 2.444 (0.452) | 103 | 471661 | | | 34.93- 94.93 | 65.64 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.472 | 2.472 (0.455) | 67 | 577688 | 100.000 | 100.33 | 80.00- 120.00 | 100.00 |
| 2.472 | 2.472 (0.455) | 69 | 185727 | | | 1.95- 61.95 | 32.15 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.462) | 43 | 613816 | 100.000 | 100.81 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.462) | 57 | 88699 | | | 0.00- 44.64 | 14.45 |
| 2.514 | 2.514 (0.462) | 72 | 47993 | | | 0.00- 37.90 | 7.82 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.766 | 2.752 (0.509) | 46 | 57015 | 123.200 | 99.519 | 80.00- 120.00 | 100.00 |
| 2.766 | 2.752 (0.509) | 45 | 143206 | | | 224.40- 284.40 | 251.17 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.061 | 3.061 (0.563) | 55 | 116660 | 116.500 | 94.612 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 56 | 168234 | | | 108.02- 168.02 | 144.21 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.068 | 3.061 (0.564) | 151 | 592188 | 100.000 | 92.794 | 80.00- 120.00 | 100.00 |
| 3.068 | 3.061 (0.564) | 153 | 385161 | | | 35.07- 95.07 | 65.04 |
| 3.068 | 3.061 (0.564) | 101 | 666908 | | | 87.45- 147.45 | 112.62 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.096 | 3.097 (0.569) | 96 | 301261 | 100.000 | 110.95 | 80.00- 120.00 | 100.00 |
| 3.096 | 3.097 (0.569) | 98 | 167959 | | | 33.27- 93.27 | 55.75 |
| 3.096 | 3.097 (0.569) | 61 | 498243 | | | 159.05- 219.05 | 165.39 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.597) | 58 | 148068 | 100.000 | 95.827 | 80.00- 120.00 | 100.00 |
| 3.247 | 3.247 (0.597) | 43 | 537163 | | | 329.45- 389.45 | 362.78 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.333 | 3.333 (0.613) | 76 | 710224 | 100.000 | 95.922 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.433 | 3.426 (0.631) | 45 | 642786 | 100.000 | 100.06 | 80.00- 120.00 | 100.00 |
| 3.433 | 3.426 (0.631) | 43 | 122192 | | | 0.00- 48.18 | 19.01 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.583 | 3.584 (0.659) | 76 | 121265 | 100.000 | 97.215 | 80.00- 120.00 | 100.00 |
| 3.583 | 3.584 (0.659) | 41 | 471311 | | | 366.80- 426.80 | 388.66 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.691 | 3.684 (0.679) | 41 | 334986 | 117.600 | 118.15 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 57 Acetonitrile (continued) | | | | | | | |
| 3.684 | 3.684 (0.677) | 40 | 172907 | | | 22.74- 82.74 | 51.62 |
| 3.684 | 3.684 (0.677) | 38 | 40298 | | | 0.00- 42.52 | 12.03 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.784 | 3.784 (0.696) | 49 | 420045 | 100.000 | 98.971 | 80.00- 120.00 | 100.00 |
| 3.784 | 3.784 (0.696) | 84 | 231441 | | | 24.90- 84.90 | 55.10 |
| 3.784 | 3.784 (0.696) | 51 | 125628 | | | 0.00- 59.67 | 29.91 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.913 | 3.913 (0.719) | 59 | 743605 | 115.200 | 113.46 | 80.00- 120.00 | 100.00 |
| 3.913 | 3.913 (0.719) | 41 | 162125 | | | 0.00- 51.85 | 21.80 |
| 3.913 | 3.913 (0.719) | 57 | 80421 | | | 0.00- 40.17 | 10.82 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.737) | 73 | 741406 | 100.000 | 95.692 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.737) | 57 | 213348 | | | 0.00- 58.72 | 28.78 |
| 4.006 | 4.006 (0.737) | 41 | 218919 | | | 0.00- 59.38 | 29.53 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.035 | 4.028 (0.742) | 98 | 176446 | 100.000 | 96.758 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.741) | 61 | 467010 | | | 232.13- 292.13 | 264.68 |
| 4.035 | 4.028 (0.742) | 96 | 280492 | | | 127.26- 187.26 | 158.97 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.149 | 4.142 (0.763) | 52 | 229116 | 100.000 | 97.154 | 80.00- 120.00 | 100.00 |
| 4.149 | 4.142 (0.763) | 53 | 285142 | | | 86.45- 146.45 | 124.45 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.783) | 57 | 517066 | 100.000 | 91.000 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.257 (0.783) | 43 | 367195 | | | 40.97- 100.97 | 71.02 |
| 4.257 | 4.257 (0.783) | 86 | 65677 | | | 0.00- 42.68 | 12.70 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.838) | 63 | 523580 | 100.000 | 99.356 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 65 | 160766 | | | 0.47- 60.47 | 30.71 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.550 | 4.558 (0.837) | 45 | 1226420 | 100.000 | 97.056 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 87 | 239988 | | | 0.00- 49.55 | 19.57 |
| 4.550 | 4.558 (0.837) | 59 | 123985 | | | 0.00- 40.42 | 10.11 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.615 | 4.608 (0.849) | 86 | 47844 | 100.000 | 103.11 | 80.00- 120.00 | 100.00 |
| 4.608 | 4.608 (0.847) | 43 | 780354 | | | 1727.95-1787.95 | 1631.04 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.945 (0.908) | 59 | 1072332 | 100.000 | 98.406 | 80.00- 120.00 | 100.00 |
| 4.944 | 4.945 (0.909) | 87 | 366422 | | | 3.90- 63.90 | 34.17 |
| 4.937 | 4.945 (0.908) | 41 | 210371 | | | 0.00- 49.72 | 19.62 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.145 | 5.145 (0.946) | 77 | 501026 | 100.000 | 96.313 | 80.00- 120.00 | 100.00 |
| 5.145 | 5.145 (0.946) | 79 | 161864 | | | 2.39- 62.39 | 32.31 |
| 5.145 | 5.145 (0.946) | 97 | 118677 | | | 0.00- 53.57 | 23.69 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.188 | 5.188 (0.954) | 98 | 187231 | 100.000 | 99.151 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 96 | 289937 | | | 125.53- 185.53 | 154.86 |
| 5.188 | 5.188 (0.954) | 61 | 470007 | | | 219.86- 279.86 | 251.03 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.959) | 72 | 137061 | 100.000 | 100.74 | 80.00- 120.00 | 100.00 |
| 5.238 | 5.217 (0.963) | 43 | 1592983 | | | 1138.34-1198.34 | 1162.24 |
| 5.217 | 5.217 (0.959) | 57 | 54006 | | | 10.83- 70.83 | 39.40 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.245 | 5.245 (0.964) | 45 | 126480 | 100.000 | 92.956 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 61 | 470007 | | | 338.96- 398.96 | 371.61 |
| 5.245 | 5.245 (0.964) | 70 | 69046 | | | 24.53- 84.53 | 54.59 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.432 | 5.425 (0.999) | 42 | 374946 | 100.000 | 90.138 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.425 (0.999) | 71 | 106420 | | | 0.00- 58.54 | 28.38 |
| 5.432 | 5.425 (0.999) | 72 | 111677 | | | 0.00- 59.59 | 29.78 |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 105842 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 83069 | | | 47.79- 107.79 | 78.48 |
| 5.439 | 5.439 (1.000) | 49 | 172113 | | | 131.33- 191.33 | 162.61 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.517 | 5.518 (1.014) | 83 | 565091 | 100.000 | 99.863 | 80.00- 120.00 | 100.00 |
| 5.517 | 5.518 (1.014) | 85 | 370641 | | | 35.77- 95.77 | 65.59 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.032) | 84 | 359507 | 100.000 | 94.967 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.032) | 56 | 552721 | | | 125.79- 185.79 | 153.74 |
| 5.611 | 5.611 (1.032) | 41 | 325050 | | | 61.55- 121.55 | 90.42 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.639 | 5.639 (1.037) | 97 | 591595 | 100.000 | 95.857 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 96 1,1,1-Trichloroethane (continued) | | | | | | | |
| 5.639 | 5.639 (1.037) | 99 | 376125 | | | 32.84- 92.84 | 63.58 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.059) | 119 | 642704 | 100.000 | 98.230 | 80.00- 120.00 | 100.00 |
| 5.761 | 5.761 (1.059) | 117 | 669686 | | | 75.19- 135.19 | 104.20 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.804 | 5.804 (0.903) | 110 | 159905 | 100.000 | 100.11 | 80.00- 120.00 | 100.00 |
| 5.804 | 5.804 (0.903) | 75 | 420011 | | | 234.16- 294.16 | 262.66 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.998 (0.933) | 78 | 785301 | 100.000 | 98.366 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.998 (0.933) | 77 | 185549 | | | 0.00- 53.69 | 23.63 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.990 | 5.998 (1.101) | 57 | 1780857 | 100.000 | 100.31 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.998 (1.101) | 56 | 589538 | | | 3.09- 63.09 | 33.10 |
| 5.990 | 5.998 (1.101) | 41 | 491319 | | | 0.00- 57.28 | 27.59 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.108) | 65 | 138700 | 25.0000 | 25.159 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.108) | 67 | 82615 | | | 23.17- 83.17 | 59.56 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.090 | 6.091 (0.948) | 87 | 213810 | 100.000 | 99.657 | 80.00- 120.00 | 100.00 |
| 6.090 | 6.091 (0.948) | 73 | 848451 | | | 365.76- 425.76 | 396.82 |
| 6.090 | 6.091 (0.948) | 55 | 259377 | | | 92.58- 152.58 | 121.31 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 415718 | 100.000 | 99.824 | 80.00- 120.00 | 100.00 |
| 6.105 | 6.105 (0.950) | 64 | 132642 | | | 1.80- 61.80 | 31.91 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 295338 | 100.000 | 93.388 | 80.00- 120.00 | 100.00 |
| 6.184 | 6.184 (0.962) | 43 | 705437 | | | 207.73- 267.73 | 238.86 |
| 6.184 | 6.184 (0.962) | 57 | 339527 | | | 84.83- 144.83 | 114.96 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 396522 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 60780 | | | 0.00- 45.65 | 15.33 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.031) | 56 | 175615 | 100.000 | 96.750 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.031) | 41 | 135185 | | | 47.73- 107.73 | 76.98 |
| 6.628 | 6.628 (1.031) | 43 | 107643 | | | 31.60- 91.60 | 61.29 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 385359 | 100.000 | 100.11 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.635 (1.032) | 130 | 420282 | | | 80.23- 140.23 | 109.06 |
| 6.635 | 6.635 (1.032) | 97 | 247896 | | | 34.78- 94.78 | 64.33 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.735 | 6.735 (1.048) | 83 | 521879 | 100.000 | 95.445 | 80.00- 120.00 | 100.00 |
| 6.735 | 6.735 (1.048) | 98 | 234798 | | | 14.83- 74.83 | 44.99 |
| 6.735 | 6.735 (1.048) | 55 | 529750 | | | 71.50- 131.50 | 101.51 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 356857 | 100.000 | 94.992 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 254327 | | | 40.39- 100.39 | 71.27 |
| 6.893 | 6.893 (1.072) | 41 | 220968 | | | 31.86- 91.86 | 61.92 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.979 | 6.979 (0.762) | 69 | 309787 | 100.000 | 95.457 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 541842 | | | 145.81- 205.81 | 174.91 |
| 6.979 | 6.979 (0.762) | 100 | 124306 | | | 10.05- 70.05 | 40.13 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.088) | 88 | 197381 | 100.000 | 98.283 | 80.00- 120.00 | 100.00 |
| 6.993 | 6.993 (1.088) | 58 | 172789 | | | 56.33- 116.33 | 87.54 |
| 6.993 | 6.993 (1.088) | 57 | 63133 | | | 2.08- 62.08 | 31.99 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.008 (0.765) | 174 | 381602 | 100.000 | 101.51 | 80.00- 120.00 | 100.00 |
| 7.007 | 7.008 (0.765) | 93 | 352368 | | | 62.68- 122.68 | 92.34 |
| 7.007 | 7.008 (0.765) | 95 | 293123 | | | 47.70- 107.70 | 76.81 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 622682 | 100.000 | 99.932 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 405152 | | | 34.96- 94.96 | 65.07 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.459 | 7.459 (1.160) | 63 | 664952 | 100.000 | 100.32 | 80.00- 120.00 | 100.00 |
| 7.459 | 7.459 (1.160) | 65 | 202248 | | | 0.43- 60.43 | 30.42 |
| 7.459 | 7.459 (1.160) | 144 | 71736 | | | 0.00- 40.48 | 10.79 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.574 (1.178) | 75 | 536050 | 100.000 | 100.87 | 80.00- 120.00 | 100.00 |
| 7.573 | 7.574 (1.178) | 77 | 171485 | | | 1.26- 61.26 | 31.99 |
| 7.573 | 7.574 (1.178) | 39 | 348968 | | | 35.06- 95.06 | 65.10 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.709 | 7.710 (1.199) | 58 | 331484 | 100.000 | 90.683 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 131 4-Methyl-2-pentanone (continued) | | | | | | | |
| 7.709 | 7.710 (1.199) | 43 | 967531 | | | 259.88- 319.88 | 291.88 |
| 7.709 | 7.710 (1.199) | 85 | 121207 | | | 7.58- 67.58 | 36.56 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 384928 | 25.0000 | 24.971 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 43720 | | | 0.00- 41.42 | 11.36 |
| 7.767 | 7.767 (1.208) | 100 | 262520 | | | 37.54- 97.54 | 68.20 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 1060130 | 100.000 | 95.924 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 616016 | | | 27.89- 87.89 | 58.11 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 369712 | 100.000 | 91.822 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 344482 | | | 63.53- 123.53 | 93.18 |
| 7.860 | 7.860 (1.223) | 43 | 1007724 | | | 246.00- 306.00 | 272.57 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 443012 | 100.000 | 100.63 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 141332 | | | 1.83- 61.83 | 31.90 |
| 8.118 | 8.118 (0.887) | 39 | 271120 | | | 31.97- 91.97 | 61.20 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.290 | 8.290 (0.905) | 97 | 356494 | 100.000 | 95.630 | 80.00- 120.00 | 100.00 |
| 8.290 | 8.290 (0.905) | 99 | 222775 | | | 32.52- 92.52 | 62.49 |
| 8.290 | 8.290 (0.905) | 83 | 311459 | | | 58.90- 118.90 | 87.37 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 553652 | 100.000 | 98.911 | 80.00- 120.00 | 100.00 |
| 8.318 | 8.318 (0.908) | 129 | 425367 | | | 45.32- 105.32 | 76.83 |
| 8.318 | 8.318 (0.908) | 131 | 417713 | | | 44.17- 104.17 | 75.45 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 496519 | 100.000 | 95.831 | 80.00- 120.00 | 100.00 |
| 8.447 | 8.447 (1.314) | 41 | 440869 | | | 59.72- 119.72 | 88.79 |
| 8.447 | 8.447 (1.314) | 78 | 160031 | | | 3.08- 63.08 | 32.23 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.490 | 8.490 (0.927) | 58 | 464697 | 100.000 | 99.362 | 80.00- 120.00 | 100.00 |
| 8.490 | 8.490 (0.927) | 43 | 963714 | | | 177.32- 237.32 | 207.39 |
| 8.490 | 8.490 (0.927) | 100 | 79775 | | | 0.00- 47.18 | 17.17 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 755601 | 100.000 | 102.56 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.942) | 127 | 585162 | | | 47.27- 107.27 | 77.44 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | | ===== |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | | |
| 8.748 | 8.741 (0.955) | 107 | 596749 | 100.000 | 97.672 | 80.00- 120.00 | | 100.00 |
| 8.748 | 8.741 (0.955) | 109 | 564389 | | | 64.18- 124.18 | | 94.58 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | | |
| 9.156 | 9.157 (1.000) | 117 | 398422 | 25.0000 | | 80.00- 120.00 | | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 211171 | | | 22.92- 82.92 | | 53.00 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | | |
| 9.185 | 9.185 (1.003) | 112 | 891221 | 100.000 | 96.545 | 80.00- 120.00 | | 100.00 |
| 9.185 | 9.185 (1.003) | 114 | 283609 | | | 1.91- 61.91 | | 31.82 |
| 9.178 | 9.185 (1.002) | 77 | 470841 | | | 22.97- 82.97 | | 52.83 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | | |
| 9.249 | 9.250 (1.010) | 106 | 444390 | 100.000 | 95.707 | 80.00- 120.00 | | 100.00 |
| 9.249 | 9.250 (1.010) | 91 | 1374525 | | | 281.09- 341.09 | | 309.31 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | | |
| 9.271 | 9.271 (1.013) | 131 | 531773 | 100.000 | 101.12 | 80.00- 120.00 | | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 357246 | | | 37.10- 97.10 | | 67.18 |
| 9.271 | 9.271 (1.013) | 95 | 181859 | | | 4.93- 64.93 | | 34.20 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | | |
| 9.314 | 9.314 (1.017) | 43 | 1038239 | 100.000 | 96.273 | 80.00- 120.00 | | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 841060 | | | 50.62- 110.62 | | 81.01 |
| 9.314 | 9.314 (1.017) | 85 | 263825 | | | 0.00- 55.65 | | 25.41 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | | |
| 9.371 | 9.364 (1.023) | 106 | 562748 | 100.000 | 97.237 | 80.00- 120.00 | | 100.00 |
| 9.371 | 9.364 (1.023) | 91 | 1122896 | | | 170.33- 230.33 | | 199.54 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | | |
| 9.751 | 9.751 (1.065) | 106 | 531095 | 100.000 | 96.773 | 80.00- 120.00 | | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 1106036 | | | 181.23- 241.23 | | 208.26 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | | |
| 9.779 | 9.780 (1.068) | 104 | 901272 | 100.000 | 96.162 | 80.00- 120.00 | | 100.00 |
| 9.779 | 9.780 (1.068) | 78 | 430200 | | | 17.26- 77.26 | | 47.73 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | | |
| 9.987 | 9.987 (1.091) | 173 | 764011 | 100.000 | 102.61 | 80.00- 120.00 | | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 393935 | | | 21.45- 81.45 | | 51.56 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | | |
| 10.095 | 10.095 (1.102) | 105 | 1623414 | 100.000 | 97.855 | 80.00- 120.00 | | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 439762 | | | 0.00- 56.93 | | 27.09 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 168 Cumene (continued) | | | | | | | |
| 10.095 | 10.095 (1.102) | 51 | 196064 | | | 0.00- 42.24 | 12.08 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.259 | 10.260 (1.120) | 55 | 573173 | 100.000 | 87.326 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.260 (1.120) | 98 | 203718 | | | 5.15- 65.15 | 35.54 |
| 10.259 | 10.260 (1.120) | 42 | 412326 | | | 41.99- 101.99 | 71.94 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 296799 | 25.0000 | 25.066 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 349798 | | | 88.49- 148.49 | 117.86 |
| 10.295 | 10.295 (1.124) | 176 | 289385 | | | 66.73- 126.73 | 97.50 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.432 (1.139) | 156 | 558700 | 100.000 | 96.660 | 80.00- 120.00 | 100.00 |
| 10.431 | 10.432 (1.139) | 158 | 546276 | | | 67.47- 127.47 | 97.78 |
| 10.431 | 10.432 (1.139) | 77 | 768495 | | | 108.68- 168.68 | 137.55 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.474 | 10.475 (1.144) | 83 | 813731 | 100.000 | 94.567 | 80.00- 120.00 | 100.00 |
| 10.474 | 10.475 (1.144) | 85 | 524090 | | | 34.97- 94.97 | 64.41 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 475959 | 100.000 | 97.023 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 1967721 | | | 383.60- 443.60 | 413.42 |
| 10.496 | 10.496 (1.146) | 105 | 76416 | | | 0.00- 46.14 | 16.06 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.524 | 10.525 (1.149) | 110 | 242072 | 100.000 | 92.694 | 80.00- 120.00 | 100.00 |
| 10.524 | 10.525 (1.149) | 75 | 873427 | | | 324.28- 384.28 | 360.81 |
| 10.524 | 10.518 (1.149) | 61 | 211752 | | | 57.24- 117.24 | 87.47 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.610 | 10.611 (1.159) | 57 | 1121284 | 100.000 | 88.316 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 71 | 352921 | | | 1.11- 61.11 | 31.47 |
| 10.610 | 10.611 (1.159) | 142 | 48194 | | | 0.00- 34.44 | 4.30 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.610 | 10.611 (1.159) | 120 | 519968 | 100.000 | 97.247 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 105 | 1707948 | | | 298.94- 358.94 | 328.47 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.610 | 10.611 (1.159) | 126 | 437162 | 100.000 | 96.633 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 91 | 1364629 | | | 282.78- 342.78 | 312.16 |
| 10.610 | 10.603 (1.159) | 65 | 204643 | | | 17.33- 77.33 | 46.81 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 721444 | 100.000 | 100.05 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 1454356 | | | 172.08- 232.08 | 201.59 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 734672 | 100.000 | 96.182 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 410215 | | | 25.64- 85.64 | 55.84 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.983 | 10.983 (1.199) | 119 | 1356930 | 100.000 | 98.981 | 80.00- 120.00 | 100.00 |
| 10.983 | 10.983 (1.199) | 134 | 341712 | | | 0.00- 55.10 | 25.18 |
| 10.983 | 10.976 (1.199) | 91 | 878858 | | | 34.53- 94.53 | 64.77 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 1415739 | 100.000 | 96.028 | 80.00- 120.00 | 100.00 |
| 11.047 | 11.040 (1.207) | 120 | 660251 | | | 16.63- 76.63 | 46.64 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 436208 | 100.000 | 97.207 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 2036768 | | | 436.99- 496.99 | 466.93 |
| 11.198 | 11.198 (1.223) | 91 | 314010 | | | 41.69- 101.69 | 71.99 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 1789348 | 100.000 | 97.504 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 489513 | | | 0.00- 57.62 | 27.36 |
| 11.341 | 11.341 (1.239) | 91 | 412100 | | | 0.00- 53.03 | 23.03 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 1033818 | 100.000 | 94.630 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 656564 | | | 34.18- 94.18 | 63.51 |
| 11.348 | 11.348 (1.239) | 111 | 413943 | | | 10.06- 70.06 | 40.04 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.448 | 11.449 (1.250) | 146 | 1055927 | 100.000 | 95.420 | 80.00- 120.00 | 100.00 |
| 11.448 | 11.449 (1.250) | 148 | 670982 | | | 33.55- 93.55 | 63.54 |
| 11.448 | 11.449 (1.250) | 111 | 404166 | | | 7.98- 67.98 | 38.28 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 1381580 | 100.000 | 98.590 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 316241 | | | 0.00- 52.77 | 22.89 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.749 | 11.750 (1.283) | 134 | 482826 | 100.000 | 95.464 | 80.00- 120.00 | 100.00 |
| 11.749 | 11.742 (1.283) | 91 | 1647148 | | | 310.82- 370.82 | 341.15 |
| 11.749 | 11.742 (1.283) | 92 | 873623 | | | 151.53- 211.53 | 180.94 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 1302554 | 100.000 | 86.284 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.287) | 43 | 1209695 | | | 63.59- 123.59 | 92.87 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 1010740 | 100.000 | 95.330 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 639756 | | | 33.00- 93.00 | 63.30 |
| 11.821 | 11.821 (1.291) | 111 | 413337 | | | 10.87- 70.87 | 40.89 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.378) | 157 | 612326 | 100.000 | 97.644 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.378) | 75 | 473919 | | | 48.09- 108.09 | 77.40 |
| 12.616 | 12.616 (1.378) | 155 | 475901 | | | 47.89- 107.89 | 77.72 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.404) | 57 | 1478291 | 100.000 | 97.215 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.404) | 43 | 1300190 | | | 58.52- 118.52 | 87.95 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.463) | 180 | 1005016 | 100.000 | 95.651 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.463) | 182 | 959165 | | | 64.84- 124.84 | 95.44 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.511 | 13.512 (1.476) | 225 | 763508 | 100.000 | 99.618 | 80.00- 120.00 | 100.00 |
| 13.511 | 13.512 (1.476) | 223 | 480549 | | | 32.80- 92.80 | 62.94 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.490) | 128 | 237219 | 11.6000 | 10.817 | 80.00- 120.00 | 100.00 |
| 13.648 | 13.648 (1.490) | 127 | 29486 | | | 0.00- 42.72 | 12.43 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.517) | 180 | 982100 | 100.000 | 95.387 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.517) | 182 | 938291 | | | 65.07- 125.07 | 95.54 |
| 13.891 | 13.891 (1.517) | 145 | 338917 | | | 4.48- 64.48 | 34.51 |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042313.d
Lab Smp Id: ICAL Level #8
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 100ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #8
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 105842 | -0.32 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 396522 | 1.42 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 398422 | 1.64 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042313.d

Page 1

Date : 24-APR-2024 00:31

Client ID: ICAL Level #8

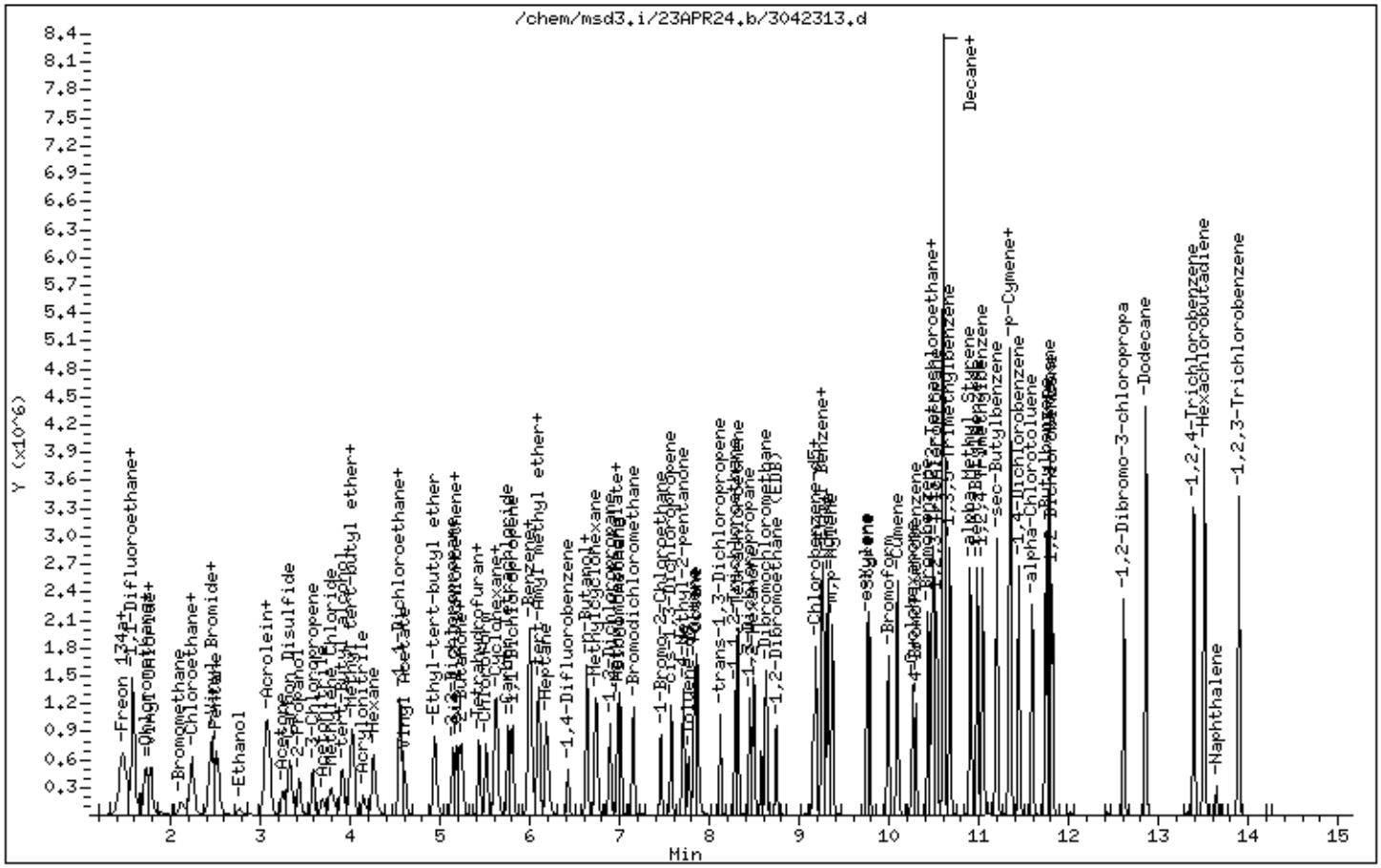
Instrument: msd3.i

Sample Info: 100ml 3018-4439

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3041808.d
Lab Smp Id: ICAL Level #9 Client Smp ID: ICAL Level #9
Inj Date : 18-APR-2024 12:16
Operator : mjs Inst ID: msd3.i
Smp Info : 200ml 3018-4328
Misc Info : 200ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 2 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT21spICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 120006 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 93128 | | | 47.79- 107.79 | 77.60 |
| 5.439 | 5.439 (1.000) | 49 | 193408 | | | 131.33- 191.33 | 161.17 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 458183 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 72127 | | | 0.00- 45.65 | 15.74 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.157 | 9.157 (1.000) | 117 | 467934 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.157 | 9.157 (1.000) | 82 | 252927 | | | 22.92- 82.92 | 54.05 |
| 3 Freon 143a | | | | | CAS #: 420-46-2 | | |
| 1.409 | 1.395 (0.259) | 65 | 260245 | 200.000 | 160.76 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.395 (0.259) | 69 | 706811 | | | 237.43- 297.43 | 271.59 |
| 1.409 | 1.395 (0.259) | 64 | 64311 | | | 0.00- 57.02 | 24.71 |
| 6 Propane | | | | | CAS #: 74-98-6 | | |
| 1.437 | 1.423 (0.264) | 43 | 225328 | 200.000 | 202.89 | 80.00- 120.00 | 100.00(A) |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 6 Propane (continued) | | | | | | | |
| 1.437 | 1.437 (0.264) | 39 | 150266 | | | 37.94- 97.94 | 66.69 |
| 1.437 | 1.423 (0.264) | 41 | 119790 | | | 21.79- 81.79 | 53.16 |
| 13 Freon 142b | | | | | CAS #: 75-68-3 | | |
| 1.619 | 1.604 (0.298) | 65 | 1134995 | 200.000 | 192.46 | 80.00- 120.00 | 100.00 |
| 1.619 | 1.604 (0.298) | 45 | 327199 | | | 0.00- 58.87 | 28.83 |
| 36 1-Pentene | | | | | CAS #: 109-67-1 | | |
| 2.458 | 2.458 (0.452) | 55 | 733847 | 200.000 | 200.44 | 80.00- 120.00 | 100.00(A) |
| 2.458 | 2.458 (0.452) | 42 | 1064716 | | | 114.47- 174.47 | 145.09 |
| 38 Ethyl Ether | | | | | CAS #: 60-29-7 | | |
| 2.808 | 2.794 (0.516) | 74 | 291432 | 200.000 | 192.47 | 80.00- 120.00 | 100.00 |
| 2.808 | 2.794 (0.516) | 59 | 486012 | | | 138.79- 198.79 | 166.77 |
| 2.794 | 2.794 (0.514) | 45 | 424006 | | | 114.58- 174.58 | 145.49 |
| 40 Freon 123a | | | | | CAS #: 354-23-4 | | |
| 2.906 | 2.906 (0.534) | 117 | 929788 | 200.000 | 194.87 | 80.00- 120.00 | 100.00 |
| 2.906 | 2.892 (0.534) | 67 | 1210967 | | | 102.78- 162.78 | 130.24 |
| 41 Freon 123 | | | | | CAS #: 306-83-2 | | |
| 2.990 | 2.990 (0.550) | 83 | 810128 | 200.000 | 183.32 | 80.00- 120.00 | 100.00 |
| 2.990 | 2.990 (0.550) | 133 | 183216 | | | 0.00- 53.60 | 22.62 |
| 2.990 | 2.990 (0.550) | 85 | 548129 | | | 36.72- 96.72 | 67.66 |
| 55 Cyclopentene | | | | | CAS #: 142-29-0 | | |
| 3.598 | 3.591 (0.662) | 67 | 1370577 | 200.000 | 203.72 | 80.00- 120.00 | 100.00(A) |
| 3.598 | 3.591 (0.662) | 68 | 518522 | | | 8.38- 68.38 | 37.83 |
| 3.598 | 3.591 (0.662) | 53 | 334677 | | | 0.00- 54.97 | 24.42 |
| 56 Methyl Acetate | | | | | CAS #: 79-20-9 | | |
| 3.627 | 3.619 (0.667) | 43 | 1520707 | 200.000 | 203.42 | 80.00- 120.00 | 100.00(A) |
| 3.627 | 3.619 (0.667) | 74 | 239531 | | | 0.00- 45.84 | 15.75 |
| 74 Chloroprene | | | | | CAS #: 126-99-8 | | |
| 4.608 | 4.608 (0.847) | 53 | 1182655 | 200.000 | 202.28 | 80.00- 120.00 | 100.00(A) |
| 4.608 | 4.608 (0.847) | 88 | 527130 | | | 14.44- 74.44 | 44.57 |
| 4.608 | 4.608 (0.847) | 50 | 310870 | | | 0.00- 56.76 | 26.29 |
| 75 1-Propanol | | | | | CAS #: 71-23-8 | | |
| 4.715 | 4.715 (0.867) | 59 | 159495 | 200.000 | 180.68 | 80.00- 120.00 | 100.00 |
| 4.715 | 4.715 (0.867) | 42 | 155026 | | | 63.00- 123.00 | 97.20 |
| 4.723 | 4.715 (0.868) | 41 | 95604 | | | 28.69- 88.69 | 59.94 |
| 88 Methyl Acrylate | | | | | CAS #: 96-33-3 | | |
| 5.289 | 5.288 (0.972) | 55 | 1482990 | 200.000 | 201.92 | 80.00- 120.00 | 100.00(A) |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 88 Methyl Acrylate (continued) | | | | | | | |
| 5.289 | 5.288 (0.972) | 85 | 193920 | | | 0.00- 43.17 | 13.08 |
| 5.289 | 5.288 (0.972) | 58 | 124079 | | | 0.00- 38.59 | 8.37 |
| 103 Isobutanol | | | | | CAS #: 78-83-1 | | |
| 5.998 | 5.990 (1.103) | 39 | 183688 | 200.000 | 158.17 | 80.00- 120.00 | 100.00 |
| 5.998 | 5.990 (1.103) | 43 | 817115 | | | 402.02- 462.02 | 444.84 |
| 5.998 | 5.990 (1.103) | 41 | 574154 | | | 275.29- 335.29 | 312.57 |
| 113 Ethyl acrylate | | | | | CAS #: 140-88-5 | | |
| 6.764 | 6.764 (0.739) | 99 | 116107 | 200.000 | 182.12 | 80.00- 120.00 | 100.00 |
| 6.764 | 6.764 (0.739) | 45 | 198660 | | | 144.38- 204.38 | 171.10 |
| 6.764 | 6.764 (0.739) | 55 | 1988303 | | | 1723.57-1783.57 | 1712.47 |
| 115 2-Pentanone | | | | | CAS #: 107-87-9 | | |
| 6.857 | 6.857 (0.749) | 43 | 2482194 | 200.000 | 193.40 | 80.00- 120.00 | 100.00 |
| 6.857 | 6.857 (0.749) | 58 | 177457 | | | 0.00- 37.02 | 7.15 |
| 6.857 | 6.857 (0.749) | 86 | 336830 | | | 0.00- 43.48 | 13.57 |
| 145 Butyl Acetate | | | | | CAS #: 123-86-4 | | |
| 8.576 | 8.576 (1.334) | 56 | 1057450 | 200.000 | 187.81 | 80.00- 120.00 | 100.00 |
| 8.576 | 8.576 (1.334) | 73 | 345843 | | | 2.83- 62.83 | 32.71 |
| 8.576 | 8.576 (1.334) | 43 | 2829149 | | | 240.40- 300.40 | 267.54 |
| 166 2-Heptanone | | | | | CAS #: 110-43-0 | | |
| 9.902 | 9.901 (1.820) | 58 | 1609997 | 200.000 | 175.26 | 80.00- 120.00 | 100.00 |
| 9.902 | 9.901 (1.820) | 43 | 2792761 | | | 146.16- 206.16 | 173.46 |
| 210 alpha-Pinene | | | | | CAS #: 80-56-8 | | |
| 10.038 | 10.037 (1.096) | 93 | 2425999 | 200.000 | 197.57 | 80.00- 120.00 | 100.00 |
| 10.038 | 10.037 (1.096) | 77 | 698349 | | | 0.00- 59.07 | 28.79 |
| 214 beta-Pinene | | | | | CAS #: 127-91-3 | | |
| 10.697 | 10.696 (1.168) | 93 | 1859561 | 200.000 | 194.47 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 3220890 | | | 151.21- 211.21 | 173.21 |
| 186 4-Chlorotoluene | | | | | CAS #: 106-43-4 | | |
| 10.725 | 10.725 (1.171) | 126 | 981566 | 200.000 | 188.28 | 80.00- 120.00 | 100.00 |
| 10.725 | 10.725 (1.171) | 91 | 3220890 | | | 296.65- 356.65 | 328.14 |
| 10.725 | 10.725 (1.171) | 63 | 397359 | | | 10.84- 70.84 | 40.48 |
| 172 D-Limonene | | | | | CAS #: 5989-27-5 | | |
| 11.277 | 11.277 (1.232) | 68 | 1454130 | 200.000 | 187.89 | 80.00- 120.00 | 100.00 |
| 11.277 | 11.277 (1.232) | 93 | 1032179 | | | 41.19- 101.19 | 70.98 |
| 197 1,2,3-Trimethylbenzene | | | | | CAS #: 526-73-8 | | |
| 11.463 | 11.463 (1.252) | 120 | 1341440 | 200.000 | 187.58 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 197 1,2,3-Trimethylbenzene (continued) | | | | | | | |
| 11.463 | 11.463 (1.252) | 105 | 3091684 | | | 201.76- 261.76 | 230.48 |
| 11.463 | 11.463 (1.252) | 77 | 355581 | | | 0.00- 57.12 | 26.51 |
| 205 Hexachloroethane | | | | | CAS #: 67-72-1 | | |
| 12.015 | 12.014 (1.312) | 201 | 896700 | 200.000 | 207.55 | 80.00- 120.00 | 100.00(A) |
| 12.015 | 12.014 (1.312) | 117 | 1289620 | | | 114.78- 174.78 | 143.82 |
| 208 1,3,5-Trichlorobenzene | | | | | CAS #: 108-70-3 | | |
| 12.760 | 12.752 (1.393) | 180 | 1932410 | 200.000 | 194.12 | 80.00- 120.00 | 100.00 |
| 12.760 | 12.752 (1.393) | 182 | 1836171 | | | 64.68- 124.68 | 95.02 |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3041808.d
Lab Smp Id: ICAL Level #9
Analysis Type: VOA
Quant Type: ISTD
Operator: mjs
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 200ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #9
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 120006 | 13.02 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 458183 | 17.19 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 467934 | 19.37 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | 0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | 0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3041808.d

Page 1

Date : 18-APR-2024 12:16

Client ID: ICAL Level #9

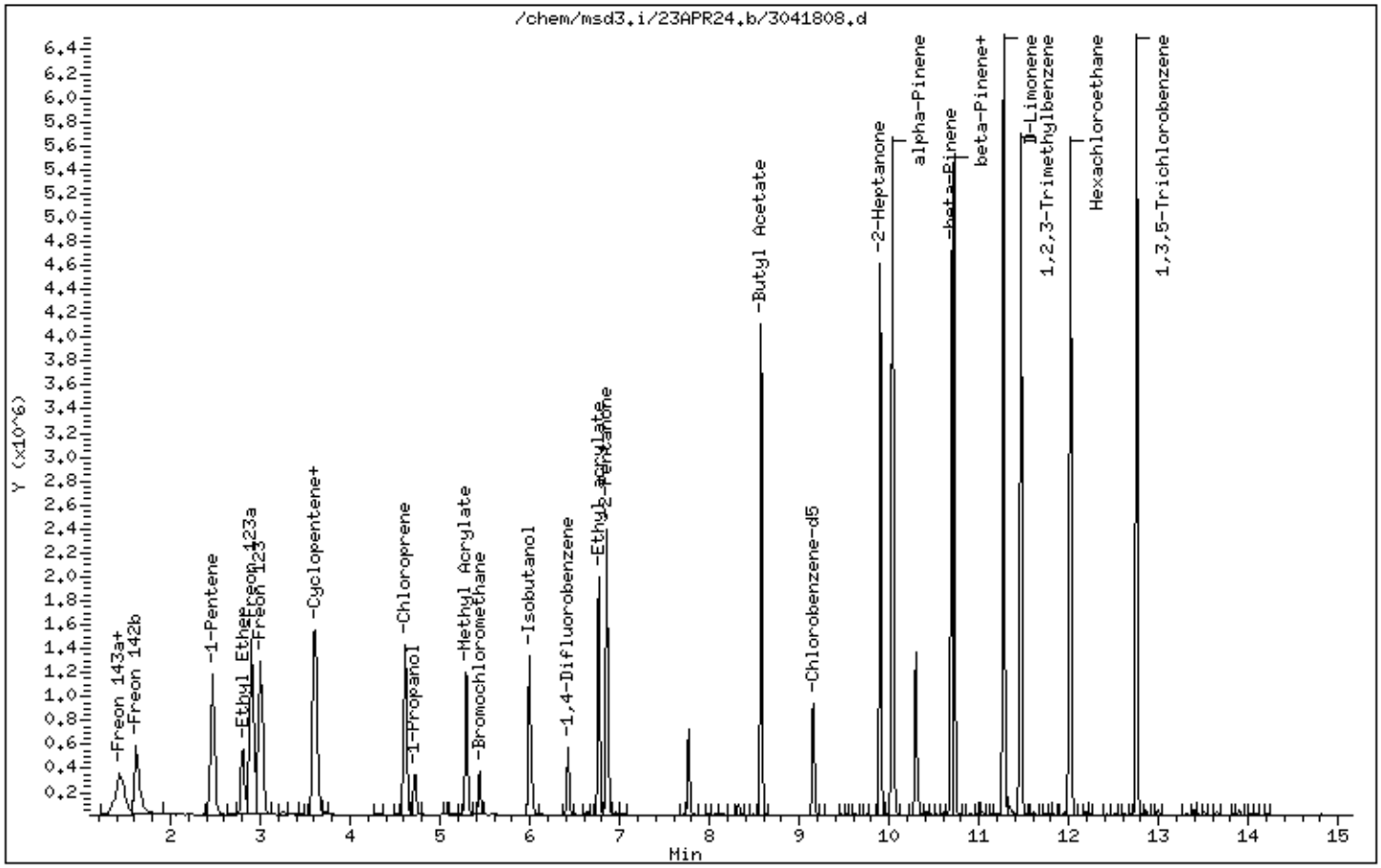
Instrument: msd3.i

Sample Info: 200ml 3018-4328

Operator: mjs

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/23APR24.b/3042314.d
Lab Smp Id: ICAL Level #9 Client Smp ID: ICAL Level #9
Inj Date : 24-APR-2024 01:06
Operator : DF Inst ID: msd3.i
Smp Info : 200ml 3018-4439
Misc Info : 200ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/23APR24.b/324q0423a.m
Meth Date : 26-Apr-2024 08:45 z8dr Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 13 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23ICAL.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 410084 | 200.000 | 160.41 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 385370 | | | 64.17- 124.17 | 93.97 |
| 1.492 | 1.493 (0.274) | 51 | 1962393 | | | 365.46- 425.46 | 478.53 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 572032 | 200.000 | 197.47 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 373175 | | | 35.86- 95.86 | 65.24 |
| 1.437 | 1.437 (0.264) | 39 | 404626 | | | 41.66- 101.66 | 70.73 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.479 | 1.465 (0.272) | 65 | 316553 | 200.000 | 189.56 | 80.00- 120.00 | 100.00 |
| 1.492 | 1.493 (0.274) | 51 | 1962393 | | | 568.10- 628.10 | 619.93 |
| 1.576 | 1.577 (0.290) | 47 | 82323 | | | 0.00- 50.57 | 26.01 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.269) | 85 | 1276509 | 200.000 | 194.89 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.269) | 87 | 414137 | | | 2.88- 62.88 | 32.44 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.506 | 1.493 (0.277) | 67 | 147604 | 200.000 | 180.09 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 9 Chlorodifluoromethane (continued) | | | | | | | |
| 1.492 | 1.493 (0.274) | 51 | 1962393 | | | 1257.55-1317.55 | 1329.50 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.577 (0.290) | 135 | 1162594 | 200.000 | 201.91 | 80.00- 120.00 | 100.00(A) |
| 1.576 | 1.577 (0.290) | 137 | 376760 | | | 2.10- 62.10 | 32.41 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.590 | 1.591 (0.292) | 43 | 1223113 | 200.000 | 199.69 | 80.00- 120.00 | 100.00 |
| 1.590 | 1.591 (0.292) | 42 | 375366 | | | 1.69- 61.69 | 30.69 |
| 1.576 | 1.577 (0.290) | 58 | 37940 | | | 0.00- 33.32 | 3.10 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.675 (0.308) | 50 | 575232 | 200.000 | 182.15 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.675 (0.308) | 52 | 169123 | | | 1.38- 61.38 | 29.40 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.731 (0.316) | 58 | 107881 | 200.000 | 170.38 | 80.00- 120.00 | 100.00 |
| 1.716 | 1.731 (0.316) | 43 | 983482 | | | 866.38- 926.38 | 911.64 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.744 | 1.759 (0.321) | 62 | 529490 | 200.000 | 173.29 | 80.00- 120.00 | 100.00 |
| 1.744 | 1.759 (0.321) | 64 | 162361 | | | 3.10- 63.10 | 30.66 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 467384 | 200.000 | 162.83 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 538307 | | | 78.74- 138.74 | 115.17 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 494739 | 200.000 | 226.58 | 80.00- 120.00 | 100.00(A) |
| 2.108 | 2.108 (0.388) | 96 | 462041 | | | 64.19- 124.19 | 93.39 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.206 | 2.220 (0.406) | 64 | 302289 | 200.000 | 206.30 | 80.00- 120.00 | 100.00(A) |
| 2.206 | 2.220 (0.406) | 66 | 90590 | | | 2.32- 62.32 | 29.97 |
| 2.206 | 2.220 (0.406) | 49 | 105013 | | | 6.33- 66.33 | 34.74 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.220 | 2.234 (0.408) | 43 | 837900 | 200.000 | 200.38 | 80.00- 120.00 | 100.00(A) |
| 2.220 | 2.234 (0.408) | 57 | 515900 | | | 31.77- 91.77 | 61.57 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.416 (0.442) | 106 | 538671 | 200.000 | 212.12 | 80.00- 120.00 | 100.00(A) |
| 2.402 | 2.416 (0.442) | 108 | 501592 | | | 64.21- 124.21 | 93.12 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.449) | 101 | 1540465 | 200.000 | 204.15 | 80.00- 120.00 | 100.00(A) |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 33 Freon 11 (continued) | | | | | | | |
| 2.444 | 2.444 (0.449) | 103 | 1006228 | | | 34.93- 94.93 | 65.32 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.472 (0.452) | 67 | 1214198 | 200.000 | 201.80 | 80.00- 120.00 | 100.00(A) |
| 2.458 | 2.472 (0.452) | 69 | 384330 | | | 1.95- 61.95 | 31.65 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.500 | 2.514 (0.460) | 43 | 1301593 | 200.000 | 204.58 | 80.00- 120.00 | 100.00(A) |
| 2.500 | 2.514 (0.460) | 57 | 185621 | | | 0.00- 44.64 | 14.26 |
| 2.500 | 2.514 (0.460) | 72 | 106619 | | | 0.00- 37.90 | 8.19 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.780 | 2.752 (0.511) | 46 | 121197 | 246.400 | 202.45 | 80.00- 120.00 | 100.00(A) |
| 2.780 | 2.752 (0.511) | 45 | 317519 | | | 224.40- 284.40 | 261.99 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.068 | 3.061 (0.564) | 55 | 247283 | 233.000 | 191.92 | 80.00- 120.00 | 100.00 |
| 3.068 | 3.061 (0.564) | 56 | 352334 | | | 108.02- 168.02 | 142.48 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.053 | 3.061 (0.561) | 151 | 1232782 | 200.000 | 184.86 | 80.00- 120.00 | 100.00 |
| 3.053 | 3.061 (0.561) | 153 | 785359 | | | 35.07- 95.07 | 63.71 |
| 3.053 | 3.061 (0.561) | 101 | 1424886 | | | 87.45- 147.45 | 115.58 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.097 (0.568) | 96 | 651515 | 200.000 | 229.61 | 80.00- 120.00 | 100.00(A) |
| 3.089 | 3.097 (0.568) | 98 | 403777 | | | 33.27- 93.27 | 61.98 |
| 3.089 | 3.097 (0.568) | 61 | 1213559 | | | 159.05- 219.05 | 186.27 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.261 | 3.247 (0.600) | 58 | 311901 | 200.000 | 193.17 | 80.00- 120.00 | 100.00 |
| 3.254 | 3.247 (0.598) | 43 | 1132404 | | | 329.45- 389.45 | 363.07 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.333 (0.611) | 76 | 1502714 | 200.000 | 194.22 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.447 | 3.426 (0.634) | 45 | 1362696 | 200.000 | 203.00 | 80.00- 120.00 | 100.00(A) |
| 3.447 | 3.426 (0.634) | 43 | 245979 | | | 0.00- 48.18 | 18.05 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.583 | 3.584 (0.659) | 76 | 261523 | 200.000 | 200.64 | 80.00- 120.00 | 100.00(A) |
| 3.583 | 3.584 (0.659) | 41 | 985150 | | | 366.80- 426.80 | 376.70 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.691 | 3.684 (0.679) | 41 | 703344 | 235.200 | 237.39 | 80.00- 120.00 | 100.00(A) |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 57 Acetonitrile (continued) | | | | | | | |
| 3.691 | 3.684 (0.679) | 40 | 361433 | | | 22.74- 82.74 | 51.39 |
| 3.691 | 3.684 (0.679) | 38 | 84172 | | | 0.00- 42.52 | 11.97 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.784 (0.694) | 49 | 869976 | 200.000 | 196.16 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.784 (0.694) | 84 | 481094 | | | 24.90- 84.90 | 55.30 |
| 3.777 | 3.784 (0.694) | 51 | 262111 | | | 0.00- 59.67 | 30.13 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.927 | 3.913 (0.722) | 59 | 1604202 | 230.400 | 234.25 | 80.00- 120.00 | 100.00(A) |
| 3.920 | 3.913 (0.721) | 41 | 353540 | | | 0.00- 51.85 | 22.04 |
| 3.927 | 3.913 (0.722) | 57 | 165542 | | | 0.00- 40.17 | 10.32 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.737) | 73 | 1550587 | 200.000 | 191.52 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.737) | 57 | 452421 | | | 0.00- 58.72 | 29.18 |
| 4.006 | 4.006 (0.737) | 41 | 454741 | | | 0.00- 59.38 | 29.33 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.741) | 98 | 380192 | 200.000 | 199.52 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.741) | 61 | 1003569 | | | 232.13- 292.13 | 263.96 |
| 4.028 | 4.028 (0.741) | 96 | 595937 | | | 127.26- 187.26 | 156.75 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.149 | 4.142 (0.763) | 52 | 481156 | 200.000 | 195.25 | 80.00- 120.00 | 100.00 |
| 4.149 | 4.142 (0.763) | 53 | 597806 | | | 86.45- 146.45 | 124.24 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.250 | 4.257 (0.781) | 57 | 1088847 | 200.000 | 183.39 | 80.00- 120.00 | 100.00 |
| 4.250 | 4.257 (0.781) | 43 | 771046 | | | 40.97- 100.97 | 70.81 |
| 4.257 | 4.257 (0.783) | 86 | 136306 | | | 0.00- 42.68 | 12.52 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.838) | 63 | 1128866 | 200.000 | 205.00 | 80.00- 120.00 | 100.00(A) |
| 4.558 | 4.558 (0.838) | 65 | 348102 | | | 0.47- 60.47 | 30.84 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.551 | 4.558 (0.837) | 45 | 2530646 | 200.000 | 191.65 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.558 (0.837) | 87 | 498237 | | | 0.00- 49.55 | 19.69 |
| 4.551 | 4.558 (0.837) | 59 | 258472 | | | 0.00- 40.42 | 10.21 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.608 | 4.608 (0.847) | 86 | 99221 | 200.000 | 204.63 | 80.00- 120.00 | 100.00(A) |
| 4.608 | 4.608 (0.847) | 43 | 1618671 | | | 1727.95-1787.95 | 1631.38 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 79 Ethyl-tert-butyl ether | | | | | | CAS #: 637-92-3 | |
| 4.937 | 4.945 (0.908) | 59 | 2214700 | 200.000 | 194.50 | 80.00- 120.00 | 100.00 |
| 4.937 | 4.945 (0.908) | 87 | 749366 | | | 3.90- 63.90 | 33.84 |
| 4.937 | 4.945 (0.908) | 41 | 433972 | | | 0.00- 49.72 | 19.60 |
| 84 2,2-Dichloropropane | | | | | | CAS #: 594-20-7 | |
| 5.138 | 5.145 (0.945) | 77 | 1056020 | 200.000 | 194.27 | 80.00- 120.00 | 100.00 |
| 5.145 | 5.145 (0.946) | 79 | 339244 | | | 2.39- 62.39 | 32.12 |
| 5.145 | 5.145 (0.946) | 97 | 247687 | | | 0.00- 53.57 | 23.45 |
| 85 cis-1,2-Dichloroethene | | | | | | CAS #: 156-59-2 | |
| 5.188 | 5.188 (0.954) | 98 | 402619 | 200.000 | 204.04 | 80.00- 120.00 | 100.00(A) |
| 5.188 | 5.188 (0.954) | 96 | 619017 | | | 125.53- 185.53 | 153.75 |
| 5.188 | 5.188 (0.954) | 61 | 995983 | | | 219.86- 279.86 | 247.38 |
| 86 2-Butanone | | | | | | CAS #: 78-93-3 | |
| 5.224 | 5.217 (0.960) | 72 | 292653 | 200.000 | 205.85 | 80.00- 120.00 | 100.00(A) |
| 5.238 | 5.217 (0.963) | 43 | 3428922 | | | 1138.34-1198.34 | 1171.67 |
| 5.217 | 5.217 (0.959) | 57 | 119189 | | | 10.83- 70.83 | 40.73 |
| 87 Ethyl Acetate | | | | | | CAS #: 141-78-6 | |
| 5.245 | 5.245 (0.964) | 45 | 273075 | 200.000 | 192.06 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 61 | 995983 | | | 338.96- 398.96 | 364.73 |
| 5.245 | 5.245 (0.964) | 70 | 147385 | | | 24.53- 84.53 | 53.97 |
| 89 Tetrahydrofuran | | | | | | CAS #: 109-99-9 | |
| 5.432 | 5.425 (0.999) | 42 | 804158 | 200.000 | 185.00 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.425 (0.999) | 71 | 227549 | | | 0.00- 58.54 | 28.30 |
| 5.432 | 5.425 (0.999) | 72 | 240332 | | | 0.00- 59.59 | 29.89 |
| * 90 Bromochloromethane | | | | | | CAS #: 74-97-5 | |
| 5.439 | 5.439 (1.000) | 130 | 110600 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 86924 | | | 47.79- 107.79 | 78.59 |
| 5.439 | 5.439 (1.000) | 49 | 176948 | | | 131.33- 191.33 | 159.99 |
| 92 Chloroform | | | | | | CAS #: 67-66-3 | |
| 5.510 | 5.518 (1.013) | 83 | 1217588 | 200.000 | 205.92 | 80.00- 120.00 | 100.00(A) |
| 5.510 | 5.518 (1.013) | 85 | 795214 | | | 35.77- 95.77 | 65.31 |
| 94 Cyclohexane | | | | | | CAS #: 110-82-7 | |
| 5.611 | 5.611 (1.032) | 84 | 759463 | 200.000 | 191.99 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.032) | 56 | 1169477 | | | 125.79- 185.79 | 153.99 |
| 5.611 | 5.611 (1.032) | 41 | 679265 | | | 61.55- 121.55 | 89.44 |
| 96 1,1,1-Trichloroethane | | | | | | CAS #: 71-55-6 | |
| 5.632 | 5.639 (1.036) | 97 | 1257346 | 200.000 | 194.97 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 96 1,1,1-Trichloroethane (continued) | | | | | | | |
| 5.632 | 5.639 (1.036) | 99 | 803746 | | | 32.84- 92.84 | 63.92 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.059) | 119 | 1368824 | 200.000 | 200.21 | 80.00- 120.00 | 100.00(A) |
| 5.761 | 5.761 (1.059) | 117 | 1428526 | | | 75.19- 135.19 | 104.36 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.804 | 5.804 (0.903) | 110 | 349336 | 200.000 | 205.88 | 80.00- 120.00 | 100.00(A) |
| 5.797 | 5.804 (0.902) | 75 | 909794 | | | 234.16- 294.16 | 260.44 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.998 (0.933) | 78 | 1691616 | 200.000 | 199.45 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.998 (0.933) | 77 | 401396 | | | 0.00- 53.69 | 23.73 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.983 | 5.998 (1.100) | 57 | 3684783 | 200.000 | 198.63 | 80.00- 120.00 | 100.00 |
| 5.983 | 5.998 (1.100) | 56 | 1186264 | | | 3.09- 63.09 | 32.19 |
| 5.983 | 5.998 (1.100) | 41 | 1019972 | | | 0.00- 57.28 | 27.68 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.108) | 65 | 155226 | 25.0000 | 26.946 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.108) | 67 | 79858 | | | 23.17- 83.17 | 51.45 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.091 | 6.091 (0.948) | 87 | 452633 | 200.000 | 198.59 | 80.00- 120.00 | 100.00 |
| 6.091 | 6.091 (0.948) | 73 | 1790511 | | | 365.76- 425.76 | 395.58 |
| 6.091 | 6.091 (0.948) | 55 | 545645 | | | 92.58- 152.58 | 120.55 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 904476 | 200.000 | 204.44 | 80.00- 120.00 | 100.00(A) |
| 6.105 | 6.105 (0.950) | 64 | 285349 | | | 1.80- 61.80 | 31.55 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 622835 | 200.000 | 185.39 | 80.00- 120.00 | 100.00 |
| 6.184 | 6.184 (0.962) | 43 | 1497699 | | | 207.73- 267.73 | 240.46 |
| 6.184 | 6.184 (0.962) | 57 | 719582 | | | 84.83- 144.83 | 115.53 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 421244 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 64317 | | | 0.00- 45.65 | 15.27 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.635 | 6.628 (1.032) | 56 | 384703 | 200.000 | 199.50 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.628 (1.032) | 41 | 289063 | | | 47.73- 107.73 | 75.14 |
| 6.635 | 6.628 (1.032) | 43 | 231842 | | | 31.60- 91.60 | 60.27 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.635 (1.031) | 95 | 827420 | 200.000 | 202.34 | 80.00- 120.00 | 100.00(A) |
| 6.635 | 6.635 (1.032) | 130 | 906648 | | | 80.23- 140.23 | 109.58 |
| 6.628 | 6.635 (1.031) | 97 | 531936 | | | 34.78- 94.78 | 64.29 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.735 | 6.735 (1.048) | 83 | 1087624 | 200.000 | 187.24 | 80.00- 120.00 | 100.00 |
| 6.735 | 6.735 (1.048) | 98 | 489096 | | | 14.83- 74.83 | 44.97 |
| 6.735 | 6.735 (1.048) | 55 | 1111233 | | | 71.50- 131.50 | 102.17 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 758683 | 200.000 | 190.10 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 544138 | | | 40.39- 100.39 | 71.72 |
| 6.886 | 6.893 (1.071) | 41 | 466611 | | | 31.86- 91.86 | 61.50 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.979 | 6.979 (0.762) | 69 | 661206 | 200.000 | 188.99 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 1145845 | | | 145.81- 205.81 | 173.30 |
| 6.979 | 6.979 (0.762) | 100 | 265624 | | | 10.05- 70.05 | 40.17 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.088) | 88 | 432494 | 200.000 | 202.71 | 80.00- 120.00 | 100.00(A) |
| 6.993 | 6.993 (1.088) | 58 | 369163 | | | 56.33- 116.33 | 85.36 |
| 6.993 | 6.993 (1.088) | 57 | 132525 | | | 2.08- 62.08 | 30.64 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.008 (0.765) | 174 | 823798 | 200.000 | 203.27 | 80.00- 120.00 | 100.00(A) |
| 7.007 | 7.008 (0.765) | 93 | 755755 | | | 62.68- 122.68 | 91.74 |
| 7.007 | 7.008 (0.765) | 95 | 627471 | | | 47.70- 107.70 | 76.17 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 1342387 | 200.000 | 202.79 | 80.00- 120.00 | 100.00(A) |
| 7.151 | 7.151 (1.113) | 85 | 862599 | | | 34.96- 94.96 | 64.26 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.459 | 7.459 (1.160) | 63 | 1417371 | 200.000 | 201.29 | 80.00- 120.00 | 100.00(A) |
| 7.459 | 7.459 (1.160) | 65 | 433726 | | | 0.43- 60.43 | 30.60 |
| 7.459 | 7.459 (1.160) | 144 | 152560 | | | 0.00- 40.48 | 10.76 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.574 (1.178) | 75 | 1155256 | 200.000 | 204.63 | 80.00- 120.00 | 100.00(A) |
| 7.573 | 7.574 (1.178) | 77 | 367433 | | | 1.26- 61.26 | 31.81 |
| 7.573 | 7.574 (1.178) | 39 | 735758 | | | 35.06- 95.06 | 63.69 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.709 | 7.710 (1.199) | 58 | 693561 | 200.000 | 178.60 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 131 4-Methyl-2-pentanone (continued) | | | | | | | |
| 7.709 | 7.710 (1.199) | 43 | 2018305 | | | 259.88- 319.88 | 291.01 |
| 7.709 | 7.710 (1.199) | 85 | 259221 | | | 7.58- 67.58 | 37.38 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 408561 | 25.0000 | 24.949 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 44902 | | | 0.00- 41.42 | 10.99 |
| 7.767 | 7.767 (1.208) | 100 | 277631 | | | 37.54- 97.54 | 67.95 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 2252473 | 200.000 | 191.85 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 1316629 | | | 27.89- 87.89 | 58.45 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 767219 | 200.000 | 179.36 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 712466 | | | 63.53- 123.53 | 92.86 |
| 7.860 | 7.860 (1.223) | 43 | 2093560 | | | 246.00- 306.00 | 272.88 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 950900 | 200.000 | 200.35 | 80.00- 120.00 | 100.00(A) |
| 8.118 | 8.118 (0.887) | 77 | 304969 | | | 1.83- 61.83 | 32.07 |
| 8.118 | 8.118 (0.887) | 39 | 579697 | | | 31.97- 91.97 | 60.96 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.290 | 8.290 (0.905) | 97 | 762947 | 200.000 | 189.84 | 80.00- 120.00 | 100.00 |
| 8.290 | 8.290 (0.905) | 99 | 473869 | | | 32.52- 92.52 | 62.11 |
| 8.290 | 8.290 (0.905) | 83 | 668871 | | | 58.90- 118.90 | 87.67 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 1193313 | 200.000 | 197.75 | 80.00- 120.00 | 100.00 |
| 8.318 | 8.318 (0.908) | 129 | 907251 | | | 45.32- 105.32 | 76.03 |
| 8.318 | 8.318 (0.908) | 131 | 885260 | | | 44.17- 104.17 | 74.19 |
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 1059573 | 200.000 | 192.50 | 80.00- 120.00 | 100.00 |
| 8.447 | 8.447 (1.314) | 41 | 940665 | | | 59.72- 119.72 | 88.78 |
| 8.447 | 8.447 (1.314) | 78 | 342806 | | | 3.08- 63.08 | 32.35 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.490 | 8.490 (0.927) | 58 | 973677 | 200.000 | 193.12 | 80.00- 120.00 | 100.00 |
| 8.490 | 8.490 (0.927) | 43 | 2036651 | | | 177.32- 237.32 | 209.17 |
| 8.497 | 8.490 (0.928) | 100 | 171419 | | | 0.00- 47.18 | 17.61 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 1630261 | 200.000 | 205.25 | 80.00- 120.00 | 100.00(A) |
| 8.626 | 8.626 (0.942) | 127 | 1267909 | | | 47.27- 107.27 | 77.77 |

| | | | | AMOUNTS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | | ======= | ======= | ========== | ===== |
| 148 1,2-Dibromoethane (EDB) | | | | | | CAS #: 106-93-4 | | |
| 8.748 | 8.741 (0.955) | 107 | 1279201 | 200.000 | 194.21 | 80.00- 120.00 | | 100.00 |
| 8.748 | 8.741 (0.955) | 109 | 1207964 | | | 64.18- 124.18 | | 94.43 |
| * 153 Chlorobenzene-d5 | | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.157 (1.000) | 117 | 429525 | 25.0000 | | 80.00- 120.00 | | 100.00 |
| 9.156 | 9.157 (1.000) | 82 | 226464 | | | 22.92- 82.92 | | 52.72 |
| 154 Chlorobenzene | | | | | | CAS #: 108-90-7 | | |
| 9.185 | 9.185 (1.003) | 112 | 1873551 | 200.000 | 188.26 | 80.00- 120.00 | | 100.00 |
| 9.185 | 9.185 (1.003) | 114 | 605172 | | | 1.91- 61.91 | | 32.30 |
| 9.178 | 9.185 (1.002) | 77 | 992370 | | | 22.97- 82.97 | | 52.97 |
| 155 Ethyl Benzene | | | | | | CAS #: 100-41-4 | | |
| 9.257 | 9.250 (1.011) | 106 | 943770 | 200.000 | 188.54 | 80.00- 120.00 | | 100.00 |
| 9.249 | 9.250 (1.010) | 91 | 2925092 | | | 281.09- 341.09 | | 309.94 |
| 157 1,1,1,2-Tetrachloroethane | | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.013) | 131 | 1129091 | 200.000 | 199.15 | 80.00- 120.00 | | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 759840 | | | 37.10- 97.10 | | 67.30 |
| 9.271 | 9.271 (1.013) | 95 | 393103 | | | 4.93- 64.93 | | 34.82 |
| 156 Nonane | | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.017) | 43 | 2183354 | 200.000 | 187.80 | 80.00- 120.00 | | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 1775351 | | | 50.62- 110.62 | | 81.31 |
| 9.314 | 9.314 (1.017) | 85 | 555366 | | | 0.00- 55.65 | | 25.44 |
| 158 m,p-Xylene | | | | | | CAS #: 108-38-3 | | |
| 9.371 | 9.364 (1.023) | 106 | 1218383 | 200.000 | 195.28 | 80.00- 120.00 | | 100.00 |
| 9.371 | 9.364 (1.023) | 91 | 2425009 | | | 170.33- 230.33 | | 199.04 |
| 164 o-Xylene | | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 1110220 | 200.000 | 187.65 | 80.00- 120.00 | | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 2318220 | | | 181.23- 241.23 | | 208.81 |
| 165 Styrene | | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 1908989 | 200.000 | 188.93 | 80.00- 120.00 | | 100.00 |
| 9.780 | 9.780 (1.068) | 78 | 918924 | | | 17.26- 77.26 | | 48.14 |
| 167 Bromoform | | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 1641262 | 200.000 | 204.47 | 80.00- 120.00 | | 100.00(A) |
| 9.987 | 9.987 (1.091) | 171 | 852142 | | | 21.45- 81.45 | | 51.92 |
| 168 Cumene | | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 3405406 | 200.000 | 190.40 | 80.00- 120.00 | | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 923765 | | | 0.00- 56.93 | | 27.13 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 168 Cumene (continued) | | | | | | | |
| 10.095 | 10.095 (1.102) | 51 | 412658 | | | 0.00- 42.24 | 12.12 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.267 | 10.260 (1.121) | 55 | 1225485 | 200.000 | 173.19 | 80.00- 120.00 | 100.00 |
| 10.267 | 10.260 (1.121) | 98 | 434200 | | | 5.15- 65.15 | 35.43 |
| 10.259 | 10.260 (1.120) | 42 | 870161 | | | 41.99- 101.99 | 71.01 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 326907 | 25.0000 | 25.610 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 385916 | | | 88.49- 148.49 | 118.05 |
| 10.295 | 10.295 (1.124) | 176 | 314790 | | | 66.73- 126.73 | 96.29 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.432 (1.139) | 156 | 1189847 | 200.000 | 190.95 | 80.00- 120.00 | 100.00 |
| 10.431 | 10.432 (1.139) | 158 | 1156108 | | | 67.47- 127.47 | 97.16 |
| 10.431 | 10.432 (1.139) | 77 | 1637640 | | | 108.68- 168.68 | 137.63 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.474 | 10.475 (1.144) | 83 | 1750995 | 200.000 | 188.76 | 80.00- 120.00 | 100.00 |
| 10.474 | 10.475 (1.144) | 85 | 1133485 | | | 34.97- 94.97 | 64.73 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 1015276 | 200.000 | 191.98 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 4182455 | | | 383.60- 443.60 | 411.95 |
| 10.496 | 10.496 (1.146) | 105 | 158103 | | | 0.00- 46.14 | 15.57 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.524 | 10.525 (1.149) | 110 | 523959 | 200.000 | 186.10 | 80.00- 120.00 | 100.00 |
| 10.524 | 10.525 (1.149) | 75 | 1889460 | | | 324.28- 384.28 | 360.61 |
| 10.524 | 10.518 (1.149) | 61 | 457068 | | | 57.24- 117.24 | 87.23 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.610 | 10.611 (1.159) | 57 | 2257489 | 200.000 | 164.93 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 71 | 721289 | | | 1.11- 61.11 | 31.95 |
| 10.610 | 10.611 (1.159) | 142 | 100740 | | | 0.00- 34.44 | 4.46 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.610 | 10.611 (1.159) | 120 | 1082851 | 200.000 | 187.85 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 105 | 3581183 | | | 298.94- 358.94 | 330.72 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.610 | 10.611 (1.159) | 126 | 916658 | 200.000 | 187.95 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 91 | 2885973 | | | 282.78- 342.78 | 314.84 |
| 10.610 | 10.603 (1.159) | 65 | 429813 | | | 17.33- 77.33 | 46.89 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 1516834 | 200.000 | 195.12 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 3071263 | | | 172.08- 232.08 | 202.48 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 1557047 | 200.000 | 189.08 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 873206 | | | 25.64- 85.64 | 56.08 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.983 | 10.983 (1.199) | 119 | 2818355 | 200.000 | 190.70 | 80.00- 120.00 | 100.00 |
| 10.983 | 10.983 (1.199) | 134 | 710984 | | | 0.00- 55.10 | 25.23 |
| 10.983 | 10.976 (1.199) | 91 | 1831070 | | | 34.53- 94.53 | 64.97 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.047 | 11.040 (1.207) | 105 | 2997479 | 200.000 | 188.59 | 80.00- 120.00 | 100.00 |
| 11.047 | 11.040 (1.207) | 120 | 1399751 | | | 16.63- 76.63 | 46.70 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 926105 | 200.000 | 191.43 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 4263896 | | | 436.99- 496.99 | 460.41 |
| 11.198 | 11.198 (1.223) | 91 | 664178 | | | 41.69- 101.69 | 71.72 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 3753209 | 200.000 | 189.71 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 1033850 | | | 0.00- 57.62 | 27.55 |
| 11.341 | 11.341 (1.239) | 91 | 866218 | | | 0.00- 53.03 | 23.08 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 2197354 | 200.000 | 186.57 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 1392077 | | | 34.18- 94.18 | 63.35 |
| 11.348 | 11.348 (1.239) | 111 | 886962 | | | 10.06- 70.06 | 40.37 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.449 | 11.449 (1.250) | 146 | 2277989 | 200.000 | 190.94 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.250) | 148 | 1451384 | | | 33.55- 93.55 | 63.71 |
| 11.449 | 11.449 (1.250) | 111 | 880508 | | | 7.98- 67.98 | 38.65 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 2949028 | 200.000 | 195.20 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 685991 | | | 0.00- 52.77 | 23.26 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.749 | 11.750 (1.283) | 134 | 1015482 | 200.000 | 186.24 | 80.00- 120.00 | 100.00 |
| 11.749 | 11.742 (1.283) | 91 | 3451801 | | | 310.82- 370.82 | 339.92 |
| 11.749 | 11.742 (1.283) | 92 | 1836149 | | | 151.53- 211.53 | 180.82 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 2690035 | 200.000 | 165.29 | 80.00- 120.00 | 100.00 |
| 11.785 | 11.785 (1.287) | 43 | 2434104 | | | 63.59- 123.59 | 90.49 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 2165447 | 200.000 | 189.45 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 1378276 | | | 33.00- 93.00 | 63.65 |
| 11.821 | 11.821 (1.291) | 111 | 893293 | | | 10.87- 70.87 | 41.25 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.378) | 157 | 1281198 | 200.000 | 189.51 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.378) | 75 | 986158 | | | 48.09- 108.09 | 76.97 |
| 12.616 | 12.616 (1.378) | 155 | 997199 | | | 47.89- 107.89 | 77.83 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.404) | 57 | 3034771 | 200.000 | 185.12 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.404) | 43 | 2628320 | | | 58.52- 118.52 | 86.61 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.463) | 180 | 2100057 | 200.000 | 185.40 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.463) | 182 | 2001703 | | | 64.84- 124.84 | 95.32 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.511 | 13.512 (1.476) | 225 | 1585826 | 200.000 | 191.92 | 80.00- 120.00 | 100.00 |
| 13.511 | 13.512 (1.476) | 223 | 1007250 | | | 32.80- 92.80 | 63.52 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.490) | 128 | 496040 | 23.2000 | 20.981 | 80.00- 120.00 | 100.00 |
| 13.648 | 13.648 (1.490) | 127 | 64018 | | | 0.00- 42.72 | 12.91 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.898 | 13.891 (1.518) | 180 | 2063122 | 200.000 | 185.87 | 80.00- 120.00 | 100.00 |
| 13.898 | 13.891 (1.518) | 182 | 1965614 | | | 65.07- 125.07 | 95.27 |
| 13.891 | 13.891 (1.517) | 145 | 715192 | | | 4.48- 64.48 | 34.67 |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042314.d
Lab Smp Id: ICAL Level #9
Analysis Type: VOA
Quant Type: ISTD
Operator: DF
Method File: /chem/msd3.i/23APR24.b/324q0423a.m
Misc Info: 200ppbv (200ppbv)

Calibration Date: 23-APR-2024
Calibration Time: 23:59
Client Smp ID: ICAL Level #9
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 106185 | 63711 | 148659 | 110600 | 4.16 |
| 108 1,4-Difluorobenze | 390964 | 234578 | 547350 | 421244 | 7.74 |
| 153 Chlorobenzene-d5 | 392003 | 235202 | 548804 | 429525 | 9.57 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/23APR24.b/3042314.d

Page 1

Date : 24-APR-2024 01:06

Client ID: ICAL Level #9

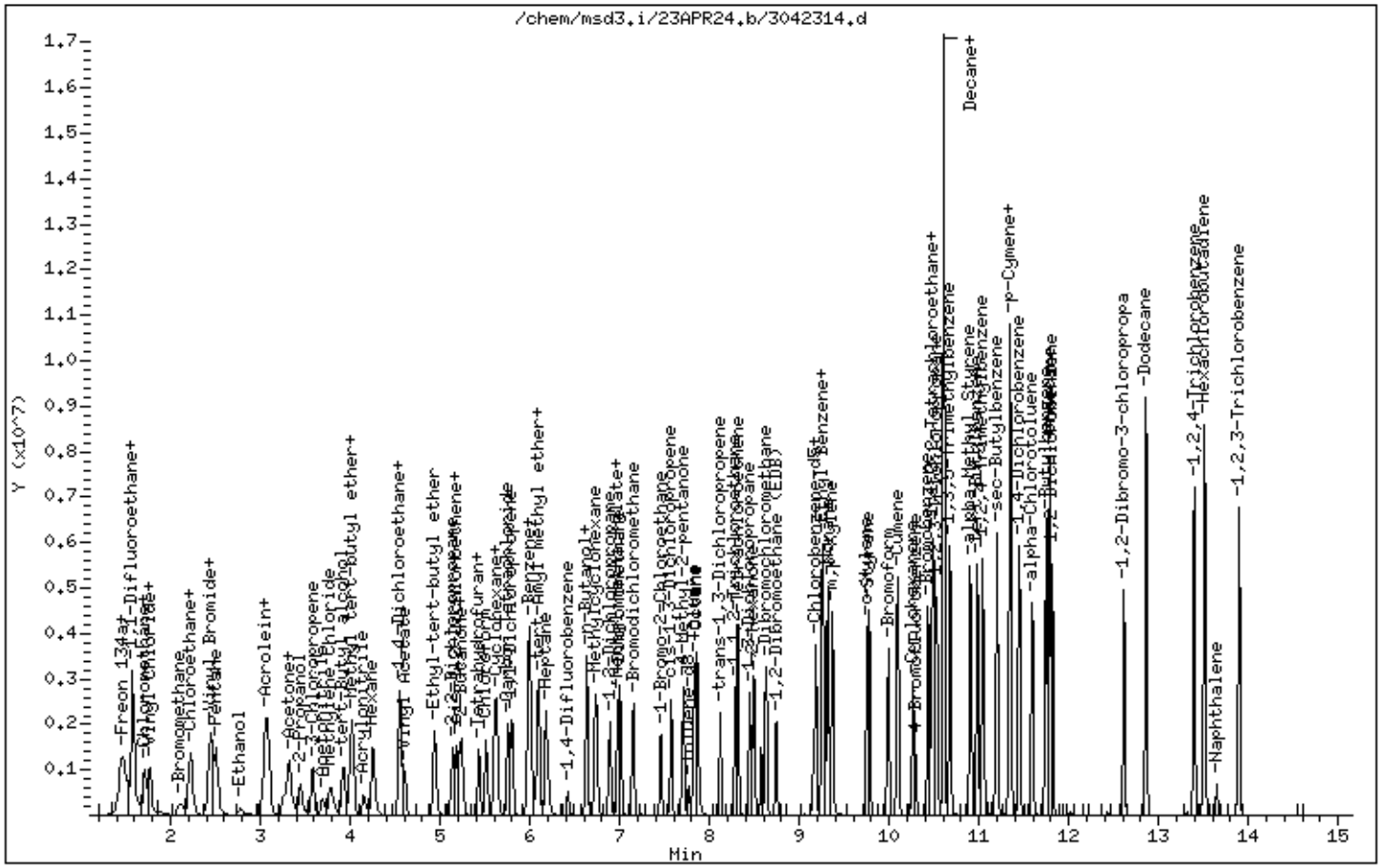
Instrument: msd3.i

Sample Info: 200ml 3018-4439

Operator: DF

Column phase: RTX-624

Column diameter: 0.25



US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/24APR24.b/3042404.d
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-APR-2024 12:00
Operator : jrf Inst ID: msd3.i
Smp Info : 50mL 3018-4441
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/24APR24.b/324q0423a.m
Meth Date : 25-Apr-2024 08:47 z8dr Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 14 QC Sample: ICV
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.439 | 5.439 (1.000) | 130 | 99038 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.439 | 5.439 (1.000) | 128 | 77862 | | | 47.79- 107.79 | 78.62 |
| 5.439 | 5.439 (1.000) | 49 | 163970 | | | 131.33- 191.33 | 165.56 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.427 | 6.427 (1.000) | 114 | 376074 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.427 | 6.427 (1.000) | 88 | 57604 | | | 0.00- 45.65 | 15.32 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.156 | 9.156 (1.000) | 117 | 364730 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.156 | 9.156 (1.000) | 82 | 194368 | | | 22.92- 82.92 | 53.29 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.026 | 6.026 (1.108) | 65 | 131864 | 25.5625 | 25.562 | 80.00- 120.00 | 100.00 |
| 6.026 | 6.026 (1.108) | 67 | 71926 | | | 23.17- 83.17 | 54.55 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.767 | 7.767 (1.208) | 98 | 360913 | 24.6865 | 24.686 | 80.00- 120.00 | 100.00 |
| 7.767 | 7.767 (1.208) | 70 | 39301 | | | 0.00- 41.42 | 10.89 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.767 | 7.767 (1.208) | 100 | 243706 | | | 37.54- 97.54 | 67.52 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.295 | 10.295 (1.124) | 174 | 267193 | 24.6507 | 24.651 | 80.00- 120.00 | 100.00 |
| 10.295 | 10.295 (1.124) | 95 | 319453 | | | 88.49- 148.49 | 119.56 |
| 10.295 | 10.295 (1.124) | 176 | 259024 | | | 66.73- 126.73 | 96.94 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.409 (0.259) | 83 | 110401 | 48.2269 | 48.227 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 106007 | | | 64.17- 124.17 | 96.02 |
| 1.493 | 1.493 (0.274) | 51 | 440873 | | | 365.46- 425.46 | 399.34 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 122092 | 47.0677 | 47.068 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 81432 | | | 35.86- 95.86 | 66.70 |
| 1.437 | 1.437 (0.264) | 39 | 88344 | | | 41.66- 101.66 | 72.36 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.465 (0.269) | 65 | 74074 | 49.5373 | 49.537 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.274) | 51 | 440873 | | | 568.10- 628.10 | 595.18 |
| 1.576 | 1.577 (0.290) | 47 | 16099 | | | 0.00- 50.57 | 21.73 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.269) | 85 | 281817 | 48.0489 | 48.049 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.269) | 87 | 91392 | | | 2.88- 62.88 | 32.43 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.493 (0.274) | 67 | 33736 | 45.9655 | 45.965 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.274) | 51 | 440873 | | | 1257.55-1317.55 | 1306.83 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.577 (0.290) | 135 | 245083 | 47.5337 | 47.534 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.577 (0.290) | 137 | 79041 | | | 2.10- 62.10 | 32.25 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.590 | 1.591 (0.292) | 43 | 262061 | 47.7790 | 47.779 | 80.00- 120.00 | 100.00 |
| 1.590 | 1.591 (0.292) | 42 | 83864 | | | 1.69- 61.69 | 32.00 |
| 1.576 | 1.577 (0.290) | 58 | 8383 | | | 0.00- 33.32 | 3.20 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.674 (0.308) | 50 | 141151 | 49.9143 | 49.914 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.674 (0.308) | 52 | 44313 | | | 1.38- 61.38 | 31.39 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.716 (0.316) | 58 | 26801 | 47.2701 | 47.270 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 18 Butane (continued) | | | | | | | |
| 1.716 | 1.716 (0.316) | 43 | 236008 | | | 866.38- 926.38 | 880.59 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.758 (0.323) | 62 | 131824 | 48.1788 | 48.179 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.758 (0.323) | 64 | 42933 | | | 3.10- 63.10 | 32.57 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.772 (0.326) | 54 | 115386 | 44.8910 | 44.891 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.772 (0.326) | 39 | 124709 | | | 78.74- 138.74 | 108.08 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 91182 | 46.6357 | 46.636 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 86143 | | | 64.19- 124.19 | 94.47 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.408) | 64 | 64257 | 48.9714 | 48.971 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.408) | 66 | 20597 | | | 2.32- 62.32 | 32.05 |
| 2.220 | 2.220 (0.408) | 49 | 22709 | | | 6.33- 66.33 | 35.34 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 183972 | 49.1329 | 49.133 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 116761 | | | 31.77- 91.77 | 63.47 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.416 | 2.416 (0.444) | 106 | 112885 | 49.6413 | 49.641 | 80.00- 120.00 | 100.00 |
| 2.416 | 2.416 (0.444) | 108 | 104506 | | | 64.21- 124.21 | 92.58 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.449) | 101 | 324578 | 48.0362 | 48.036 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.449) | 103 | 211890 | | | 34.93- 94.93 | 65.28 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.472 (0.452) | 67 | 255022 | 47.3324 | 47.332 | 80.00- 120.00 | 100.00 |
| 2.472 | 2.472 (0.455) | 69 | 81207 | | | 1.95- 61.95 | 31.84 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.462) | 43 | 274602 | 48.1991 | 48.199 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.462) | 57 | 40525 | | | 0.00- 44.64 | 14.76 |
| 2.514 | 2.514 (0.462) | 72 | 21941 | | | 0.00- 37.90 | 7.99 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.506) | 46 | 24035 | 47.7169 | 47.717 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.506) | 45 | 62090 | | | 224.40- 284.40 | 258.33 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.053 | 3.054 (0.561) | 55 | 57232 | 49.6042 | 49.604 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 42 Acrolein (continued) | | | | | | | |
| 3.061 | 3.061 (0.563) | 56 | 76372 | | | 108.02- 168.02 | 133.44 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 275792 | 46.1849 | 46.185 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.068 (0.563) | 153 | 180621 | | | 35.07- 95.07 | 65.49 |
| 3.061 | 3.061 (0.563) | 101 | 316874 | | | 87.45- 147.45 | 114.90 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.096 | 3.096 (0.569) | 96 | 112117 | 44.1263 | 44.126 | 80.00- 120.00 | 100.00 |
| 3.096 | 3.096 (0.569) | 98 | 71956 | | | 33.27- 93.27 | 64.18 |
| 3.096 | 3.096 (0.569) | 61 | 212710 | | | 159.05- 219.05 | 189.72 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.597) | 58 | 67916 | 46.9737 | 46.974 | 80.00- 120.00 | 100.00 |
| 3.247 | 3.247 (0.597) | 43 | 241612 | | | 329.45- 389.45 | 355.75 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.333 | 3.333 (0.613) | 76 | 323188 | 46.6483 | 46.648 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.630) | 45 | 297215 | 58.2790 | 58.279 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.630) | 43 | 53192 | | | 0.00- 48.18 | 17.90 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.584 | 3.584 (0.659) | 76 | 53744 | 46.0451 | 46.045 | 80.00- 120.00 | 100.00 |
| 3.584 | 3.584 (0.659) | 41 | 209522 | | | 366.80- 426.80 | 389.85 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.677) | 41 | 124124 | 46.7849 | 46.785 | 80.00- 120.00 | 100.00 |
| 3.684 | 3.684 (0.677) | 40 | 67744 | | | 22.74- 82.74 | 54.58 |
| 3.684 | 3.684 (0.677) | 38 | 14545 | | | 0.00- 42.52 | 11.72 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.784 (0.694) | 49 | 183738 | 46.2665 | 46.266 | 80.00- 120.00 | 100.00 |
| 3.784 | 3.784 (0.696) | 84 | 102136 | | | 24.90- 84.90 | 55.59 |
| 3.784 | 3.784 (0.696) | 51 | 56156 | | | 0.00- 59.67 | 30.56 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.913 | 3.913 (0.719) | 59 | 318673 | 51.9653 | 51.965 | 80.00- 120.00 | 100.00 |
| 3.913 | 3.913 (0.719) | 41 | 70083 | | | 0.00- 51.85 | 21.99 |
| 3.913 | 3.913 (0.719) | 57 | 34694 | | | 0.00- 40.17 | 10.89 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.737) | 73 | 356738 | 49.2066 | 49.207 | 80.00- 120.00 | 100.00 |
| 4.006 | 4.006 (0.737) | 57 | 101700 | | | 0.00- 58.72 | 28.51 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 4.006 | 4.006 (0.737) | 41 | 104021 | | | 0.00- 59.38 | 29.16 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.741) | 98 | 77965 | 45.6912 | 45.691 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.741) | 61 | 205899 | | | 232.13- 292.13 | 264.09 |
| 4.028 | 4.028 (0.741) | 96 | 122524 | | | 127.26- 187.26 | 157.15 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.142 | 4.142 (0.762) | 52 | 101466 | 45.9814 | 45.981 | 80.00- 120.00 | 100.00 |
| 4.142 | 4.142 (0.762) | 53 | 118398 | | | 86.45- 146.45 | 116.69 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.783) | 57 | 239531 | 45.0522 | 45.052 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.257 (0.783) | 43 | 169397 | | | 40.97- 100.97 | 70.72 |
| 4.264 | 4.264 (0.784) | 86 | 29850 | | | 0.00- 42.68 | 12.46 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.558 | 4.558 (0.838) | 63 | 235775 | 47.8151 | 47.815 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 65 | 72628 | | | 0.47- 60.47 | 30.80 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.558 | 4.558 (0.838) | 45 | 598348 | 50.6050 | 50.605 | 80.00- 120.00 | 100.00 |
| 4.558 | 4.558 (0.838) | 87 | 117336 | | | 0.00- 49.55 | 19.61 |
| 4.551 | 4.551 (0.837) | 59 | 61208 | | | 0.00- 40.42 | 10.23 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.608 | 4.608 (0.847) | 86 | 32122 | 76.9705 | 76.970 | 80.00- 120.00 | 100.00(R) |
| 4.608 | 4.608 (0.847) | 43 | 520795 | | | 1727.95-1787.95 | 1621.30 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.944 | 4.945 (0.909) | 59 | 514746 | 50.4826 | 50.482 | 80.00- 120.00 | 100.00 |
| 4.944 | 4.945 (0.909) | 87 | 174807 | | | 3.90- 63.90 | 33.96 |
| 4.937 | 4.937 (0.908) | 41 | 100366 | | | 0.00- 49.72 | 19.50 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.145 | 5.145 (0.946) | 77 | 228270 | 46.8952 | 46.895 | 80.00- 120.00 | 100.00 |
| 5.145 | 5.145 (0.946) | 79 | 73480 | | | 2.39- 62.39 | 32.19 |
| 5.145 | 5.145 (0.946) | 97 | 54964 | | | 0.00- 53.57 | 24.08 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.188 | 5.188 (0.954) | 98 | 83429 | 47.2165 | 47.216 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 96 | 128416 | | | 125.53- 185.53 | 153.92 |
| 5.188 | 5.188 (0.954) | 61 | 207989 | | | 219.86- 279.86 | 249.30 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.959) | 72 | 61493 | 48.3043 | 48.304 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 86 2-Butanone (continued) | | | | | | | |
| 5.238 | 5.238 (0.963) | 43 | 723157 | | | 1138.34-1198.34 | 1176.00 |
| 5.217 | 5.217 (0.959) | 57 | 25516 | | | 10.83- 70.83 | 41.49 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.245 | 5.245 (0.964) | 45 | 59985 | 47.1145 | 47.114 | 80.00- 120.00 | 100.00 |
| 5.188 | 5.188 (0.954) | 61 | 207989 | | | 338.96- 398.96 | 346.74 |
| 5.245 | 5.245 (0.964) | 70 | 32788 | | | 24.53- 84.53 | 54.66 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.432 | 5.432 (0.999) | 42 | 180157 | 46.2854 | 46.285 | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (0.999) | 71 | 49389 | | | 0.00- 58.54 | 27.41 |
| 5.432 | 5.432 (0.999) | 72 | 51590 | | | 0.00- 59.59 | 28.64 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.510 | 5.518 (1.013) | 83 | 249441 | 47.1097 | 47.110 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.518 (1.013) | 85 | 160385 | | | 35.77- 95.77 | 64.30 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.032) | 84 | 172177 | 48.6070 | 48.607 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.032) | 56 | 265557 | | | 125.79- 185.79 | 154.23 |
| 5.611 | 5.611 (1.032) | 41 | 155796 | | | 61.55- 121.55 | 90.49 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.639 | 5.639 (1.037) | 97 | 281508 | 48.7470 | 48.747 | 80.00- 120.00 | 100.00 |
| 5.639 | 5.639 (1.037) | 99 | 178065 | | | 32.84- 92.84 | 63.25 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.761 | 5.761 (1.059) | 119 | 300713 | 49.1181 | 49.118 | 80.00- 120.00 | 100.00 |
| 5.761 | 5.761 (1.059) | 117 | 314926 | | | 75.19- 135.19 | 104.73 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.804 | 5.804 (0.903) | 110 | 70771 | 46.7175 | 46.718 | 80.00- 120.00 | 100.00 |
| 5.804 | 5.804 (0.903) | 75 | 185140 | | | 234.16- 294.16 | 261.60 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.997 | 5.998 (1.103) | 57 | 830193 | 49.9765 | 49.976 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.990 (1.103) | 56 | 277365 | | | 3.09- 63.09 | 33.41 |
| 5.997 | 5.990 (1.103) | 41 | 225916 | | | 0.00- 57.28 | 27.21 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.997 | 5.998 (0.933) | 78 | 362504 | 47.8756 | 47.876 | 80.00- 120.00 | 100.00 |
| 5.997 | 5.998 (0.933) | 77 | 86494 | | | 0.00- 53.69 | 23.86 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.091 | 6.091 (0.948) | 87 | 101155 | 49.7121 | 49.712 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.091 | 6.091 (0.948) | 73 | 399924 | | | 365.76- 425.76 | 395.36 |
| 6.091 | 6.091 (0.948) | 55 | 123977 | | | 92.58- 152.58 | 122.56 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.105 | 6.105 (0.950) | 62 | 189844 | 48.0649 | 48.065 | 80.00- 120.00 | 100.00 |
| 6.105 | 6.105 (0.950) | 64 | 60444 | | | 1.80- 61.80 | 31.84 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.184 | 6.184 (0.962) | 71 | 139283 | 46.4370 | 46.437 | 80.00- 120.00 | 100.00 |
| 6.184 | 6.184 (0.962) | 43 | 334940 | | | 207.73- 267.73 | 240.47 |
| 6.184 | 6.184 (0.962) | 57 | 160716 | | | 84.83- 144.83 | 115.39 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.031) | 56 | 143484 | 83.3461 | 83.346 | 80.00- 120.00 | 100.00(R) |
| 6.628 | 6.628 (1.031) | 41 | 107673 | | | 47.73- 107.73 | 75.04 |
| 6.628 | 6.628 (1.031) | 43 | 85592 | | | 31.60- 91.60 | 59.65 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.635 | 6.635 (1.032) | 95 | 171664 | 47.0210 | 47.021 | 80.00- 120.00 | 100.00 |
| 6.635 | 6.635 (1.032) | 130 | 190232 | | | 80.23- 140.23 | 110.82 |
| 6.635 | 6.635 (1.032) | 97 | 110913 | | | 34.78- 94.78 | 64.61 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.735 | 6.735 (1.048) | 83 | 236805 | 45.6633 | 45.663 | 80.00- 120.00 | 100.00 |
| 6.735 | 6.735 (1.048) | 98 | 106532 | | | 14.83- 74.83 | 44.99 |
| 6.735 | 6.735 (1.048) | 55 | 243405 | | | 71.50- 131.50 | 102.79 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.893 | 6.893 (1.072) | 63 | 160756 | 45.1186 | 45.118 | 80.00- 120.00 | 100.00 |
| 6.893 | 6.893 (1.072) | 62 | 114903 | | | 40.39- 100.39 | 71.48 |
| 6.886 | 6.893 (1.071) | 41 | 100166 | | | 31.86- 91.86 | 62.31 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.979 | 6.979 (0.762) | 69 | 143437 | 48.2814 | 48.281 | 80.00- 120.00 | 100.00 |
| 6.979 | 6.979 (0.762) | 41 | 249521 | | | 145.81- 205.81 | 173.96 |
| 6.979 | 6.979 (0.762) | 100 | 57087 | | | 10.05- 70.05 | 39.80 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.088) | 88 | 93851 | 49.2725 | 49.272 | 80.00- 120.00 | 100.00 |
| 6.993 | 6.993 (1.088) | 58 | 80946 | | | 56.33- 116.33 | 86.25 |
| 6.993 | 6.993 (1.088) | 57 | 29551 | | | 2.08- 62.08 | 31.49 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.008 (0.765) | 174 | 170136 | 49.4380 | 49.438 | 80.00- 120.00 | 100.00 |
| 7.007 | 7.008 (0.765) | 93 | 156928 | | | 62.68- 122.68 | 92.24 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 118 Dibromomethane (continued) | | | | | | | |
| 7.007 | 7.008 (0.765) | 95 | 131562 | | | 47.70- 107.70 | 77.33 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.151 | 7.151 (1.113) | 83 | 274926 | 46.5211 | 46.521 | 80.00- 120.00 | 100.00 |
| 7.151 | 7.151 (1.113) | 85 | 178289 | | | 34.96- 94.96 | 64.85 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.573 | 7.573 (1.178) | 75 | 239250 | 47.4692 | 47.469 | 80.00- 120.00 | 100.00 |
| 7.573 | 7.573 (1.178) | 77 | 75830 | | | 1.26- 61.26 | 31.69 |
| 7.573 | 7.573 (1.178) | 39 | 156864 | | | 35.06- 95.06 | 65.56 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.709 | 7.710 (1.199) | 58 | 153130 | 44.1688 | 44.169 | 80.00- 120.00 | 100.00 |
| 7.709 | 7.710 (1.199) | 43 | 450916 | | | 259.88- 319.88 | 294.47 |
| 7.709 | 7.710 (1.199) | 85 | 57438 | | | 7.58- 67.58 | 37.51 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.831 | 7.831 (1.218) | 91 | 484854 | 46.2568 | 46.257 | 80.00- 120.00 | 100.00 |
| 7.831 | 7.831 (1.218) | 92 | 280607 | | | 27.89- 87.89 | 57.87 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.860 | 7.860 (1.223) | 57 | 170596 | 44.6733 | 44.673 | 80.00- 120.00 | 100.00 |
| 7.860 | 7.860 (1.223) | 85 | 163470 | | | 63.53- 123.53 | 95.82 |
| 7.860 | 7.860 (1.223) | 43 | 470317 | | | 246.00- 306.00 | 275.69 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.118 | 8.118 (0.887) | 75 | 199117 | 49.4059 | 49.406 | 80.00- 120.00 | 100.00 |
| 8.118 | 8.118 (0.887) | 77 | 65012 | | | 1.83- 61.83 | 32.65 |
| 8.118 | 8.118 (0.887) | 39 | 123125 | | | 31.97- 91.97 | 61.84 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.290 | 8.290 (0.905) | 97 | 163757 | 47.9859 | 47.986 | 80.00- 120.00 | 100.00 |
| 8.282 | 8.290 (0.905) | 99 | 101184 | | | 32.52- 92.52 | 61.79 |
| 8.282 | 8.283 (0.905) | 83 | 143488 | | | 58.90- 118.90 | 87.62 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.318 | 8.318 (0.908) | 166 | 255477 | 49.8577 | 49.858 | 80.00- 120.00 | 100.00 |
| 8.318 | 8.318 (0.908) | 129 | 193091 | | | 45.32- 105.32 | 75.58 |
| 8.318 | 8.318 (0.908) | 131 | 190424 | | | 44.17- 104.17 | 74.54 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.490 | 8.490 (0.927) | 58 | 212865 | 49.7198 | 49.720 | 80.00- 120.00 | 100.00 |
| 8.490 | 8.490 (0.927) | 43 | 451322 | | | 177.32- 237.32 | 212.02 |
| 8.490 | 8.490 (0.927) | 100 | 37624 | | | 0.00- 47.18 | 17.68 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.447 | 8.447 (1.314) | 76 | 227016 | 46.1976 | 46.198 | 80.00- 120.00 | 100.00 |
| 8.447 | 8.447 (1.314) | 41 | 194960 | | | 59.72- 119.72 | 85.88 |
| 8.447 | 8.447 (1.314) | 78 | 74355 | | | 3.08- 63.08 | 32.75 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.942) | 129 | 336212 | 49.8501 | 49.850 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.942) | 127 | 262138 | | | 47.27- 107.27 | 77.97 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 270406 | 48.3467 | 48.347 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 256036 | | | 64.18- 124.18 | 94.69 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.459 (1.159) | 63 | 301119 | 47.9001 | 47.900 | 80.00- 120.00 | 100.00 |
| 7.459 | 7.459 (1.160) | 65 | 91793 | | | 0.43- 60.43 | 30.48 |
| 7.459 | 7.459 (1.160) | 144 | 32373 | | | 0.00- 40.48 | 10.75 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.002) | 112 | 414577 | 49.0594 | 49.059 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.002) | 114 | 133179 | | | 1.91- 61.91 | 32.12 |
| 9.178 | 9.178 (1.002) | 77 | 219597 | | | 22.97- 82.97 | 52.97 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.249 | 9.250 (1.010) | 106 | 212260 | 49.9366 | 49.936 | 80.00- 120.00 | 100.00 |
| 9.249 | 9.250 (1.010) | 91 | 662858 | | | 281.09- 341.09 | 312.29 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.314 | 9.314 (1.017) | 43 | 497088 | 50.3517 | 50.352 | 80.00- 120.00 | 100.00 |
| 9.314 | 9.314 (1.017) | 57 | 403822 | | | 50.62- 110.62 | 81.24 |
| 9.314 | 9.314 (1.017) | 85 | 125336 | | | 0.00- 55.65 | 25.21 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.271 | 9.271 (1.013) | 131 | 246966 | 51.2996 | 51.300 | 80.00- 120.00 | 100.00 |
| 9.271 | 9.271 (1.013) | 117 | 165935 | | | 37.10- 97.10 | 67.19 |
| 9.271 | 9.271 (1.013) | 95 | 85198 | | | 4.93- 64.93 | 34.50 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 260935 | 49.2516 | 49.252 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 525774 | | | 170.33- 230.33 | 201.50 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.751 | 9.751 (1.065) | 106 | 250263 | 49.8139 | 49.814 | 80.00- 120.00 | 100.00 |
| 9.751 | 9.751 (1.065) | 91 | 525204 | | | 181.23- 241.23 | 209.86 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.780 | 9.780 (1.068) | 104 | 421405 | 49.1155 | 49.115 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.780 | 9.780 (1.068) | 78 | 199566 | | | 17.26- 77.26 | 47.36 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.091) | 173 | 343655 | 50.4179 | 50.418 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.091) | 171 | 176745 | | | 21.45- 81.45 | 51.43 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.095 | 10.095 (1.102) | 105 | 766297 | 50.4569 | 50.457 | 80.00- 120.00 | 100.00 |
| 10.095 | 10.095 (1.102) | 120 | 207829 | | | 0.00- 56.93 | 27.12 |
| 10.095 | 10.095 (1.102) | 51 | 92957 | | | 0.00- 42.24 | 12.13 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.259 | 10.260 (1.120) | 55 | 282331 | 46.9884 | 46.988 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.260 (1.120) | 98 | 98671 | | | 5.15- 65.15 | 34.95 |
| 10.259 | 10.260 (1.120) | 42 | 202870 | | | 41.99- 101.99 | 71.86 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.143) | 83 | 392198 | 49.7893 | 49.789 | 80.00- 120.00 | 100.00 |
| 10.474 | 10.467 (1.144) | 85 | 252893 | | | 34.97- 94.97 | 64.48 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.431 | 10.431 (1.139) | 156 | 259801 | 49.1000 | 49.100 | 80.00- 120.00 | 100.00 |
| 10.431 | 10.431 (1.139) | 158 | 252666 | | | 67.47- 127.47 | 97.25 |
| 10.431 | 10.431 (1.139) | 77 | 354910 | | | 108.68- 168.68 | 136.61 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.496 | 10.496 (1.146) | 120 | 226691 | 50.4792 | 50.479 | 80.00- 120.00 | 100.00 |
| 10.496 | 10.496 (1.146) | 91 | 928756 | | | 383.60- 443.60 | 409.70 |
| 10.496 | 10.496 (1.146) | 105 | 35639 | | | 0.00- 46.14 | 15.72 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.517 (1.149) | 110 | 116704 | 48.8162 | 48.816 | 80.00- 120.00 | 100.00 |
| 10.525 | 10.525 (1.149) | 75 | 422564 | | | 324.28- 384.28 | 362.08 |
| 10.517 | 10.517 (1.149) | 61 | 101572 | | | 57.24- 117.24 | 87.03 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.610 | 10.611 (1.159) | 57 | 540146 | 46.4736 | 46.474 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 71 | 169945 | | | 1.11- 61.11 | 31.46 |
| 10.610 | 10.611 (1.159) | 142 | 23418 | | | 0.00- 34.44 | 4.34 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.610 | 10.611 (1.159) | 120 | 244852 | 50.0235 | 50.024 | 80.00- 120.00 | 100.00 |
| 10.610 | 10.611 (1.159) | 105 | 804106 | | | 298.94- 358.94 | 328.40 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.610 | 10.611 (1.159) | 126 | 210759 | 50.8908 | 50.891 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.610 | 10.611 (1.159) | 91 | 651229 | | | 282.78- 342.78 | 308.99 |
| 10.610 | 10.611 (1.159) | 65 | 96416 | | | 17.33- 77.33 | 45.75 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.675 | 10.675 (1.166) | 120 | 334529 | 50.6784 | 50.678 | 80.00- 120.00 | 100.00 |
| 10.675 | 10.675 (1.166) | 105 | 682353 | | | 172.08- 232.08 | 203.97 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.904 | 10.904 (1.191) | 118 | 357365 | 51.1077 | 51.108 | 80.00- 120.00 | 100.00 |
| 10.904 | 10.904 (1.191) | 103 | 199934 | | | 25.64- 85.64 | 55.95 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.983 | 10.983 (1.199) | 119 | 633334 | 50.4659 | 50.466 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.983 (1.199) | 134 | 157381 | | | 0.00- 55.10 | 24.85 |
| 10.976 | 10.976 (1.199) | 91 | 410717 | | | 34.53- 94.53 | 64.85 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.040 | 11.040 (1.206) | 105 | 675602 | 50.0585 | 50.058 | 80.00- 120.00 | 100.00 |
| 11.040 | 11.040 (1.206) | 120 | 313940 | | | 16.63- 76.63 | 46.47 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.198 | 11.198 (1.223) | 134 | 205522 | 50.0303 | 50.030 | 80.00- 120.00 | 100.00 |
| 11.198 | 11.198 (1.223) | 105 | 960521 | | | 436.99- 496.99 | 467.36 |
| 11.198 | 11.198 (1.223) | 91 | 148515 | | | 41.69- 101.69 | 72.26 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.341 | 11.341 (1.239) | 119 | 866367 | 51.5703 | 51.570 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.239) | 134 | 238078 | | | 0.00- 57.62 | 27.48 |
| 11.341 | 11.341 (1.239) | 91 | 198678 | | | 0.00- 53.03 | 22.93 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.348 | 11.348 (1.239) | 146 | 490450 | 49.0400 | 49.040 | 80.00- 120.00 | 100.00 |
| 11.348 | 11.348 (1.239) | 148 | 311205 | | | 34.18- 94.18 | 63.45 |
| 11.348 | 11.348 (1.239) | 111 | 195621 | | | 10.06- 70.06 | 39.89 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.449 | 11.449 (1.250) | 146 | 496815 | 49.0422 | 49.042 | 80.00- 120.00 | 100.00 |
| 11.449 | 11.449 (1.250) | 148 | 316268 | | | 33.55- 93.55 | 63.66 |
| 11.441 | 11.449 (1.250) | 111 | 188839 | | | 7.98- 67.98 | 38.01 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.592 | 11.592 (1.266) | 91 | 641862 | 50.0346 | 50.035 | 80.00- 120.00 | 100.00 |
| 11.592 | 11.592 (1.266) | 126 | 146221 | | | 0.00- 52.77 | 22.78 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.785 | 11.785 (1.287) | 57 | 630692 | 45.6377 | 45.638 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane (continued) | | | | | | | |
| 11.785 | 11.785 (1.287) | 43 | 588181 | | | 63.59- 123.59 | 93.26 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.749 | 11.742 (1.283) | 134 | 233321 | 50.3935 | 50.393 | 80.00- 120.00 | 100.00 |
| 11.742 | 11.742 (1.282) | 91 | 804930 | | | 310.82- 370.82 | 344.99 |
| 11.742 | 11.742 (1.282) | 92 | 424596 | | | 151.53- 211.53 | 181.98 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.821 | 11.821 (1.291) | 146 | 481317 | 49.5901 | 49.590 | 80.00- 120.00 | 100.00 |
| 11.821 | 11.821 (1.291) | 148 | 302426 | | | 33.00- 93.00 | 62.83 |
| 11.814 | 11.814 (1.290) | 111 | 196504 | | | 10.87- 70.87 | 40.83 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.378) | 157 | 299069 | 52.0962 | 52.096 | 80.00- 120.00 | 100.00 |
| 12.616 | 12.616 (1.378) | 75 | 234676 | | | 48.09- 108.09 | 78.47 |
| 12.616 | 12.616 (1.378) | 155 | 232608 | | | 47.89- 107.89 | 77.78 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.404) | 57 | 728690 | 52.3465 | 52.346 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.404) | 43 | 644840 | | | 58.52- 118.52 | 88.49 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.463) | 180 | 494421 | 51.4025 | 51.402 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.463) | 182 | 468953 | | | 64.84- 124.84 | 94.85 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.511 | 13.512 (1.476) | 225 | 356997 | 50.8814 | 50.881 | 80.00- 120.00 | 100.00 |
| 13.511 | 13.504 (1.476) | 223 | 224938 | | | 32.80- 92.80 | 63.01 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.490) | 128 | 127738 | 6.36288 | 6.363 | 80.00- 120.00 | 100.00 |
| 13.648 | 13.648 (1.490) | 127 | 16748 | | | 0.00- 42.72 | 13.11 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.517) | 180 | 488033 | 51.7790 | 51.779 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.517) | 182 | 466089 | | | 65.07- 125.07 | 95.50 |
| 13.891 | 13.891 (1.517) | 145 | 168134 | | | 4.48- 64.48 | 34.45 |

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3042404.d
Lab Smp Id: ICV
Analysis Type: VOA
Quant Type: ISTD
Operator: jrf
Method File: /chem/msd3.i/24APR24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 24-APR-2024
Calibration Time: 11:28
Client Smp ID: ICV
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 99858 | 59915 | 139801 | 99038 | -0.82 |
| 108 1,4-Difluorobenze | 376895 | 226137 | 527653 | 376074 | -0.22 |
| 153 Chlorobenzene-d5 | 365862 | 219517 | 512207 | 364730 | -0.31 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.44 | 5.11 | 5.77 | 5.44 | -0.00 |
| 108 1,4-Difluorobenze | 6.43 | 6.10 | 6.76 | 6.43 | -0.00 |
| 153 Chlorobenzene-d5 | 9.16 | 8.83 | 9.49 | 9.16 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 25-Apr-2024 08:47

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 24APR24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: ICV Client Smp ID: ICV
Level: LOW Operator: jrf
Data Type: MS DATA SampleType: ICV
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: AT23.sub
Method File: /chem/msd3.i/24APR24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 4 Freon 134a | 50.000 | 48.227 | 96.45 | 70-130 |
| 5 Propylene | 50.000 | 47.068 | 94.14 | 70-130 |
| 7 1,1-Difluoroethan | 50.000 | 49.537 | 99.07 | 70-130 |
| 8 Freon 12 | 50.000 | 48.049 | 96.10 | 70-130 |
| 9 Chlorodifluoromet | 50.000 | 45.965 | 91.93 | 70-130 |
| 10 Freon 114 | 50.000 | 47.534 | 95.07 | 70-130 |
| 12 Isobutane | 50.000 | 47.779 | 95.56 | 70-130 |
| 15 Chloromethane | 50.000 | 49.914 | 99.83 | 70-130 |
| 18 Butane | 50.000 | 47.270 | 94.54 | 70-130 |
| 19 Vinyl Chloride | 50.000 | 48.179 | 96.36 | 70-130 |
| 20 1,3-Butadiene | 50.000 | 44.891 | 89.78 | 70-130 |
| 24 Bromomethane | 50.000 | 46.636 | 93.27 | 70-130 |
| 30 Chloroethane | 50.000 | 48.971 | 97.94 | 70-130 |
| 31 Isopentane | 50.000 | 49.133 | 98.27 | 70-130 |
| 32 Vinyl Bromide | 50.000 | 49.641 | 99.28 | 70-130 |
| 33 Freon 11 | 50.000 | 48.036 | 96.07 | 70-130 |
| 34 Dichlorofluoromet | 50.000 | 47.332 | 94.66 | 70-130 |
| 35 Pentane | 50.000 | 48.199 | 96.40 | 70-130 |
| 39 Ethanol | 50.000 | 47.717 | 95.43 | 70-130 |
| 42 Acrolein | 57.000 | 49.604 | 87.02 | 70-130 |
| 43 Freon 113 | 50.000 | 46.185 | 92.37 | 70-130 |
| 44 1,1-Dichloroethen | 50.000 | 44.126 | 88.25 | 70-130 |
| 47 Acetone | 50.000 | 46.974 | 93.95 | 70-130 |
| 48 Carbon Disulfide | 50.000 | 46.648 | 93.30 | 70-130 |
| 52 2-Propanol | 50.000 | 58.279 | 116.56 | 70-130 |
| 54 3-Chloropropene | 50.000 | 46.045 | 92.09 | 70-130 |
| 57 Acetonitrile | 50.000 | 46.785 | 93.57 | 70-130 |
| 59 Methylene Chlorid | 50.000 | 46.266 | 92.53 | 70-130 |
| 62 tert-Butyl alcoho | 50.000 | 51.965 | 103.93 | 70-130 |
| 63 Methyl tert-butyl | 50.000 | 49.207 | 98.41 | 70-130 |
| 64 trans-1,2-Dichlor | 50.000 | 45.691 | 91.38 | 70-130 |
| 66 Acrylonitrile | 50.000 | 45.981 | 91.96 | 70-130 |
| 67 Hexane | 50.000 | 45.052 | 90.10 | 70-130 |

| | SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| 71 | 1,1-Dichloroethan | 50.000 | 47.815 | 95.63 | 70-130 |
| 72 | Isopropyl ether | 50.000 | 50.605 | 101.21 | 70-130 |
| 73 | Vinyl Acetate | 50.000 | 76.970 | 153.94* | 70-130 |
| 79 | Ethyl-tert-butyl | 50.000 | 50.482 | 100.97 | 70-130 |
| 84 | 2,2-Dichloropropa | 50.000 | 46.895 | 93.79 | 70-130 |
| 85 | cis-1,2-Dichloroe | 50.000 | 47.216 | 94.43 | 70-130 |
| 86 | 2-Butanone | 50.000 | 48.304 | 96.61 | 70-130 |
| 87 | Ethyl Acetate | 50.000 | 47.114 | 94.23 | 70-130 |
| 89 | Tetrahydrofuran | 50.000 | 46.285 | 92.57 | 70-130 |
| 92 | Chloroform | 50.000 | 47.110 | 94.22 | 70-130 |
| 94 | Cyclohexane | 50.000 | 48.607 | 97.21 | 70-130 |
| 96 | 1,1,1-Trichloroet | 50.000 | 48.747 | 97.49 | 70-130 |
| 99 | 1,1-Dichloroprope | 50.000 | 46.718 | 93.44 | 70-130 |
| 97 | Carbon Tetrachlor | 50.000 | 49.118 | 98.24 | 70-130 |
| 101 | 2,2,4-Trimethylpe | 50.000 | 49.976 | 99.95 | 70-130 |
| 102 | Benzene | 50.000 | 47.876 | 95.75 | 70-130 |
| 105 | tert-Amyl methyl | 50.000 | 49.712 | 99.42 | 70-130 |
| 106 | 1,2-Dichloroethan | 50.000 | 48.065 | 96.13 | 70-130 |
| 107 | Heptane | 50.000 | 46.437 | 92.87 | 70-130 |
| 110 | n-Butanol | 50.000 | 83.346 | 166.69* | 70-130 |
| 111 | Trichloroethene | 50.000 | 47.021 | 94.04 | 70-130 |
| 118 | Dibromomethane | 50.000 | 49.438 | 98.88 | 70-130 |
| 127 | Methylcyclohexane | 50.000 | 45.663 | 91.33 | 70-130 |
| 114 | 1,2-Dichloropropa | 50.000 | 45.118 | 90.24 | 70-130 |
| 116 | Methyl Methacryla | 50.000 | 48.281 | 96.56 | 70-130 |
| 117 | 1,4-Dioxane | 50.000 | 49.272 | 98.54 | 70-130 |
| 122 | Bromodichlorometh | 50.000 | 46.521 | 93.04 | 70-130 |
| 126 | cis-1,3-Dichlorop | 50.000 | 47.469 | 94.94 | 70-130 |
| 131 | 4-Methyl-2-pentan | 50.000 | 44.169 | 88.34 | 70-130 |
| 136 | Octane | 50.000 | 44.673 | 89.35 | 70-130 |
| 137 | Toluene | 50.000 | 46.257 | 92.51 | 70-130 |
| 139 | trans-1,3-Dichlor | 50.000 | 49.406 | 98.81 | 70-130 |
| 141 | 1,1,2-Trichloroet | 50.000 | 47.986 | 95.97 | 70-130 |
| 142 | Tetrachloroethene | 50.000 | 49.858 | 99.72 | 70-130 |
| 143 | 2-Hexanone | 50.000 | 49.720 | 99.44 | 70-130 |
| 144 | 1,3-Dichloropropa | 50.000 | 46.198 | 92.40 | 70-130 |
| 146 | Dibromochlorometh | 50.000 | 49.850 | 99.70 | 70-130 |
| 148 | 1,2-Dibromoethane | 50.000 | 48.347 | 96.69 | 70-130 |
| 151 | 1-Bromo-2-Chloroe | 50.000 | 47.900 | 95.80 | 70-130 |
| 154 | Chlorobenzene | 50.000 | 49.059 | 98.12 | 70-130 |
| 155 | Ethyl Benzene | 50.000 | 49.936 | 99.87 | 70-130 |
| 156 | Nonane | 50.000 | 50.352 | 100.70 | 70-130 |
| 157 | 1,1,1,2-Tetrachlo | 50.000 | 51.300 | 102.60 | 70-130 |
| 158 | m,p-Xylene | 50.000 | 49.252 | 98.50 | 70-130 |
| 164 | o-Xylene | 50.000 | 49.814 | 99.63 | 70-130 |
| 165 | Styrene | 50.000 | 49.115 | 98.23 | 70-130 |
| 167 | Bromoform | 50.000 | 50.418 | 100.84 | 70-130 |

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 168 Cumene | 50.000 | 50.457 | 100.91 | 70-130 |
| 169 Cyclohexanone | 50.000 | 46.988 | 93.98 | 70-130 |
| 175 1,1,2,2-Tetrachlo | 50.000 | 49.789 | 99.58 | 70-130 |
| 177 Bromobenzene | 50.000 | 49.100 | 98.20 | 70-130 |
| 178 Propylbenzene | 50.000 | 50.479 | 100.96 | 70-130 |
| 179 1,2,3-Trichloropr | 50.000 | 48.816 | 97.63 | 70-130 |
| 182 Decane | 50.000 | 46.474 | 92.95 | 70-130 |
| 183 4-Ethyltoluene | 50.000 | 50.024 | 100.05 | 70-130 |
| 184 2-Chlorotoluene | 50.000 | 50.891 | 101.78 | 70-130 |
| 185 1,3,5-Trimethylbe | 50.000 | 50.678 | 101.36 | 70-130 |
| 188 alpha Methyl Styr | 50.000 | 51.108 | 102.22 | 70-130 |
| 189 tert-Butylbenzene | 50.000 | 50.466 | 100.93 | 70-130 |
| 190 1,2,4-Trimethylbe | 50.000 | 50.058 | 100.12 | 70-130 |
| 192 sec-Butylbenzene | 50.000 | 50.030 | 100.06 | 70-130 |
| 194 p-Cymene | 50.000 | 51.570 | 103.14 | 70-130 |
| 195 1,3-Dichlorobenze | 50.000 | 49.040 | 98.08 | 70-130 |
| 196 1,4-Dichlorobenze | 50.000 | 49.042 | 98.08 | 70-130 |
| 199 alpha-Chlorotolue | 50.000 | 50.035 | 100.07 | 70-130 |
| 201 Undecane | 50.000 | 45.638 | 91.28 | 70-130 |
| 202 Butylbenzene | 50.000 | 50.393 | 100.79 | 70-130 |
| 204 1,2-Dichlorobenze | 50.000 | 49.590 | 99.18 | 70-130 |
| 206 1,2-Dibromo-3-chl | 50.000 | 52.096 | 104.19 | 70-130 |
| 207 Dodecane | 50.000 | 52.346 | 104.69 | 70-130 |
| 213 1,2,4-Trichlorobe | 50.000 | 51.402 | 102.80 | 70-130 |
| 215 Hexachlorobutadie | 50.000 | 50.881 | 101.76 | 70-130 |
| 216 Naphthalene | 5.700 | 6.363 | 111.63 | 60-140 |
| 222 1,2,3-Trichlorobe | 50.000 | 51.779 | 103.56 | 70-130 |

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 25.562 | 102.25 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.686 | 98.75 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 24.651 | 98.60 | 70-130 |

Report Date: 26-Apr-2024 11:38

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RECOVERY REPORT

Client Name: Client SDG: 24APR24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: ICV Client Smp ID: ICV
Level: LOW Operator: jrf
Data Type: MS DATA SampleType: ICV
SpikeList File: AT23.spk Quant Type: ISTD
Sublist File: AT23_cont051124.sub
Method File: /chem/msd3.i/24APR24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 4 Freon 134a | 50.000 | 48.227 | 96.45 | 70-130 |
| 5 Propylene | 50.000 | 47.068 | 94.14 | 70-130 |
| 7 1,1-Difluoroethan | 50.000 | 49.537 | 99.07 | 70-130 |
| 8 Freon 12 | 50.000 | 48.049 | 96.10 | 70-130 |
| 9 Chlorodifluoromet | 50.000 | 45.965 | 91.93 | 70-130 |
| 10 Freon 114 | 50.000 | 47.534 | 95.07 | 70-130 |
| 12 Isobutane | 50.000 | 47.779 | 95.56 | 70-130 |
| 15 Chloromethane | 50.000 | 49.914 | 99.83 | 70-130 |
| 18 Butane | 50.000 | 47.270 | 94.54 | 70-130 |
| 19 Vinyl Chloride | 50.000 | 48.179 | 96.36 | 70-130 |
| 20 1,3-Butadiene | 50.000 | 44.891 | 89.78 | 70-130 |
| 24 Bromomethane | 50.000 | 46.636 | 93.27 | 70-130 |
| 30 Chloroethane | 50.000 | 48.971 | 97.94 | 70-130 |
| 31 Isopentane | 50.000 | 49.133 | 98.27 | 70-130 |
| 32 Vinyl Bromide | 50.000 | 49.641 | 99.28 | 70-130 |
| 33 Freon 11 | 50.000 | 48.036 | 96.07 | 70-130 |
| 34 Dichlorofluoromet | 50.000 | 47.332 | 94.66 | 70-130 |
| 35 Pentane | 50.000 | 48.199 | 96.40 | 70-130 |
| 39 Ethanol | 50.000 | 44.835 | 89.67 | 70-130 |
| 42 Acrolein | 57.000 | 49.604 | 87.02 | 70-130 |
| 43 Freon 113 | 50.000 | 46.185 | 92.37 | 70-130 |
| 44 1,1-Dichloroethen | 50.000 | 44.126 | 88.25 | 70-130 |
| 47 Acetone | 50.000 | 46.974 | 93.95 | 70-130 |
| 48 Carbon Disulfide | 50.000 | 46.648 | 93.30 | 70-130 |
| 52 2-Propanol | 50.000 | 49.444 | 98.89 | 70-130 |
| 54 3-Chloropropene | 50.000 | 46.045 | 92.09 | 70-130 |
| 57 Acetonitrile | 50.000 | 46.785 | 93.57 | 70-130 |
| 59 Methylene Chlorid | 50.000 | 46.266 | 92.53 | 70-130 |
| 62 tert-Butyl alcoho | 50.000 | 51.965 | 103.93 | 70-130 |
| 63 Methyl tert-butyl | 50.000 | 49.207 | 98.41 | 70-130 |
| 64 trans-1,2-Dichlor | 50.000 | 45.691 | 91.38 | 70-130 |
| 66 Acrylonitrile | 50.000 | 45.981 | 91.96 | 70-130 |
| 67 Hexane | 50.000 | 45.052 | 90.10 | 70-130 |

| | SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| 71 | 1,1-Dichloroethan | 50.000 | 47.815 | 95.63 | 70-130 |
| 72 | Isopropyl ether | 50.000 | 50.605 | 101.21 | 70-130 |
| 73 | Vinyl Acetate | 50.000 | 73.982 | 147.96* | 70-130 |
| 79 | Ethyl-tert-butyl | 50.000 | 50.482 | 100.97 | 70-130 |
| 84 | 2,2-Dichloropropa | 50.000 | 46.895 | 93.79 | 70-130 |
| 85 | cis-1,2-Dichloroe | 50.000 | 47.216 | 94.43 | 70-130 |
| 86 | 2-Butanone | 50.000 | 48.304 | 96.61 | 70-130 |
| 87 | Ethyl Acetate | 50.000 | 47.114 | 94.23 | 70-130 |
| 89 | Tetrahydrofuran | 50.000 | 46.285 | 92.57 | 70-130 |
| 92 | Chloroform | 50.000 | 47.110 | 94.22 | 70-130 |
| 94 | Cyclohexane | 50.000 | 48.607 | 97.21 | 70-130 |
| 96 | 1,1,1-Trichloroet | 50.000 | 48.747 | 97.49 | 70-130 |
| 99 | 1,1-Dichloroprope | 50.000 | 46.718 | 93.44 | 70-130 |
| 97 | Carbon Tetrachlor | 50.000 | 49.118 | 98.24 | 70-130 |
| 101 | 2,2,4-Trimethylpe | 50.000 | 49.976 | 99.95 | 70-130 |
| 102 | Benzene | 50.000 | 47.876 | 95.75 | 70-130 |
| 105 | tert-Amyl methyl | 50.000 | 49.712 | 99.42 | 70-130 |
| 106 | 1,2-Dichloroethan | 50.000 | 48.065 | 96.13 | 70-130 |
| 107 | Heptane | 50.000 | 46.437 | 92.87 | 70-130 |
| 110 | n-Butanol | 50.000 | 83.346 | 166.69* | 70-130 |
| 111 | Trichloroethene | 50.000 | 47.021 | 94.04 | 70-130 |
| 118 | Dibromomethane | 50.000 | 49.438 | 98.88 | 70-130 |
| 127 | Methylcyclohexane | 50.000 | 45.663 | 91.33 | 70-130 |
| 114 | 1,2-Dichloropropa | 50.000 | 45.118 | 90.24 | 70-130 |
| 116 | Methyl Methacryla | 50.000 | 48.281 | 96.56 | 70-130 |
| 117 | 1,4-Dioxane | 50.000 | 49.272 | 98.54 | 70-130 |
| 122 | Bromodichlorometh | 50.000 | 46.521 | 93.04 | 70-130 |
| 126 | cis-1,3-Dichlorop | 50.000 | 47.469 | 94.94 | 70-130 |
| 131 | 4-Methyl-2-pentan | 50.000 | 44.169 | 88.34 | 70-130 |
| 136 | Octane | 50.000 | 44.673 | 89.35 | 70-130 |
| 137 | Toluene | 50.000 | 46.257 | 92.51 | 70-130 |
| 139 | trans-1,3-Dichlor | 50.000 | 49.406 | 98.81 | 70-130 |
| 141 | 1,1,2-Trichloroet | 50.000 | 47.986 | 95.97 | 70-130 |
| 142 | Tetrachloroethene | 50.000 | 49.858 | 99.72 | 70-130 |
| 143 | 2-Hexanone | 50.000 | 49.720 | 99.44 | 70-130 |
| 144 | 1,3-Dichloropropa | 50.000 | 46.198 | 92.40 | 70-130 |
| 146 | Dibromochlorometh | 50.000 | 49.850 | 99.70 | 70-130 |
| 148 | 1,2-Dibromoethane | 50.000 | 48.347 | 96.69 | 70-130 |
| 151 | 1-Bromo-2-Chloroe | 50.000 | 47.900 | 95.80 | 70-130 |
| 154 | Chlorobenzene | 50.000 | 49.059 | 98.12 | 70-130 |
| 155 | Ethyl Benzene | 50.000 | 49.936 | 99.87 | 70-130 |
| 156 | Nonane | 50.000 | 50.352 | 100.70 | 70-130 |
| 157 | 1,1,1,2-Tetrachlo | 50.000 | 51.300 | 102.60 | 70-130 |
| 158 | m,p-Xylene | 50.000 | 49.252 | 98.50 | 70-130 |
| 164 | o-Xylene | 50.000 | 49.814 | 99.63 | 70-130 |
| 165 | Styrene | 50.000 | 49.115 | 98.23 | 70-130 |
| 167 | Bromoform | 50.000 | 50.418 | 100.84 | 70-130 |

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 168 Cumene | 50.000 | 50.457 | 100.91 | 70-130 |
| 169 Cyclohexanone | 50.000 | 46.988 | 93.98 | 70-130 |
| 175 1,1,2,2-Tetrachlo | 50.000 | 49.789 | 99.58 | 70-130 |
| 177 Bromobenzene | 50.000 | 49.100 | 98.20 | 70-130 |
| 178 Propylbenzene | 50.000 | 50.479 | 100.96 | 70-130 |
| 179 1,2,3-Trichloropr | 50.000 | 48.816 | 97.63 | 70-130 |
| 182 Decane | 50.000 | 46.474 | 92.95 | 70-130 |
| 183 4-Ethyltoluene | 50.000 | 50.024 | 100.05 | 70-130 |
| 184 2-Chlorotoluene | 50.000 | 50.891 | 101.78 | 70-130 |
| 185 1,3,5-Trimethylbe | 50.000 | 50.678 | 101.36 | 70-130 |
| 188 alpha Methyl Styr | 50.000 | 51.108 | 102.22 | 70-130 |
| 189 tert-Butylbenzene | 50.000 | 50.466 | 100.93 | 70-130 |
| 190 1,2,4-Trimethylbe | 50.000 | 50.058 | 100.12 | 70-130 |
| 192 sec-Butylbenzene | 50.000 | 50.030 | 100.06 | 70-130 |
| 194 p-Cymene | 50.000 | 51.570 | 103.14 | 70-130 |
| 195 1,3-Dichlorobenze | 50.000 | 49.040 | 98.08 | 70-130 |
| 196 1,4-Dichlorobenze | 50.000 | 49.042 | 98.08 | 70-130 |
| 199 alpha-Chlorotolue | 50.000 | 50.035 | 100.07 | 70-130 |
| 201 Undecane | 50.000 | 45.638 | 91.28 | 70-130 |
| 202 Butylbenzene | 50.000 | 50.393 | 100.79 | 70-130 |
| 204 1,2-Dichlorobenze | 50.000 | 49.590 | 99.18 | 70-130 |
| 206 1,2-Dibromo-3-chl | 50.000 | 52.096 | 104.19 | 70-130 |
| 207 Dodecane | 50.000 | 52.346 | 104.69 | 70-130 |
| 213 1,2,4-Trichlorobe | 50.000 | 51.402 | 102.80 | 70-130 |
| 215 Hexachlorobutadie | 50.000 | 50.881 | 101.76 | 70-130 |
| 216 Naphthalene | 5.700 | 6.363 | 111.63 | 60-140 |
| 222 1,2,3-Trichlorobe | 50.000 | 51.779 | 103.56 | 70-130 |

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 25.562 | 102.25 | 65-134 |
| $ 134 Toluene-d8 | 25.000 | 24.686 | 98.75 | 92-109 |
| $ 170 4-Bromofluorobenz | 25.000 | 24.651 | 98.60 | 85-118 |

Data File: /chem/msd3.i/24APR24.b/3042404.d



Date : 24-APR-2024 12:00

Client ID: ICV

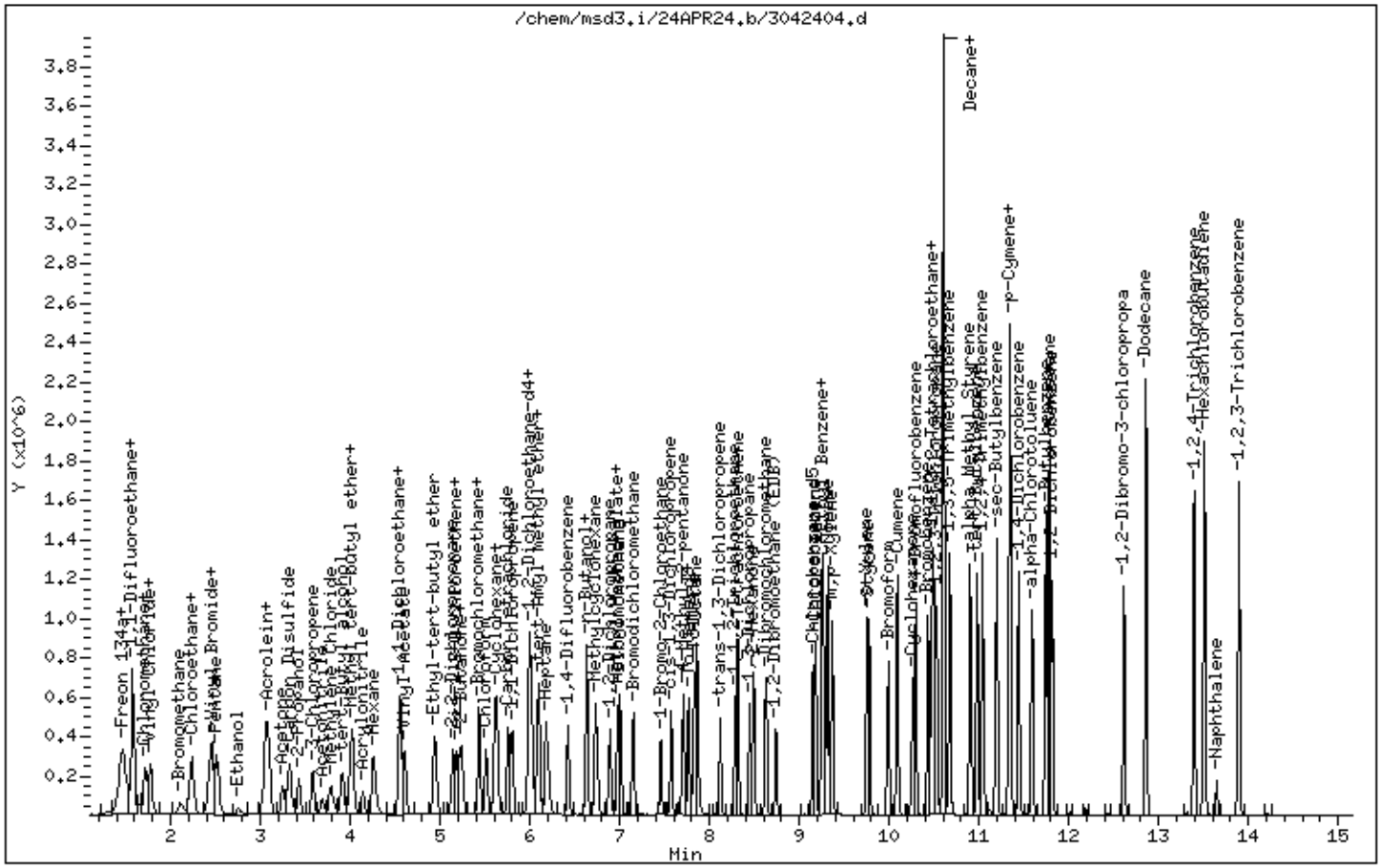
Instrument: msd3.i

Sample Info: 50mL 3018-4441

Operator: jrf

Column phase: RTX-624

Column diameter: 0.25



# TO-15 QUAD POOLED MDL CASE NARRATIVE

A Method Detection Limit Study for TO-15 Quad method was analyzed 8/01/23-8/29/23 for MSDA, MSD3, MSDP, MSDJ, MSD16, and MSD91.

**0.5ppbv MDL:** Standard # 3018-3932, 3018-3942, 3018-3921 (5.0ppbv); 20mL load volume. Spike amount of 0.5ppbv.

Notes:

1. MDL verification was analyzed on 9/01/23. Standard #3018-3942; 5.0ppbv, 18mL load volume; file #91090108; spike concentration of 0.45ppbv.
2. MDL spike calculated on file #91081408x
3. The MDL spikes for MSD-91 were re-analyzed due to the initial spikes having multiple compounds recover outside of 50-150%.

**2.0ppbv MDL:** Standard # 3018-3932, 3018-3942, 3018-3921 (5.0ppbv); 80mL load volume. Spike amount of 2.0ppbv.

Notes:

1. MDL verification was analyzed on 9/01/23. Standard #3018-3942; 5.0ppbv, 60mL load volume; file #91090109; spike concentration of 1.5ppbv.
2. MDL verification for Ethanol and Acetone was analyzed on 9/01/23. Standard #3018-3942; 5.0ppbv, 160ml load volume; file#91090111; spike concentration of 4.0ppbv.
3. MDL spike calculated on file# 91080109x
4. MDL verification for Napthalene was analyzed on 9/01/23. Standard #3018-3942; 5.0ppbv, 80ml load volume; file#91090110; spike concentration of 2.0ppbv (0.2ppbv for Napthalene).
5. MDL spike calculated on file# 91080109ax

**The concentrations for Acetonitrile,Tert-butanol, Naphthalene, Ethanol, and Acrolein were adjusted in the MDL spike due to the certified concentration exceeding more than 15% of nominal concentration.**

**MDL values for the following compounds were taken from the MDL blank:**

Acetone (1.3907ppbv)
1,3-Dichlorobenzene (0.11681ppbv)
1,4-Dichlorobenzene (0.16832ppbv)

**The ratio of the mean recovered concentration was between 1 and 20 for all compounds.**

**Iodomethane and trans-1,4-Dichlorobutane were not included in the MDL study.**

**MDL Expires 8/29/24**

AT23 0.5ppbv Quad Pooled MDL

MDL Verification for 0.5ppbv MDL
Standard #3018-3942 (5.0ppbv)
Load volume of 18ml.
Spike concentration of 0.45ppbv.
File#91090108

The ratio of the mean recovered concentration and the MDL was between 1 and 20 for all compounds.

I(s12H Report Date : 01-SEP-2023 07:50 Page 1
US32TAR1
SPIKED METHOD DETECTION LIMIT SUMMARY REPORT
Method File: /chem/msda.i/29AUG23.b/a23q0825a.m Spiked ID(s) Spiked Vol(s)
Batch File: /chem/msda.i/29AUG23.b
Instrument Names: msdp.i
Student T 2.718 for 12 Replicates with 99% Confidence

| ID: | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL010 | MDL11 | MDL12 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILENAME: | p080108 | p080208 | 91081408 | 91081508 | 3082309 | 3082409 | j082411 | j082507 | 16082507 | 16082807 | a082808 | a082908 | | | | | | |
| INJ.DATE: | 1-Aug-23 | 2-Aug-23 | 14-Aug-23 | 15-Aug-23 | 23-Aug-23 | 24-Aug-23 | 24-Aug-23 | 25-Aug-23 | 25-Aug-23 | 28-Aug-23 | 28-Aug-23 | 29-Aug-23 | | | | | | |
| INJ.TIME: | 14:44 | 14:11 | 12:15 | 12:34 | 21:30 | 15:24 | 15:53 | 14:13 | 15:09 | 12:47 | 14:56 | 16:04 | | | | | | |
| Compound | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL10 | MDL11 | MDL12 | AVG CONC | STD DEV | SPK AMT | RL | RATIO | MDL |
| 1 Freon 12 | 480.54 | 516.84 | 353.31 | 332.41 | 616.10 | 619.01 | 453.56 | 503.79 | 465.78 | 456.36 | 555.10 | 516.96 | 489.15 | 87.94 | 0.00 | 500.00 | 2.05 | 239.02 |
| 2 Freon 114 | 558.43 | 603.17 | 452.00 | 449.12 | 528.53 | 575.78 | 533.15 | 549.15 | 464.69 | 459.68 | 518.68 | 511.88 | 517.02 | 51.26 | 0.00 | 500.00 | 3.71 | 139.34 |
| 3 Vinyl Chloride | 358.58 | 437.48 | 302.48 | 295.26 | 702.68 | 792.24 | 330.71 | 377.68 | 478.87 | 455.46 | 539.14 | 475.21 | 462.15 | 154.43 | 0.00 | 500.00 | 1.10 | 419.74 |
| 4 1,3-Butadiene | 430.80 | 584.01 | 361.88 | 317.19 | 592.24 | 703.18 | 416.37 | 412.30 | 455.22 | 467.86 | 535.48 | 473.86 | 479.20 | 108.13 | 0.00 | 500.00 | 1.63 | 293.89 |
| 5 Freon 11 | 498.13 | 540.14 | 458.53 | 449.18 | 588.93 | 647.40 | 501.73 | 515.21 | 451.14 | 464.39 | 537.21 | 507.82 | 513.32 | 59.36 | 0.00 | 500.00 | 3.18 | 161.34 |
| 6 Freon 113 | 538.82 | 565.96 | 510.45 | 456.46 | 537.11 | 546.87 | 511.97 | 531.12 | 450.60 | 450.56 | 543.58 | 520.06 | 513.63 | 39.89 | 0.00 | 500.00 | 4.74 | 108.43 |
| 7 1,1-Dichloroethene | 426.92 | 461.56 | 359.17 | 336.60 | 559.22 | 666.54 | 408.12 | 384.79 | 443.03 | 447.90 | 561.80 | 505.32 | 463.41 | 95.37 | 0.00 | 500.00 | 1.79 | 259.22 |
| 8 trans-1,2-Dichloroethene | 429.25 | 523.45 | 369.30 | 336.68 | 582.08 | 602.74 | 414.26 | 445.99 | 429.22 | 433.13 | 510.53 | 557.18 | 469.48 | 84.51 | 0.00 | 500.00 | 2.04 | 229.70 |
| 9 Acrylonitrile | 388.99 | 494.23 | 374.39 | 321.14 | 712.25 | 735.53 | 373.47 | 389.75 | 400.73 | 367.64 | 488.78 | 449.49 | 457.62 | 133.98 | 0.00 | 500.00 | 1.26 | 364.15 |
| 10 Hexane | 467.95 | 419.45 | 477.91 | 467.13 | 589.60 | 552.84 | 400.66 | 432.18 | 441.56 | 424.18 | 527.26 | 489.44 | 474.18 | 57.52 | 0.00 | 500.00 | 3.03 | 156.33 |
| 11 1,1-Dichloroethane | 481.17 | 480.22 | 467.73 | 434.17 | 567.58 | 562.41 | 489.81 | 494.86 | 458.95 | 456.30 | 512.82 | 478.62 | 490.39 | 40.25 | 0.00 | 500.00 | 4.48 | 109.40 |
| 12 cis-1,2-Dichloroethene | 470.64 | 455.38 | 467.30 | 450.37 | 524.72 | 492.72 | 426.59 | 443.54 | 415.38 | 399.10 | 517.43 | 417.30 | 456.71 | 40.02 | 0.00 | 500.00 | 4.20 | 108.78 |
| * 13 Bromochloromethane | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 |
| 14 Tetrahydrofuran | 568.82 | 471.54 | 498.86 | 437.10 | 739.14 | 789.14 | 453.10 | 467.51 | 439.10 | 437.19 | 559.24 | 537.19 | 533.16 | 117.90 | 0.00 | 500.00 | 1.66 | 320.45 |
| 15 Chloroform | 534.00 | 530.13 | 489.78 | 519.46 | 557.98 | 552.02 | 525.20 | 506.14 | 448.31 | 413.30 | 529.76 | 502.52 | 509.05 | 41.98 | 0.00 | 500.00 | 4.46 | 114.10 |
| 16 1,1,1-Trichloroethane | 530.04 | 526.27 | 473.07 | 473.92 | 567.19 | 566.14 | 495.97 | 502.10 | 439.04 | 430.64 | 542.04 | 497.80 | 503.69 | 44.77 | 0.00 | 500.00 | 4.14 | 121.67 |
| 17 Cyclohexane | 442.44 | 421.57 | 447.38 | 450.82 | 548.50 | 575.58 | 351.66 | 381.93 | 404.88 | 429.14 | 518.66 | 505.91 | 456.54 | 67.72 | 0.00 | 500.00 | 2.48 | 184.07 |
| 18 Carbon Tetrachloride | 499.91 | 557.42 | 452.00 | 420.30 | 577.02 | 539.52 | 540.44 | 511.12 | 418.56 | 415.38 | 552.94 | 511.87 | 499.71 | 58.73 | 0.00 | 500.00 | 3.13 | 159.63 |
| 19 2,2,4-Trimethylpentane | 368.77 | 409.79 | 402.67 | 388.91 | 548.01 | 558.02 | 359.98 | 387.46 | 445.32 | 436.02 | 531.29 | 506.30 | 445.21 | 72.11 | 0.00 | 500.00 | 2.27 | 195.99 |
| 20 Benzene | 541.04 | 519.95 | 521.68 | 555.69 | 565.10 | 588.10 | 559.58 | 552.33 | 440.25 | 464.31 | 566.80 | 514.94 | 532.48 | 43.50 | 0.00 | 500.00 | 4.50 | 118.22 |
| $ 21 1,2-Dichloroethane-d4 | 24566.00 | 25833.00 | 25963.00 | 25696.00 | 25165.00 | 25682.00 | 25322.00 | 25520.00 | 10259.00 | 10268.00 | 24392.00 | 23951.00 | 22718.08 | 5850.20 | 0.00 | 400.00 | 1.43 | 15900.85 |
| 22 1,2-Dichloroethane | 671.73 | 563.33 | 478.16 | 488.98 | 583.09 | 651.58 | 506.77 | 546.54 | 488.96 | 503.53 | 541.50 | 514.44 | 544.88 | 69.30 | 0.00 | 500.00 | 3.17 | 172.06 |
| 23 Heptane | 431.18 | 490.71 | 489.31 | 500.11 | 560.48 | 628.53 | 469.13 | 502.61 | 403.60 | 433.66 | 556.78 | 487.36 | 496.12 | 62.50 | 0.00 | 500.00 | 2.92 | 169.88 |
| * 24 1,4-Difluorobenzene | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 |
| 25 Trichloroethene | 519.57 | 602.58 | 480.73 | 461.64 | 591.60 | 615.84 | 529.24 | 526.29 | 461.85 | 467.12 | 501.38 | 495.00 | 521.07 | 55.05 | 0.00 | 500.00 | 3.48 | 149.64 |
| 26 1,2-Dichloropropane | 597.28 | 544.58 | 504.54 | 552.35 | 586.44 | 631.86 | 516.28 | 545.64 | 457.79 | 480.64 | 530.85 | 502.26 | 537.54 | 50.11 | 0.00 | 500.00 | 3.95 | 136.19 |
| 27 Dibromomethane | 528.85 | 536.36 | 466.38 | 490.94 | 555.95 | 607.82 | 586.41 | 571.97 | 456.90 | 426.75 | 532.50 | 500.67 | 521.79 | 55.06 | 0.00 | 500.00 | 3.49 | 149.66 |
| 28 Bromodichloromethane | 541.72 | 582.87 | 502.59 | 499.10 | 588.58 | 594.10 | 527.55 | 536.73 | 425.88 | 433.38 | 561.89 | 471.32 | 522.14 | 57.31 | 0.00 | 500.00 | 3.35 | 155.76 |
| 29 cis-1,3-Dichloropropene | 486.67 | 544.44 | 500.12 | 492.66 | 555.58 | 559.74 | 488.08 | 480.49 | 410.76 | 440.61 | 512.12 | 460.61 | 494.32 | 44.91 | 0.00 | 500.00 | 4.05 | 122.08 |
| 30 4-Methyl-2-pentanone | 527.84 | 463.63 | 497.25 | 539.64 | 655.87 | 524.37 | 472.46 | 499.70 | 392.20 | 379.58 | 484.64 | 498.75 | 494.66 | 70.93 | 0.00 | 500.00 | 2.57 | 192.79 |
| $ 31 Toluene-d8 | 24769.00 | 24734.00 | 24140.00 | 24043.00 | 25232.00 | 25371.00 | 25634.00 | 25730.00 | 10050.00 | 9955.30 | 25155.00 | 24777.00 | 22465.86 | 5844.68 | 0.00 | 400.00 | 1.41 | 15885.83 |
| 32 Toluene | 543.46 | 510.78 | 570.65 | 548.38 | 574.66 | 572.00 | 570.54 | 575.41 | 451.05 | 448.01 | 534.47 | 507.80 | 533.93 | 46.01 | 0.00 | 500.00 | 4.27 | 125.06 |
| 33 trans-1,3-Dichloropropene | 459.08 | 490.10 | 480.81 | 484.78 | 485.36 | 558.75 | 480.24 | 453.05 | 522.79 | 504.42 | 492.10 | 473.64 | 490.43 | 28.33 | 0.00 | 500.00 | 6.37 | 77.00 |
| 34 1,1,2-Trichloroethane | 504.11 | 583.16 | 490.10 | 458.32 | 600.01 | 603.80 | 556.17 | 583.71 | 439.85 | 442.89 | 555.49 | 508.50 | 527.18 | 60.96 | 0.00 | 500.00 | 3.18 | 165.69 |
| 35 Tetrachloroethene | 515.83 | 523.84 | 555.19 | 536.17 | 534.34 | 564.81 | 567.43 | 563.79 | 423.99 | 439.36 | 531.19 | 490.25 | 520.52 | 47.33 | 0.00 | 500.00 | 4.03 | 128.64 |
| 36 1,3-Dichloropropane | 577.27 | 555.01 | 510.30 | 505.47 | 549.39 | 600.62 | 566.94 | 564.38 | 472.40 | 474.19 | 556.31 | 494.10 | 535.53 | 42.43 | 0.00 | 500.00 | 4.64 | 115.33 |
| 37 Dibromochloromethane | 518.57 | 565.77 | 510.06 | 524.38 | 527.07 | 585.61 | 537.69 | 543.47 | 417.15 | 400.80 | 532.84 | 485.05 | 512.37 | 54.70 | 0.00 | 500.00 | 3.45 | 148.66 |
| 38 1,2-Dibromoethane (EDB) | 582.61 | 578.76 | 445.39 | 437.26 | 531.45 | 546.97 | 535.03 | 541.38 | 426.45 | 420.17 | 541.82 | 473.58 | 508.07 | 60.30 | 0.00 | 500.00 | 3.08 | 163.90 |
| * 39 Chlorobenzene-d5 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 |
| 40 Chlorobenzene | 535.27 | 497.64 | 479.10 | 490.46 | 569.79 | 552.58 | 571.28 | 567.91 | 475.15 | 470.59 | 523.96 | 502.26 | 519.67 | 38.76 | 0.00 | 500.00 | 4.93 | 105.35 |
| 41 Ethyl Benzene | 448.50 | 457.30 | 480.89 | 508.15 | 525.19 | 572.64 | 511.99 | 506.23 | 459.41 | 402.39 | 508.38 | 478.17 | 488.27 | 43.77 | 0.00 | 500.00 | 4.10 | 118.96 |
| 42 1,1,1,2-Tetrachloroethane | 518.82 | 565.19 | 534.97 | 529.22 | 545.37 | 572.20 | 552.25 | 596.60 | 431.45 | 409.42 | 548.70 | 497.72 | 525.16 | 55.35 | 0.00 | 500.00 | 3.49 | 150.44 |
| 43 m,p-Xylene | 483.83 | 458.86 | 509.02 | 491.08 | 497.55 | 531.74 | 463.20 | 460.44 | 467.73 | 452.96 | 514.81 | 512.75 | 487.00 | 26.38 | 0.00 | 500.00 | 6.79 | 71.70 |
| 44 o-Xylene | 446.69 | 463.60 | 475.79 | 474.07 | 523.62 | 551.68 | 413.86 | 449.49 | 446.11 | 409.46 | 522.04 | 443.68 | 468.34 | 44.06 | 0.00 | 500.00 | 3.91 | 119.76 |
| 45 Styrene | 423.58 | 411.25 | 483.17 | 456.35 | 467.30 | 477.44 | 404.18 | 423.44 | 408.53 | 420.63 | 497.63 | 455.66 | 444.10 | 32.56 | 0.00 | 500.00 | 5.02 | 88.50 |

Blank (1ppbv)

x= 160.105
2x=320.210 (2ppbv)
3x=480.316
4x=640.421

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 Bromoform | 532.74 | 584.35 | 541.83 | 548.07 | 510.80 | 548.92 | 544.76 | 586.95 | 382.53 | 368.14 | 518.67 | 444.43 | 509.35 | 72.55 | 0.00 | 500.00 | 2.58 | 197.18 | |
| 47 Cumene | 453.31 | 416.87 | 483.80 | 476.23 | 516.79 | 524.91 | 434.18 | 438.38 | 428.49 | 413.66 | 515.41 | 485.32 | 465.61 | 40.21 | 0.00 | 500.00 | 4.26 | 109.28 | |
| $ 48 4-Bromofluorobenzene | 23911.00 | 24748.00 | 25504.00 | 25060.00 | 24991.00 | 24818.00 | 25090.00 | 24894.00 | 9835.60 | 9471.70 | 24778.00 | 24685.00 | 22915.53 | 5926.20 | 0.00 | 400.00 | 1.39 | 16107.41 | |
| 49 1,1,2,2-Tetrachloroethane | 513.07 | 606.08 | 590.63 | 579.81 | 547.75 | 601.66 | 603.91 | 595.63 | 448.59 | 420.90 | 531.41 | 497.95 | 544.78 | 63.52 | 0.00 | 500.00 | 3.16 | 172.66 | |
| 50 Propylbenzene | 431.78 | 492.40 | 511.26 | 505.99 | 532.60 | 573.85 | 456.38 | 505.64 | 455.23 | 443.63 | 516.72 | 474.54 | 491.67 | 41.12 | 0.00 | 500.00 | 4.40 | 111.77 | |
| 51 1,2,3-Trichloropropane | 545.89 | 655.60 | 561.72 | 501.15 | 641.29 | 608.30 | 569.65 | 598.55 | 461.41 | 442.06 | 540.59 | 487.68 | 551.16 | 68.51 | 0.00 | 500.00 | 2.96 | 186.20 | |
| 52 4-Ethyltoluene | 468.47 | 429.25 | 515.78 | 507.04 | 504.95 | 565.29 | 470.56 | 493.55 | 445.26 | 428.84 | 525.99 | 487.04 | 486.83 | 40.81 | 0.00 | 500.00 | 4.39 | 110.91 | |
| 53 1,3,5-Trimethylbenzene | 416.91 | 432.28 | 503.18 | 493.37 | 553.08 | 536.14 | 438.38 | 453.33 | 438.56 | 412.42 | 533.15 | 482.49 | 474.44 | 49.23 | 0.00 | 500.00 | 3.55 | 133.79 | |
| 54 alpha Methyl Styrene | 418.51 | 405.94 | 486.16 | 416.11 | 394.31 | 382.13 | 401.38 | 318.86 | 316.46 | 388.32 | 385.97 | 332.69 | 387.24 | 47.56 | 0.00 | 500.00 | 3.00 | 179.28 | |
| 55 1,2,4-Trimethylbenzene | 401.85 | 468.06 | 513.51 | 504.71 | 509.75 | 532.54 | 397.24 | 399.83 | 456.34 | 421.79 | 505.56 | 480.07 | 465.94 | 49.67 | 0.00 | 500.00 | 3.45 | 134.99 | |
| 56 sec-Butylbenzene | 407.94 | 448.90 | 513.35 | 540.23 | 508.83 | 570.02 | 428.12 | 439.92 | 425.40 | 428.56 | 549.13 | 517.85 | 481.52 | 57.16 | 0.00 | 500.00 | 3.10 | 155.37 | |
| 57 p-Cymene | 392.25 | 436.54 | 511.82 | 514.81 | 507.70 | 512.07 | 411.02 | 413.15 | 436.42 | 397.56 | 509.08 | 485.97 | 460.70 | 50.40 | 0.00 | 500.00 | 3.36 | 136.99 | |
| 58 1,3-Dichlorobenzene | 508.16 | 499.02 | 586.08 | 600.41 | 560.15 | 576.36 | 560.63 | 576.87 | 521.19 | 496.43 | 539.24 | 523.76 | 545.69 | 35.81 | 0.00 | 500.00 | 5.61 | 87.33 | |
| 59 1,4-Dichlorobenzene | 473.23 | 523.08 | 595.39 | 584.78 | 570.77 | 573.18 | 532.71 | 549.35 | 557.77 | 537.76 | 529.08 | 500.56 | 543.97 | 35.44 | 0.00 | 500.00 | 5.65 | 98.31 | |
| 60 alpha-Chlorotoluene | 463.47 | 483.78 | 576.84 | 547.91 | 451.53 | 479.30 | 397.03 | 401.42 | 414.93 | 393.60 | 455.41 | 411.50 | 456.39 | 59.13 | 0.00 | 500.00 | 2.84 | 60.71 | |
| 61 Butylbenzene | 441.29 | 381.41 | 554.61 | 534.42 | 543.71 | 563.94 | 393.69 | 412.55 | 450.80 | 436.81 | 514.19 | 478.80 | 475.52 | 65.02 | 0.00 | 500.00 | 2.69 | 176.71 | |
| 62 1,2-Dichlorobenzene | 489.86 | 559.24 | 610.60 | 603.76 | 551.81 | 590.65 | 556.04 | 573.27 | 501.84 | 448.26 | 553.52 | 505.58 | 545.37 | 49.45 | 0.00 | 500.00 | 4.06 | 134.40 | |

Blank (ppbv)
23.32
-
-
2.61
4.26
-
50.62
38.13
3.97
64.40
28.61
41.35
16.51
68.32
109.39
71.27
121.32

Reviewer 1 _____ Date: 9/1/23

Reviewer 2 _____ Date: 09/06/23

# AT-23 2.0ppbv Quad Pooled MDL

[s12H Report Date : 01-SEP-2023 07:25 Page 1
US32TAR1
SPIKED METHOD DETECTION LIMIT SUMMARY REPORT
Method File: /chem/msda.i/29AUG23.b/a23q0825a.m Spiked ID(s) Spiked Vol(s)
Batch File: /chem/msda.i/29AUG23.b
Instrument Names: msdp.i
Student T 2.718 for 12 Replicates with 99% Confidence

The ratio of the mean recovered concentration and the MDL was between 1 and 20 for all compounds.

| ID: | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL010 | MDL11 | MDL12 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILENAME: | p080109 | p080209 | 91080109 | 91080211 | 3082310 | 3082410 | j082412 | j082508 | 16082508 | 16082808 | a082808 | a082909 | | | | | | | |
| INJ.DATE: | 1-Aug-23 | 2-Aug-23 | 1-Aug-23 | 2-Aug-23 | 23-Aug-23 | 24-Aug-23 | 24-Aug-23 | 25-Aug-23 | 25-Aug-23 | 28-Aug-23 | 28-Aug-23 | 29-Aug-23 | | | | | | | |
| INJ.TIME: | 15:13 | 14:40 | 12:20 | 14:19 | 22:02 | 15:56 | 16:18 | 14:38 | 15:50 | 13:29 | 15:33 | 16:40 | | | | | | | |
| Compound | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL10 | MDL11 | MDL12 | AVG CONC | STD DEV | SPK AMT | RL | RATIO | MDL | Blank (pptv) |
| 1 Freon 134a | 2241.40 | 2551.70 | 1778.20 | 1582.50 | 2197.60 | 2363.00 | 1835.40 | 1958.30 | 2699.20 | 2641.90 | 2299.80 | 2143.20 | 2191.02 | 351.52 | 0.00 | 2000.00 | 2.29 | 955.44 | – |
| 2 Propylene | 2116.90 | 2156.60 | 1959.60 | 1939.50 | 1814.20 | 2706.20 | 1982.20 | 2142.20 | 2183.00 | 2163.80 | 2081.20 | 2110.40 | 2112.98 | 218.09 | 0.00 | 2000.00 | 3.56 | 592.76 | – |
| 3 1,1-Difluoroethane | 1938.10 | 2139.10 | 1743.60 | 1575.50 | 2447.80 | 2680.20 | 1771.40 | 1949.20 | 2380.30 | 2469.20 | 2106.70 | 1903.00 | 2092.01 | 339.94 | 0.00 | 2000.00 | 2.26 | 923.95 | – |
| 4 Chlorodifluoromethane | 1862.60 | 2432.70 | 1845.40 | 1831.40 | 2434.40 | 2396.40 | 1594.60 | 1689.60 | 2350.60 | 2178.20 | 2234.10 | 1957.20 | 2067.27 | 304.81 | 0.00 | 2000.00 | 2.50 | 828.47 | – |
| 5 Isobutane | 1873.50 | 2067.80 | 2000.00 | 1855.30 | 1998.20 | 2229.40 | 1942.80 | 2038.30 | 2306.70 | 2271.40 | 2164.70 | 1978.50 | 2060.38 | 150.92 | 0.00 | 2000.00 | 5.02 | 410.21 | – |
| 6 Chloromethane | 2056.50 | 2159.60 | 2048.20 | 1886.30 | 2627.40 | 2956.30 | 2014.80 | 2244.70 | 2466.20 | 2431.50 | 2576.00 | 2481.50 | 2329.08 | 313.30 | 0.00 | 5000.00 | 2.74 | 851.56 | – |
| 7 Butane | 1830.10 | 2170.00 | 1949.70 | 1598.00 | 2746.60 | 2543.90 | 1806.20 | 1917.80 | 2099.30 | 2344.40 | 2185.90 | 1843.90 | 2086.27 | 332.61 | 0.00 | 2000.00 | 2.31 | 904.02 | – |
| 8 Bromomethane | 2209.40 | 2356.80 | 1778.90 | 1600.40 | 2017.00 | 2576.10 | 1950.60 | 2084.60 | 2089.70 | 2119.20 | 2685.90 | 2550.50 | 2168.26 | 327.18 | 0.00 | 5000.00 | 2.44 | 889.28 | [illegible]1.19 |
| 9 Chloroethane | 2941.10 | 1869.50 | 1822.10 | 1738.40 | 1678.80 | 2578.50 | 1991.10 | 2069.20 | 2219.40 | 2214.40 | 2300.10 | 2353.50 | 2081.34 | 254.86 | 0.00 | 2000.00 | 3.00 | 692.71 | – |
| 10 Isopentane | 2016.20 | 1970.80 | 2111.60 | 1912.50 | 2399.20 | 2648.80 | 1906.30 | 1970.00 | 2315.10 | 2401.50 | 2206.60 | 1991.50 | 2154.17 | 239.17 | 0.00 | 2000.00 | 3.31 | 650.06 | – |
| 11 Vinyl Bromide | 2003.10 | 2072.40 | 1728.40 | 1640.10 | 2203.40 | 2414.40 | 1830.90 | 1949.40 | 2041.10 | 2140.40 | 2156.80 | 1972.70 | 2012.76 | 212.68 | 0.00 | 2000.00 | 3.48 | 578.08 | – |
| 12 Dichlorofluoromethane | 1976.00 | 2176.30 | 1970.40 | 1757.00 | 2095.50 | 2270.00 | 2246.30 | 2423.50 | 2154.40 | 2212.90 | 2099.30 | 1965.30 | 2112.24 | 176.50 | 0.00 | 2000.00 | 4.40 | 479.72 | – |
| 13 Pentane | 1757.10 | 1961.80 | 1985.00 | 1870.10 | 2345.50 | 2324.60 | 1732.40 | 1854.60 | 2322.60 | 2327.80 | 2186.90 | 1982.80 | 2054.27 | 234.80 | 0.00 | 2000.00 | 3.22 | 638.19 | – |
| 14 Ethanol | 1795.70 | 2774.90 | 2316.90 | 2332.60 | 4565.70 | 4807.40 | 2823.90 | 3891.90 | 2985.30 | 2936.50 | 2813.20 | 2569.30 | 3051.11 | 912.09 | 0.00 | 5000.00 | 1.23 | 2479.06 | – |
| 15 Acrolein | 2150.20 | 2222.90 | 2152.80 | 2101.20 | 2784.00 | 4047.80 | 2210.40 | 2343.30 | 2603.60 | 2438.70 | 2567.40 | 2360.00 | 2498.53 | 531.05 | 0.00 | 2000.00 | 1.73 | 1443.38 | – |
| 16 Acetone | 2336.40 | 2088.00 | 2072.60 | 2133.80 | 2889.30 | 2483.50 | 2359.50 | 2477.40 | 2766.40 | 2496.40 | 2571.80 | 2771.50 | 2448.88 | 271.01 | 0.00 | 2000.00 | 3.32 | 736.59 | 390.7 |
| ~~17 Iodomethane~~ | ~~1559.20~~ | ~~2013.90~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~2017.20~~ | ~~3093.10~~ | ~~1450.60~~ | ~~1103.20~~ | ~~852.93~~ | ~~930.40~~ | ~~0.00~~ | ~~5000.00~~ | ~~0.34~~ | ~~2528.82~~ Ratio 1 to 20 Failed | KK 9/1/23 |
| 18 Carbon Disulfide | 2093.70 | 2141.00 | 1997.80 | 1888.70 | 2211.90 | 2447.80 | 2009.30 | 2178.20 | 2103.70 | 2091.00 | 2204.00 | 2037.60 | 2117.06 | 140.11 | 0.00 | 2000.00 | 5.56 | 380.83 | 367.53 |
| 19 2-Propanol | 1929.70 | 2023.40 | 1901.80 | 1859.90 | 2060.90 | 2254.50 | 2368.20 | 2775.00 | 2056.70 | 2029.80 | 2118.70 | 1963.70 | 2111.86 | 253.84 | 0.00 | 2000.00 | 3.06 | 689.95 | 241.23 |
| 20 3-Chloropropene | 1839.10 | 2238.20 | 1809.60 | 1729.30 | 2101.90 | 2152.20 | 1636.40 | 1815.70 | 2005.70 | 2154.00 | 1967.80 | 1894.10 | 1945.28 | 188.73 | 0.00 | 2000.00 | 3.79 | 512.98 | = |
| 21 Acetonitrile | 2385.90 | 2795.10 | 2281.40 | 2223.70 | 2538.50 | 2458.60 | 2364.20 | 2635.20 | 2820.00 | 2647.80 | 2422.90 | 1969.80 | 2460.96 | 245.71 | 0.00 | 2000.00 | 3.69 | 667.83 | = |
| 22 Methylene Chloride | 2100.60 | 1989.40 | 1955.40 | 1811.60 | 2189.50 | 2378.70 | 2062.60 | 2135.60 | 2254.90 | 2258.00 | 2087.60 | 2013.50 | 2103.12 | 154.08 | 0.00 | 5000.00 | 5.02 | 418.79 | 21.99 |
| 23 tert-Butyl alcohol | 2191.10 | 2075.90 | 2177.20 | 2121.40 | 2258.90 | 2188.70 | 2868.50 | 3469.60 | 2225.10 | 2188.90 | 2236.60 | 2293.50 | 2357.90 | 404.08 | 0.00 | 2000.00 | 2.15 | 1098.30 | – |
| 24 Methyl tert-butyl ether | 1757.90 | 1797.90 | 1974.80 | 1864.90 | 1917.60 | 1951.10 | 1660.80 | 1706.70 | 2035.00 | 2050.00 | 2049.80 | 1937.00 | 1891.91 | 134.41 | 0.00 | 2000.00 | 5.18 | 365.34 | – |
| 25 Isopropyl ether | 1760.70 | 1844.80 | 2087.70 | 1899.20 | 2069.10 | 2124.50 | 1532.70 | 1643.70 | 2176.50 | 2137.10 | 2053.60 | 1968.70 | 1941.52 | 208.36 | 0.00 | 2000.00 | 3.43 | 566.33 | – |
| 26 Vinyl Acetate | 1298.70 | 1060.20 | 1822.80 | 1848.70 | 1903.80 | 1969.70 | 1398.80 | 1358.40 | 1802.00 | 1958.90 | 1861.00 | 1983.90 | 1688.86 | 317.86 | 0.00 | 2000.00 | 1.95 | 863.94 | – |
| 27 Ethyl-tert-butyl ether | 1695.90 | 1837.00 | 2091.60 | 1924.30 | 1961.10 | 2041.70 | 1564.60 | 1718.20 | 2046.60 | 2080.50 | 2083.00 | 1911.40 | 1912.99 | 175.28 | 0.00 | 2000.00 | 4.02 | 476.41 | – |
| 28 2,2-Dichloropropane | 2005.40 | 2194.50 | 2104.90 | 1959.90 | 1884.40 | 1989.90 | 1821.10 | 1982.20 | 2087.00 | 2123.00 | 2157.90 | 1951.10 | 2021.72 | 119.07 | 0.00 | 2000.00 | 6.58 | 307.32 | – |
| 29 2-Butanone | 1848.00 | 1910.00 | 2042.70 | 1944.50 | 2035.20 | 2138.10 | 1731.30 | 1843.40 | 1945.10 | 2003.40 | 2163.60 | 1982.40 | 1965.64 | 123.98 | 0.00 | 2000.00 | 5.89 | 336.97 | 159.34 |
| 30 Ethyl Acetate | 1879.60 | 2155.20 | 2222.40 | 2082.70 | 2638.50 | 2605.60 | 1725.80 | 1948.20 | 2480.40 | 2481.80 | 2013.60 | 1881.60 | 2176.28 | 309.16 | 0.00 | 2000.00 | 2.59 | 840.30 | – |
| * 31 Bromochloromethane | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 | – |
| 32 1,1-Dichloropropene | 1864.20 | 1972.50 | 2027.90 | 1863.90 | 2032.20 | 2182.80 | 1758.00 | 1900.40 | 2116.60 | 2123.20 | 2113.40 | 1992.70 | 1995.65 | 128.95 | 0.00 | 2000.00 | 5.69 | 350.47 | – |
| $ 33 1,2-Dichloroethane-d4 | 26025.00 | 26363.00 | 25657.00 | 24467.00 | 24850.00 | 24807.00 | 25416.00 | 25884.00 | 10076.00 | 10190.00 | 24749.00 | 24130.00 | 22701.17 | 5906.78 | 0.00 | 400.00 | 1.41 | 16054.64 | – |
| 34 tert-Amyl methyl ether | 1760.50 | 1771.10 | 1905.60 | 1966.10 | 1876.70 | 2159.00 | 1611.70 | 1725.20 | 2101.90 | 2162.40 | 2071.00 | 1940.40 | 1920.97 | 180.15 | 0.00 | 2000.00 | 3.92 | 489.64 | – |
| * 35 1,4-Difluorobenzene | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 | – |
| 36 n-Butanol | 2124.90 | 1909.00 | 2071.90 | 2290.50 | 2192.60 | 1960.10 | 2961.30 | 3376.30 | 2181.60 | 2184.00 | 2047.10 | 2003.80 | 2275.26 | 440.07 | 0.00 | 2000.00 | 1.90 | 1196.11 | 691.92 |
| 37 Methylcyclohexane | 1841.00 | 1786.80 | 1932.70 | 1832.30 | 1900.90 | 1992.30 | 1753.30 | 1855.20 | 2177.00 | 2155.00 | 2085.60 | 1878.00 | 1992.51 | 140.78 | 0.00 | 2000.00 | 5.05 | 382.63 | – |
| 38 Methyl Methacrylate | 1664.30 | 1789.30 | 2056.50 | 1776.90 | 1965.10 | 1997.80 | 1730.80 | 1817.00 | 2051.60 | 2172.80 | 2057.80 | 1936.10 | 1918.00 | 158.54 | 0.00 | 2000.00 | 4.45 | 430.92 | – |
| 39 1,4-Dioxane | 1864.90 | 1867.80 | 2142.60 | 2042.60 | 1996.50 | 2081.10 | 2114.90 | 2528.80 | 2119.40 | 2062.50 | 2022.40 | 2008.10 | 2070.97 | 169.38 | 0.00 | 2000.00 | 4.50 | 460.38 | – |
| 40 1-Bromo-2-Chloroethane | 2001.30 | 2152.40 | 1990.80 | 1951.90 | 2034.60 | 2294.70 | 2074.60 | 2211.80 | 2153.60 | 2241.10 | 2116.50 | 1946.50 | 2092.48 | 107.81 | 0.00 | 2000.00 | 7.14 | 293.02 | – |
| $ 41 Toluene-d8 | 24761.00 | 24391.00 | 24575.00 | 24488.00 | 25262.00 | 25221.00 | 24941.00 | 25118.00 | 10023.00 | 10049.00 | 24696.00 | 24896.00 | 22363.42 | 5784.70 | 0.00 | 400.00 | 1.43 | 15668.45 | – |
| 42 Octane | 1850.10 | 1927.00 | 1899.80 | 1911.00 | 1941.70 | 2081.10 | 1935.20 | 2153.00 | 2191.40 | 2226.30 | 1877.20 | 1926.50 | 1993.36 | 131.82 | 0.00 | 2000.00 | 5.56 | 358.29 | – |
| 43 2-Hexanone | 1673.80 | 1601.70 | 1957.40 | 2012.40 | 2098.40 | 1908.90 | 1654.50 | 1615.40 | 2182.60 | 2142.20 | 1897.90 | 1912.50 | 1887.73 | 207.50 | 0.00 | 2000.00 | 3.35 | 563.97 | ~~23.08~~ 73.03 KK 9/1/23 |
| * 44 Chlorobenzene-d5 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 | – |
| 45 Nonane | 1674.90 | 1730.00 | 2204.90 | 2200.00 | 1927.00 | 2080.70 | 1887.20 | 1985.90 | 2261.80 | 2281.80 | 2078.00 | 1879.10 | 2015.84 | 202.57 | 0.00 | 2000.00 | 3.66 | 550.59 | 42.34 |
| 46 Cyclohexanone | 1770.00 | 1744.40 | 1917.70 | 2025.20 | 2078.70 | 1818.90 | 2344.80 | 2260.20 | 2097.60 | 2129.00 | 1778.00 | 1972.90 | 1994.73 | 197.09 | 0.00 | 2000.00 | 3.72 | 535.69 | 77.70 |
| $ 47 4-Bromofluorobenzene | 24461.00 | 24686.00 | 24852.00 | 24750.00 | 25290.00 | 25158.00 | 24720.00 | 24623.00 | 9315.60 | 9311.70 | 24439.00 | 24741.00 | 22195.61 | 6022.18 | 0.00 | 400.00 | 1.36 | 16368.28 | – |
| 48 Bromobenzene | 1926.10 | 2017.10 | 2143.00 | 2152.00 | 1978.00 | 2112.10 | 2101.50 | 2237.90 | 2131.80 | 2147.50 | 2106.60 | 1966.20 | 2084.98 | 92.55 | 0.00 | 2000.00 | 8.29 | 251.55 | 16.01 |
| ~~49 trans-1,4-Dichloro-2-butene~~ | ~~1842.10~~ | ~~2006.90~~ | ~~0.00~~ | ~~0.00~~ | ~~1559.10~~ | ~~1622.10~~ | ~~0.00~~ | ~~0.00~~ | ~~2005.00~~ | ~~2038.40~~ | ~~1720.30~~ | ~~1663.20~~ | ~~1318.16~~ | ~~915.13~~ | ~~0.00~~ | ~~5000.00~~ | ~~0.49~~ | ~~2487.33~~ Ratio 1 to 20 Failed | KK 9/1/23 |
| 50 Decane | 1615.10 | 1778.60 | 2129.40 | 2181.10 | 2009.60 | 2132.80 | 2045.60 | 2154.60 | 2182.20 | 2093.70 | 1905.70 | 1735.20 | 1996.47 | 193.34 | 0.00 | 2000.00 | 3.80 | 525.49 | – |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 2-Chlorotoluene | 1899.50 | 2034.60 | 2098.60 | 2099.60 | 2017.10 | 2057.00 | 2149.80 | 2270.00 | 2109.40 | 2155.90 | 2046.80 | 1929.80 | 2072.94 | 100.19 | 0.00 | 2000.00 | 7.61 | 272.31 | 37.65 |
| 52 tert-Butylbenzene | 1709.50 | 1815.20 | 2101.20 | 2190.60 | 1962.60 | 2023.50 | 1924.80 | 2003.70 | 2167.50 | 2171.80 | 2116.10 | 1963.00 | 2012.45 | 148.72 | 0.00 | 2000.00 | 4.98 | 404.22 | |
| 53 Undecane | 1412.40 | 1602.70 | 2253.60 | 2278.00 | 1994.40 | 2099.90 | 2003.60 | 2085.80 | 2074.90 | 1977.60 | 1994.80 | 1746.60 | 1960.26 | 254.65 | 0.00 | 2000.00 | 2.83 | 692.13 | 170.54 |
| 54 1,2-Dibromo-3-chloropropane | 1905.80 | 2087.80 | 2121.00 | 2135.10 | 2009.30 | 2143.50 | 1906.70 | 2031.00 | 1892.00 | 1907.10 | 1898.50 | 1871.70 | 1992.46 | 107.11 | 0.00 | 2000.00 | 6.84 | 291.17 | 113.55 |
| 55 Dodecane | 1238.50 | 1242.90 | 1478.10 | 1658.20 | 1866.80 | 1934.00 | 1997.00 | 1963.10 | 1961.40 | 1767.90 | 1840.10 | 1781.10 | 1723.16 | 269.76 | 0.00 | 2000.00 | 2.35 | 733.21 | 72.63 |
| 56 1,2,4-Trichlorobenzene | 1758.20 | 1893.80 | 2103.50 | 2224.80 | 2132.60 | 2072.60 | 2173.90 | 2241.20 | 2067.10 | 1990.90 | 2068.10 | 2043.70 | 2064.20 | 136.16 | 0.00 | 2000.00 | 5.58 | 370.09 | 134.06 |
| 57 Hexachlorobutadiene | 1993.70 | 2084.30 | 2485.40 | 2472.80 | 2129.70 | 2134.60 | 2476.50 | 2538.60 | 2178.30 | 2043.70 | 2068.00 | 2021.80 | 2218.95 | 209.31 | 0.00 | 2000.00 | 3.90 | 568.90 | 102.47 |
| 58 1,2,3-Trichlorobenzene | 1838.50 | 1816.30 | 2232.90 | 2399.70 | 2249.60 | 2127.00 | 2250.00 | 2906.00 | 2129.10 | 1894.90 | 2075.90 | 2093.70 | 2117.30 | 186.49 | 0.00 | 2000.00 | 4.18 | 506.89 | 319.68 |

Blank (ppbv)

Reviewer 1 _____ Date: 9/1/23

Reviewer 2 _____ Date: 09/06/23

x=595.640 (ppbv)
2x=1191.281
3x=1786.921
4x=2382.562

MDL Verification for 2.0ppbv MDL
Standard #3018-3942 (5.0ppbv)
Load volume of 60ml
Spike concentration of 1.5ppbv
File #91090109.

Ethanol and Acetone (ppbv)
x=1934.88
2x=3869.76
3x=5804.64
4x=7739.52

MDL Verification for Ethanol and Acetone MDL
Standard #3018-3942 (5.0ppbv)
Load volume of 160ml
Spike concentration of 4.0ppbv
File #91090111

# AT23 Naphthalene (0.2ppbv) MDL

]s12H Report Date : 01-SEP-2023 07:53 Page 1
US32TAR1
SPIKED METHOD DETECTION LIMIT SUMMARY REPORT
Method File: /chem/msda.i/29AUG23.b/a23q0825a.m Spiked ID(s) Spiked Vol(s)
Batch File: /chem/msda.i/29AUG23.b
Instrument Names: msdp.i
Student T 2.718 for 12 Replicates with 99% Confidence
]s14H

| ID: | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL010 | MDL11 | MDL12 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILENAME: | p0801095 | p0802098 | 91080109a | 9108021?a | 3082310a | 3082410a | j082412a | j082508a | 16082508a | 16082808a | a082809a | a082909a | | | | | | |
| INJ.DATE: | 1-Aug-23 | 2-Aug-23 | 1-Aug-23 | 2-Aug-23 | 23-Aug-23 | 24-Aug-23 | 24-Aug-23 | 25-Aug-23 | 25-Aug-23 | 28-Aug-23 | 28-Aug-23 | 29-Aug-23 | | | | | | |
| INJ.TIME: | 15:13 | 14:40 | 12:20 | 14:19 | 22:02 | 15:56 | 16:18 | 14:38 | 15:50 | 13:29 | 15:33 | 16:40 | | | | | | |
| Compound | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL10 | MDL11 | MDL12 | AVG CONC | STD DEV | SPK AMT | RL | RATIO | MDL |
| * 1 Bromochloromethane | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 |
| $ 2 1,2-Dichloroethane-d4 | 26025.00 | 26363.00 | 25657.00 | 24467.00 | 24850.00 | 24807.00 | 25416.00 | 25684.00 | 10076.00 | 10190.00 | 24749.00 | 24130.00 | 22701.17 | 5906.78 | 0.00 | 400.00 | 1.41 | 16054.64 |
| * 3 1,4-Difluorobenzene | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 |
| $ 4 Toluene-d8 | 24761.00 | 24391.00 | 24575.00 | 24488.00 | 25262.00 | 25221.00 | 24941.00 | 25118.00 | 10023.00 | 10049.00 | 24696.00 | 24836.00 | 22363.42 | 5764.70 | 0.00 | 400.00 | 1.43 | 15668.45 |
| * 5 Chlorobenzene-d5 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 0.00 | 400.00 | 1.42 | 15.87 |
| $ 6 4-Bromofluorobenzene | 24461.00 | 24686.00 | 24852.00 | 24750.00 | 25290.00 | 25158.00 | 24720.00 | 24623.00 | 9315.60 | 9311.70 | 24439.00 | 24741.00 | 22195.51 | 6022.18 | 0.00 | 400.00 | 1.36 | 16368.28 |
| 7 Naphthalene | 181.56 | 193.92 | 260.52 | 263.44 | 229.12 | 224.77 | 185.56 | 186.35 | 188.71 | 185.39 | 217.65 | 217.05 | 210.75 | 29.12 | 0.00 | 1000.00 | 2.66 | 79.14 |

Blank (ppbv)

Reviewer 1 _____ Date: 9/1/23
Reviewer 2 _____ Date: 09/06/23

57.36

x= 79.14 (ppbv)
2x=158.28
3x=237.42
4x=316.56

MDL Verification for Naph MDL
Standard #3018-3942 (5.0ppbv)
Load volume of 80ml
Spike concentration of 2.0ppbv (0.2ppbv for Naph)
File #91090110

MDL Blank

Il(s12H Report Date : 30-AUG-2023 13:01 Page 1

US32TAR1

BLANK METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/msda.i/29AUG23.b/a23q0825a.m

Batch File: /chem/msda.i/29AUG23.b

Instrument Names: msdp.i Il(s14H

Student T 2.718 for 12 Replicates with 99% Confidence

| ID: | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL010 | MDL11 | MDL12 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILENAME: | p080107EPALB | p080207EPALB | 91080107EPALB | 91080209EPALB | 3082311EPALB | 308240 8EPALB | J082406EPALB | J082506EPALB | 16082506EPALB | 16082806EPALB | a082807EPALB | a082907EPALB | | | | | | |
| INJ.DATE: | 1-Aug-23 | 2-Aug-23 | 1-Aug-23 | 2-Aug-23 | 23-Aug-23 | 24-Aug-23 | 24-Aug-23 | 25-Aug-23 | 25-Aug-23 | 28-Aug-23 | 28-Aug-23 | 29-Aug-23 | | | | | | |
| INJ.TIME: | 13:48 | 12:58 | 10:44 | 12:53 | 22:38 | 14:35 | 13:54 | 13:05 | 14:30 | 12:08 | 14:12 | 15:15 | | | | | | |
| Compound | MDL01 | MDL02 | MDL03 | MDL04 | MDL05 | MDL06 | MDL07 | MDL08 | MDL09 | MDL10 | MDL11 | MDL12 | AVG CONC | STD DEV | MAX | RL | CAL MDL | MDL |
| 1 Freon 134a | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 2 Propylene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 3 1,1-Difluoroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 4 Freon 12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 5 Chlorodifluoromethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 6 Freon 114 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 7 Isobutane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 8 Chloromethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 9 Butane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 10 Vinyl Chloride | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 11 1,3-Butadiene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 12 Bromomethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 13 Chloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 201.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 14 Isopentane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 16.77 | 58.08 | 201.19 | 400.00 | 157.86 | 201.19 |
| 15 Vinyl Bromide | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 16 Freon 11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 17 Dichlorofluoromethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 37.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 18 Pentane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.11 | 10.77 | 37.30 | 400.00 | 29.27 | 37.30 |
| 19 Ethanol | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 20 Acrolein | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 21 Freon 113 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 22 1,1-Dichloroethene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 33.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 23 Acetone | 207.02 | 579.74 | 441.04 | 520.73 | 0.00 | 730.09 | 1267.20 | 873.67 | 106.84 | 422.40 | 1390.70 | 665.19 | 600.38 | 425.07 | 1390.70 | 400.00 | 1155.35 | 1390.70 |
| 24 Iodomethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 25 Carbon Disulfide | 93.48 | 82.92 | 50.79 | 52.35 | 296.45 | 367.53 | 162.66 | 111.28 | 0.00 | 0.00 | 0.00 | 0.00 | 101.45 | 120.31 | 367.53 | 400.00 | 327.00 | 367.53 |
| 26 2-Propanol | 0.00 | 0.00 | 85.63 | 0.00 | 0.00 | 0.00 | 112.88 | 0.00 | 110.76 | 241.23 | 0.00 | 126.58 | 56.42 | 78.83 | 241.23 | 400.00 | 214.26 | 241.23 |
| 27 3-Chloropropene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 28 Acetonitrile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 29 Methylene Chloride | 0.00 | 0.00 | 21.99 | 21.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.64 | 8.51 | 21.99 | 400.00 | 23.13 | 21.99 |
| 30 tert-Butyl alcohol | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 31 Methyl tert-butyl ether | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 32 trans-1,2-Dichloroethene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 33 Acrylonitrile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 34 Hexane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 35 Isopropyl ether | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 36 1,1-Dichloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 37 Vinyl Acetate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 38 Ethyl-tert-butyl ether | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 39 2,2-Dichloropropane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 40 cis-1,2-Dichloroethene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 41 2-Butanone | 0.00 | 0.00 | 52.76 | 33.88 | 0.00 | 0.00 | 159.34 | 0.00 | 0.00 | 0.00 | 70.07 | 0.00 | 26.34 | 48.53 | 159.34 | 400.00 | 131.90 | 159.34 |
| 42 Ethyl Acetate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| * 43 Bromochloromethane | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 25.00 | 400.00 | 15.87 | 38.37 |
| 44 Tetrahydrofuran | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 35.97 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 10.38 | 35.97 | 400.00 | 28.22 | 35.97 |
| 45 Chloroform | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 46 Cyclohexane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 21.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 47 1,1,1-Trichloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 48 Carbon Tetrachloride | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.82 | 6.32 | 21.89 | 400.00 | 17.17 | 21.89 |
| 49 1,1-Dichloropropene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 50 2,2,4-Trimethylpentane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 65.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 51 Benzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 25846.00 | 26006.00 | 10407.00 | 10060.00 | 24947.00 | 24442.00 | 22763.58 | 5885.28 | 26504.00 | 400.00 | 15996.19 | 38759.77 |
| $ 52 1,2-Dichloroethane-d4 | 24758.00 | 25080.00 | 26504.00 | 24839.00 | 24674.00 | 25600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| 53 tert-Amyl methyl ether | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 |
| 54 1,2-Dichloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.47 | 18.94 | 65.60 | 400.00 | 51.47 | 65.60 |
| 55 Heptane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |
| * 56 1,4-Difluorobenzene | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 25.00 | 400.00 | 15.87 | 38.37 |
| 57 n-Butanol | 0.00 | 0.00 | 264.70 | 217.12 | 0.00 | 0.00 | 691.92 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 97.81 | 209.14 | 691.92 | 400.00 | 568.45 | 691.92 |
| 58 Trichloroethene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 44.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.69 | 12.78 | 44.26 | 400.00 | 34.73 | 44.26 |
| 59 Methylcyclohexane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 1,2-Dichloropropane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | (ppt.) |
| 61 Methyl Methacrylate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 62 1,4-Dioxane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 63 Dibromomethane | 0.00 | 0.00 | 23.76 | 0.00 | 0.00 | 0.00 | 91.72 | 50.70 | 20.88 | 0.00 | 21.04 | 11.94 | 18.34 | 27.85 | 91.72 | 400.00 | 75.70 | 91.72 | |
| 64 Bromodichloromethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 65 1-Bromo-2-Chloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 66 cis-1,3-Dichloropropene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 | |
| 67 4-Methyl-2-pentanone | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| $ 68 Toluene-d8 | 24696.00 | 24545.00 | 24337.00 | 24161.00 | 25397.00 | 25226.00 | 24915.00 | 24785.00 | 9947.10 | 9867.60 | 25184.00 | 25022.00 | 22340.23 | 5818.67 | 25397.00 | 400.00 | 15815.14 | 38155.37 | |
| 69 Octane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 70 Toluene | 0.00 | 0.00 | 9.01 | 0.00 | 0.00 | 0.00 | 46.35 | 0.00 | 19.93 | 24.25 | 0.00 | 0.00 | 8.29 | 14.74 | 46.35 | 400.00 | 40.05 | 46.35 | |
| 71 trans-1,3-Dichloropropene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 72 1,1,2-Trichloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 36.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 73 Tetrachloroethene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 39.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.03 | 10.51 | 36.41 | 400.00 | 28.57 | 36.41 | |
| 74 1,3-Dichloropropane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.12 | 0.00 | 0.00 | 3.29 | 11.41 | 39.53 | 400.00 | 31.02 | 39.53 | |
| 75 2-Hexanone | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 73.03 | 0.00 | 0.00 | 0.68 | 2.34 | 8.12 | 2000.00 | 6.37 | 8.12 | |
| 76 Dibromochloromethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.09 | 21.08 | 73.03 | 400.00 | 57.30 | 73.03 | |
| 77 1,2-Dibromoethane (EDB) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 33.54 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.80 | 9.68 | 33.54 | 400.00 | 26.32 | 33.54 | |
| * 78 Chlorobenzene-d5 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 25.00 | 28.82 | 0.00 | 25.12 | 12.81 | 0.00 | 0.00 | 5.56 | 10.68 | 28.82 | 400.00 | 29.02 | 28.82 | |
| 79 Chlorobenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 25.00 | 25.00 | 10.00 | 10.00 | 25.00 | 25.00 | 22.50 | 5.84 | 25.00 | 400.00 | 15.87 | 38.37 | |
| 80 Ethyl Benzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 66.22 | 0.00 | 35.37 | 39.31 | 0.00 | 0.00 | 11.74 | 22.41 | 66.22 | 400.00 | 60.92 | 66.22 | |
| 81 1,1,1,2-Tetrachloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 34.82 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.90 | 10.05 | 34.82 | 400.00 | 27.32 | 34.82 | |
| 82 Nonane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | |
| 83 m,p-Xylene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 42.34 | 0.00 | 0.00 | 38.73 | 0.00 | 0.00 | 6.76 | 15.80 | 42.34 | 400.00 | 42.94 | 42.34 | |
| 84 o-Xylene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 32.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.69 | 9.30 | 32.23 | 400.00 | 25.29 | 32.23 | |
| 85 Styrene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 29.28 | 0.00 | 0.00 | 8.21 | 0.00 | 0.00 | 3.12 | 8.57 | 29.28 | 400.00 | 23.29 | 29.28 | |
| 86 Bromoform | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 18.10 | 35.03 | 0.00 | 60.20 | 56.88 | 0.00 | 0.00 | 14.18 | 23.35 | 60.20 | 400.00 | 63.47 | 60.20 | |
| 87 Cumene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 23.32 | 0.00 | 0.00 | 17.67 | 0.00 | 0.00 | 3.42 | 8.07 | 23.32 | 400.00 | 21.93 | 23.32 | |
| 88 Cyclohexanone | 0.00 | 0.00 | 34.82 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| $ 89 4-Bromofluorobenzene | 24121.00 | 23417.00 | 24496.00 | 24780.00 | 25519.00 | 25079.00 | 24470.00 | 24251.00 | 9759.80 | 9991.30 | 24430.00 | 25018.00 | 22111.01 | 5739.76 | 25519.00 | 400.00 | 15600.67 | 37711.67 | |
| 90 1,1,2,2-Tetrachloroethane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 42.61 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.55 | 12.30 | 42.61 | 400.00 | 33.44 | 42.61 | |
| 91 Bromobenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 40.69 | 0.00 | 64.54 | 68.01 | 0.00 | 0.00 | 14.44 | 26.87 | 68.01 | 2000.00 | 73.05 | 68.01 | |
| 92 Propylbenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 34.26 | 0.00 | 0.00 | 2.85 | 9.89 | 34.26 | 400.00 | 26.88 | 34.26 | |
| 93 1,2,3-Trichloropropane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 94 trans-1,4-Dichloro-2-buten | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2000.00 | 0.00 | 0.00 | |
| 95 Decane | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 96 4-Ethyltoluene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 97 2-Chlorotoluene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 26.79 | 0.00 | 0.00 | 50.62 | 0.00 | 0.00 | 6.45 | 15.90 | 50.62 | 400.00 | 43.22 | 50.62 | |
| 98 1,3,5-Trimethylbenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 37.65 | 0.00 | 0.00 | 3.14 | 10.87 | 37.65 | 400.00 | 29.54 | 37.65 | |
| 99 alpha Methyl Styrene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 28.82 | 0.00 | 0.00 | 38.13 | 0.00 | 0.00 | 5.58 | 13.18 | 38.13 | 400.00 | 35.83 | 38.13 | |
| 100 tert-Butylbenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 30.19 | 0.00 | 60.99 | 63.97 | 0.00 | 0.00 | 12.93 | 24.71 | 63.97 | 400.00 | 67.17 | 63.97 | |
| 101 1,2,4-Trimethylbenzene | 29.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | |
| 102 sec-Butylbenzene | 0.00 | 0.00 | 0.00 | 0.00 | 13.91 | 0.00 | 27.85 | 0.00 | 60.86 | 64.40 | 0.00 | 0.00 | 16.39 | 24.27 | 64.40 | 400.00 | 65.96 | 64.40 | |
| 103 p-Cymene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 28.61 | 25.79 | 0.00 | 0.00 | 4.53 | 10.61 | 28.61 | 400.00 | 28.83 | 28.61 | |
| 104 1,3-Dichlorobenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 31.61 | 0.00 | 41.35 | 0.00 | 0.00 | 0.00 | 6.08 | 14.35 | 41.35 | 400.00 | 39.01 | 41.35 | |
| 105 1,4-Dichlorobenzene | 0.00 | 0.00 | 9.33 | 7.30 | 0.00 | 0.00 | 49.70 | 0.00 | 116.81 | 115.32 | 0.00 | 0.00 | 25.75 | 44.92 | 116.81 | 400.00 | 122.09 | 116.81 | |
| 106 alpha-Chlorotoluene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 50.40 | 0.00 | 168.32 | 154.12 | 0.00 | 0.00 | 32.46 | 61.88 | 168.32 | 400.00 | 168.20 | 168.32 | |
| 107 Butylbenzene | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 97.90 | 109.39 | 0.00 | 0.00 | 17.27 | 40.42 | 109.39 | 400.00 | 109.85 | 109.39 | |
| 108 Undecane | 21.72 | 14.70 | 18.88 | 0.00 | 0.00 | 0.00 | 26.58 | 0.00 | 65.74 | 71.27 | 0.00 | 0.00 | 13.63 | 26.76 | 71.27 | 400.00 | 72.73 | 71.27 | |
| 109 1,2-Dichlorobenzene | 0.00 | 0.00 | 7.18 | 0.00 | 0.00 | 0.00 | 40.83 | 0.00 | 52.63 | 48.43 | 170.54 | 40.65 | 34.03 | 47.35 | 170.54 | 400.00 | 128.71 | 170.54 | |
| 110 1,2-Dibromo-3-chloropro | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 51.20 | 0.00 | 111.80 | 121.32 | 0.00 | 0.00 | 24.29 | 45.54 | 121.32 | 400.00 | 123.77 | 121.32 | |
| 111 Dodecane | 8.77 | 17.03 | 0.00 | 17.47 | 0.00 | 0.00 | 41.43 | 0.00 | 113.55 | 97.70 | 0.00 | 0.00 | 21.06 | 41.38 | 113.55 | 2000.00 | 112.47 | 113.55 | |
| 112 1,2,4-Trichlorobenzene | 48.41 | 0.00 | 15.24 | 9.93 | 34.23 | 20.59 | 75.10 | 0.00 | 92.63 | 79.73 | 65.78 | 23.19 | 31.64 | 35.80 | 92.63 | 400.00 | 97.31 | 92.63 | |
| 113 Hexachlorobutadiene | 24.52 | 26.43 | 7.37 | 0.00 | 0.00 | 0.00 | 143.17 | 14.62 | 334.06 | 330.59 | 33.96 | 30.59 | 84.62 | 121.37 | 334.06 | 400.00 | 329.89 | 334.06 | |
| 114 Naphthalene | 11.90 | 14.18 | 2.14 | 0.00 | 36.08 | 18.14 | 102.47 | 0.00 | 72.85 | 61.35 | 0.00 | 0.00 | 24.58 | 35.26 | 102.47 | 400.00 | 95.83 | 102.47 | |
| 115 1,2,3-Trichlorobenzene | 0.00 | 0.00 | 17.12 | 10.07 | 0.00 | 0.00 | 32.58 | 9.14 | 56.59 | 57.36 | 13.32 | 11.66 | 21.92 | 19.45 | 57.36 | 400.00 | 52.87 | 57.36 | |
| | | | | | | | 201.96 | 0.00 | 319.68 | 308.69 | 42.02 | 33.30 | 77.74 | 123.96 | 319.68 | 400.00 | 336.92 | 319.68 | |

Reviewer 1 _____ Date: 9/1/23

Reviewer 2 _____ Date: 09/06/23

| | | | |
|---|---|---|---|
| **Client ID:** | CCV | | |
| **Lab ID:** | 2406264R2-16A | **Date/Time Analyzed:** | 6/19/24 09:34 AM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061903 |

| Compound | CAS# | %Recovery |
|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 95 |
| 1,4-Dichlorobenzene | 106-46-7 | 100 |
| Benzene | 71-43-2 | 95 |
| cis-1,2-Dichloroethene | 156-59-2 | 96 |
| Ethyl Benzene | 100-41-4 | 97 |
| m,p-Xylene | 108-38-3 | 98 |
| o-Xylene | 95-47-6 | 97 |
| Toluene | 108-88-3 | 94 |
| trans-1,2-Dichloroethene | 156-60-5 | 96 |
| Trichloroethene | 79-01-6 | 123 |
| Vinyl Chloride | 75-01-4 | 98 |

D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 94 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 101 |
| Toluene-d8 | 2037-26-5 | 70-130 | 97 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061903.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 19-JUN-2024 09:34
Operator : LD Inst ID: msd3.i
Smp Info : 50mL 3018-4465
Misc Info : 50ppbv(200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:33 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 13 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 90010 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 71195 | | | 47.79- 107.79 | 79.10 |
| 5.432 | 5.432 (1.000) | 49 | 135765 | | | 131.33- 191.33 | 150.83 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 327761 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 46747 | | | 0.00- 45.65 | 14.26 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 325037 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 162025 | | | 22.92- 82.92 | 49.85 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 109855 | 25.0000 | 23.432 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 60788 | | | 23.17- 83.17 | 55.34 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 310486 | 25.0000 | 24.368 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 32942 | | | 0.00- 41.42 | 10.61 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 208673 | | | 37.54- 97.54 | 67.21 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 244441 | 25.0000 | 25.306 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 263810 | | | 88.49- 148.49 | 107.92 |
| 10.288 | 10.288 (1.124) | 176 | 236957 | | | 66.73- 126.73 | 96.94 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.423 | 1.423 (0.262) | 83 | 107999 | 50.0000 | 51.909 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 97593 | | | 64.17- 124.17 | 90.36 |
| 1.493 | 1.493 (0.275) | 51 | 417071 | | | 365.46- 425.46 | 386.18 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.265) | 41 | 112569 | 50.0000 | 47.749 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.265) | 42 | 75330 | | | 35.86- 95.86 | 66.92 |
| 1.437 | 1.437 (0.265) | 39 | 81953 | | | 41.66- 101.66 | 72.80 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.479 | 1.479 (0.272) | 65 | 68414 | 50.0000 | 50.341 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.275) | 51 | 417071 | | | 568.10- 628.10 | 609.63 |
| 1.577 | 1.577 (0.290) | 47 | 15145 | | | 0.00- 50.57 | 22.14 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.270) | 85 | 274204 | 50.0000 | 51.440 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 90831 | | | 2.88- 62.88 | 33.13 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.493 (0.275) | 67 | 31760 | 50.0000 | 47.614 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.275) | 51 | 417071 | | | 1257.55-1317.55 | 1313.16 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 253098 | 50.0000 | 54.011 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 80084 | | | 2.10- 62.10 | 31.64 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.591 | 1.591 (0.293) | 43 | 237111 | 50.0000 | 47.566 | 80.00- 120.00 | 100.00 |
| 1.591 | 1.591 (0.293) | 42 | 75912 | | | 1.69- 61.69 | 32.02 |
| 1.591 | 1.591 (0.293) | 58 | 8031 | | | 0.00- 33.32 | 3.39 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.675 | 1.675 (0.308) | 50 | 126507 | 50.0000 | 49.223 | 80.00- 120.00 | 100.00 |
| 1.675 | 1.675 (0.308) | 52 | 39425 | | | 1.38- 61.38 | 31.16 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.717 | 1.717 (0.316) | 58 | 23579 | 50.0000 | 45.758 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 18 Butane (continued) | | | | | | | |
| 1.717 | 1.717 (0.316) | 43 | 208097 | | | 866.38- 926.38 | 882.55 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.759 | 1.759 (0.324) | 62 | 122103 | 50.0000 | 49.102 | 80.00- 120.00 | 100.00 |
| 1.759 | 1.759 (0.324) | 64 | 39255 | | | 3.10- 63.10 | 32.15 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.773 | 1.773 (0.326) | 54 | 106741 | 50.0000 | 45.693 | 80.00- 120.00 | 100.00 |
| 1.773 | 1.773 (0.326) | 39 | 111188 | | | 78.74- 138.74 | 104.17 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 101638 | 50.0000 | 57.197 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 95555 | | | 64.19- 124.19 | 94.01 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.409) | 64 | 61419 | 50.0000 | 51.503 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.409) | 66 | 18314 | | | 2.32- 62.32 | 29.82 |
| 2.220 | 2.220 (0.409) | 49 | 21246 | | | 6.33- 66.33 | 34.59 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 160113 | 50.0000 | 47.050 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 100631 | | | 31.77- 91.77 | 62.85 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.416 | 2.416 (0.445) | 106 | 109267 | 50.0000 | 52.870 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.402 (0.442) | 108 | 102813 | | | 64.21- 124.21 | 94.09 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 316821 | 50.0000 | 51.591 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 208645 | | | 34.93- 94.93 | 65.86 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.458 (0.453) | 67 | 237474 | 50.0000 | 48.496 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 69 | 75723 | | | 1.95- 61.95 | 31.89 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 242496 | 50.0000 | 46.832 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 35180 | | | 0.00- 44.64 | 14.51 |
| 2.514 | 2.514 (0.463) | 72 | 19626 | | | 0.00- 37.90 | 8.09 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 23085 | 61.6000 | 47.382 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.507) | 45 | 59075 | | | 224.40- 284.40 | 255.90 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.054 | 3.054 (0.562) | 55 | 26076 | 58.2500 | 24.868 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 42 Acrolein (continued) | | | | | | | |
| 3.054 | 3.054 (0.562) | 56 | 37470 | | | 108.02- 168.02 | 143.69 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 271629 | 50.0000 | 50.050 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 176720 | | | 35.07- 95.07 | 65.06 |
| 3.061 | 3.061 (0.563) | 101 | 301583 | | | 87.45- 147.45 | 111.03 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.089 (0.569) | 96 | 110161 | 50.0000 | 47.705 | 80.00- 120.00 | 100.00 |
| 3.089 | 3.089 (0.569) | 98 | 69442 | | | 33.27- 93.27 | 63.04 |
| 3.089 | 3.089 (0.569) | 61 | 231094 | | | 159.05- 219.05 | 209.78 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.598) | 58 | 60373 | 50.0000 | 45.945 | 80.00- 120.00 | 100.00 |
| 3.240 | 3.240 (0.596) | 43 | 213116 | | | 329.45- 389.45 | 353.00 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.326 (0.612) | 76 | 288346 | 50.0000 | 45.793 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.631) | 45 | 236610 | 50.0000 | 43.310 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.631) | 43 | 44678 | | | 0.00- 48.18 | 18.88 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.577 | 3.577 (0.658) | 76 | 47467 | 50.0000 | 44.746 | 80.00- 120.00 | 100.00 |
| 3.577 | 3.577 (0.658) | 41 | 174941 | | | 366.80- 426.80 | 368.55 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.678) | 41 | 132914 | 58.8000 | 55.123 | 80.00- 120.00 | 100.00 |
| 3.684 | 3.684 (0.678) | 40 | 69606 | | | 22.74- 82.74 | 52.37 |
| 3.684 | 3.684 (0.678) | 38 | 15585 | | | 0.00- 42.52 | 11.73 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.777 (0.695) | 49 | 169681 | 50.0000 | 47.012 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.777 (0.695) | 84 | 95968 | | | 24.90- 84.90 | 56.56 |
| 3.777 | 3.777 (0.695) | 51 | 51068 | | | 0.00- 59.67 | 30.10 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.906 | 3.906 (0.719) | 59 | 270945 | 57.6000 | 48.614 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.906 (0.719) | 41 | 64452 | | | 0.00- 51.85 | 23.79 |
| 3.913 | 3.913 (0.720) | 57 | 28011 | | | 0.00- 40.17 | 10.34 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 3.999 | 3.999 (0.736) | 73 | 295387 | 50.0000 | 44.830 | 80.00- 120.00 | 100.00 |
| 3.999 | 3.999 (0.736) | 57 | 84720 | | | 0.00- 58.72 | 28.68 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 3.999 | 3.999 (0.736) | 41 | 87688 | | | 0.00- 59.38 | 29.69 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 74386 | 50.0000 | 47.966 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.742) | 61 | 184098 | | | 232.13- 292.13 | 247.49 |
| 4.028 | 4.028 (0.742) | 96 | 116534 | | | 127.26- 187.26 | 156.66 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.135 (0.761) | 52 | 87825 | 50.0000 | 43.792 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.135 (0.761) | 53 | 105186 | | | 86.45- 146.45 | 119.77 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.784) | 57 | 205718 | 50.0000 | 42.573 | 80.00- 120.00 | 100.00 |
| 4.250 | 4.250 (0.782) | 43 | 143606 | | | 40.97- 100.97 | 69.81 |
| 4.257 | 4.257 (0.784) | 86 | 26291 | | | 0.00- 42.68 | 12.78 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.551 (0.838) | 63 | 208814 | 50.0000 | 46.594 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 65 | 64404 | | | 0.47- 60.47 | 30.84 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.551 | 4.551 (0.838) | 45 | 474879 | 50.0000 | 44.191 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 87 | 96646 | | | 0.00- 49.55 | 20.35 |
| 4.544 | 4.544 (0.836) | 59 | 50385 | | | 0.00- 40.42 | 10.61 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.608 | 4.608 (0.848) | 86 | 4977 | 50.0000 | 12.613 | 80.00- 120.00 | 100.00 |
| 4.601 | 4.601 (0.847) | 43 | 95162 | | | 1727.95-1787.95 | 1912.01 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.938 | 4.938 (0.909) | 59 | 411316 | 50.0000 | 44.384 | 80.00- 120.00 | 100.00 |
| 4.938 | 4.938 (0.909) | 87 | 142360 | | | 3.90- 63.90 | 34.61 |
| 4.938 | 4.938 (0.909) | 41 | 87216 | | | 0.00- 49.72 | 21.20 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.138 (0.946) | 77 | 203045 | 50.0000 | 45.896 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.138 (0.946) | 79 | 64751 | | | 2.39- 62.39 | 31.89 |
| 5.138 | 5.138 (0.946) | 97 | 48096 | | | 0.00- 53.57 | 23.69 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.181 | 5.181 (0.954) | 98 | 76808 | 50.0000 | 47.829 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 118250 | | | 125.53- 185.53 | 153.95 |
| 5.181 | 5.181 (0.954) | 61 | 203429 | | | 219.86- 279.86 | 264.85 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.960) | 72 | 53540 | 50.0000 | 46.275 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 86 2-Butanone (continued) | | | | | | | |
| 5.238 | 5.238 (0.964) | 43 | 586010 | | | 1138.34-1198.34 | 1094.52 |
| 5.217 | 5.217 (0.960) | 57 | 22204 | | | 10.83- 70.83 | 41.47 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.238 | 5.238 (0.964) | 45 | 46635 | 50.0000 | 40.303 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 61 | 203429 | | | 338.96- 398.96 | 436.21 |
| 5.238 | 5.238 (0.964) | 70 | 23719 | | | 24.53- 84.53 | 50.86 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.425 | 5.425 (0.999) | 42 | 142667 | 50.0000 | 40.330 | 80.00- 120.00 | 100.00 |
| 5.425 | 5.425 (0.999) | 71 | 40575 | | | 0.00- 58.54 | 28.44 |
| 5.425 | 5.425 (0.999) | 72 | 42685 | | | 0.00- 59.59 | 29.92 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.511 | 5.511 (1.014) | 83 | 234308 | 50.0000 | 48.690 | 80.00- 120.00 | 100.00 |
| 5.511 | 5.511 (1.014) | 85 | 153954 | | | 35.77- 95.77 | 65.71 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.033) | 84 | 146222 | 50.0000 | 45.420 | 80.00- 120.00 | 100.00 |
| 5.604 | 5.604 (1.032) | 56 | 218023 | | | 125.79- 185.79 | 149.10 |
| 5.604 | 5.604 (1.032) | 41 | 126018 | | | 61.55- 121.55 | 86.18 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.632 | 5.632 (1.037) | 97 | 251231 | 50.0000 | 47.867 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.632 (1.037) | 99 | 160829 | | | 32.84- 92.84 | 64.02 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.754 (1.059) | 119 | 278997 | 50.0000 | 50.141 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.754 (1.059) | 117 | 292138 | | | 75.19- 135.19 | 104.71 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.797 (0.903) | 110 | 65246 | 50.0000 | 49.420 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.797 (0.903) | 75 | 165579 | | | 234.16- 294.16 | 253.77 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.990 | 5.990 (1.103) | 57 | 689129 | 50.0000 | 45.645 | 80.00- 120.00 | 100.00 |
| 5.983 | 5.983 (1.102) | 56 | 230416 | | | 3.09- 63.09 | 33.44 |
| 5.990 | 5.990 (1.103) | 41 | 185616 | | | 0.00- 57.28 | 26.93 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 313524 | 50.0000 | 47.510 | 80.00- 120.00 | 100.00 |
| 5.998 | 5.998 (0.934) | 77 | 75147 | | | 0.00- 53.69 | 23.97 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.084 | 6.084 (0.948) | 87 | 82266 | 50.0000 | 46.389 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.084 | 6.084 (0.948) | 73 | 321235 | | | 365.76- 425.76 | 390.48 |
| 6.084 | 6.084 (0.948) | 55 | 106720 | | | 92.58- 152.58 | 129.72 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.098 (0.950) | 62 | 165251 | 50.0000 | 48.005 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.098 (0.950) | 64 | 53104 | | | 1.80- 61.80 | 32.14 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.177 | 6.177 (0.962) | 71 | 115243 | 50.0000 | 44.086 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.177 (0.962) | 43 | 270467 | | | 207.73- 267.73 | 234.69 |
| 6.177 | 6.177 (0.962) | 57 | 134326 | | | 84.83- 144.83 | 116.56 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.032) | 56 | 59470 | 50.0000 | 39.636 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 41 | 45586 | | | 47.73- 107.73 | 76.65 |
| 6.628 | 6.628 (1.032) | 43 | 36223 | | | 31.60- 91.60 | 60.91 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 195481 | 50.0000 | 61.437 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 219211 | | | 80.23- 140.23 | 112.14 |
| 6.628 | 6.628 (1.032) | 97 | 125077 | | | 34.78- 94.78 | 63.98 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.728 | 6.728 (1.048) | 83 | 207727 | 50.0000 | 45.961 | 80.00- 120.00 | 100.00 |
| 6.728 | 6.728 (1.048) | 98 | 96650 | | | 14.83- 74.83 | 46.53 |
| 6.728 | 6.728 (1.048) | 55 | 205485 | | | 71.50- 131.50 | 98.92 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.886 (1.073) | 63 | 138908 | 50.0000 | 44.733 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.886 (1.073) | 62 | 99288 | | | 40.39- 100.39 | 71.48 |
| 6.886 | 6.886 (1.073) | 41 | 85029 | | | 31.86- 91.86 | 61.21 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.972 | 6.972 (0.762) | 69 | 114767 | 50.0000 | 43.349 | 80.00- 120.00 | 100.00 |
| 6.972 | 6.972 (0.762) | 41 | 194565 | | | 145.81- 205.81 | 169.53 |
| 6.972 | 6.972 (0.762) | 100 | 48086 | | | 10.05- 70.05 | 41.90 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.089) | 88 | 78643 | 50.0000 | 47.374 | 80.00- 120.00 | 100.00 |
| 6.986 | 6.986 (1.088) | 58 | 66310 | | | 56.33- 116.33 | 84.32 |
| 6.986 | 6.986 (1.088) | 57 | 24714 | | | 2.08- 62.08 | 31.43 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.008 | 7.008 (0.766) | 174 | 166788 | 50.0000 | 54.384 | 80.00- 120.00 | 100.00 |
| 7.000 | 7.000 (0.765) | 93 | 145715 | | | 62.68- 122.68 | 87.37 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 118 Dibromomethane (continued) | | | | | | | |
| 7.000 | 7.000 (0.765) | 95 | 120308 | | | 47.70- 107.70 | 72.13 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.144 | 7.144 (1.113) | 83 | 257204 | 50.0000 | 49.938 | 80.00- 120.00 | 100.00 |
| 7.144 | 7.144 (1.113) | 85 | 164412 | | | 34.96- 94.96 | 63.92 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.566 | 7.566 (1.179) | 75 | 208136 | 50.0000 | 47.383 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.566 (1.179) | 77 | 66280 | | | 1.26- 61.26 | 31.84 |
| 7.566 | 7.566 (1.179) | 39 | 128014 | | | 35.06- 95.06 | 61.51 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.702 | 7.702 (1.200) | 58 | 122186 | 50.0000 | 40.438 | 80.00- 120.00 | 100.00 |
| 7.702 | 7.702 (1.200) | 43 | 356390 | | | 259.88- 319.88 | 291.68 |
| 7.702 | 7.702 (1.200) | 85 | 46338 | | | 7.58- 67.58 | 37.92 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 430005 | 50.0000 | 47.071 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 248033 | | | 27.89- 87.89 | 57.68 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.853 | 7.853 (1.223) | 57 | 144404 | 50.0000 | 43.388 | 80.00- 120.00 | 100.00 |
| 7.853 | 7.853 (1.223) | 85 | 136892 | | | 63.53- 123.53 | 94.80 |
| 7.853 | 7.853 (1.223) | 43 | 382800 | | | 246.00- 306.00 | 265.09 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.111 | 8.111 (0.886) | 75 | 175095 | 50.0000 | 48.751 | 80.00- 120.00 | 100.00 |
| 8.111 | 8.111 (0.886) | 77 | 56456 | | | 1.83- 61.83 | 32.24 |
| 8.111 | 8.111 (0.886) | 39 | 99936 | | | 31.97- 91.97 | 57.08 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.283 | 8.283 (0.905) | 97 | 146225 | 50.0000 | 48.081 | 80.00- 120.00 | 100.00 |
| 8.283 | 8.283 (0.905) | 99 | 92078 | | | 32.52- 92.52 | 62.97 |
| 8.283 | 8.283 (0.905) | 83 | 126210 | | | 58.90- 118.90 | 86.31 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.311 (0.908) | 166 | 243047 | 50.0000 | 53.224 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.311 (0.908) | 129 | 182807 | | | 45.32- 105.32 | 75.21 |
| 8.311 | 8.311 (0.908) | 131 | 178942 | | | 44.17- 104.17 | 73.62 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.483 | 8.483 (0.927) | 58 | 168250 | 50.0000 | 44.098 | 80.00- 120.00 | 100.00 |
| 8.483 | 8.483 (0.927) | 43 | 351423 | | | 177.32- 237.32 | 208.87 |
| 8.490 | 8.490 (0.928) | 100 | 30527 | | | 0.00- 47.18 | 18.14 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.440 | 8.440 (1.315) | 76 | 196501 | 50.0000 | 45.882 | 80.00- 120.00 | 100.00 |
| 8.440 | 8.440 (1.315) | 41 | 165190 | | | 59.72- 119.72 | 84.07 |
| 8.440 | 8.440 (1.315) | 78 | 63883 | | | 3.08- 63.08 | 32.51 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 323471 | 50.0000 | 53.818 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 247999 | | | 47.27- 107.27 | 76.67 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 249018 | 50.0000 | 49.960 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 237141 | | | 64.18- 124.18 | 95.23 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.452 (1.161) | 63 | 258311 | 50.0000 | 47.147 | 80.00- 120.00 | 100.00 |
| 7.452 | 7.452 (1.161) | 65 | 79693 | | | 0.43- 60.43 | 30.85 |
| 7.452 | 7.452 (1.161) | 144 | 30685 | | | 0.00- 40.48 | 11.88 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.003) | 112 | 374257 | 50.0000 | 49.696 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.003) | 114 | 120315 | | | 1.91- 61.91 | 32.15 |
| 9.171 | 9.171 (1.002) | 77 | 190320 | | | 22.97- 82.97 | 50.85 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 183989 | 50.0000 | 48.571 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 563710 | | | 281.09- 341.09 | 306.38 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.307 | 9.307 (1.017) | 43 | 395132 | 50.0000 | 44.912 | 80.00- 120.00 | 100.00 |
| 9.307 | 9.307 (1.017) | 57 | 317978 | | | 50.62- 110.62 | 80.47 |
| 9.307 | 9.307 (1.017) | 85 | 104502 | | | 0.00- 55.65 | 26.45 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.264 | 9.264 (1.013) | 131 | 224891 | 50.0000 | 52.419 | 80.00- 120.00 | 100.00 |
| 9.264 | 9.264 (1.013) | 117 | 149086 | | | 37.10- 97.10 | 66.29 |
| 9.264 | 9.264 (1.013) | 95 | 77039 | | | 4.93- 64.93 | 34.26 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 230916 | 50.0000 | 48.908 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.357 (1.023) | 91 | 451423 | | | 170.33- 230.33 | 195.49 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 216759 | 50.0000 | 48.414 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 449190 | | | 181.23- 241.23 | 207.23 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.773 | 9.773 (1.068) | 104 | 365158 | 50.0000 | 47.757 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.773 | 9.773 (1.068) | 78 | 169963 | | | 17.26- 77.26 | 46.55 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.092) | 173 | 332582 | 50.0000 | 54.752 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.092) | 171 | 172641 | | | 21.45- 81.45 | 51.91 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.088 | 10.088 (1.103) | 105 | 667489 | 50.0000 | 49.318 | 80.00- 120.00 | 100.00 |
| 10.088 | 10.088 (1.103) | 120 | 183991 | | | 0.00- 56.93 | 27.56 |
| 10.088 | 10.088 (1.103) | 51 | 77930 | | | 0.00- 42.24 | 11.68 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.252 | 10.252 (1.121) | 55 | 210824 | 50.0000 | 39.372 | 80.00- 120.00 | 100.00 |
| 10.260 | 10.260 (1.121) | 98 | 76487 | | | 5.15- 65.15 | 36.28 |
| 10.252 | 10.252 (1.121) | 42 | 146131 | | | 41.99- 101.99 | 69.31 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.144) | 83 | 260860 | 50.0000 | 37.160 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.467 (1.144) | 85 | 167394 | | | 34.97- 94.97 | 64.17 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.424 | 10.424 (1.139) | 156 | 242669 | 50.0000 | 51.463 | 80.00- 120.00 | 100.00 |
| 10.424 | 10.424 (1.139) | 158 | 238108 | | | 67.47- 127.47 | 98.12 |
| 10.424 | 10.424 (1.139) | 77 | 309690 | | | 108.68- 168.68 | 127.62 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.489 | 10.489 (1.146) | 120 | 200384 | 50.0000 | 50.070 | 80.00- 120.00 | 100.00 |
| 10.489 | 10.489 (1.146) | 91 | 798855 | | | 383.60- 443.60 | 398.66 |
| 10.489 | 10.489 (1.146) | 105 | 30833 | | | 0.00- 46.14 | 15.39 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.518 | 10.518 (1.150) | 110 | 101017 | 50.0000 | 47.414 | 80.00- 120.00 | 100.00 |
| 10.518 | 10.518 (1.150) | 75 | 328723 | | | 324.28- 384.28 | 325.41 |
| 10.518 | 10.518 (1.150) | 61 | 82214 | | | 57.24- 117.24 | 81.39 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.603 (1.159) | 57 | 417635 | 50.0000 | 40.321 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 71 | 131147 | | | 1.11- 61.11 | 31.40 |
| 10.603 | 10.603 (1.159) | 142 | 19280 | | | 0.00- 34.44 | 4.62 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.603 (1.159) | 120 | 214390 | 50.0000 | 49.149 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 105 | 691655 | | | 298.94- 358.94 | 322.62 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.603 (1.159) | 126 | 182823 | 50.0000 | 49.536 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.603 | 10.603 (1.159) | 91 | 548959 | | | 282.78- 342.78 | 300.27 |
| 10.603 | 10.603 (1.159) | 65 | 80187 | | | 17.33- 77.33 | 43.86 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.668 | 10.668 (1.166) | 120 | 289003 | 50.0000 | 49.128 | 80.00- 120.00 | 100.00 |
| 10.668 | 10.668 (1.166) | 105 | 574442 | | | 172.08- 232.08 | 198.77 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.897 | 10.897 (1.191) | 118 | 298844 | 50.0000 | 47.958 | 80.00- 120.00 | 100.00 |
| 10.897 | 10.897 (1.191) | 103 | 168794 | | | 25.64- 85.64 | 56.48 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.976 (1.200) | 119 | 559277 | 50.0000 | 50.007 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.976 (1.200) | 134 | 141937 | | | 0.00- 55.10 | 25.38 |
| 10.976 | 10.976 (1.200) | 91 | 350724 | | | 34.53- 94.53 | 62.71 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.033 | 11.033 (1.206) | 105 | 573059 | 50.0000 | 47.646 | 80.00- 120.00 | 100.00 |
| 11.033 | 11.033 (1.206) | 120 | 271560 | | | 16.63- 76.63 | 47.39 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.191 | 11.191 (1.223) | 134 | 185375 | 50.0000 | 50.636 | 80.00- 120.00 | 100.00 |
| 11.191 | 11.191 (1.223) | 105 | 834535 | | | 436.99- 496.99 | 450.19 |
| 11.191 | 11.191 (1.223) | 91 | 128867 | | | 41.69- 101.69 | 69.52 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.334 | 11.334 (1.239) | 119 | 740543 | 50.0000 | 49.464 | 80.00- 120.00 | 100.00 |
| 11.334 | 11.334 (1.239) | 134 | 205981 | | | 0.00- 57.62 | 27.81 |
| 11.334 | 11.334 (1.239) | 91 | 164347 | | | 0.00- 53.03 | 22.19 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.341 | 11.341 (1.240) | 146 | 440528 | 50.0000 | 49.427 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 148 | 284151 | | | 34.18- 94.18 | 64.50 |
| 11.341 | 11.341 (1.240) | 111 | 170266 | | | 10.06- 70.06 | 38.65 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.442 | 11.442 (1.251) | 146 | 450430 | 50.0000 | 49.893 | 80.00- 120.00 | 100.00 |
| 11.442 | 11.442 (1.251) | 148 | 285860 | | | 33.55- 93.55 | 63.46 |
| 11.442 | 11.442 (1.251) | 111 | 166416 | | | 7.98- 67.98 | 36.95 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.585 | 11.585 (1.266) | 91 | 524240 | 50.0000 | 45.856 | 80.00- 120.00 | 100.00 |
| 11.585 | 11.585 (1.266) | 126 | 124808 | | | 0.00- 52.77 | 23.81 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.778 | 11.778 (1.287) | 57 | 487317 | 50.0000 | 39.569 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 201 Undecane (continued) | | | | | | | |
| 11.778 | 11.778 (1.287) | 43 | 449977 | | | 63.59- 123.59 | 92.34 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.742 (1.283) | 134 | 203836 | 50.0000 | 49.402 | 80.00- 120.00 | 100.00 |
| 11.735 | 11.735 (1.283) | 91 | 676037 | | | 310.82- 370.82 | 331.66 |
| 11.735 | 11.735 (1.283) | 92 | 356425 | | | 151.53- 211.53 | 174.86 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.814 (1.291) | 146 | 426504 | 50.0000 | 49.309 | 80.00- 120.00 | 100.00 |
| 11.814 | 11.814 (1.291) | 148 | 272515 | | | 33.00- 93.00 | 63.90 |
| 11.814 | 11.814 (1.291) | 111 | 169907 | | | 10.87- 70.87 | 39.84 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.609 | 12.609 (1.378) | 157 | 260816 | 50.0000 | 50.981 | 80.00- 120.00 | 100.00 |
| 12.609 | 12.609 (1.378) | 75 | 190459 | | | 48.09- 108.09 | 73.02 |
| 12.609 | 12.609 (1.378) | 155 | 201817 | | | 47.89- 107.89 | 77.38 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.853 | 12.853 (1.405) | 57 | 541165 | 50.0000 | 43.623 | 80.00- 120.00 | 100.00 |
| 12.853 | 12.853 (1.405) | 43 | 472078 | | | 58.52- 118.52 | 87.23 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.390 | 13.390 (1.463) | 180 | 424754 | 50.0000 | 49.552 | 80.00- 120.00 | 100.00 |
| 13.390 | 13.390 (1.463) | 182 | 407280 | | | 64.84- 124.84 | 95.89 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.504 | 13.504 (1.476) | 225 | 323167 | 50.0000 | 51.684 | 80.00- 120.00 | 100.00 |
| 13.504 | 13.504 (1.476) | 223 | 205035 | | | 32.80- 92.80 | 63.45 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.641 | 13.641 (1.491) | 128 | 91239 | 5.80000 | 5.100 | 80.00- 120.00 | 100.00 |
| 13.641 | 13.641 (1.491) | 127 | 11500 | | | 0.00- 42.72 | 12.60 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.891 | 13.891 (1.518) | 180 | 410362 | 50.0000 | 48.855 | 80.00- 120.00 | 100.00 |
| 13.891 | 13.891 (1.518) | 182 | 389665 | | | 65.07- 125.07 | 94.96 |
| 13.884 | 13.884 (1.517) | 145 | 135697 | | | 4.48- 64.48 | 33.07 |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 19-JUN-2024 09:34
Lab File ID: 3061903.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/19JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE | |
|---|---|---|---|---|---|---|---|
| $ 104 1,2-Dichloroethane-d4 | 1.30215 | 1.22047 | 0.010 | 6.27303 | 30.00000 | Averaged | |
| $ 134 Toluene-d8 | 0.97187 | 0.94729 | 0.010 | 2.52923 | 30.00000 | Averaged | |
| $ 170 4-Bromofluorobenzene | 0.74296 | 0.75204 | 0.010 | -1.22256 | 30.00000 | Averaged | |
| 4 Freon 134a | 0.57786 | 0.59992 | 0.010 | -3.81828 | 30.00000 | Averaged | |
| 5 Propylene | 0.65479 | 0.62531 | 0.010 | 4.50222 | 30.00000 | Averaged | |
| 7 1,1-Difluoroethane | 0.37746 | 0.38003 | 0.010 | -0.68156 | 30.00000 | Averaged | |
| 8 Freon 12 | 1.48055 | 1.52318 | 0.010 | -2.87936 | 30.00000 | Averaged | |
| 9 Chlorodifluoromethane | 0.18527 | 0.17643 | 0.010 | 4.77154 | 30.00000 | Averaged | |
| 10 Freon 114 | 1.30152 | 1.40593 | 0.010 | -8.02265 | 30.00000 | Averaged | |
| 12 Isobutane | 1.38453 | 1.31713 | 0.010 | 4.86834 | 30.00000 | Averaged | |
| 15 Chloromethane | 0.71383 | 0.70274 | 0.010 | 1.55440 | 30.00000 | Averaged | |
| 18 Butane | 0.14312 | 0.13098 | 0.010 | 8.48364 | 30.00000 | Averaged | |
| 19 Vinyl Chloride | 0.69068 | 0.67827 | 0.010 | 1.79664 | 30.00000 | Averaged | |
| 20 1,3-Butadiene | 0.64883 | 0.59294 | 0.010 | 8.61466 | 30.00000 | Averaged | |
| 24 Bromomethane | 0.49355 | 0.56459 | 0.010 | -14.39473 | 30.00000 | Averaged | |
| 30 Chloroethane | 0.33122 | 0.34118 | 0.010 | -3.00645 | 30.00000 | Averaged | |
| 31 Isopentane | 0.94519 | 0.88941 | 0.010 | 5.90072 | 30.00000 | Averaged | |
| 32 Vinyl Bromide | 0.57403 | 0.60697 | 0.010 | -5.73912 | 30.00000 | Averaged | |
| 33 Freon 11 | 1.70564 | 1.75991 | 0.010 | -3.18140 | 30.00000 | Averaged | |
| 34 Dichlorofluoromethane | 1.36006 | 1.31914 | 0.010 | 3.00820 | 30.00000 | Averaged | |
| 35 Pentane | 1.43815 | 1.34704 | 0.010 | 6.33486 | 30.00000 | Averaged | |
| 39 Ethanol | 0.13532 | 0.10409 | 0.010 | 23.08070 | 30.00000 | Averaged | |
| 42 Acrolein | 0.29124 | 0.12434 | 0.010 | 57.30790 | 30.00000 | Averaged | <- |
| 43 Freon 113 | 1.50737 | 1.50887 | 0.010 | -0.09948 | 30.00000 | Averaged | |
| 44 1,1-Dichloroethene | 0.64138 | 0.61194 | 0.010 | 4.58989 | 30.00000 | Averaged | |
| 47 Acetone | 0.36497 | 0.33537 | 0.010 | 8.11009 | 30.00000 | Averaged | |
| 48 Carbon Disulfide | 1.74887 | 1.60173 | 0.010 | 8.41330 | 30.00000 | Averaged | |
| 52 2-Propanol | 1.51737 | 1.31434 | 0.010 | 13.38044 | 30.00000 | Averaged | |
| 54 3-Chloropropene | 0.29464 | 0.26367 | 0.010 | 10.50823 | 30.00000 | Averaged | |
| 57 Acetonitrile | 0.66971 | 0.62783 | 0.010 | 6.25399 | 30.00000 | Averaged | |
| 59 Methylene Chloride | 1.00247 | 0.94256 | 0.010 | 5.97613 | 30.00000 | Averaged | |
| 62 tert-Butyl alcohol | 1.54800 | 1.30649 | 0.010 | 15.60138 | 30.00000 | Averaged | |
| 63 Methyl tert-butyl ether | 1.83005 | 1.64084 | 0.010 | 10.33906 | 30.00000 | Averaged | |
| 64 trans-1,2-Dichloroethene | 0.43073 | 0.41321 | 0.010 | 4.06760 | 30.00000 | Averaged | |
| 66 Acrylonitrile | 0.55703 | 0.48786 | 0.010 | 12.41672 | 30.00000 | Averaged | |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 19-JUN-2024 09:34
Lab File ID: 3061903.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/19JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE | |
|---|---|---|---|---|---|---|---|
| 67 Hexane | 1.34210 | 1.14274 | 0.010 | 14.85391 | 30.00000 | Averaged | |
| 71 1,1-Dichloroethane | 1.24472 | 1.15994 | 0.010 | 6.81086 | 30.00000 | Averaged | |
| 72 Isopropyl ether | 2.98469 | 2.63790 | 0.010 | 11.61871 | 30.00000 | Averaged | |
| 73 Vinyl Acetate | 0.10960 | 0.02765 | 0.010 | 74.77455 | 30.00000 | Averaged | <- |
| 79 Ethyl-tert-butyl ether | 2.57389 | 2.28482 | 0.010 | 11.23085 | 30.00000 | Averaged | |
| 84 2,2-Dichloropropane | 1.22874 | 1.12789 | 0.010 | 8.20704 | 30.00000 | Averaged | |
| 85 cis-1,2-Dichloroethene | 0.44603 | 0.42666 | 0.010 | 4.34152 | 30.00000 | Averaged | |
| 86 2-Butanone | 0.32135 | 0.29741 | 0.010 | 7.44914 | 30.00000 | Averaged | |
| 87 Ethyl Acetate | 0.32139 | 0.25906 | 0.010 | 19.39372 | 30.00000 | Averaged | |
| 89 Tetrahydrofuran | 0.98253 | 0.79250 | 0.010 | 19.34048 | 30.00000 | Averaged | |
| 92 Chloroform | 1.33658 | 1.30156 | 0.010 | 2.62055 | 30.00000 | Averaged | |
| 94 Cyclohexane | 0.89416 | 0.81225 | 0.010 | 9.16051 | 30.00000 | Averaged | |
| 96 1,1,1-Trichloroethane | 1.45774 | 1.39556 | 0.010 | 4.26558 | 30.00000 | Averaged | |
| 97 Carbon Tetrachloride | 1.54543 | 1.54980 | 0.010 | -0.28282 | 30.00000 | Averaged | |
| 99 1,1-Dichloropropene | 0.10070 | 0.09953 | 0.010 | 1.16090 | 30.00000 | Averaged | |
| 101 2,2,4-Trimethylpentane | 4.19325 | 3.82804 | 0.010 | 8.70960 | 30.00000 | Averaged | |
| 102 Benzene | 0.50334 | 0.47828 | 0.010 | 4.97934 | 30.00000 | Averaged | |
| 105 tert-Amyl methyl ether | 0.13527 | 0.12550 | 0.010 | 7.22208 | 30.00000 | Averaged | |
| 106 1,2-Dichloroethane | 0.26256 | 0.25209 | 0.010 | 3.98908 | 30.00000 | Averaged | |
| 107 Heptane | 0.19939 | 0.17580 | 0.010 | 11.82879 | 30.00000 | Averaged | |
| 110 n-Butanol | 0.11444 | 0.09072 | 0.010 | 20.72689 | 30.00000 | Averaged | |
| 111 Trichloroethene | 0.24269 | 0.29821 | 0.010 | -22.87465 | 30.00000 | Averaged | |
| 127 Methylcyclohexane | 0.34474 | 0.31689 | 0.010 | 8.07870 | 30.00000 | Averaged | |
| 114 1,2-Dichloropropane | 0.23685 | 0.21190 | 0.010 | 10.53344 | 30.00000 | Averaged | |
| 116 Methyl Methacrylate | 0.20363 | 0.17655 | 0.010 | 13.30249 | 30.00000 | Averaged | |
| 117 1,4-Dioxane | 0.12662 | 0.11997 | 0.010 | 5.25180 | 30.00000 | Averaged | |
| 118 Dibromomethane | 0.23589 | 0.25657 | 0.010 | -8.76754 | 30.00000 | Averaged | |
| 122 Bromodichloromethane | 0.39286 | 0.39236 | 0.010 | 0.12490 | 30.00000 | Averaged | |
| 126 cis-1,3-Dichloropropene | 0.33505 | 0.31751 | 0.010 | 5.23391 | 30.00000 | Averaged | |
| 131 4-Methyl-2-pentanone | 0.23047 | 0.18640 | 0.010 | 19.12324 | 30.00000 | Averaged | |
| 137 Toluene | 0.69679 | 0.65597 | 0.010 | 5.85784 | 30.00000 | Averaged | |
| 136 Octane | 0.25386 | 0.22029 | 0.010 | 13.22300 | 30.00000 | Averaged | |
| 139 trans-1,3-Dichloropropene | 0.27625 | 0.26935 | 0.010 | 2.49823 | 30.00000 | Averaged | |
| 141 1,1,2-Trichloroethane | 0.23391 | 0.22494 | 0.010 | 3.83785 | 30.00000 | Averaged | |
| 142 Tetrachloroethene | 0.35123 | 0.37388 | 0.010 | -6.44831 | 30.00000 | Averaged | |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 19-JUN-2024 09:34
Lab File ID: 3061903.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/19JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE |
|---|---|---|---|---|---|---|
| 143 2-Hexanone | 0.29346 | 0.25882 | 0.010 | 11.80403 | 30.00000 | Averaged |
| 144 1,3-Dichloropropane | 0.32667 | 0.29976 | 0.010 | 8.23574 | 30.00000 | Averaged |
| 146 Dibromochloromethane | 0.46229 | 0.49759 | 0.010 | -7.63575 | 30.00000 | Averaged |
| 148 1,2-Dibromoethane (EDB) | 0.38337 | 0.38306 | 0.010 | 0.08039 | 30.00000 | Averaged |
| 151 1-Bromo-2-Chloroethane | 0.41790 | 0.39405 | 0.010 | 5.70530 | 30.00000 | Averaged |
| 154 Chlorobenzene | 0.57923 | 0.57571 | 0.010 | 0.60706 | 30.00000 | Averaged |
| 155 Ethyl Benzene | 0.29135 | 0.28303 | 0.010 | 2.85712 | 30.00000 | Averaged |
| 156 Nonane | 0.67669 | 0.60783 | 0.010 | 10.17630 | 30.00000 | Averaged |
| 157 1,1,1,2-Tetrachloroethane | 0.32998 | 0.34595 | 0.010 | -4.83758 | 30.00000 | Averaged |
| 158 m,p-Xylene | 0.36315 | 0.35521 | 0.010 | 2.18382 | 30.00000 | Averaged |
| 164 o-Xylene | 0.34436 | 0.33344 | 0.010 | 3.17236 | 30.00000 | Averaged |
| 165 Styrene | 0.58810 | 0.56172 | 0.010 | 4.48574 | 30.00000 | Averaged |
| 167 Bromoform | 0.46720 | 0.51161 | 0.010 | -9.50395 | 30.00000 | Averaged |
| 168 Cumene | 1.04099 | 1.02679 | 0.010 | 1.36378 | 30.00000 | Averaged |
| 169 Cyclohexanone | 0.41185 | 0.32431 | 0.010 | 21.25539 | 30.00000 | Averaged |
| 175 1,1,2,2-Tetrachloroethane | 0.53993 | 0.40128 | 0.010 | 25.67968 | 30.00000 | Averaged |
| 177 Bromobenzene | 0.36268 | 0.37330 | 0.010 | -2.92588 | 30.00000 | Averaged |
| 178 Propylbenzene | 0.30782 | 0.30825 | 0.010 | -0.14045 | 30.00000 | Averaged |
| 179 1,2,3-Trichloropropane | 0.16387 | 0.15539 | 0.010 | 5.17094 | 30.00000 | Averaged |
| 182 Decane | 0.79666 | 0.64244 | 0.010 | 19.35827 | 30.00000 | Averaged |
| 183 4-Ethyltoluene | 0.33550 | 0.32979 | 0.010 | 1.70229 | 30.00000 | Averaged |
| 184 2-Chlorotoluene | 0.28387 | 0.28123 | 0.010 | 0.92747 | 30.00000 | Averaged |
| 185 1,3,5-Trimethylbenzene | 0.45246 | 0.44457 | 0.010 | 1.74372 | 30.00000 | Averaged |
| 188 alpha Methyl Styrene | 0.47929 | 0.45971 | 0.010 | 4.08484 | 30.00000 | Averaged |
| 189 tert-Butylbenzene | 0.86021 | 0.86033 | 0.010 | -0.01395 | 30.00000 | Averaged |
| 190 1,2,4-Trimethylbenzene | 0.92509 | 0.88153 | 0.010 | 4.70841 | 30.00000 | Averaged |
| 192 sec-Butylbenzene | 0.28157 | 0.28516 | 0.010 | -1.27309 | 30.00000 | Averaged |
| 194 p-Cymene | 1.15152 | 1.13917 | 0.010 | 1.07271 | 30.00000 | Averaged |
| 195 1,3-Dichlorobenzene | 0.68551 | 0.67766 | 0.010 | 1.14527 | 30.00000 | Averaged |
| 196 1,4-Dichlorobenzene | 0.69437 | 0.69289 | 0.010 | 0.21374 | 30.00000 | Averaged |
| 199 alpha-Chlorotoluene | 0.87930 | 0.80643 | 0.010 | 8.28771 | 30.00000 | Averaged |
| 201 Undecane | 0.94724 | 0.74963 | 0.010 | 20.86174 | 30.00000 | Averaged |
| 202 Butylbenzene | 0.31736 | 0.31356 | 0.010 | 1.19675 | 30.00000 | Averaged |
| 204 1,2-Dichlorobenzene | 0.66528 | 0.65609 | 0.010 | 1.38223 | 30.00000 | Averaged |
| 206 1,2-Dibromo-3-chloropropane | 0.39349 | 0.40121 | 0.010 | -1.96194 | 30.00000 | Averaged |
| 207 Dodecane | 0.95417 | 0.83247 | 0.010 | 12.75461 | 30.00000 | Averaged |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 19-JUN-2024 09:34
Lab File ID: 3061903.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/19JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE |
|---|---|---|---|---|---|---|
| 213 1,2,4-Trichlorobenzene | 0.65930 | 0.65339 | 0.010 | 0.89564 | 30.00000 | Averaged |
| 215 Hexachlorobutadiene | 0.48092 | 0.49712 | 0.010 | -3.36909 | 30.00000 | Averaged |
| 216 Naphthalene | 1.37605 | 1.20993 | 0.010 | 12.07226 | 30.00000 | Averaged |
| 222 1,2,3-Trichlorobenzene | 0.64605 | 0.63125 | 0.010 | 2.28986 | 30.00000 | Averaged |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061903.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: LD
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 50ppbv(200ppbv)

Calibration Date: 20-JUN-2024
Calibration Time: 08:32
Client Smp ID: CCV
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 88848 | 53309 | 124387 | 90010 | 1.31 |
| 108 1,4-Difluorobenze | 319557 | 191734 | 447380 | 327761 | 2.57 |
| 153 Chlorobenzene-d5 | 314384 | 188630 | 440138 | 325037 | 3.39 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | 0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | 0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | 0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/19JUN24.b/3061903.d

Page 1

Date : 19-JUN-2024 09:34

Client ID: CCV

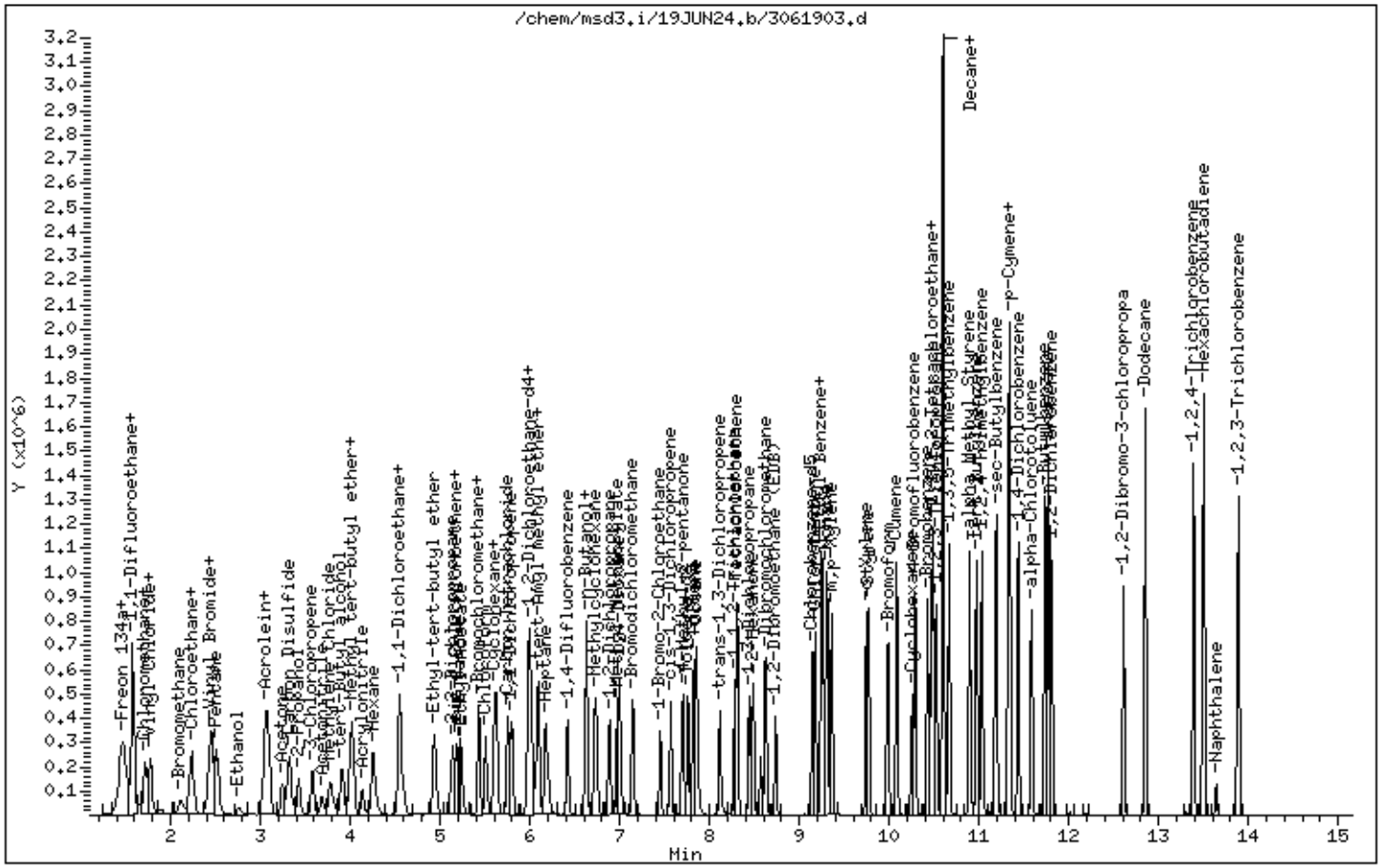
Instrument: msd3.i

Sample Info: 50mL 3018-4465

Operator: LD

Column phase: RTX-624

Column diameter: 0.25



| | | | |
|---|---|---|---|
| **Client ID:** | CCV | | |
| **Lab ID:** | 2406264R2-16B | **Date/Time Analyzed:** | 6/20/24 08:32 AM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061931a |

| Compound | CAS# | %Recovery |
|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 93 |
| 1,4-Dichlorobenzene | 106-46-7 | 100 |
| Benzene | 71-43-2 | 94 |
| cis-1,2-Dichloroethene | 156-59-2 | 95 |
| Ethyl Benzene | 100-41-4 | 97 |
| m,p-Xylene | 108-38-3 | 98 |
| o-Xylene | 95-47-6 | 96 |
| Toluene | 108-88-3 | 94 |
| trans-1,2-Dichloroethene | 156-60-5 | 94 |
| Trichloroethene | 79-01-6 | 122 |
| Vinyl Chloride | 75-01-4 | 97 |

D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 103 |
| Toluene-d8 | 2037-26-5 | 70-130 | 98 |

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061931a.d
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 20-JUN-2024 08:32
Operator : RT Inst ID: msd3.i
Smp Info : 50mL 3018-4465
Misc Info : 50ppbv (200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:33 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 13 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 88848 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 68430 | | | 47.79- 107.79 | 77.02 |
| 5.432 | 5.432 (1.000) | 49 | 133607 | | | 131.33- 191.33 | 150.38 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 319557 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 46186 | | | 0.00- 45.65 | 14.45 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 314384 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 157507 | | | 22.92- 82.92 | 50.10 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 106073 | 25.0000 | 22.921 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 59723 | | | 23.17- 83.17 | 56.30 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 304211 | 25.0000 | 24.488 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 32816 | | | 0.00- 41.42 | 10.79 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 203747 | | | 37.54- 97.54 | 66.98 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 240152 | 25.0000 | 25.704 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 258889 | | | 88.49- 148.49 | 107.80 |
| 10.288 | 10.288 (1.124) | 176 | 232563 | | | 66.73- 126.73 | 96.84 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.423 | 1.423 (0.262) | 83 | 107195 | 50.0000 | 52.197 | 80.00- 120.00 | 100.00 |
| 1.423 | 1.423 (0.262) | 69 | 97219 | | | 64.17- 124.17 | 90.69 |
| 1.492 | 1.492 (0.275) | 51 | 406070 | | | 365.46- 425.46 | 378.81 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.436 | 1.436 (0.264) | 41 | 112119 | 50.0000 | 48.180 | 80.00- 120.00 | 100.00 |
| 1.436 | 1.436 (0.264) | 42 | 73313 | | | 35.86- 95.86 | 65.39 |
| 1.436 | 1.436 (0.264) | 39 | 76910 | | | 41.66- 101.66 | 68.60 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.464 | 1.464 (0.270) | 65 | 66856 | 50.0000 | 49.838 | 80.00- 120.00 | 100.00 |
| 1.492 | 1.492 (0.275) | 51 | 406070 | | | 568.10- 628.10 | 607.37 |
| 1.576 | 1.576 (0.290) | 47 | 14442 | | | 0.00- 50.57 | 21.60 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.464 | 1.464 (0.270) | 85 | 270858 | 50.0000 | 51.477 | 80.00- 120.00 | 100.00 |
| 1.464 | 1.464 (0.270) | 87 | 88136 | | | 2.88- 62.88 | 32.54 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.492 | 1.492 (0.275) | 67 | 31352 | 50.0000 | 47.616 | 80.00- 120.00 | 100.00 |
| 1.492 | 1.492 (0.275) | 51 | 406070 | | | 1257.55-1317.55 | 1295.19 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.576 | 1.576 (0.290) | 135 | 245541 | 50.0000 | 53.084 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.576 (0.290) | 137 | 80232 | | | 2.10- 62.10 | 32.68 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.590 | 1.590 (0.293) | 43 | 231726 | 50.0000 | 47.094 | 80.00- 120.00 | 100.00 |
| 1.576 | 1.576 (0.290) | 42 | 75176 | | | 1.69- 61.69 | 32.44 |
| 1.576 | 1.576 (0.290) | 58 | 7463 | | | 0.00- 33.32 | 3.22 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.674 (0.308) | 50 | 124291 | 50.0000 | 48.993 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.674 (0.308) | 52 | 39365 | | | 1.38- 61.38 | 31.67 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.716 (0.316) | 58 | 22845 | 50.0000 | 44.914 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 18 Butane (continued) | | | | | | | |
| 1.716 | 1.716 (0.316) | 43 | 203538 | | | 866.38- 926.38 | 890.94 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.758 (0.324) | 62 | 118715 | 50.0000 | 48.364 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.758 (0.324) | 64 | 40113 | | | 3.10- 63.10 | 33.79 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.772 (0.326) | 54 | 102533 | 50.0000 | 44.466 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.772 (0.326) | 39 | 108668 | | | 78.74- 138.74 | 105.98 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 92742 | 50.0000 | 52.874 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 86466 | | | 64.19- 124.19 | 93.23 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.409) | 64 | 60364 | 50.0000 | 51.281 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.409) | 66 | 17680 | | | 2.32- 62.32 | 29.29 |
| 2.220 | 2.220 (0.409) | 49 | 21019 | | | 6.33- 66.33 | 34.82 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 155962 | 50.0000 | 46.430 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 97283 | | | 31.77- 91.77 | 62.38 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.402 (0.442) | 106 | 105902 | 50.0000 | 51.912 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.402 (0.442) | 108 | 100159 | | | 64.21- 124.21 | 94.58 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 311803 | 50.0000 | 51.438 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 203614 | | | 34.93- 94.93 | 65.30 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.458 (0.453) | 67 | 231693 | 50.0000 | 47.934 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 69 | 74426 | | | 1.95- 61.95 | 32.12 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 231951 | 50.0000 | 45.382 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 34435 | | | 0.00- 44.64 | 14.85 |
| 2.514 | 2.514 (0.463) | 72 | 18721 | | | 0.00- 37.90 | 8.07 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 22868 | 61.6000 | 47.552 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.507) | 45 | 58215 | | | 224.40- 284.40 | 254.56 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.053 | 3.053 (0.562) | 55 | 25430 | 58.2500 | 24.569 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 42 Acrolein (continued) | | | | | | | |
| 3.061 | 3.061 (0.563) | 56 | 34730 | | | 108.02- 168.02 | 136.57 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 268969 | 50.0000 | 50.208 | 80.00- 120.00 | 100.00 |
| 3.053 | 3.053 (0.562) | 153 | 169608 | | | 35.07- 95.07 | 63.06 |
| 3.061 | 3.061 (0.563) | 101 | 294948 | | | 87.45- 147.45 | 109.66 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.089 (0.569) | 96 | 106339 | 50.0000 | 46.652 | 80.00- 120.00 | 100.00 |
| 3.096 | 3.096 (0.570) | 98 | 68424 | | | 33.27- 93.27 | 64.35 |
| 3.089 | 3.089 (0.569) | 61 | 224187 | | | 159.05- 219.05 | 210.82 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.240 | 3.240 (0.596) | 58 | 58885 | 50.0000 | 45.399 | 80.00- 120.00 | 100.00 |
| 3.240 | 3.240 (0.596) | 43 | 209721 | | | 329.45- 389.45 | 356.15 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.326 (0.612) | 76 | 280909 | 50.0000 | 45.196 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.631) | 45 | 226573 | 50.0000 | 42.015 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.631) | 43 | 44925 | | | 0.00- 48.18 | 19.83 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.583 | 3.583 (0.660) | 76 | 45855 | 50.0000 | 43.792 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.576 (0.658) | 41 | 169254 | | | 366.80- 426.80 | 369.11 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.678) | 41 | 131211 | 58.8000 | 55.128 | 80.00- 120.00 | 100.00 |
| 3.684 | 3.684 (0.678) | 40 | 66378 | | | 22.74- 82.74 | 50.59 |
| 3.677 | 3.677 (0.677) | 38 | 14589 | | | 0.00- 42.52 | 11.12 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.777 (0.695) | 49 | 166520 | 50.0000 | 46.740 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.777 (0.695) | 84 | 94271 | | | 24.90- 84.90 | 56.61 |
| 3.777 | 3.777 (0.695) | 51 | 50303 | | | 0.00- 59.67 | 30.21 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.913 | 3.913 (0.720) | 59 | 261654 | 57.6000 | 47.561 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.906 (0.719) | 41 | 62940 | | | 0.00- 51.85 | 24.05 |
| 3.906 | 3.906 (0.719) | 57 | 27685 | | | 0.00- 40.17 | 10.58 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 4.006 | 4.006 (0.738) | 73 | 287250 | 50.0000 | 44.166 | 80.00- 120.00 | 100.00 |
| 3.999 | 3.999 (0.736) | 57 | 81777 | | | 0.00- 58.72 | 28.47 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 4.006 | 4.006 (0.738) | 41 | 85401 | | | 0.00- 59.38 | 29.73 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 71717 | 50.0000 | 46.850 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.742) | 61 | 179193 | | | 232.13- 292.13 | 249.86 |
| 4.028 | 4.028 (0.742) | 96 | 112157 | | | 127.26- 187.26 | 156.39 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.135 (0.761) | 52 | 89814 | 50.0000 | 45.369 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.135 (0.761) | 53 | 101671 | | | 86.45- 146.45 | 113.20 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.250 | 4.250 (0.782) | 57 | 199394 | 50.0000 | 41.804 | 80.00- 120.00 | 100.00 |
| 4.250 | 4.250 (0.782) | 43 | 140175 | | | 40.97- 100.97 | 70.30 |
| 4.257 | 4.257 (0.784) | 86 | 25677 | | | 0.00- 42.68 | 12.88 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.550 | 4.550 (0.838) | 63 | 202986 | 50.0000 | 45.887 | 80.00- 120.00 | 100.00 |
| 4.550 | 4.550 (0.838) | 65 | 62324 | | | 0.47- 60.47 | 30.70 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.550 | 4.550 (0.838) | 45 | 466898 | 50.0000 | 44.016 | 80.00- 120.00 | 100.00 |
| 4.550 | 4.550 (0.838) | 87 | 91624 | | | 0.00- 49.55 | 19.62 |
| 4.550 | 4.550 (0.838) | 59 | 48807 | | | 0.00- 40.42 | 10.45 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.608 | 4.608 (0.848) | 86 | 5072 | 50.0000 | 13.023 | 80.00- 120.00 | 100.00 |
| 4.601 | 4.601 (0.847) | 43 | 91983 | | | 1727.95-1787.95 | 1813.38 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.937 (0.909) | 59 | 397812 | 50.0000 | 43.489 | 80.00- 120.00 | 100.00 |
| 4.937 | 4.937 (0.909) | 87 | 137388 | | | 3.90- 63.90 | 34.54 |
| 4.930 | 4.930 (0.908) | 41 | 84414 | | | 0.00- 49.72 | 21.22 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.138 (0.946) | 77 | 195127 | 50.0000 | 44.684 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.138 (0.946) | 79 | 62352 | | | 2.39- 62.39 | 31.95 |
| 5.138 | 5.138 (0.946) | 97 | 46954 | | | 0.00- 53.57 | 24.06 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.181 | 5.181 (0.954) | 98 | 75143 | 50.0000 | 47.404 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 114901 | | | 125.53- 185.53 | 152.91 |
| 5.181 | 5.181 (0.954) | 61 | 177076 | | | 219.86- 279.86 | 235.65 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.960) | 72 | 52781 | 50.0000 | 46.216 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| 86 2-Butanone (continued) | | | | | | | |
| 5.231 | 5.231 (0.963) | 43 | 569848 | | | 1138.34-1198.34 | 1079.64 |
| 5.217 | 5.217 (0.960) | 57 | 21780 | | | 10.83- 70.83 | 41.26 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.238 | 5.238 (0.964) | 45 | 44824 | 50.0000 | 39.245 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 61 | 177076 | | | 338.96- 398.96 | 395.04 |
| 5.238 | 5.238 (0.964) | 70 | 23254 | | | 24.53- 84.53 | 51.88 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.424 | 5.424 (0.999) | 42 | 136583 | 50.0000 | 39.115 | 80.00- 120.00 | 100.00 |
| 5.424 | 5.424 (0.999) | 71 | 38486 | | | 0.00- 58.54 | 28.18 |
| 5.424 | 5.424 (0.999) | 72 | 40966 | | | 0.00- 59.59 | 29.99 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.510 | 5.510 (1.014) | 83 | 228586 | 50.0000 | 48.122 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.510 (1.014) | 85 | 149298 | | | 35.77- 95.77 | 65.31 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.611 | 5.611 (1.033) | 84 | 141408 | 50.0000 | 44.499 | 80.00- 120.00 | 100.00 |
| 5.611 | 5.611 (1.033) | 56 | 211796 | | | 125.79- 185.79 | 149.78 |
| 5.603 | 5.603 (1.032) | 41 | 120889 | | | 61.55- 121.55 | 85.49 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.632 | 5.632 (1.037) | 97 | 246008 | 50.0000 | 47.486 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.632 (1.037) | 99 | 157886 | | | 32.84- 92.84 | 64.18 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.754 (1.059) | 119 | 271832 | 50.0000 | 49.493 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.754 (1.059) | 117 | 284513 | | | 75.19- 135.19 | 104.67 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.797 (0.903) | 110 | 63234 | 50.0000 | 49.125 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.797 (0.903) | 75 | 159443 | | | 234.16- 294.16 | 252.14 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.990 | 5.990 (1.103) | 57 | 667259 | 50.0000 | 44.775 | 80.00- 120.00 | 100.00 |
| 5.983 | 5.983 (1.102) | 56 | 216113 | | | 3.09- 63.09 | 32.39 |
| 5.983 | 5.983 (1.102) | 41 | 181942 | | | 0.00- 57.28 | 27.27 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 303843 | 50.0000 | 47.226 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.990 (0.933) | 77 | 73221 | | | 0.00- 53.69 | 24.10 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.083 | 6.083 (0.948) | 87 | 79600 | 50.0000 | 46.038 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.083 | 6.083 (0.948) | 73 | 312327 | | | 365.76- 425.76 | 392.37 |
| 6.083 | 6.083 (0.948) | 55 | 106325 | | | 92.58- 152.58 | 133.57 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.098 (0.950) | 62 | 161804 | 50.0000 | 48.211 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.098 (0.950) | 64 | 51812 | | | 1.80- 61.80 | 32.02 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.176 | 6.176 (0.962) | 71 | 111326 | 50.0000 | 43.681 | 80.00- 120.00 | 100.00 |
| 6.176 | 6.176 (0.962) | 43 | 260669 | | | 207.73- 267.73 | 234.15 |
| 6.176 | 6.176 (0.962) | 57 | 130372 | | | 84.83- 144.83 | 117.11 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.032) | 56 | 60278 | 50.0000 | 41.206 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 41 | 44297 | | | 47.73- 107.73 | 73.49 |
| 6.628 | 6.628 (1.032) | 43 | 36815 | | | 31.60- 91.60 | 61.08 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 188576 | 50.0000 | 60.789 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 214659 | | | 80.23- 140.23 | 113.83 |
| 6.628 | 6.628 (1.032) | 97 | 122097 | | | 34.78- 94.78 | 64.75 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.728 | 6.728 (1.048) | 83 | 201563 | 50.0000 | 45.742 | 80.00- 120.00 | 100.00 |
| 6.735 | 6.735 (1.049) | 98 | 94447 | | | 14.83- 74.83 | 46.86 |
| 6.728 | 6.728 (1.048) | 55 | 200384 | | | 71.50- 131.50 | 99.42 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.886 (1.073) | 63 | 135665 | 50.0000 | 44.811 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.886 (1.073) | 62 | 97261 | | | 40.39- 100.39 | 71.69 |
| 6.886 | 6.886 (1.073) | 41 | 83414 | | | 31.86- 91.86 | 61.49 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.972 | 6.972 (0.762) | 69 | 112043 | 50.0000 | 43.754 | 80.00- 120.00 | 100.00 |
| 6.972 | 6.972 (0.762) | 41 | 189996 | | | 145.81- 205.81 | 169.57 |
| 6.972 | 6.972 (0.762) | 100 | 47129 | | | 10.05- 70.05 | 42.06 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.089) | 88 | 77435 | 50.0000 | 47.844 | 80.00- 120.00 | 100.00 |
| 6.993 | 6.993 (1.089) | 58 | 64703 | | | 56.33- 116.33 | 83.56 |
| 6.986 | 6.986 (1.088) | 57 | 23826 | | | 2.08- 62.08 | 30.77 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.007 (0.766) | 174 | 163977 | 50.0000 | 55.279 | 80.00- 120.00 | 100.00 |
| 7.000 | 7.000 (0.765) | 93 | 143376 | | | 62.68- 122.68 | 87.44 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 118 Dibromomethane (continued) | | | | | | | |
| 7.000 | 7.000 (0.765) | 95 | 119626 | | | 47.70- 107.70 | 72.95 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.143 | 7.143 (1.113) | 83 | 249320 | 50.0000 | 49.650 | 80.00- 120.00 | 100.00 |
| 7.143 | 7.143 (1.113) | 85 | 161542 | | | 34.96- 94.96 | 64.79 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.566 | 7.566 (1.179) | 75 | 200272 | 50.0000 | 46.763 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.566 (1.179) | 77 | 63664 | | | 1.26- 61.26 | 31.79 |
| 7.566 | 7.566 (1.179) | 39 | 124947 | | | 35.06- 95.06 | 62.39 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.702 | 7.702 (1.200) | 58 | 119594 | 50.0000 | 40.597 | 80.00- 120.00 | 100.00 |
| 7.702 | 7.702 (1.200) | 43 | 344213 | | | 259.88- 319.88 | 287.82 |
| 7.702 | 7.702 (1.200) | 85 | 43986 | | | 7.58- 67.58 | 36.78 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 418832 | 50.0000 | 47.025 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 244668 | | | 27.89- 87.89 | 58.42 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.853 | 7.853 (1.223) | 57 | 138312 | 50.0000 | 42.625 | 80.00- 120.00 | 100.00 |
| 7.853 | 7.853 (1.223) | 85 | 131644 | | | 63.53- 123.53 | 95.18 |
| 7.853 | 7.853 (1.223) | 43 | 378514 | | | 246.00- 306.00 | 273.67 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.110 | 8.110 (0.886) | 75 | 169374 | 50.0000 | 48.756 | 80.00- 120.00 | 100.00 |
| 8.110 | 8.110 (0.886) | 77 | 53327 | | | 1.83- 61.83 | 31.49 |
| 8.110 | 8.110 (0.886) | 39 | 95301 | | | 31.97- 91.97 | 56.27 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.282 | 8.282 (0.905) | 97 | 143437 | 50.0000 | 48.763 | 80.00- 120.00 | 100.00 |
| 8.282 | 8.282 (0.905) | 99 | 90342 | | | 32.52- 92.52 | 62.98 |
| 8.282 | 8.282 (0.905) | 83 | 125117 | | | 58.90- 118.90 | 87.23 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.311 (0.908) | 166 | 237405 | 50.0000 | 53.750 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.311 (0.908) | 129 | 176318 | | | 45.32- 105.32 | 74.27 |
| 8.311 | 8.311 (0.908) | 131 | 174282 | | | 44.17- 104.17 | 73.41 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.483 | 8.483 (0.927) | 58 | 166465 | 50.0000 | 45.108 | 80.00- 120.00 | 100.00 |
| 8.483 | 8.483 (0.927) | 43 | 344811 | | | 177.32- 237.32 | 207.14 |
| 8.483 | 8.483 (0.927) | 100 | 29165 | | | 0.00- 47.18 | 17.52 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.440 | 8.440 (1.315) | 76 | 191911 | 50.0000 | 45.961 | 80.00- 120.00 | 100.00 |
| 8.440 | 8.440 (1.315) | 41 | 161952 | | | 59.72- 119.72 | 84.39 |
| 8.440 | 8.440 (1.315) | 78 | 61366 | | | 3.08- 63.08 | 31.98 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 314331 | 50.0000 | 54.069 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 244383 | | | 47.27- 107.27 | 77.75 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 243993 | 50.0000 | 50.610 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 231422 | | | 64.18- 124.18 | 94.85 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.451 | 7.451 (1.161) | 63 | 251722 | 50.0000 | 47.124 | 80.00- 120.00 | 100.00 |
| 7.451 | 7.451 (1.161) | 65 | 76737 | | | 0.43- 60.43 | 30.48 |
| 7.451 | 7.451 (1.161) | 144 | 30324 | | | 0.00- 40.48 | 12.05 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.003) | 112 | 363732 | 50.0000 | 49.935 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.003) | 114 | 116726 | | | 1.91- 61.91 | 32.09 |
| 9.178 | 9.178 (1.003) | 77 | 183209 | | | 22.97- 82.97 | 50.37 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 178548 | 50.0000 | 48.732 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 548699 | | | 281.09- 341.09 | 307.31 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.307 | 9.307 (1.017) | 43 | 386224 | 50.0000 | 45.387 | 80.00- 120.00 | 100.00 |
| 9.307 | 9.307 (1.017) | 57 | 313327 | | | 50.62- 110.62 | 81.13 |
| 9.307 | 9.307 (1.017) | 85 | 97995 | | | 0.00- 55.65 | 25.37 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.264 | 9.264 (1.013) | 131 | 220576 | 50.0000 | 53.155 | 80.00- 120.00 | 100.00 |
| 9.264 | 9.264 (1.013) | 117 | 146338 | | | 37.10- 97.10 | 66.34 |
| 9.264 | 9.264 (1.013) | 95 | 75287 | | | 4.93- 64.93 | 34.13 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 224338 | 50.0000 | 49.125 | 80.00- 120.00 | 100.00 |
| 9.364 | 9.364 (1.023) | 91 | 441107 | | | 170.33- 230.33 | 196.63 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 208648 | 50.0000 | 48.181 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 436468 | | | 181.23- 241.23 | 209.19 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.772 | 9.772 (1.068) | 104 | 360122 | 50.0000 | 48.694 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.772 | 9.772 (1.068) | 78 | 164873 | | | 17.26- 77.26 | 45.78 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.092) | 173 | 323923 | 50.0000 | 55.133 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.092) | 171 | 167082 | | | 21.45- 81.45 | 51.58 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.087 | 10.087 (1.103) | 105 | 653811 | 50.0000 | 49.944 | 80.00- 120.00 | 100.00 |
| 10.087 | 10.087 (1.103) | 120 | 178351 | | | 0.00- 56.93 | 27.28 |
| 10.087 | 10.087 (1.103) | 51 | 75707 | | | 0.00- 42.24 | 11.58 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.252 | 10.252 (1.121) | 55 | 206790 | 50.0000 | 39.927 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.259 (1.121) | 98 | 74964 | | | 5.15- 65.15 | 36.25 |
| 10.252 | 10.252 (1.121) | 42 | 142702 | | | 41.99- 101.99 | 69.01 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.144) | 83 | 252717 | 50.0000 | 37.220 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.467 (1.144) | 85 | 165259 | | | 34.97- 94.97 | 65.39 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.424 | 10.424 (1.139) | 156 | 237274 | 50.0000 | 52.024 | 80.00- 120.00 | 100.00 |
| 10.424 | 10.424 (1.139) | 158 | 232084 | | | 67.47- 127.47 | 97.81 |
| 10.424 | 10.424 (1.139) | 77 | 300224 | | | 108.68- 168.68 | 126.53 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.489 | 10.489 (1.146) | 120 | 192471 | 50.0000 | 49.723 | 80.00- 120.00 | 100.00 |
| 10.489 | 10.489 (1.146) | 91 | 781577 | | | 383.60- 443.60 | 406.07 |
| 10.489 | 10.489 (1.146) | 105 | 30464 | | | 0.00- 46.14 | 15.83 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.517 (1.150) | 110 | 101530 | 50.0000 | 49.270 | 80.00- 120.00 | 100.00 |
| 10.517 | 10.517 (1.150) | 75 | 322059 | | | 324.28- 384.28 | 317.20 |
| 10.510 | 10.510 (1.149) | 61 | 80863 | | | 57.24- 117.24 | 79.64 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.603 (1.159) | 57 | 412281 | 50.0000 | 41.153 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 71 | 128223 | | | 1.11- 61.11 | 31.10 |
| 10.603 | 10.603 (1.159) | 142 | 19409 | | | 0.00- 34.44 | 4.71 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.603 (1.159) | 120 | 210767 | 50.0000 | 49.956 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 105 | 680077 | | | 298.94- 358.94 | 322.67 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.603 (1.159) | 126 | 177529 | 50.0000 | 49.732 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | AMOUNTS CAL-AMT ( PPBV) | ON-COL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.603 | 10.603 (1.159) | 91 | 538100 | | | 282.78- 342.78 | 303.10 |
| 10.603 | 10.603 (1.159) | 65 | 79374 | | | 17.33- 77.33 | 44.71 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.668 | 10.668 (1.166) | 120 | 282647 | 50.0000 | 49.676 | 80.00- 120.00 | 100.00 |
| 10.668 | 10.668 (1.166) | 105 | 565995 | | | 172.08- 232.08 | 200.25 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.897 | 10.897 (1.191) | 118 | 294702 | 50.0000 | 48.895 | 80.00- 120.00 | 100.00 |
| 10.897 | 10.897 (1.191) | 103 | 164814 | | | 25.64- 85.64 | 55.93 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.976 (1.200) | 119 | 547936 | 50.0000 | 50.653 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.976 (1.200) | 134 | 139384 | | | 0.00- 55.10 | 25.44 |
| 10.969 | 10.969 (1.199) | 91 | 343064 | | | 34.53- 94.53 | 62.61 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.033 | 11.033 (1.206) | 105 | 562727 | 50.0000 | 48.372 | 80.00- 120.00 | 100.00 |
| 11.033 | 11.033 (1.206) | 120 | 266691 | | | 16.63- 76.63 | 47.39 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.191 | 11.191 (1.223) | 134 | 180400 | 50.0000 | 50.947 | 80.00- 120.00 | 100.00 |
| 11.191 | 11.191 (1.223) | 105 | 820522 | | | 436.99- 496.99 | 454.83 |
| 11.191 | 11.191 (1.223) | 91 | 124321 | | | 41.69- 101.69 | 68.91 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.334 | 11.334 (1.239) | 119 | 720547 | 50.0000 | 49.759 | 80.00- 120.00 | 100.00 |
| 11.334 | 11.334 (1.239) | 134 | 203050 | | | 0.00- 57.62 | 28.18 |
| 11.334 | 11.334 (1.239) | 91 | 161222 | | | 0.00- 53.03 | 22.38 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.341 | 11.341 (1.240) | 146 | 433194 | 50.0000 | 50.251 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 148 | 275684 | | | 34.18- 94.18 | 63.64 |
| 11.341 | 11.341 (1.240) | 111 | 167714 | | | 10.06- 70.06 | 38.72 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.441 (1.251) | 146 | 438555 | 50.0000 | 50.224 | 80.00- 120.00 | 100.00 |
| 11.441 | 11.441 (1.251) | 148 | 278901 | | | 33.55- 93.55 | 63.60 |
| 11.441 | 11.441 (1.251) | 111 | 163879 | | | 7.98- 67.98 | 37.37 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.585 | 11.585 (1.266) | 91 | 506799 | 50.0000 | 45.833 | 80.00- 120.00 | 100.00 |
| 11.585 | 11.585 (1.266) | 126 | 120337 | | | 0.00- 52.77 | 23.74 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.778 | 11.778 (1.287) | 57 | 470841 | 50.0000 | 39.527 | 80.00- 120.00 | 100.00 |

| | | | | AMOUNTS | | | |
|---|---|---|---|---|---|---|---|
| | | | | CAL-AMT | ON-COL | | |
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| 201 Undecane (continued) | | | | | | | |
| 11.778 | 11.778 (1.287) | 43 | 442014 | | | 63.59- 123.59 | 93.88 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.735 | 11.735 (1.283) | 134 | 198315 | 50.0000 | 49.692 | 80.00- 120.00 | 100.00 |
| 11.735 | 11.735 (1.283) | 91 | 659537 | | | 310.82- 370.82 | 332.57 |
| 11.735 | 11.735 (1.283) | 92 | 348411 | | | 151.53- 211.53 | 175.69 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.814 (1.291) | 146 | 419220 | 50.0000 | 50.109 | 80.00- 120.00 | 100.00 |
| 11.814 | 11.814 (1.291) | 148 | 266209 | | | 33.00- 93.00 | 63.50 |
| 11.814 | 11.814 (1.291) | 111 | 166963 | | | 10.87- 70.87 | 39.83 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.616 (1.379) | 157 | 262459 | 50.0000 | 53.040 | 80.00- 120.00 | 100.00 |
| 12.609 | 12.609 (1.378) | 75 | 189025 | | | 48.09- 108.09 | 72.02 |
| 12.616 | 12.616 (1.379) | 155 | 202214 | | | 47.89- 107.89 | 77.05 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.860 (1.406) | 57 | 520317 | 50.0000 | 43.363 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.860 (1.406) | 43 | 452707 | | | 58.52- 118.52 | 87.01 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.397 (1.464) | 180 | 409709 | 50.0000 | 49.417 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.397 (1.464) | 182 | 390812 | | | 64.84- 124.84 | 95.39 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.511 | 13.511 (1.477) | 225 | 316124 | 50.0000 | 52.271 | 80.00- 120.00 | 100.00 |
| 13.511 | 13.511 (1.477) | 223 | 200488 | | | 32.80- 92.80 | 63.42 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.648 (1.492) | 128 | 85814 | 5.80000 | 4.959 | 80.00- 120.00 | 100.00 |
| 13.648 | 13.648 (1.492) | 127 | 11344 | | | 0.00- 42.72 | 13.22 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.898 | 13.898 (1.519) | 180 | 395564 | 50.0000 | 48.689 | 80.00- 120.00 | 100.00 |
| 13.898 | 13.898 (1.519) | 182 | 375167 | | | 65.07- 125.07 | 94.84 |
| 13.891 | 13.891 (1.518) | 145 | 131600 | | | 4.48- 64.48 | 33.27 |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 20-JUN-2024 08:32
Lab File ID: 3061931a.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/19JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE | |
|---|---|---|---|---|---|---|---|
| $ 104 1,2-Dichloroethane-d4 | 1.30215 | 1.19387 | 0.010 | 8.31529 | 30.00000 | Averaged | |
| $ 134 Toluene-d8 | 0.97187 | 0.95198 | 0.010 | 2.04703 | 30.00000 | Averaged | |
| $ 170 4-Bromofluorobenzene | 0.74296 | 0.76388 | 0.010 | -2.81614 | 30.00000 | Averaged | |
| 4 Freon 134a | 0.57786 | 0.60325 | 0.010 | -4.39437 | 30.00000 | Averaged | |
| 5 Propylene | 0.65479 | 0.63096 | 0.010 | 3.63965 | 30.00000 | Averaged | |
| 7 1,1-Difluoroethane | 0.37746 | 0.37624 | 0.010 | 0.32299 | 30.00000 | Averaged | |
| 8 Freon 12 | 1.48055 | 1.52427 | 0.010 | -2.95358 | 30.00000 | Averaged | |
| 9 Chlorodifluoromethane | 0.18527 | 0.17644 | 0.010 | 4.76685 | 30.00000 | Averaged | |
| 10 Freon 114 | 1.30152 | 1.38180 | 0.010 | -6.16869 | 30.00000 | Averaged | |
| 12 Isobutane | 1.38453 | 1.30406 | 0.010 | 5.81229 | 30.00000 | Averaged | |
| 15 Chloromethane | 0.71383 | 0.69946 | 0.010 | 2.01397 | 30.00000 | Averaged | |
| 18 Butane | 0.14312 | 0.12856 | 0.010 | 10.17115 | 30.00000 | Averaged | |
| 19 Vinyl Chloride | 0.69068 | 0.66808 | 0.010 | 3.27188 | 30.00000 | Averaged | |
| 20 1,3-Butadiene | 0.64883 | 0.57701 | 0.010 | 11.06889 | 30.00000 | Averaged | |
| 24 Bromomethane | 0.49355 | 0.52191 | 0.010 | -5.74754 | 30.00000 | Averaged | |
| 30 Chloroethane | 0.33122 | 0.33970 | 0.010 | -2.56133 | 30.00000 | Averaged | |
| 31 Isopentane | 0.94519 | 0.87769 | 0.010 | 7.14095 | 30.00000 | Averaged | |
| 32 Vinyl Bromide | 0.57403 | 0.59597 | 0.010 | -3.82328 | 30.00000 | Averaged | |
| 33 Freon 11 | 1.70564 | 1.75470 | 0.010 | -2.87611 | 30.00000 | Averaged | |
| 34 Dichlorofluoromethane | 1.36006 | 1.30387 | 0.010 | 4.13100 | 30.00000 | Averaged | |
| 35 Pentane | 1.43815 | 1.30532 | 0.010 | 9.23570 | 30.00000 | Averaged | |
| 39 Ethanol | 0.13532 | 0.10446 | 0.010 | 22.80530 | 30.00000 | Averaged | |
| 42 Acrolein | 0.29124 | 0.12284 | 0.010 | 57.82114 | 30.00000 | Averaged | <- |
| 43 Freon 113 | 1.50737 | 1.51365 | 0.010 | -0.41647 | 30.00000 | Averaged | |
| 44 1,1-Dichloroethene | 0.64138 | 0.59843 | 0.010 | 6.69565 | 30.00000 | Averaged | |
| 47 Acetone | 0.36497 | 0.33138 | 0.010 | 9.20275 | 30.00000 | Averaged | |
| 48 Carbon Disulfide | 1.74887 | 1.58084 | 0.010 | 9.60808 | 30.00000 | Averaged | |
| 52 2-Propanol | 1.51737 | 1.27506 | 0.010 | 15.96948 | 30.00000 | Averaged | |
| 54 3-Chloropropene | 0.29464 | 0.25806 | 0.010 | 12.41540 | 30.00000 | Averaged | |
| 57 Acetonitrile | 0.66971 | 0.62789 | 0.010 | 6.24418 | 30.00000 | Averaged | |
| 59 Methylene Chloride | 1.00247 | 0.93711 | 0.010 | 6.51983 | 30.00000 | Averaged | |
| 62 tert-Butyl alcohol | 1.54800 | 1.27819 | 0.010 | 17.42921 | 30.00000 | Averaged | |
| 63 Methyl tert-butyl ether | 1.83005 | 1.61652 | 0.010 | 11.66813 | 30.00000 | Averaged | |
| 64 trans-1,2-Dichloroethene | 0.43073 | 0.40360 | 0.010 | 6.29922 | 30.00000 | Averaged | |
| 66 Acrylonitrile | 0.55703 | 0.50544 | 0.010 | 9.26132 | 30.00000 | Averaged | |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 20-JUN-2024 08:32
Lab File ID: 3061931a.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/19JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE | |
|---|---|---|---|---|---|---|---|
| 67 Hexane | 1.34210 | 1.12211 | 0.010 | 16.39153 | 30.00000 | Averaged | |
| 71 1,1-Dichloroethane | 1.24472 | 1.14232 | 0.010 | 8.22627 | 30.00000 | Averaged | |
| 72 Isopropyl ether | 2.98469 | 2.62751 | 0.010 | 11.96701 | 30.00000 | Averaged | |
| 73 Vinyl Acetate | 0.10960 | 0.02855 | 0.010 | 73.95463 | 30.00000 | Averaged | <- |
| 79 Ethyl-tert-butyl ether | 2.57389 | 2.23872 | 0.010 | 13.02189 | 30.00000 | Averaged | |
| 84 2,2-Dichloropropane | 1.22874 | 1.09809 | 0.010 | 10.63223 | 30.00000 | Averaged | |
| 85 cis-1,2-Dichloroethene | 0.44603 | 0.42287 | 0.010 | 5.19128 | 30.00000 | Averaged | |
| 86 2-Butanone | 0.32135 | 0.29703 | 0.010 | 7.56748 | 30.00000 | Averaged | |
| 87 Ethyl Acetate | 0.32139 | 0.25225 | 0.010 | 21.51049 | 30.00000 | Averaged | |
| 89 Tetrahydrofuran | 0.98253 | 0.76863 | 0.010 | 21.76997 | 30.00000 | Averaged | |
| 92 Chloroform | 1.33658 | 1.28639 | 0.010 | 3.75532 | 30.00000 | Averaged | |
| 94 Cyclohexane | 0.89416 | 0.79579 | 0.010 | 11.00166 | 30.00000 | Averaged | |
| 96 1,1,1-Trichloroethane | 1.45774 | 1.38443 | 0.010 | 5.02895 | 30.00000 | Averaged | |
| 97 Carbon Tetrachloride | 1.54543 | 1.52976 | 0.010 | 1.01412 | 30.00000 | Averaged | |
| 99 1,1-Dichloropropene | 0.10070 | 0.09894 | 0.010 | 1.74930 | 30.00000 | Averaged | |
| 101 2,2,4-Trimethylpentane | 4.19325 | 3.75505 | 0.010 | 10.45016 | 30.00000 | Averaged | |
| 102 Benzene | 0.50334 | 0.47541 | 0.010 | 5.54896 | 30.00000 | Averaged | |
| 105 tert-Amyl methyl ether | 0.13527 | 0.12455 | 0.010 | 7.92385 | 30.00000 | Averaged | |
| 106 1,2-Dichloroethane | 0.26256 | 0.25317 | 0.010 | 3.57782 | 30.00000 | Averaged | |
| 107 Heptane | 0.19939 | 0.17419 | 0.010 | 12.63880 | 30.00000 | Averaged | |
| 110 n-Butanol | 0.11444 | 0.09432 | 0.010 | 17.58685 | 30.00000 | Averaged | |
| 111 Trichloroethene | 0.24269 | 0.29506 | 0.010 | -21.57760 | 30.00000 | Averaged | |
| 127 Methylcyclohexane | 0.34474 | 0.31538 | 0.010 | 8.51654 | 30.00000 | Averaged | |
| 114 1,2-Dichloropropane | 0.23685 | 0.21227 | 0.010 | 10.37850 | 30.00000 | Averaged | |
| 116 Methyl Methacrylate | 0.20363 | 0.17820 | 0.010 | 12.49227 | 30.00000 | Averaged | |
| 117 1,4-Dioxane | 0.12662 | 0.12116 | 0.010 | 4.31150 | 30.00000 | Averaged | |
| 118 Dibromomethane | 0.23589 | 0.26079 | 0.010 | -10.55793 | 30.00000 | Averaged | |
| 122 Bromodichloromethane | 0.39286 | 0.39010 | 0.010 | 0.70030 | 30.00000 | Averaged | |
| 126 cis-1,3-Dichloropropene | 0.33505 | 0.31336 | 0.010 | 6.47311 | 30.00000 | Averaged | |
| 131 4-Methyl-2-pentanone | 0.23047 | 0.18713 | 0.010 | 18.80654 | 30.00000 | Averaged | |
| 137 Toluene | 0.69679 | 0.65533 | 0.010 | 5.94983 | 30.00000 | Averaged | |
| 136 Octane | 0.25386 | 0.21641 | 0.010 | 14.74996 | 30.00000 | Averaged | |
| 139 trans-1,3-Dichloropropene | 0.27625 | 0.26938 | 0.010 | 2.48768 | 30.00000 | Averaged | |
| 141 1,1,2-Trichloroethane | 0.23391 | 0.22812 | 0.010 | 2.47479 | 30.00000 | Averaged | |
| 142 Tetrachloroethene | 0.35123 | 0.37757 | 0.010 | -7.50070 | 30.00000 | Averaged | |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 20-JUN-2024 08:32
Lab File ID: 3061931a.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/19JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE |
|---|---|---|---|---|---|---|
| 143 2-Hexanone | 0.29346 | 0.26475 | 0.010 | 9.78294 | 30.00000 | Averaged |
| 144 1,3-Dichloropropane | 0.32667 | 0.30028 | 0.010 | 8.07810 | 30.00000 | Averaged |
| 146 Dibromochloromethane | 0.46229 | 0.49992 | 0.010 | -8.13863 | 30.00000 | Averaged |
| 148 1,2-Dibromoethane (EDB) | 0.38337 | 0.38805 | 0.010 | -1.22044 | 30.00000 | Averaged |
| 151 1-Bromo-2-Chloroethane | 0.41790 | 0.39386 | 0.010 | 5.75147 | 30.00000 | Averaged |
| 154 Chlorobenzene | 0.57923 | 0.57848 | 0.010 | 0.12930 | 30.00000 | Averaged |
| 155 Ethyl Benzene | 0.29135 | 0.28397 | 0.010 | 2.53526 | 30.00000 | Averaged |
| 156 Nonane | 0.67669 | 0.61425 | 0.010 | 9.22630 | 30.00000 | Averaged |
| 157 1,1,1,2-Tetrachloroethane | 0.32998 | 0.35081 | 0.010 | -6.31017 | 30.00000 | Averaged |
| 158 m,p-Xylene | 0.36315 | 0.35679 | 0.010 | 1.75003 | 30.00000 | Averaged |
| 164 o-Xylene | 0.34436 | 0.33184 | 0.010 | 3.63751 | 30.00000 | Averaged |
| 165 Styrene | 0.58810 | 0.57274 | 0.010 | 2.61115 | 30.00000 | Averaged |
| 167 Bromoform | 0.46720 | 0.51517 | 0.010 | -10.26667 | 30.00000 | Averaged |
| 168 Cumene | 1.04099 | 1.03983 | 0.010 | 0.11143 | 30.00000 | Averaged |
| 169 Cyclohexanone | 0.41185 | 0.32888 | 0.010 | 20.14503 | 30.00000 | Averaged |
| 175 1,1,2,2-Tetrachloroethane | 0.53993 | 0.40192 | 0.010 | 25.56000 | 30.00000 | Averaged |
| 177 Bromobenzene | 0.36268 | 0.37736 | 0.010 | -4.04740 | 30.00000 | Averaged |
| 178 Propylbenzene | 0.30782 | 0.30611 | 0.010 | 0.55445 | 30.00000 | Averaged |
| 179 1,2,3-Trichloropropane | 0.16387 | 0.16148 | 0.010 | 1.45931 | 30.00000 | Averaged |
| 182 Decane | 0.79666 | 0.65570 | 0.010 | 17.69449 | 30.00000 | Averaged |
| 183 4-Ethyltoluene | 0.33550 | 0.33521 | 0.010 | 0.08863 | 30.00000 | Averaged |
| 184 2-Chlorotoluene | 0.28387 | 0.28234 | 0.010 | 0.53624 | 30.00000 | Averaged |
| 185 1,3,5-Trimethylbenzene | 0.45246 | 0.44952 | 0.010 | 0.64857 | 30.00000 | Averaged |
| 188 alpha Methyl Styrene | 0.47929 | 0.46870 | 0.010 | 2.20930 | 30.00000 | Averaged |
| 189 tert-Butylbenzene | 0.86021 | 0.87144 | 0.010 | -1.30612 | 30.00000 | Averaged |
| 190 1,2,4-Trimethylbenzene | 0.92509 | 0.89497 | 0.010 | 3.25591 | 30.00000 | Averaged |
| 192 sec-Butylbenzene | 0.28157 | 0.28691 | 0.010 | -1.89459 | 30.00000 | Averaged |
| 194 p-Cymene | 1.15152 | 1.14596 | 0.010 | 0.48237 | 30.00000 | Averaged |
| 195 1,3-Dichlorobenzene | 0.68551 | 0.68896 | 0.010 | -0.50299 | 30.00000 | Averaged |
| 196 1,4-Dichlorobenzene | 0.69437 | 0.69748 | 0.010 | -0.44763 | 30.00000 | Averaged |
| 199 alpha-Chlorotoluene | 0.87930 | 0.80602 | 0.010 | 8.33476 | 30.00000 | Averaged |
| 201 Undecane | 0.94724 | 0.74883 | 0.010 | 20.94644 | 30.00000 | Averaged |
| 202 Butylbenzene | 0.31736 | 0.31540 | 0.010 | 0.61588 | 30.00000 | Averaged |
| 204 1,2-Dichlorobenzene | 0.66528 | 0.66673 | 0.010 | -0.21803 | 30.00000 | Averaged |
| 206 1,2-Dibromo-3-chloropropane | 0.39349 | 0.41742 | 0.010 | -6.08104 | 30.00000 | Averaged |
| 207 Dodecane | 0.95417 | 0.82752 | 0.010 | 13.27333 | 30.00000 | Averaged |

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd3.i Injection Date: 20-JUN-2024 08:32
Lab File ID: 3061931a.d Init. Cal. Date(s): 18-APR-2024 24-APR-2024
Analysis Type: AIR Init. Cal. Times: 09:31 01:06
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd3.i/19JUN24.b/324q0423a.m

| COMPOUND | RRF / AMOUNT | RF50 | MIN RRF | %D / %DRIFT | MAX %D / %DRIFT | CURVE TYPE |
|---|---|---|---|---|---|---|
| 213 1,2,4-Trichlorobenzene | 0.65930 | 0.65161 | 0.010 | 1.16669 | 30.00000 | Averaged |
| 215 Hexachlorobutadiene | 0.48092 | 0.50277 | 0.010 | -4.54246 | 30.00000 | Averaged |
| 216 Naphthalene | 1.37605 | 1.17656 | 0.010 | 14.49767 | 30.00000 | Averaged |
| 222 1,2,3-Trichlorobenzene | 0.64605 | 0.62911 | 0.010 | 2.62180 | 30.00000 | Averaged |

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061931a.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: RT
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 50ppbv (200ppbv)

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Client Smp ID: CCV
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 88848 | -1.29 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 319557 | -2.50 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 314384 | -3.28 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd3.i/19JUN24.b/3061931a.d

Page 1

Date : 20-JUN-2024 08:32

Client ID: CCV

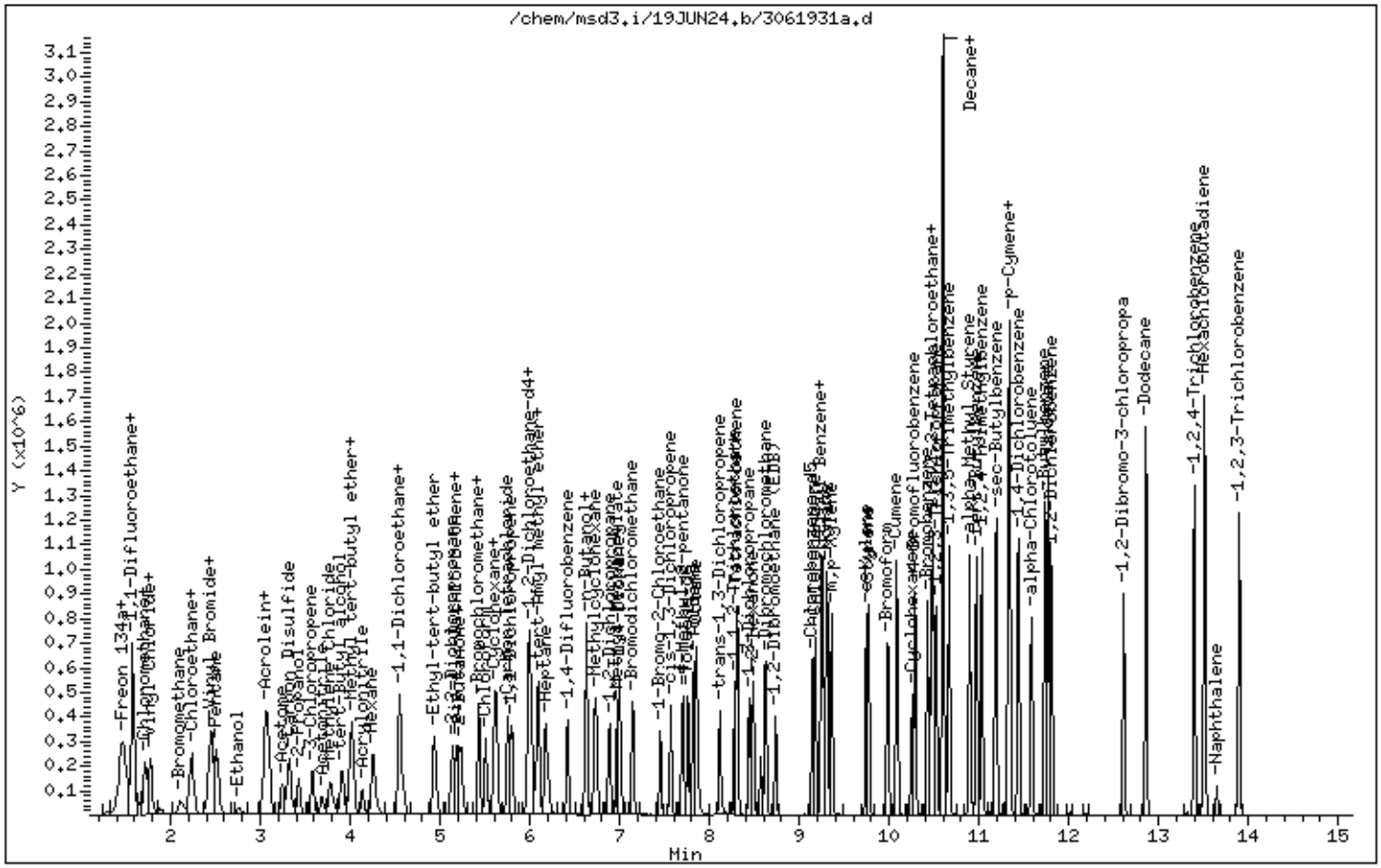
Instrument: msd3.i

Sample Info: 50mL 3018-4465

Operator: RT

Column phase: RTX-624

Column diameter: 0.25



| | | | |
|---|---|---|---|
| **Client ID:** | LCS | | |
| **Lab ID:** | 2406264R2-17A | **Date/Time Analyzed:** | 6/19/24 10:06 AM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061904c |

| Compound | CAS# | %Recovery |
|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 102 |
| 1,4-Dichlorobenzene | 106-46-7 | 101 |
| Benzene | 71-43-2 | 95 |
| cis-1,2-Dichloroethene | 156-59-2 | 93 |
| Ethyl Benzene | 100-41-4 | 100 |
| m,p-Xylene | 108-38-3 | 99 |
| o-Xylene | 95-47-6 | 99 |
| Toluene | 108-88-3 | 92 |
| trans-1,2-Dichloroethene | 156-60-5 | 91 |
| Trichloroethene | 79-01-6 | 99 |
| Vinyl Chloride | 75-01-4 | 94 |

D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 102 |
| Toluene-d8 | 2037-26-5 | 70-130 | 96 |

* % Recovery is calculated using unrounded analytical results.

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EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061904c.d
Lab Smp Id: LCS Client Smp ID: LCS
Inj Date : 19-JUN-2024 10:06
Operator : LD Inst ID: msd3.i
Smp Info : 50mL 3018-4603
Misc Info : 50ppbv(200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:33 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 14 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|
| RT | EXP RT (REL RT) | MASS | RESPONSE | ( PPBV) | ( PPBV) | TARGET RANGE | RATIO |
| == | ====== ======== | ==== | ======== | ======= | ======= | ========== | ===== |
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 91935 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 71191 | | | 47.79- 107.79 | 77.44 |
| 5.432 | 5.432 (1.000) | 49 | 136507 | | | 131.33- 191.33 | 148.48 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 330162 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 48188 | | | 0.00- 45.65 | 14.60 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 326352 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 165619 | | | 22.92- 82.92 | 50.75 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 109692 | 22.9074 | 22.907 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 61189 | | | 23.17- 83.17 | 55.78 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 308571 | 24.0413 | 24.041 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 32890 | | | 0.00- 41.42 | 10.66 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 209845 | | | 37.54- 97.54 | 68.01 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 247548 | 25.5240 | 25.524 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 270537 | | | 88.49- 148.49 | 109.29 |
| 10.288 | 10.288 (1.124) | 176 | 237635 | | | 66.73- 126.73 | 96.00 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.423 (0.259) | 83 | 108304 | 50.9663 | 50.966 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 99352 | | | 64.17- 124.17 | 91.73 |
| 1.479 | 1.493 (0.272) | 51 | 403470 | | | 365.46- 425.46 | 372.53 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 106907 | 44.3982 | 44.398 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 72959 | | | 35.86- 95.86 | 68.25 |
| 1.437 | 1.437 (0.264) | 39 | 79218 | | | 41.66- 101.66 | 74.10 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.479 (0.270) | 65 | 67701 | 48.7737 | 48.774 | 80.00- 120.00 | 100.00 |
| 1.479 | 1.493 (0.272) | 51 | 403470 | | | 568.10- 628.10 | 595.96 |
| 1.563 | 1.577 (0.288) | 47 | 12777 | | | 0.00- 50.57 | 18.87 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.270) | 85 | 271887 | 49.9375 | 49.937 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 88433 | | | 2.88- 62.88 | 32.53 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.493 (0.275) | 67 | 31083 | 45.6240 | 45.624 | 80.00- 120.00 | 100.00 |
| 1.479 | 1.493 (0.272) | 51 | 403470 | | | 1257.55-1317.55 | 1298.01 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 248929 | 52.0099 | 52.010 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 79788 | | | 2.10- 62.10 | 32.05 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.577 | 1.591 (0.290) | 43 | 232026 | 45.5716 | 45.572 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.591 (0.290) | 42 | 74027 | | | 1.69- 61.69 | 31.90 |
| 1.577 | 1.591 (0.290) | 58 | 7234 | | | 0.00- 33.32 | 3.12 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.675 (0.308) | 50 | 127063 | 48.4042 | 48.404 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.675 (0.308) | 52 | 39699 | | | 1.38- 61.38 | 31.24 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.717 (0.316) | 58 | 24412 | 46.3844 | 46.384 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 18 Butane (continued) | | | | | | | |
| 1.716 | 1.717 (0.316) | 43 | 208345 | | | 866.38- 926.38 | 853.43 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.759 (0.324) | 62 | 119579 | 47.0803 | 47.080 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.759 (0.324) | 64 | 39011 | | | 3.10- 63.10 | 32.62 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 105034 | 44.0210 | 44.021 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 109482 | | | 78.74- 138.74 | 104.23 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 101558 | 55.9558 | 55.956 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 96117 | | | 64.19- 124.19 | 94.64 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.409) | 64 | 60956 | 50.0456 | 50.046 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.409) | 66 | 17657 | | | 2.32- 62.32 | 28.97 |
| 2.220 | 2.220 (0.409) | 49 | 20284 | | | 6.33- 66.33 | 33.28 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 161258 | 46.3943 | 46.394 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 102329 | | | 31.77- 91.77 | 63.46 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.416 (0.442) | 106 | 108192 | 51.2535 | 51.254 | 80.00- 120.00 | 100.00 |
| 2.402 | 2.402 (0.442) | 108 | 100570 | | | 64.21- 124.21 | 92.96 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 308942 | 49.2547 | 49.255 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 205128 | | | 34.93- 94.93 | 66.40 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.458 (0.453) | 67 | 228197 | 45.6260 | 45.626 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 69 | 72766 | | | 1.95- 61.95 | 31.89 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 235882 | 44.6016 | 44.602 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 34970 | | | 0.00- 44.64 | 14.83 |
| 2.514 | 2.514 (0.463) | 72 | 19758 | | | 0.00- 37.90 | 8.38 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 20918 | 42.0362 | 42.036 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.507) | 45 | 53882 | | | 224.40- 284.40 | 257.58 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.053 | 3.054 (0.562) | 55 | 50097 | 46.7755 | 46.775 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 42 Acrolein (continued) | | | | | | | |
| 3.053 | 3.054 (0.562) | 56 | 66360 | | | 108.02- 168.02 | 132.46 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.053 | 3.061 (0.562) | 151 | 271535 | 48.9853 | 48.985 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 170550 | | | 35.07- 95.07 | 62.81 |
| 3.061 | 3.061 (0.563) | 101 | 298009 | | | 87.45- 147.45 | 109.75 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.089 (0.569) | 96 | 120594 | 51.1297 | 51.130 | 80.00- 120.00 | 100.00 |
| 3.089 | 3.089 (0.569) | 98 | 66951 | | | 33.27- 93.27 | 55.52 |
| 3.089 | 3.089 (0.569) | 61 | 216704 | | | 159.05- 219.05 | 179.70 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.240 | 3.247 (0.596) | 58 | 59711 | 44.4900 | 44.490 | 80.00- 120.00 | 100.00 |
| 3.240 | 3.240 (0.596) | 43 | 208436 | | | 329.45- 389.45 | 349.07 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.326 (0.612) | 76 | 290551 | 45.1778 | 45.178 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.419 | 3.426 (0.629) | 45 | 242206 | 43.4064 | 43.406 | 80.00- 120.00 | 100.00 |
| 3.419 | 3.426 (0.629) | 43 | 44121 | | | 0.00- 48.18 | 18.22 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.576 | 3.577 (0.658) | 76 | 46547 | 42.9610 | 42.961 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.577 (0.658) | 41 | 174651 | | | 366.80- 426.80 | 375.21 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.678) | 41 | 112396 | 45.6375 | 45.637 | 80.00- 120.00 | 100.00 |
| 3.677 | 3.684 (0.677) | 40 | 59951 | | | 22.74- 82.74 | 53.34 |
| 3.684 | 3.684 (0.678) | 38 | 13071 | | | 0.00- 42.52 | 11.63 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.777 (0.695) | 49 | 161669 | 43.8546 | 43.855 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.777 (0.695) | 84 | 92183 | | | 24.90- 84.90 | 57.02 |
| 3.777 | 3.777 (0.695) | 51 | 48641 | | | 0.00- 59.67 | 30.09 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.906 | 3.906 (0.719) | 59 | 257577 | 45.2477 | 45.248 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.906 (0.719) | 41 | 59928 | | | 0.00- 51.85 | 23.27 |
| 3.906 | 3.913 (0.719) | 57 | 26865 | | | 0.00- 40.17 | 10.43 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 3.999 | 3.999 (0.736) | 73 | 302037 | 44.8803 | 44.880 | 80.00- 120.00 | 100.00 |
| 3.999 | 3.999 (0.736) | 57 | 86926 | | | 0.00- 58.72 | 28.78 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 3.999 | 3.999 (0.736) | 41 | 88388 | | | 0.00- 59.38 | 29.26 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 72245 | 45.6106 | 45.611 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.742) | 61 | 181124 | | | 232.13- 292.13 | 250.71 |
| 4.028 | 4.028 (0.742) | 96 | 112276 | | | 127.26- 187.26 | 155.41 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.135 (0.761) | 52 | 87423 | 42.6787 | 42.679 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.135 (0.761) | 53 | 102624 | | | 86.45- 146.45 | 117.39 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.250 | 4.257 (0.782) | 57 | 204241 | 41.3828 | 41.383 | 80.00- 120.00 | 100.00 |
| 4.250 | 4.250 (0.782) | 43 | 141620 | | | 40.97- 100.97 | 69.34 |
| 4.250 | 4.257 (0.782) | 86 | 25935 | | | 0.00- 42.68 | 12.70 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.551 (0.838) | 63 | 207034 | 45.2305 | 45.230 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 65 | 63927 | | | 0.47- 60.47 | 30.88 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.551 | 4.551 (0.838) | 45 | 499603 | 45.5183 | 45.518 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 87 | 101802 | | | 0.00- 49.55 | 20.38 |
| 4.551 | 4.544 (0.838) | 59 | 52310 | | | 0.00- 40.42 | 10.47 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.601 | 4.608 (0.847) | 86 | 27532 | 68.3101 | 68.310 | 80.00- 120.00 | 100.00 |
| 4.601 | 4.601 (0.847) | 43 | 435154 | | | 1727.95-1787.95 | 1580.54 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.938 (0.909) | 59 | 427006 | 45.1132 | 45.113 | 80.00- 120.00 | 100.00 |
| 4.930 | 4.938 (0.908) | 87 | 148642 | | | 3.90- 63.90 | 34.81 |
| 4.930 | 4.938 (0.908) | 41 | 85650 | | | 0.00- 49.72 | 20.06 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.138 (0.946) | 77 | 201042 | 44.4926 | 44.492 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.138 (0.946) | 79 | 65316 | | | 2.39- 62.39 | 32.49 |
| 5.138 | 5.138 (0.946) | 97 | 47624 | | | 0.00- 53.57 | 23.69 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.181 | 5.181 (0.954) | 98 | 76121 | 46.4093 | 46.409 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 116983 | | | 125.53- 185.53 | 153.68 |
| 5.181 | 5.181 (0.954) | 61 | 180816 | | | 219.86- 279.86 | 237.54 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.960) | 72 | 52762 | 44.6486 | 44.648 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 86 2-Butanone (continued) | | | | | | | |
| 5.231 | 5.238 (0.963) | 43 | 609862 | | | 1138.34-1198.34 | 1155.86 |
| 5.217 | 5.217 (0.960) | 57 | 21557 | | | 10.83- 70.83 | 40.86 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.238 | 5.238 (0.964) | 45 | 50030 | 42.3315 | 42.331 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 61 | 180816 | | | 338.96- 398.96 | 361.42 |
| 5.238 | 5.238 (0.964) | 70 | 26027 | | | 24.53- 84.53 | 52.02 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.424 | 5.425 (0.999) | 42 | 150630 | 41.6896 | 41.690 | 80.00- 120.00 | 100.00 |
| 5.424 | 5.425 (0.999) | 71 | 41907 | | | 0.00- 58.54 | 27.82 |
| 5.424 | 5.425 (0.999) | 72 | 43637 | | | 0.00- 59.59 | 28.97 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.510 | 5.511 (1.014) | 83 | 225731 | 45.9258 | 45.926 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.511 (1.014) | 85 | 147108 | | | 35.77- 95.77 | 65.17 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.604 | 5.611 (1.032) | 84 | 149363 | 45.4244 | 45.424 | 80.00- 120.00 | 100.00 |
| 5.604 | 5.604 (1.032) | 56 | 225683 | | | 125.79- 185.79 | 151.10 |
| 5.604 | 5.604 (1.032) | 41 | 127638 | | | 61.55- 121.55 | 85.46 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.632 | 5.632 (1.037) | 97 | 250466 | 46.7227 | 46.723 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.632 (1.037) | 99 | 163155 | | | 32.84- 92.84 | 65.14 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.754 (1.059) | 119 | 277702 | 48.8641 | 48.864 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.754 (1.059) | 117 | 291315 | | | 75.19- 135.19 | 104.90 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.797 (0.903) | 110 | 64421 | 48.4397 | 48.440 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.797 (0.903) | 75 | 161224 | | | 234.16- 294.16 | 250.26 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.990 | 5.990 (1.103) | 57 | 690884 | 44.8037 | 44.804 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.983 (1.103) | 56 | 228622 | | | 3.09- 63.09 | 33.09 |
| 5.983 | 5.990 (1.102) | 41 | 181318 | | | 0.00- 57.28 | 26.24 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 314817 | 47.3594 | 47.359 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.998 (0.933) | 77 | 74025 | | | 0.00- 53.69 | 23.51 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.083 | 6.084 (0.948) | 87 | 84588 | 47.3510 | 47.351 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.083 | 6.084 (0.948) | 73 | 329753 | | | 365.76- 425.76 | 389.83 |
| 6.083 | 6.084 (0.948) | 55 | 107234 | | | 92.58- 152.58 | 126.77 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.098 (0.950) | 62 | 164735 | 47.5076 | 47.508 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.098 (0.950) | 64 | 53076 | | | 1.80- 61.80 | 32.22 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.177 | 6.177 (0.962) | 71 | 117913 | 44.7793 | 44.779 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.177 (0.962) | 43 | 273861 | | | 207.73- 267.73 | 232.26 |
| 6.177 | 6.177 (0.962) | 57 | 136076 | | | 84.83- 144.83 | 115.40 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.032) | 56 | 108391 | 71.7171 | 71.717 | 80.00- 120.00 | 100.00(R) |
| 6.628 | 6.628 (1.032) | 41 | 82546 | | | 47.73- 107.73 | 76.16 |
| 6.628 | 6.628 (1.032) | 43 | 65451 | | | 31.60- 91.60 | 60.38 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 158652 | 49.4998 | 49.500 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 177996 | | | 80.23- 140.23 | 112.19 |
| 6.628 | 6.628 (1.032) | 97 | 101697 | | | 34.78- 94.78 | 64.10 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.728 | 6.728 (1.048) | 83 | 206250 | 45.3018 | 45.302 | 80.00- 120.00 | 100.00 |
| 6.728 | 6.728 (1.048) | 98 | 95616 | | | 14.83- 74.83 | 46.36 |
| 6.728 | 6.728 (1.048) | 55 | 202099 | | | 71.50- 131.50 | 97.99 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.886 (1.073) | 63 | 138418 | 44.2514 | 44.251 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.886 (1.073) | 62 | 98924 | | | 40.39- 100.39 | 71.47 |
| 6.886 | 6.886 (1.073) | 41 | 83669 | | | 31.86- 91.86 | 60.45 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.972 | 6.972 (0.762) | 69 | 120004 | 45.1439 | 45.144 | 80.00- 120.00 | 100.00 |
| 6.972 | 6.972 (0.762) | 41 | 200952 | | | 145.81- 205.81 | 167.45 |
| 6.972 | 6.972 (0.762) | 100 | 49145 | | | 10.05- 70.05 | 40.95 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.089) | 88 | 82075 | 49.0823 | 49.082 | 80.00- 120.00 | 100.00 |
| 6.986 | 6.986 (1.088) | 58 | 68454 | | | 56.33- 116.33 | 83.40 |
| 6.986 | 6.986 (1.088) | 57 | 24294 | | | 2.08- 62.08 | 29.60 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.008 (0.766) | 174 | 163941 | 53.2400 | 53.240 | 80.00- 120.00 | 100.00 |
| 7.000 | 7.000 (0.765) | 93 | 143046 | | | 62.68- 122.68 | 87.25 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 118 Dibromomethane (continued) | | | | | | | |
| 7.000 | 7.000 (0.765) | 95 | 120429 | | | 47.70- 107.70 | 73.46 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.144 | 7.144 (1.113) | 83 | 252824 | 48.7302 | 48.730 | 80.00- 120.00 | 100.00 |
| 7.144 | 7.144 (1.113) | 85 | 163315 | | | 34.96- 94.96 | 64.60 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.566 | 7.566 (1.179) | 75 | 209687 | 47.3890 | 47.389 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.566 (1.179) | 77 | 66211 | | | 1.26- 61.26 | 31.58 |
| 7.566 | 7.566 (1.179) | 39 | 127810 | | | 35.06- 95.06 | 60.95 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.702 | 7.702 (1.200) | 58 | 126592 | 41.5918 | 41.592 | 80.00- 120.00 | 100.00 |
| 7.702 | 7.702 (1.200) | 43 | 364818 | | | 259.88- 319.88 | 288.18 |
| 7.702 | 7.702 (1.200) | 85 | 49277 | | | 7.58- 67.58 | 38.93 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 426051 | 46.2991 | 46.299 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 248511 | | | 27.89- 87.89 | 58.33 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.853 | 7.853 (1.223) | 57 | 144998 | 43.2501 | 43.250 | 80.00- 120.00 | 100.00 |
| 7.853 | 7.853 (1.223) | 85 | 139412 | | | 63.53- 123.53 | 96.15 |
| 7.853 | 7.853 (1.223) | 43 | 392368 | | | 246.00- 306.00 | 270.60 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.111 | 8.111 (0.886) | 75 | 173619 | 48.1453 | 48.145 | 80.00- 120.00 | 100.00 |
| 8.111 | 8.111 (0.886) | 77 | 54898 | | | 1.83- 61.83 | 31.62 |
| 8.111 | 8.111 (0.886) | 39 | 100200 | | | 31.97- 91.97 | 57.71 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.283 | 8.283 (0.905) | 97 | 147651 | 48.3544 | 48.354 | 80.00- 120.00 | 100.00 |
| 8.283 | 8.283 (0.905) | 99 | 92151 | | | 32.52- 92.52 | 62.41 |
| 8.283 | 8.283 (0.905) | 83 | 127005 | | | 58.90- 118.90 | 86.02 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.311 (0.908) | 166 | 243299 | 53.0648 | 53.065 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.311 (0.908) | 129 | 181172 | | | 45.32- 105.32 | 74.46 |
| 8.311 | 8.311 (0.908) | 131 | 177212 | | | 44.17- 104.17 | 72.84 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.483 | 8.483 (0.927) | 58 | 178419 | 46.5749 | 46.575 | 80.00- 120.00 | 100.00 |
| 8.483 | 8.483 (0.927) | 43 | 362171 | | | 177.32- 237.32 | 202.99 |
| 8.483 | 8.490 (0.927) | 100 | 32514 | | | 0.00- 47.18 | 18.22 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.440 | 8.440 (1.315) | 76 | 200009 | 46.3616 | 46.362 | 80.00- 120.00 | 100.00 |
| 8.440 | 8.440 (1.315) | 41 | 167499 | | | 59.72- 119.72 | 83.75 |
| 8.440 | 8.440 (1.315) | 78 | 65069 | | | 3.08- 63.08 | 32.53 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 317506 | 52.6126 | 52.613 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 248521 | | | 47.27- 107.27 | 78.27 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 250780 | 50.1106 | 50.110 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 240251 | | | 64.18- 124.18 | 95.80 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.452 (1.161) | 63 | 260656 | 47.2293 | 47.229 | 80.00- 120.00 | 100.00 |
| 7.452 | 7.452 (1.161) | 65 | 80158 | | | 0.43- 60.43 | 30.75 |
| 7.452 | 7.452 (1.161) | 144 | 30161 | | | 0.00- 40.48 | 11.57 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.003) | 112 | 384981 | 50.9145 | 50.914 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.003) | 114 | 123149 | | | 1.91- 61.91 | 31.99 |
| 9.178 | 9.171 (1.003) | 77 | 191500 | | | 22.97- 82.97 | 49.74 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 190754 | 50.1544 | 50.154 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 591568 | | | 281.09- 341.09 | 310.12 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.307 | 9.307 (1.017) | 43 | 412479 | 46.6947 | 46.695 | 80.00- 120.00 | 100.00 |
| 9.307 | 9.307 (1.017) | 57 | 334699 | | | 50.62- 110.62 | 81.14 |
| 9.307 | 9.307 (1.017) | 85 | 108195 | | | 0.00- 55.65 | 26.23 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.264 | 9.264 (1.013) | 131 | 229227 | 53.2142 | 53.214 | 80.00- 120.00 | 100.00 |
| 9.264 | 9.264 (1.013) | 117 | 150866 | | | 37.10- 97.10 | 65.82 |
| 9.264 | 9.264 (1.013) | 95 | 77219 | | | 4.93- 64.93 | 33.69 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.357 | 9.364 (1.023) | 106 | 234010 | 49.3637 | 49.364 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.357 (1.023) | 91 | 457798 | | | 170.33- 230.33 | 195.63 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 222939 | 49.5936 | 49.594 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 458148 | | | 181.23- 241.23 | 205.50 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.772 | 9.773 (1.068) | 104 | 378162 | 49.2585 | 49.258 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.772 | 9.773 (1.068) | 78 | 172581 | | | 17.26- 77.26 | 45.64 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.987 | 9.987 (1.092) | 173 | 333154 | 54.6251 | 54.625 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.092) | 171 | 173200 | | | 21.45- 81.45 | 51.99 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.088 | 10.088 (1.103) | 105 | 683796 | 50.3193 | 50.319 | 80.00- 120.00 | 100.00 |
| 10.088 | 10.088 (1.103) | 120 | 187142 | | | 0.00- 56.93 | 27.37 |
| 10.088 | 10.088 (1.103) | 51 | 79208 | | | 0.00- 42.24 | 11.58 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.252 | 10.252 (1.121) | 55 | 222149 | 41.3202 | 41.320 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.260 (1.121) | 98 | 80656 | | | 5.15- 65.15 | 36.31 |
| 10.252 | 10.252 (1.121) | 42 | 152888 | | | 41.99- 101.99 | 68.82 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.144) | 83 | 343598 | 48.7492 | 48.749 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.467 (1.144) | 85 | 222323 | | | 34.97- 94.97 | 64.70 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.424 | 10.424 (1.139) | 156 | 245503 | 51.8540 | 51.854 | 80.00- 120.00 | 100.00 |
| 10.424 | 10.424 (1.139) | 158 | 237858 | | | 67.47- 127.47 | 96.89 |
| 10.424 | 10.424 (1.139) | 77 | 311225 | | | 108.68- 168.68 | 126.77 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.489 | 10.489 (1.146) | 120 | 203020 | 50.5245 | 50.524 | 80.00- 120.00 | 100.00 |
| 10.489 | 10.489 (1.146) | 91 | 813622 | | | 383.60- 443.60 | 400.76 |
| 10.489 | 10.489 (1.146) | 105 | 32128 | | | 0.00- 46.14 | 15.83 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.518 (1.150) | 110 | 105664 | 49.3961 | 49.396 | 80.00- 120.00 | 100.00 |
| 10.517 | 10.518 (1.150) | 75 | 360140 | | | 324.28- 384.28 | 340.83 |
| 10.517 | 10.518 (1.150) | 61 | 87573 | | | 57.24- 117.24 | 82.88 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.603 (1.159) | 57 | 437295 | 42.0489 | 42.049 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 71 | 138045 | | | 1.11- 61.11 | 31.57 |
| 10.603 | 10.603 (1.159) | 142 | 20588 | | | 0.00- 34.44 | 4.71 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.603 (1.159) | 120 | 213977 | 48.8565 | 48.856 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 105 | 702458 | | | 298.94- 358.94 | 328.29 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.603 (1.159) | 126 | 190506 | 51.4101 | 51.410 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.603 | 10.603 (1.159) | 91 | 568301 | | | 282.78- 342.78 | 298.31 |
| 10.603 | 10.603 (1.159) | 65 | 82825 | | | 17.33- 77.33 | 43.48 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.668 | 10.668 (1.166) | 120 | 294507 | 49.8621 | 49.862 | 80.00- 120.00 | 100.00 |
| 10.668 | 10.668 (1.166) | 105 | 592251 | | | 172.08- 232.08 | 201.10 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.897 | 10.897 (1.191) | 118 | 312789 | 49.9933 | 49.993 | 80.00- 120.00 | 100.00 |
| 10.897 | 10.897 (1.191) | 103 | 174691 | | | 25.64- 85.64 | 55.85 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.976 (1.200) | 119 | 572078 | 50.9455 | 50.945 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.976 (1.200) | 134 | 145014 | | | 0.00- 55.10 | 25.35 |
| 10.969 | 10.976 (1.199) | 91 | 355893 | | | 34.53- 94.53 | 62.21 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.033 | 11.033 (1.206) | 105 | 598428 | 49.5546 | 49.554 | 80.00- 120.00 | 100.00 |
| 11.033 | 11.033 (1.206) | 120 | 281160 | | | 16.63- 76.63 | 46.98 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.191 | 11.191 (1.223) | 134 | 187718 | 51.0701 | 51.070 | 80.00- 120.00 | 100.00 |
| 11.191 | 11.191 (1.223) | 105 | 853155 | | | 436.99- 496.99 | 454.49 |
| 11.191 | 11.191 (1.223) | 91 | 132073 | | | 41.69- 101.69 | 70.36 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.334 | 11.334 (1.239) | 119 | 776570 | 51.6610 | 51.661 | 80.00- 120.00 | 100.00 |
| 11.334 | 11.334 (1.239) | 134 | 215287 | | | 0.00- 57.62 | 27.72 |
| 11.334 | 11.334 (1.239) | 91 | 170852 | | | 0.00- 53.03 | 22.00 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.341 | 11.341 (1.240) | 146 | 450727 | 50.3679 | 50.368 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 148 | 286585 | | | 34.18- 94.18 | 63.58 |
| 11.341 | 11.341 (1.240) | 111 | 171808 | | | 10.06- 70.06 | 38.12 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.442 (1.251) | 146 | 457705 | 50.4947 | 50.495 | 80.00- 120.00 | 100.00 |
| 11.441 | 11.442 (1.251) | 148 | 291271 | | | 33.55- 93.55 | 63.64 |
| 11.441 | 11.442 (1.251) | 111 | 169232 | | | 7.98- 67.98 | 36.97 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.585 | 11.585 (1.266) | 91 | 550597 | 47.9675 | 47.968 | 80.00- 120.00 | 100.00 |
| 11.585 | 11.585 (1.266) | 126 | 130258 | | | 0.00- 52.77 | 23.66 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.778 | 11.778 (1.287) | 57 | 513783 | 41.5501 | 41.550 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane (continued) | | | | | | | |
| 11.778 | 11.778 (1.287) | 43 | 472645 | | | 63.59- 123.59 | 91.99 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.742 | 11.742 (1.283) | 134 | 212064 | 51.1885 | 51.188 | 80.00- 120.00 | 100.00 |
| 11.735 | 11.735 (1.283) | 91 | 700379 | | | 310.82- 370.82 | 330.27 |
| 11.735 | 11.735 (1.283) | 92 | 367431 | | | 151.53- 211.53 | 173.26 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.814 (1.291) | 146 | 438350 | 50.4742 | 50.474 | 80.00- 120.00 | 100.00 |
| 11.814 | 11.814 (1.291) | 148 | 279053 | | | 33.00- 93.00 | 63.66 |
| 11.814 | 11.814 (1.291) | 111 | 172911 | | | 10.87- 70.87 | 39.45 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.609 | 12.609 (1.378) | 157 | 273102 | 53.1673 | 53.167 | 80.00- 120.00 | 100.00 |
| 12.609 | 12.609 (1.378) | 75 | 199010 | | | 48.09- 108.09 | 72.87 |
| 12.609 | 12.609 (1.378) | 155 | 211425 | | | 47.89- 107.89 | 77.42 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.853 | 12.853 (1.405) | 57 | 574316 | 46.1085 | 46.108 | 80.00- 120.00 | 100.00 |
| 12.845 | 12.853 (1.404) | 43 | 499287 | | | 58.52- 118.52 | 86.94 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.390 | 13.390 (1.463) | 180 | 452300 | 52.5531 | 52.553 | 80.00- 120.00 | 100.00 |
| 13.390 | 13.390 (1.463) | 182 | 432593 | | | 64.84- 124.84 | 95.64 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.504 | 13.504 (1.476) | 225 | 339794 | 54.1247 | 54.125 | 80.00- 120.00 | 100.00 |
| 13.504 | 13.504 (1.476) | 223 | 215095 | | | 32.80- 92.80 | 63.30 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.640 | 13.641 (1.491) | 128 | 104774 | 5.83277 | 5.833 | 80.00- 120.00 | 100.00 |
| 13.640 | 13.641 (1.491) | 127 | 13682 | | | 0.00- 42.72 | 13.06 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.884 | 13.891 (1.518) | 180 | 439126 | 52.0689 | 52.069 | 80.00- 120.00 | 100.00 |
| 13.884 | 13.891 (1.518) | 182 | 419974 | | | 65.07- 125.07 | 95.64 |
| 13.884 | 13.884 (1.518) | 145 | 145163 | | | 4.48- 64.48 | 33.06 |

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061904c.d
Lab Smp Id: LCS
Analysis Type: VOA
Quant Type: ISTD
Operator: LD
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 50ppbv(200ppbv)

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Client Smp ID: LCS
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 91935 | 2.14 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 330162 | 0.73 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 326352 | 0.40 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 20-Jun-2024 13:34

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: LCS Client Smp ID: LCS
Level: LOW Operator: LD
Data Type: MS DATA SampleType: LCS
SpikeList File: CntrlDODAT23.spk Quant Type: ISTD
Sublist File: AT23.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 50ppbv(200ppbv)

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 4 Freon 134a | 50.000 | 50.966 | 101.93 | 70-130 |
| 5 Propylene | 50.000 | 44.398 | 88.80 | 57-136 |
| 7 1,1-Difluoroethan | 50.000 | 48.774 | 97.55 | 70-130 |
| 8 Freon 12 | 50.000 | 49.937 | 99.87 | 59-128 |
| 9 Chlorodifluoromet | 50.000 | 45.624 | 91.25 | 59-145 |
| 10 Freon 114 | 50.000 | 52.010 | 104.02 | 63-121 |
| 12 Isobutane | 50.000 | 45.572 | 91.14 | 70-130 |
| 15 Chloromethane | 50.000 | 48.404 | 96.81 | 59-132 |
| 18 Butane | 50.000 | 46.384 | 92.77 | 64-129 |
| 19 Vinyl Chloride | 50.000 | 47.080 | 94.16 | 64-127 |
| 20 1,3-Butadiene | 50.000 | 44.021 | 88.04 | 66-134 |
| 24 Bromomethane | 50.000 | 55.956 | 111.91 | 63-134 |
| 30 Chloroethane | 50.000 | 50.046 | 100.09 | 63-127 |
| 31 Isopentane | 50.000 | 46.394 | 92.79 | 59-140 |
| 32 Vinyl Bromide | 50.000 | 51.254 | 102.51 | 71-126 |
| 33 Freon 11 | 50.000 | 49.255 | 98.51 | 62-126 |
| 34 Dichlorofluoromet | 50.000 | 45.626 | 91.25 | 70-130 |
| 35 Pentane | 50.000 | 44.602 | 89.20 | 63-131 |
| 39 Ethanol | 50.000 | 42.036 | 84.07 | 59-125 |
| 42 Acrolein | 57.000 | 46.775 | 82.06 | 62-126 |
| 43 Freon 113 | 50.000 | 48.985 | 97.97 | 66-126 |
| 44 1,1-Dichloroethen | 50.000 | 51.130 | 102.26 | 61-133 |
| 47 Acetone | 50.000 | 44.490 | 88.98 | 58-128 |
| 48 Carbon Disulfide | 50.000 | 45.178 | 90.36 | 57-134 |
| 52 2-Propanol | 50.000 | 43.406 | 86.81 | 52-125 |
| 54 3-Chloropropene | 50.000 | 42.961 | 85.92 | 71-131 |
| 57 Acetonitrile | 50.000 | 45.637 | 91.27 | 63-132 |
| 59 Methylene Chlorid | 50.000 | 43.855 | 87.71 | 62-115 |
| 62 tert-Butyl alcoho | 50.000 | 45.248 | 90.50 | 24-150 |
| 63 Methyl tert-butyl | 50.000 | 44.880 | 89.76 | 66-126 |
| 64 trans-1,2-Dichlor | 50.000 | 45.611 | 91.22 | 67-124 |
| 66 Acrylonitrile | 50.000 | 42.679 | 85.36 | 71-137 |
| 67 Hexane | 50.000 | 41.383 | 82.77 | 63-120 |

| | SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| 71 | 1,1-Dichloroethan | 50.000 | 45.230 | 90.46 | 68-126 |
| 72 | Isopropyl ether | 50.000 | 45.518 | 91.04 | 70-117 |
| 73 | Vinyl Acetate | 50.000 | 68.310 | 136.62 | 56-139 |
| 79 | Ethyl-tert-butyl | 50.000 | 45.113 | 90.23 | 70-130 |
| 84 | 2,2-Dichloropropa | 50.000 | 44.492 | 88.99 | 70-130 |
| 85 | cis-1,2-Dichloroe | 50.000 | 46.409 | 92.82 | 70-121 |
| 86 | 2-Butanone | 50.000 | 44.648 | 89.30 | 67-130 |
| 87 | Ethyl Acetate | 50.000 | 42.331 | 84.66 | 65-128 |
| 89 | Tetrahydrofuran | 50.000 | 41.690 | 83.38 | 64-123 |
| 92 | Chloroform | 50.000 | 45.926 | 91.85 | 68-123 |
| 96 | 1,1,1-Trichloroet | 50.000 | 46.723 | 93.45 | 68-125 |
| 97 | Carbon Tetrachlor | 50.000 | 48.864 | 97.73 | 68-132 |
| 94 | Cyclohexane | 50.000 | 45.424 | 90.85 | 70-117 |
| 99 | 1,1-Dichloroprope | 50.000 | 48.440 | 96.88 | 70-130 |
| 101 | 2,2,4-Trimethylpe | 50.000 | 44.804 | 89.61 | 68-121 |
| 102 | Benzene | 50.000 | 47.359 | 94.72 | 69-119 |
| 106 | 1,2-Dichloroethan | 50.000 | 47.508 | 95.02 | 65-128 |
| 107 | Heptane | 50.000 | 44.779 | 89.56 | 69-123 |
| 110 | n-Butanol | 50.000 | 71.717 | 143.43* | 62-133 |
| 111 | Trichloroethene | 50.000 | 49.500 | 99.00 | 71-123 |
| 127 | Methylcyclohexane | 50.000 | 45.302 | 90.60 | 67-127 |
| 114 | 1,2-Dichloropropa | 50.000 | 44.251 | 88.50 | 69-123 |
| 116 | Methyl Methacryla | 50.000 | 45.144 | 90.29 | 70-128 |
| 117 | 1,4-Dioxane | 50.000 | 49.082 | 98.16 | 71-122 |
| 118 | Dibromomethane | 50.000 | 53.240 | 106.48 | 70-130 |
| 122 | Bromodichlorometh | 50.000 | 48.730 | 97.46 | 72-128 |
| 126 | cis-1,3-Dichlorop | 50.000 | 47.389 | 94.78 | 70-128 |
| 131 | 4-Methyl-2-pentan | 50.000 | 41.592 | 83.18 | 67-130 |
| 136 | Octane | 50.000 | 43.250 | 86.50 | 69-121 |
| 137 | Toluene | 50.000 | 46.299 | 92.60 | 66-119 |
| 139 | trans-1,3-Dichlor | 50.000 | 48.145 | 96.29 | 75-133 |
| 141 | 1,1,2-Trichloroet | 50.000 | 48.354 | 96.71 | 73-119 |
| 142 | Tetrachloroethene | 50.000 | 53.065 | 106.13 | 66-124 |
| 143 | 2-Hexanone | 50.000 | 46.575 | 93.15 | 62-128 |
| 144 | 1,3-Dichloropropa | 50.000 | 46.362 | 92.72 | 62-148 |
| 146 | Dibromochlorometh | 50.000 | 52.613 | 105.23 | 70-130 |
| 148 | 1,2-Dibromoethane | 50.000 | 50.110 | 100.22 | 74-122 |
| 151 | 1-Bromo-2-Chloroe | 50.000 | 47.229 | 94.46 | 70-130 |
| 154 | Chlorobenzene | 50.000 | 50.914 | 101.83 | 70-119 |
| 155 | Ethyl Benzene | 50.000 | 50.154 | 100.31 | 70-124 |
| 156 | Nonane | 50.000 | 46.695 | 93.39 | 63-128 |
| 157 | 1,1,1,2-Tetrachlo | 50.000 | 53.214 | 106.43 | 70-130 |
| 158 | m,p-Xylene | 50.000 | 49.364 | 98.73 | 61-134 |
| 164 | o-Xylene | 50.000 | 49.594 | 99.19 | 67-125 |
| 165 | Styrene | 50.000 | 49.258 | 98.52 | 73-127 |
| 167 | Bromoform | 50.000 | 54.625 | 109.25 | 66-139 |
| 168 | Cumene | 50.000 | 50.319 | 100.64 | 68-124 |

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 175 1,1,2,2-Tetrachlo | 50.000 | 48.749 | 97.50 | 65-127 |
| 177 Bromobenzene | 50.000 | 51.854 | 103.71 | 70-130 |
| 178 Propylbenzene | 50.000 | 50.524 | 101.05 | 69-123 |
| 179 1,2,3-Trichloropr | 50.000 | 49.396 | 98.79 | 76-124 |
| 182 Decane | 50.000 | 42.049 | 84.10 | 70-118 |
| 183 4-Ethyltoluene | 50.000 | 48.856 | 97.71 | 67-129 |
| 184 2-Chlorotoluene | 50.000 | 51.410 | 102.82 | 74-130 |
| 185 1,3,5-Trimethylbe | 50.000 | 49.862 | 99.72 | 67-130 |
| 188 alpha Methyl Styr | 50.000 | 49.993 | 99.99 | 67-128 |
| 189 tert-Butylbenzene | 50.000 | 50.945 | 101.89 | 65-124 |
| 190 1,2,4-Trimethylbe | 50.000 | 49.554 | 99.11 | 66-132 |
| 192 sec-Butylbenzene | 50.000 | 51.070 | 102.14 | 68-125 |
| 194 p-Cymene | 50.000 | 51.661 | 103.32 | 67-130 |
| 195 1,3-Dichlorobenze | 50.000 | 50.368 | 100.74 | 65-130 |
| 196 1,4-Dichlorobenze | 50.000 | 50.495 | 100.99 | 60-131 |
| 199 alpha-Chlorotolue | 50.000 | 47.968 | 95.94 | 50-147 |
| 201 Undecane | 50.000 | 41.550 | 83.10 | 69-123 |
| 202 Butylbenzene | 50.000 | 51.188 | 102.38 | 66-130 |
| 204 1,2-Dichlorobenze | 50.000 | 50.474 | 100.95 | 63-129 |
| 206 1,2-Dibromo-3-chl | 50.000 | 53.167 | 106.33 | 70-130 |
| 207 Dodecane | 50.000 | 46.108 | 92.22 | 62-147 |
| 213 1,2,4-Trichlorobe | 50.000 | 52.553 | 105.11 | 55-142 |
| 215 Hexachlorobutadie | 50.000 | 54.125 | 108.25 | 56-138 |
| 216 Naphthalene | 5.700 | 5.833 | 102.33 | 57-138 |
| 222 1,2,3-Trichlorobe | 50.000 | 52.069 | 104.14 | 55-142 |

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 22.907 | 91.63 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 24.041 | 96.17 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.524 | 102.10 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061904c.d

Page 1

Date : 19-JUN-2024 10:06

Client ID: LCS

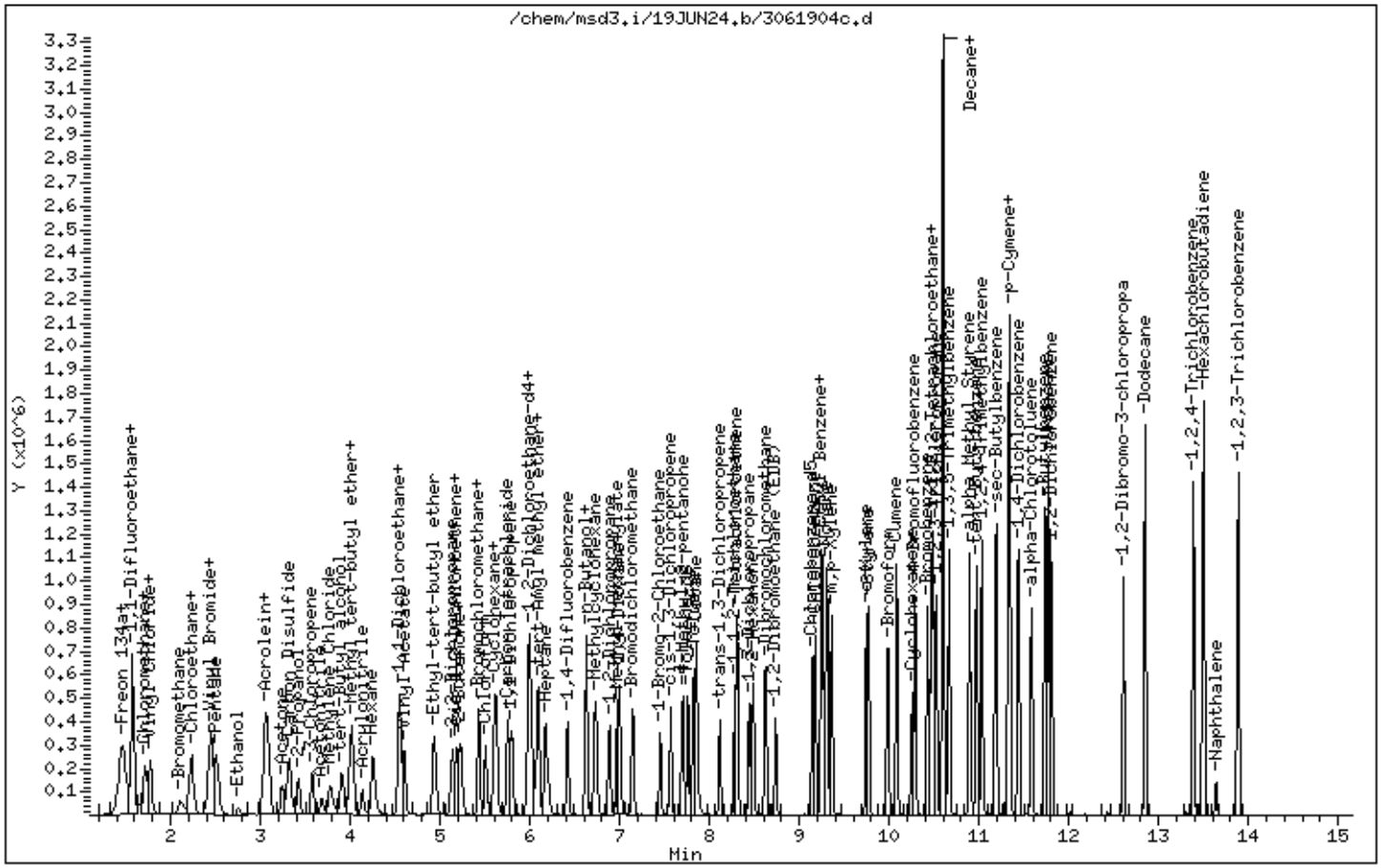
Instrument: msd3.i

Sample Info: 50mL 3018-4603

Operator: LD

Column phase: RTX-624

Column diameter: 0.25



| | | | |
|---|---|---|---|
| **Client ID:** | LCSD | | |
| **Lab ID:** | 2406264R2-17AA | **Date/Time Analyzed:** | 6/19/24 10:37 AM |
| **Date/Time Collected:** | NA - Not Applicable | **Dilution Factor:** | 1.00 |
| **Media:** | NA - Not Applicable | **Instrument/Filename:** | msd3.i / 3061905c |

| Compound | CAS# | %Recovery |
|---|---|---|
| 1,1-Dichloroethene | 75-35-4 | 89 |
| 1,4-Dichlorobenzene | 106-46-7 | 101 |
| Benzene | 71-43-2 | 94 |
| cis-1,2-Dichloroethene | 156-59-2 | 91 |
| Ethyl Benzene | 100-41-4 | 101 |
| m,p-Xylene | 108-38-3 | 100 |
| o-Xylene | 95-47-6 | 101 |
| Toluene | 108-88-3 | 91 |
| trans-1,2-Dichloroethene | 156-60-5 | 92 |
| Trichloroethene | 79-01-6 | 97 |
| Vinyl Chloride | 75-01-4 | 95 |

D: Analyte not within the DoD scope of accreditation.

| Surrogates | CAS# | Limits | %Recovery |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 17060-07-0 | 70-130 | 92 |
| 4-Bromofluorobenzene | 460-00-4 | 70-130 | 102 |
| Toluene-d8 | 2037-26-5 | 70-130 | 96 |

* % Recovery is calculated using unrounded analytical results.

US32TAR1

EPA TO-15/MODIFIED TO14A

Data file : /chem/msd3.i/19JUN24.b/3061905c.d
Lab Smp Id: LCSD Client Smp ID: LCSD
Inj Date : 19-JUN-2024 10:37
Operator : LD Inst ID: msd3.i
Smp Info : 50mL 3018-4603
Misc Info : 50ppbv(200ppbv)
Comment : STANDARD LEVEL - GC/MS
Method : /chem/msd3.i/19JUN24.b/324q0423a.m
Meth Date : 20-Jun-2024 13:33 lk8g Quant Type: ISTD
Cal Date : 24-APR-2024 01:06 Cal File: 3042314.d
Als bottle: 14 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT23.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| * 90 Bromochloromethane | | | | | CAS #: 74-97-5 | | |
| 5.432 | 5.432 (1.000) | 130 | 91657 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 5.432 | 5.432 (1.000) | 128 | 70949 | | | 47.79- 107.79 | 77.41 |
| 5.432 | 5.432 (1.000) | 49 | 134058 | | | 131.33- 191.33 | 146.26 |
| * 108 1,4-Difluorobenzene | | | | | CAS #: 540-36-3 | | |
| 6.420 | 6.420 (1.000) | 114 | 333499 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 6.420 | 6.420 (1.000) | 88 | 46874 | | | 0.00- 45.65 | 14.06 |
| * 153 Chlorobenzene-d5 | | | | | CAS #: 3114-55-4 | | |
| 9.149 | 9.149 (1.000) | 117 | 324852 | 25.0000 | | 80.00- 120.00 | 100.00 |
| 9.149 | 9.149 (1.000) | 82 | 164230 | | | 22.92- 82.92 | 50.56 |
| $ 104 1,2-Dichloroethane-d4 | | | | | CAS #: 17060-07-0 | | |
| 6.019 | 6.019 (1.108) | 65 | 110120 | 23.0665 | 23.066 | 80.00- 120.00 | 100.00 |
| 6.019 | 6.019 (1.108) | 67 | 61515 | | | 23.17- 83.17 | 55.86 |
| $ 134 Toluene-d8 | | | | | CAS #: 2037-26-5 | | |
| 7.760 | 7.760 (1.209) | 98 | 309700 | 23.8879 | 23.888 | 80.00- 120.00 | 100.00 |
| 7.760 | 7.760 (1.209) | 70 | 32841 | | | 0.00- 41.42 | 10.60 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| $ 134 Toluene-d8 (continued) | | | | | | | |
| 7.760 | 7.760 (1.209) | 100 | 210016 | | | 37.54- 97.54 | 67.81 |
| $ 170 4-Bromofluorobenzene | | | | | CAS #: 460-00-4 | | |
| 10.288 | 10.288 (1.124) | 174 | 245080 | 25.3862 | 25.386 | 80.00- 120.00 | 100.00 |
| 10.288 | 10.288 (1.124) | 95 | 268694 | | | 88.49- 148.49 | 109.64 |
| 10.288 | 10.288 (1.124) | 176 | 238682 | | | 66.73- 126.73 | 97.39 |
| 4 Freon 134a | | | | | CAS #: 811-97-2 | | |
| 1.409 | 1.423 (0.259) | 83 | 108417 | 51.1740 | 51.174 | 80.00- 120.00 | 100.00 |
| 1.409 | 1.409 (0.259) | 69 | 98405 | | | 64.17- 124.17 | 90.77 |
| 1.493 | 1.493 (0.275) | 51 | 407148 | | | 365.46- 425.46 | 375.54 |
| 5 Propylene | | | | | CAS #: 115-07-1 | | |
| 1.437 | 1.437 (0.264) | 41 | 113978 | 47.4780 | 47.478 | 80.00- 120.00 | 100.00 |
| 1.437 | 1.437 (0.264) | 42 | 74905 | | | 35.86- 95.86 | 65.72 |
| 1.423 | 1.437 (0.262) | 39 | 76637 | | | 41.66- 101.66 | 67.24 |
| 7 1,1-Difluoroethane | | | | | CAS #: 75-37-6 | | |
| 1.465 | 1.479 (0.270) | 65 | 68455 | 49.4661 | 49.466 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.275) | 51 | 407148 | | | 568.10- 628.10 | 594.77 |
| 1.577 | 1.577 (0.290) | 47 | 13596 | | | 0.00- 50.57 | 19.86 |
| 8 Freon 12 | | | | | CAS #: 75-71-8 | | |
| 1.465 | 1.465 (0.270) | 85 | 269147 | 49.5839 | 49.584 | 80.00- 120.00 | 100.00 |
| 1.465 | 1.465 (0.270) | 87 | 88973 | | | 2.88- 62.88 | 33.06 |
| 9 Chlorodifluoromethane | | | | | CAS #: 75-45-6 | | |
| 1.493 | 1.493 (0.275) | 67 | 31342 | 46.1427 | 46.143 | 80.00- 120.00 | 100.00 |
| 1.493 | 1.493 (0.275) | 51 | 407148 | | | 1257.55-1317.55 | 1299.04 |
| 10 Freon 114 | | | | | CAS #: 76-14-2 | | |
| 1.577 | 1.577 (0.290) | 135 | 246302 | 51.6168 | 51.617 | 80.00- 120.00 | 100.00 |
| 1.577 | 1.577 (0.290) | 137 | 79331 | | | 2.10- 62.10 | 32.21 |
| 12 Isobutane | | | | | CAS #: 75-28-5 | | |
| 1.590 | 1.591 (0.293) | 43 | 232013 | 45.7070 | 45.707 | 80.00- 120.00 | 100.00 |
| 1.590 | 1.591 (0.293) | 42 | 74768 | | | 1.69- 61.69 | 32.23 |
| 1.577 | 1.591 (0.290) | 58 | 7606 | | | 0.00- 33.32 | 3.28 |
| 15 Chloromethane | | | | | CAS #: 74-87-3 | | |
| 1.674 | 1.675 (0.308) | 50 | 129361 | 49.4290 | 49.429 | 80.00- 120.00 | 100.00 |
| 1.674 | 1.675 (0.308) | 52 | 40457 | | | 1.38- 61.38 | 31.27 |
| 18 Butane | | | | | CAS #: 106-97-8 | | |
| 1.716 | 1.717 (0.316) | 58 | 23553 | 44.8882 | 44.888 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 18 Butane (continued) | | | | | | | |
| 1.716 | 1.717 (0.316) | 43 | 206421 | | | 866.38- 926.38 | 876.38 |
| 19 Vinyl Chloride | | | | | CAS #: 75-01-4 | | |
| 1.758 | 1.759 (0.324) | 62 | 119781 | 47.3028 | 47.303 | 80.00- 120.00 | 100.00 |
| 1.758 | 1.759 (0.324) | 64 | 39940 | | | 3.10- 63.10 | 33.34 |
| 20 1,3-Butadiene | | | | | CAS #: 106-99-0 | | |
| 1.772 | 1.773 (0.326) | 54 | 104586 | 43.9660 | 43.966 | 80.00- 120.00 | 100.00 |
| 1.772 | 1.773 (0.326) | 39 | 110340 | | | 78.74- 138.74 | 105.50 |
| 24 Bromomethane | | | | | CAS #: 74-83-9 | | |
| 2.108 | 2.108 (0.388) | 94 | 102818 | 56.8217 | 56.822 | 80.00- 120.00 | 100.00 |
| 2.108 | 2.108 (0.388) | 96 | 97970 | | | 64.19- 124.19 | 95.28 |
| 30 Chloroethane | | | | | CAS #: 75-00-3 | | |
| 2.220 | 2.220 (0.409) | 64 | 58048 | 47.8021 | 47.802 | 80.00- 120.00 | 100.00 |
| 2.220 | 2.220 (0.409) | 66 | 18247 | | | 2.32- 62.32 | 31.43 |
| 2.220 | 2.220 (0.409) | 49 | 20388 | | | 6.33- 66.33 | 35.12 |
| 31 Isopentane | | | | | CAS #: 78-78-4 | | |
| 2.234 | 2.234 (0.411) | 43 | 161855 | 46.7070 | 46.707 | 80.00- 120.00 | 100.00 |
| 2.234 | 2.234 (0.411) | 57 | 101736 | | | 31.77- 91.77 | 62.86 |
| 32 Vinyl Bromide | | | | | CAS #: 593-60-2 | | |
| 2.402 | 2.416 (0.442) | 106 | 108744 | 51.6713 | 51.671 | 80.00- 120.00 | 100.00 |
| 2.416 | 2.402 (0.445) | 108 | 99938 | | | 64.21- 124.21 | 91.90 |
| 33 Freon 11 | | | | | CAS #: 75-69-4 | | |
| 2.444 | 2.444 (0.450) | 101 | 311353 | 49.7896 | 49.790 | 80.00- 120.00 | 100.00 |
| 2.444 | 2.444 (0.450) | 103 | 202894 | | | 34.93- 94.93 | 65.17 |
| 34 Dichlorofluoromethane | | | | | CAS #: 75-43-4 | | |
| 2.458 | 2.458 (0.453) | 67 | 229515 | 46.0285 | 46.028 | 80.00- 120.00 | 100.00 |
| 2.458 | 2.458 (0.453) | 69 | 72950 | | | 1.95- 61.95 | 31.78 |
| 35 Pentane | | | | | CAS #: 109-66-0 | | |
| 2.514 | 2.514 (0.463) | 43 | 240358 | 45.5858 | 45.586 | 80.00- 120.00 | 100.00 |
| 2.514 | 2.514 (0.463) | 57 | 34797 | | | 0.00- 44.64 | 14.48 |
| 2.514 | 2.514 (0.463) | 72 | 19248 | | | 0.00- 37.90 | 8.01 |
| 39 Ethanol | | | | | CAS #: 64-17-5 | | |
| 2.752 | 2.752 (0.507) | 46 | 21084 | 42.4971 | 42.497 | 80.00- 120.00 | 100.00 |
| 2.752 | 2.752 (0.507) | 45 | 53963 | | | 224.40- 284.40 | 255.94 |
| 42 Acrolein | | | | | CAS #: 107-02-8 | | |
| 3.053 | 3.054 (0.562) | 55 | 48792 | 45.6944 | 45.694 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 42 Acrolein (continued) | | | | | | | |
| 3.053 | 3.054 (0.562) | 56 | 68749 | | | 108.02- 168.02 | 140.90 |
| 43 Freon 113 | | | | | CAS #: 76-13-1 | | |
| 3.061 | 3.061 (0.563) | 151 | 271330 | 49.0966 | 49.097 | 80.00- 120.00 | 100.00 |
| 3.061 | 3.061 (0.563) | 153 | 172586 | | | 35.07- 95.07 | 63.61 |
| 3.061 | 3.061 (0.563) | 101 | 295445 | | | 87.45- 147.45 | 108.89 |
| 44 1,1-Dichloroethene | | | | | CAS #: 75-35-4 | | |
| 3.089 | 3.089 (0.569) | 96 | 104289 | 44.3507 | 44.351 | 80.00- 120.00 | 100.00 |
| 3.089 | 3.089 (0.569) | 98 | 66162 | | | 33.27- 93.27 | 63.44 |
| 3.089 | 3.089 (0.569) | 61 | 220029 | | | 159.05- 219.05 | 210.98 |
| 47 Acetone | | | | | CAS #: 67-64-1 | | |
| 3.247 | 3.247 (0.598) | 58 | 58949 | 44.0555 | 44.055 | 80.00- 120.00 | 100.00 |
| 3.247 | 3.240 (0.598) | 43 | 207793 | | | 329.45- 389.45 | 352.49 |
| 48 Carbon Disulfide | | | | | CAS #: 75-15-0 | | |
| 3.326 | 3.326 (0.612) | 76 | 290110 | 45.2458 | 45.246 | 80.00- 120.00 | 100.00 |
| 52 2-Propanol | | | | | CAS #: 67-63-0 | | |
| 3.426 | 3.426 (0.631) | 45 | 241052 | 43.3303 | 43.330 | 80.00- 120.00 | 100.00 |
| 3.426 | 3.426 (0.631) | 43 | 43905 | | | 0.00- 48.18 | 18.21 |
| 54 3-Chloropropene | | | | | CAS #: 107-05-1 | | |
| 3.576 | 3.577 (0.658) | 76 | 46810 | 43.3346 | 43.335 | 80.00- 120.00 | 100.00 |
| 3.576 | 3.577 (0.658) | 41 | 172179 | | | 366.80- 426.80 | 367.82 |
| 57 Acetonitrile | | | | | CAS #: 75-05-8 | | |
| 3.684 | 3.684 (0.678) | 41 | 109989 | 44.7955 | 44.795 | 80.00- 120.00 | 100.00 |
| 3.684 | 3.684 (0.678) | 40 | 58214 | | | 22.74- 82.74 | 52.93 |
| 3.677 | 3.684 (0.677) | 38 | 12832 | | | 0.00- 42.52 | 11.67 |
| 59 Methylene Chloride | | | | | CAS #: 75-09-2 | | |
| 3.777 | 3.777 (0.695) | 49 | 160354 | 43.6297 | 43.630 | 80.00- 120.00 | 100.00 |
| 3.777 | 3.777 (0.695) | 84 | 92860 | | | 24.90- 84.90 | 57.91 |
| 3.777 | 3.777 (0.695) | 51 | 51774 | | | 0.00- 59.67 | 32.29 |
| 62 tert-Butyl alcohol | | | | | CAS #: 75-65-0 | | |
| 3.906 | 3.906 (0.719) | 59 | 256994 | 45.2821 | 45.282 | 80.00- 120.00 | 100.00 |
| 3.906 | 3.906 (0.719) | 41 | 57653 | | | 0.00- 51.85 | 22.43 |
| 3.906 | 3.913 (0.719) | 57 | 26619 | | | 0.00- 40.17 | 10.36 |
| 63 Methyl tert-butyl ether | | | | | CAS #: 1634-04-4 | | |
| 3.999 | 3.999 (0.736) | 73 | 303845 | 45.2858 | 45.286 | 80.00- 120.00 | 100.00 |
| 3.999 | 3.999 (0.736) | 57 | 86085 | | | 0.00- 58.72 | 28.33 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 63 Methyl tert-butyl ether (continued) | | | | | | | |
| 3.999 | 3.999 (0.736) | 41 | 89066 | | | 0.00- 59.38 | 29.31 |
| 64 trans-1,2-Dichloroethene | | | | | CAS #: 156-60-5 | | |
| 4.028 | 4.028 (0.742) | 98 | 72280 | 45.7707 | 45.771 | 80.00- 120.00 | 100.00 |
| 4.028 | 4.028 (0.742) | 61 | 180509 | | | 232.13- 292.13 | 249.74 |
| 4.028 | 4.028 (0.742) | 96 | 112199 | | | 127.26- 187.26 | 155.23 |
| 66 Acrylonitrile | | | | | CAS #: 107-13-1 | | |
| 4.135 | 4.135 (0.761) | 52 | 85744 | 41.9859 | 41.986 | 80.00- 120.00 | 100.00 |
| 4.135 | 4.135 (0.761) | 53 | 102116 | | | 86.45- 146.45 | 119.09 |
| 67 Hexane | | | | | CAS #: 110-54-3 | | |
| 4.257 | 4.257 (0.784) | 57 | 205896 | 41.8443 | 41.844 | 80.00- 120.00 | 100.00 |
| 4.257 | 4.250 (0.784) | 43 | 146178 | | | 40.97- 100.97 | 71.00 |
| 4.250 | 4.257 (0.782) | 86 | 26332 | | | 0.00- 42.68 | 12.79 |
| 71 1,1-Dichloroethane | | | | | CAS #: 75-34-3 | | |
| 4.551 | 4.551 (0.838) | 63 | 206442 | 45.2378 | 45.238 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 65 | 63612 | | | 0.47- 60.47 | 30.81 |
| 72 Isopropyl ether | | | | | CAS #: 108-20-3 | | |
| 4.551 | 4.551 (0.838) | 45 | 495312 | 45.2640 | 45.264 | 80.00- 120.00 | 100.00 |
| 4.551 | 4.551 (0.838) | 87 | 101619 | | | 0.00- 49.55 | 20.52 |
| 4.551 | 4.544 (0.838) | 59 | 52714 | | | 0.00- 40.42 | 10.64 |
| 73 Vinyl Acetate | | | | | CAS #: 108-05-4 | | |
| 4.601 | 4.608 (0.847) | 86 | 27730 | 69.0101 | 69.010 | 80.00- 120.00 | 100.00 |
| 4.601 | 4.601 (0.847) | 43 | 434214 | | | 1727.95-1787.95 | 1565.85 |
| 79 Ethyl-tert-butyl ether | | | | | CAS #: 637-92-3 | | |
| 4.937 | 4.938 (0.909) | 59 | 429859 | 45.5522 | 45.552 | 80.00- 120.00 | 100.00 |
| 4.937 | 4.938 (0.909) | 87 | 149046 | | | 3.90- 63.90 | 34.67 |
| 4.937 | 4.938 (0.909) | 41 | 86170 | | | 0.00- 49.72 | 20.05 |
| 84 2,2-Dichloropropane | | | | | CAS #: 594-20-7 | | |
| 5.138 | 5.138 (0.946) | 77 | 199716 | 44.3332 | 44.333 | 80.00- 120.00 | 100.00 |
| 5.138 | 5.138 (0.946) | 79 | 64573 | | | 2.39- 62.39 | 32.33 |
| 5.138 | 5.138 (0.946) | 97 | 48522 | | | 0.00- 53.57 | 24.30 |
| 85 cis-1,2-Dichloroethene | | | | | CAS #: 156-59-2 | | |
| 5.181 | 5.181 (0.954) | 98 | 74125 | 45.3293 | 45.329 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 96 | 115093 | | | 125.53- 185.53 | 155.27 |
| 5.181 | 5.181 (0.954) | 61 | 180679 | | | 219.86- 279.86 | 243.75 |
| 86 2-Butanone | | | | | CAS #: 78-93-3 | | |
| 5.217 | 5.217 (0.960) | 72 | 52665 | 44.7016 | 44.702 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 86 2-Butanone (continued) | | | | | | | |
| 5.238 | 5.238 (0.964) | 43 | 611052 | | | 1138.34-1198.34 | 1160.24 |
| 5.210 | 5.217 (0.959) | 57 | 22391 | | | 10.83- 70.83 | 42.52 |
| 87 Ethyl Acetate | | | | | CAS #: 141-78-6 | | |
| 5.238 | 5.238 (0.964) | 45 | 50493 | 42.8529 | 42.853 | 80.00- 120.00 | 100.00 |
| 5.181 | 5.181 (0.954) | 61 | 180679 | | | 338.96- 398.96 | 357.83 |
| 5.238 | 5.238 (0.964) | 70 | 26679 | | | 24.53- 84.53 | 52.84 |
| 89 Tetrahydrofuran | | | | | CAS #: 109-99-9 | | |
| 5.424 | 5.425 (0.999) | 42 | 149381 | 41.4691 | 41.469 | 80.00- 120.00 | 100.00 |
| 5.424 | 5.425 (0.999) | 71 | 41989 | | | 0.00- 58.54 | 28.11 |
| 5.424 | 5.425 (0.999) | 72 | 43185 | | | 0.00- 59.59 | 28.91 |
| 92 Chloroform | | | | | CAS #: 67-66-3 | | |
| 5.510 | 5.511 (1.014) | 83 | 226897 | 46.3027 | 46.303 | 80.00- 120.00 | 100.00 |
| 5.510 | 5.511 (1.014) | 85 | 146326 | | | 35.77- 95.77 | 64.49 |
| 94 Cyclohexane | | | | | CAS #: 110-82-7 | | |
| 5.604 | 5.611 (1.032) | 84 | 150974 | 46.0532 | 46.053 | 80.00- 120.00 | 100.00 |
| 5.604 | 5.604 (1.032) | 56 | 227027 | | | 125.79- 185.79 | 150.37 |
| 5.604 | 5.604 (1.032) | 41 | 126912 | | | 61.55- 121.55 | 84.06 |
| 96 1,1,1-Trichloroethane | | | | | CAS #: 71-55-6 | | |
| 5.632 | 5.632 (1.037) | 97 | 253595 | 47.4497 | 47.450 | 80.00- 120.00 | 100.00 |
| 5.632 | 5.632 (1.037) | 99 | 162763 | | | 32.84- 92.84 | 64.18 |
| 97 Carbon Tetrachloride | | | | | CAS #: 56-23-5 | | |
| 5.754 | 5.754 (1.059) | 119 | 279334 | 49.3001 | 49.300 | 80.00- 120.00 | 100.00 |
| 5.754 | 5.754 (1.059) | 117 | 292319 | | | 75.19- 135.19 | 104.65 |
| 99 1,1-Dichloropropene | | | | | CAS #: 563-58-6 | | |
| 5.797 | 5.797 (0.903) | 110 | 64291 | 47.8582 | 47.858 | 80.00- 120.00 | 100.00 |
| 5.797 | 5.797 (0.903) | 75 | 161762 | | | 234.16- 294.16 | 251.61 |
| 101 2,2,4-Trimethylpentane | | | | | CAS #: 540-84-1 | | |
| 5.990 | 5.990 (1.103) | 57 | 695230 | 45.2221 | 45.222 | 80.00- 120.00 | 100.00 |
| 5.983 | 5.983 (1.102) | 56 | 231272 | | | 3.09- 63.09 | 33.27 |
| 5.983 | 5.990 (1.102) | 41 | 182516 | | | 0.00- 57.28 | 26.25 |
| 102 Benzene | | | | | CAS #: 71-43-2 | | |
| 5.990 | 5.990 (0.933) | 78 | 315126 | 46.9316 | 46.932 | 80.00- 120.00 | 100.00 |
| 5.990 | 5.998 (0.933) | 77 | 74104 | | | 0.00- 53.69 | 23.52 |
| 105 tert-Amyl methyl ether | | | | | CAS #: 994-05-8 | | |
| 6.083 | 6.084 (0.948) | 87 | 85084 | 47.1524 | 47.152 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 105 tert-Amyl methyl ether (continued) | | | | | | | |
| 6.083 | 6.084 (0.948) | 73 | 333163 | | | 365.76- 425.76 | 391.57 |
| 6.083 | 6.084 (0.948) | 55 | 108495 | | | 92.58- 152.58 | 127.51 |
| 106 1,2-Dichloroethane | | | | | CAS #: 107-06-2 | | |
| 6.098 | 6.098 (0.950) | 62 | 165761 | 47.3252 | 47.325 | 80.00- 120.00 | 100.00 |
| 6.098 | 6.098 (0.950) | 64 | 52515 | | | 1.80- 61.80 | 31.68 |
| 107 Heptane | | | | | CAS #: 142-82-5 | | |
| 6.177 | 6.177 (0.962) | 71 | 119424 | 44.8992 | 44.899 | 80.00- 120.00 | 100.00 |
| 6.177 | 6.177 (0.962) | 43 | 274772 | | | 207.73- 267.73 | 230.08 |
| 6.177 | 6.177 (0.962) | 57 | 137102 | | | 84.83- 144.83 | 114.80 |
| 110 n-Butanol | | | | | CAS #: 71-36-3 | | |
| 6.628 | 6.628 (1.032) | 56 | 110196 | 72.1820 | 72.182 | 80.00- 120.00 | 100.00(R) |
| 6.628 | 6.628 (1.032) | 41 | 82400 | | | 47.73- 107.73 | 74.78 |
| 6.628 | 6.628 (1.032) | 43 | 66658 | | | 31.60- 91.60 | 60.49 |
| 111 Trichloroethene | | | | | CAS #: 79-01-6 | | |
| 6.628 | 6.628 (1.032) | 95 | 157466 | 48.6385 | 48.638 | 80.00- 120.00 | 100.00 |
| 6.628 | 6.628 (1.032) | 130 | 178250 | | | 80.23- 140.23 | 113.20 |
| 6.628 | 6.628 (1.032) | 97 | 100555 | | | 34.78- 94.78 | 63.86 |
| 127 Methylcyclohexane | | | | | CAS #: 108-87-2 | | |
| 6.728 | 6.728 (1.048) | 83 | 207266 | 45.0697 | 45.070 | 80.00- 120.00 | 100.00 |
| 6.728 | 6.728 (1.048) | 98 | 95112 | | | 14.83- 74.83 | 45.89 |
| 6.728 | 6.728 (1.048) | 55 | 203038 | | | 71.50- 131.50 | 97.96 |
| 114 1,2-Dichloropropane | | | | | CAS #: 78-87-5 | | |
| 6.886 | 6.886 (1.073) | 63 | 138577 | 43.8591 | 43.859 | 80.00- 120.00 | 100.00 |
| 6.886 | 6.886 (1.073) | 62 | 99950 | | | 40.39- 100.39 | 72.13 |
| 6.886 | 6.886 (1.073) | 41 | 81918 | | | 31.86- 91.86 | 59.11 |
| 116 Methyl Methacrylate | | | | | CAS #: 80-62-6 | | |
| 6.972 | 6.972 (0.762) | 69 | 118686 | 44.8543 | 44.854 | 80.00- 120.00 | 100.00 |
| 6.972 | 6.972 (0.762) | 41 | 199344 | | | 145.81- 205.81 | 167.96 |
| 6.972 | 6.972 (0.762) | 100 | 48776 | | | 10.05- 70.05 | 41.10 |
| 117 1,4-Dioxane | | | | | CAS #: 123-91-1 | | |
| 6.993 | 6.993 (1.089) | 88 | 81224 | 48.0872 | 48.087 | 80.00- 120.00 | 100.00 |
| 6.993 | 6.986 (1.089) | 58 | 66376 | | | 56.33- 116.33 | 81.72 |
| 6.986 | 6.986 (1.088) | 57 | 24575 | | | 2.08- 62.08 | 30.26 |
| 118 Dibromomethane | | | | | CAS #: 74-95-3 | | |
| 7.007 | 7.008 (0.766) | 174 | 163877 | 53.4649 | 53.465 | 80.00- 120.00 | 100.00 |
| 7.000 | 7.000 (0.765) | 93 | 143524 | | | 62.68- 122.68 | 87.58 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 118 Dibromomethane (continued) | | | | | | | |
| 7.000 | 7.000 (0.765) | 95 | 119784 | | | 47.70- 107.70 | 73.09 |
| 122 Bromodichloromethane | | | | | CAS #: 75-27-4 | | |
| 7.144 | 7.144 (1.113) | 83 | 253093 | 48.2941 | 48.294 | 80.00- 120.00 | 100.00 |
| 7.144 | 7.144 (1.113) | 85 | 162596 | | | 34.96- 94.96 | 64.24 |
| 126 cis-1,3-Dichloropropene | | | | | CAS #: 10061-01-5 | | |
| 7.566 | 7.566 (1.179) | 75 | 207379 | 46.3985 | 46.398 | 80.00- 120.00 | 100.00 |
| 7.566 | 7.566 (1.179) | 77 | 66620 | | | 1.26- 61.26 | 32.12 |
| 7.566 | 7.566 (1.179) | 39 | 125606 | | | 35.06- 95.06 | 60.57 |
| 131 4-Methyl-2-pentanone | | | | | CAS #: 108-10-1 | | |
| 7.702 | 7.702 (1.200) | 58 | 125855 | 40.9362 | 40.936 | 80.00- 120.00 | 100.00 |
| 7.702 | 7.702 (1.200) | 43 | 371861 | | | 259.88- 319.88 | 295.47 |
| 7.702 | 7.702 (1.200) | 85 | 49330 | | | 7.58- 67.58 | 39.20 |
| 137 Toluene | | | | | CAS #: 108-88-3 | | |
| 7.824 | 7.824 (1.219) | 91 | 423401 | 45.5508 | 45.551 | 80.00- 120.00 | 100.00 |
| 7.824 | 7.824 (1.219) | 92 | 249393 | | | 27.89- 87.89 | 58.90 |
| 136 Octane | | | | | CAS #: 111-65-9 | | |
| 7.853 | 7.853 (1.223) | 57 | 145026 | 42.8257 | 42.826 | 80.00- 120.00 | 100.00 |
| 7.853 | 7.853 (1.223) | 85 | 141233 | | | 63.53- 123.53 | 97.38 |
| 7.853 | 7.853 (1.223) | 43 | 390656 | | | 246.00- 306.00 | 269.37 |
| 139 trans-1,3-Dichloropropene | | | | | CAS #: 10061-02-6 | | |
| 8.111 | 8.111 (0.886) | 75 | 171805 | 47.8623 | 47.862 | 80.00- 120.00 | 100.00 |
| 8.111 | 8.111 (0.886) | 77 | 55791 | | | 1.83- 61.83 | 32.47 |
| 8.111 | 8.111 (0.886) | 39 | 100228 | | | 31.97- 91.97 | 58.34 |
| 141 1,1,2-Trichloroethane | | | | | CAS #: 79-00-5 | | |
| 8.282 | 8.283 (0.905) | 97 | 149610 | 49.2222 | 49.222 | 80.00- 120.00 | 100.00 |
| 8.282 | 8.283 (0.905) | 99 | 93402 | | | 32.52- 92.52 | 62.43 |
| 8.282 | 8.283 (0.905) | 83 | 129369 | | | 58.90- 118.90 | 86.47 |
| 142 Tetrachloroethene | | | | | CAS #: 127-18-4 | | |
| 8.311 | 8.311 (0.908) | 166 | 244419 | 53.5550 | 53.555 | 80.00- 120.00 | 100.00 |
| 8.311 | 8.311 (0.908) | 129 | 181285 | | | 45.32- 105.32 | 74.17 |
| 8.311 | 8.311 (0.908) | 131 | 178977 | | | 44.17- 104.17 | 73.23 |
| 143 2-Hexanone | | | | | CAS #: 591-78-6 | | |
| 8.483 | 8.483 (0.927) | 58 | 176730 | 46.3470 | 46.347 | 80.00- 120.00 | 100.00 |
| 8.483 | 8.483 (0.927) | 43 | 363547 | | | 177.32- 237.32 | 205.71 |
| 8.490 | 8.490 (0.928) | 100 | 31714 | | | 0.00- 47.18 | 17.94 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 144 1,3-Dichloropropane | | | | | CAS #: 142-28-9 | | |
| 8.440 | 8.440 (1.315) | 76 | 200208 | 45.9435 | 45.943 | 80.00- 120.00 | 100.00 |
| 8.440 | 8.440 (1.315) | 41 | 166230 | | | 59.72- 119.72 | 83.03 |
| 8.440 | 8.440 (1.315) | 78 | 64501 | | | 3.08- 63.08 | 32.22 |
| 146 Dibromochloromethane | | | | | CAS #: 124-48-1 | | |
| 8.626 | 8.626 (0.943) | 129 | 321264 | 53.4811 | 53.481 | 80.00- 120.00 | 100.00 |
| 8.626 | 8.626 (0.943) | 127 | 248594 | | | 47.27- 107.27 | 77.38 |
| 148 1,2-Dibromoethane (EDB) | | | | | CAS #: 106-93-4 | | |
| 8.741 | 8.741 (0.955) | 107 | 250719 | 50.3297 | 50.330 | 80.00- 120.00 | 100.00 |
| 8.741 | 8.741 (0.955) | 109 | 239795 | | | 64.18- 124.18 | 95.64 |
| 151 1-Bromo-2-Chloroethane | | | | | CAS #: 107-04-0 | | |
| 7.452 | 7.452 (1.161) | 63 | 260669 | 46.7591 | 46.759 | 80.00- 120.00 | 100.00 |
| 7.452 | 7.452 (1.161) | 65 | 78689 | | | 0.43- 60.43 | 30.19 |
| 7.452 | 7.452 (1.161) | 144 | 30147 | | | 0.00- 40.48 | 11.57 |
| 154 Chlorobenzene | | | | | CAS #: 108-90-7 | | |
| 9.178 | 9.178 (1.003) | 112 | 380514 | 50.5560 | 50.556 | 80.00- 120.00 | 100.00 |
| 9.178 | 9.178 (1.003) | 114 | 122070 | | | 1.91- 61.91 | 32.08 |
| 9.171 | 9.171 (1.002) | 77 | 192564 | | | 22.97- 82.97 | 50.61 |
| 155 Ethyl Benzene | | | | | CAS #: 100-41-4 | | |
| 9.242 | 9.242 (1.010) | 106 | 190996 | 50.4499 | 50.450 | 80.00- 120.00 | 100.00 |
| 9.242 | 9.242 (1.010) | 91 | 589931 | | | 281.09- 341.09 | 308.87 |
| 156 Nonane | | | | | CAS #: 111-84-2 | | |
| 9.307 | 9.307 (1.017) | 43 | 414002 | 47.0835 | 47.084 | 80.00- 120.00 | 100.00 |
| 9.307 | 9.307 (1.017) | 57 | 337945 | | | 50.62- 110.62 | 81.63 |
| 9.307 | 9.307 (1.017) | 85 | 107632 | | | 0.00- 55.65 | 26.00 |
| 157 1,1,1,2-Tetrachloroethane | | | | | CAS #: 630-20-6 | | |
| 9.264 | 9.264 (1.013) | 131 | 228432 | 53.2746 | 53.274 | 80.00- 120.00 | 100.00 |
| 9.264 | 9.264 (1.013) | 117 | 151450 | | | 37.10- 97.10 | 66.30 |
| 9.264 | 9.264 (1.013) | 95 | 77843 | | | 4.93- 64.93 | 34.08 |
| 158 m,p-Xylene | | | | | CAS #: 108-38-3 | | |
| 9.364 | 9.364 (1.023) | 106 | 235549 | 49.9179 | 49.918 | 80.00- 120.00 | 100.00 |
| 9.357 | 9.357 (1.023) | 91 | 463103 | | | 170.33- 230.33 | 196.61 |
| 164 o-Xylene | | | | | CAS #: 95-47-6 | | |
| 9.744 | 9.744 (1.065) | 106 | 225228 | 50.3342 | 50.334 | 80.00- 120.00 | 100.00 |
| 9.744 | 9.744 (1.065) | 91 | 465488 | | | 181.23- 241.23 | 206.67 |
| 165 Styrene | | | | | CAS #: 100-42-5 | | |
| 9.772 | 9.773 (1.068) | 104 | 376083 | 49.2139 | 49.214 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 165 Styrene (continued) | | | | | | | |
| 9.772 | 9.773 (1.068) | 78 | 173532 | | | 17.26- 77.26 | 46.14 |
| 167 Bromoform | | | | | CAS #: 75-25-2 | | |
| 9.980 | 9.987 (1.091) | 173 | 333485 | 54.9318 | 54.932 | 80.00- 120.00 | 100.00 |
| 9.987 | 9.987 (1.092) | 171 | 170446 | | | 21.45- 81.45 | 51.11 |
| 168 Cumene | | | | | CAS #: 98-82-8 | | |
| 10.088 | 10.088 (1.103) | 105 | 686319 | 50.7382 | 50.738 | 80.00- 120.00 | 100.00 |
| 10.088 | 10.088 (1.103) | 120 | 189921 | | | 0.00- 56.93 | 27.67 |
| 10.088 | 10.088 (1.103) | 51 | 79072 | | | 0.00- 42.24 | 11.52 |
| 169 Cyclohexanone | | | | | CAS #: 108-94-1 | | |
| 10.252 | 10.252 (1.121) | 55 | 224042 | 41.8646 | 41.865 | 80.00- 120.00 | 100.00 |
| 10.259 | 10.260 (1.121) | 98 | 82026 | | | 5.15- 65.15 | 36.61 |
| 10.252 | 10.252 (1.121) | 42 | 155657 | | | 41.99- 101.99 | 69.48 |
| 175 1,1,2,2-Tetrachloroethane | | | | | CAS #: 79-34-5 | | |
| 10.467 | 10.467 (1.144) | 83 | 344097 | 49.0454 | 49.045 | 80.00- 120.00 | 100.00 |
| 10.467 | 10.467 (1.144) | 85 | 223360 | | | 34.97- 94.97 | 64.91 |
| 177 Bromobenzene | | | | | CAS #: 108-86-1 | | |
| 10.424 | 10.424 (1.139) | 156 | 243263 | 51.6182 | 51.618 | 80.00- 120.00 | 100.00 |
| 10.424 | 10.424 (1.139) | 158 | 238669 | | | 67.47- 127.47 | 98.11 |
| 10.424 | 10.424 (1.139) | 77 | 310094 | | | 108.68- 168.68 | 127.47 |
| 178 Propylbenzene | | | | | CAS #: 103-65-1 | | |
| 10.489 | 10.489 (1.146) | 120 | 204048 | 51.0149 | 51.015 | 80.00- 120.00 | 100.00 |
| 10.489 | 10.489 (1.146) | 91 | 816608 | | | 383.60- 443.60 | 400.20 |
| 10.489 | 10.489 (1.146) | 105 | 31619 | | | 0.00- 46.14 | 15.50 |
| 179 1,2,3-Trichloropropane | | | | | CAS #: 96-18-4 | | |
| 10.517 | 10.518 (1.150) | 110 | 104021 | 48.8524 | 48.852 | 80.00- 120.00 | 100.00 |
| 10.517 | 10.518 (1.150) | 75 | 360638 | | | 324.28- 384.28 | 346.70 |
| 10.517 | 10.518 (1.150) | 61 | 85413 | | | 57.24- 117.24 | 82.11 |
| 182 Decane | | | | | CAS #: 124-18-5 | | |
| 10.603 | 10.603 (1.159) | 57 | 438385 | 42.3483 | 42.348 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 71 | 138065 | | | 1.11- 61.11 | 31.49 |
| 10.603 | 10.603 (1.159) | 142 | 20406 | | | 0.00- 34.44 | 4.65 |
| 183 4-Ethyltoluene | | | | | CAS #: 622-96-8 | | |
| 10.603 | 10.603 (1.159) | 120 | 218054 | 50.0172 | 50.017 | 80.00- 120.00 | 100.00 |
| 10.603 | 10.603 (1.159) | 105 | 701361 | | | 298.94- 358.94 | 321.65 |
| 184 2-Chlorotoluene | | | | | CAS #: 95-49-8 | | |
| 10.603 | 10.603 (1.159) | 126 | 188893 | 51.2100 | 51.210 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 184 2-Chlorotoluene (continued) | | | | | | | |
| 10.603 | 10.603 (1.159) | 91 | 567017 | | | 282.78- 342.78 | 300.18 |
| 10.603 | 10.603 (1.159) | 65 | 81607 | | | 17.33- 77.33 | 43.20 |
| 185 1,3,5-Trimethylbenzene | | | | | CAS #: 108-67-8 | | |
| 10.668 | 10.668 (1.166) | 120 | 297674 | 50.6310 | 50.631 | 80.00- 120.00 | 100.00 |
| 10.668 | 10.668 (1.166) | 105 | 592888 | | | 172.08- 232.08 | 199.17 |
| 188 alpha Methyl Styrene | | | | | CAS #: 98-83-9 | | |
| 10.897 | 10.897 (1.191) | 118 | 313954 | 50.4110 | 50.411 | 80.00- 120.00 | 100.00 |
| 10.897 | 10.897 (1.191) | 103 | 172863 | | | 25.64- 85.64 | 55.06 |
| 189 tert-Butylbenzene | | | | | CAS #: 98-06-6 | | |
| 10.976 | 10.976 (1.200) | 119 | 573797 | 51.3345 | 51.334 | 80.00- 120.00 | 100.00 |
| 10.976 | 10.976 (1.200) | 134 | 143081 | | | 0.00- 55.10 | 24.94 |
| 10.969 | 10.976 (1.199) | 91 | 359362 | | | 34.53- 94.53 | 62.63 |
| 190 1,2,4-Trimethylbenzene | | | | | CAS #: 95-63-6 | | |
| 11.033 | 11.033 (1.206) | 105 | 598604 | 49.7980 | 49.798 | 80.00- 120.00 | 100.00 |
| 11.033 | 11.033 (1.206) | 120 | 280434 | | | 16.63- 76.63 | 46.85 |
| 192 sec-Butylbenzene | | | | | CAS #: 135-98-8 | | |
| 11.191 | 11.191 (1.223) | 134 | 187763 | 51.3180 | 51.318 | 80.00- 120.00 | 100.00 |
| 11.191 | 11.191 (1.223) | 105 | 849696 | | | 436.99- 496.99 | 452.54 |
| 11.191 | 11.191 (1.223) | 91 | 130028 | | | 41.69- 101.69 | 69.25 |
| 194 p-Cymene | | | | | CAS #: 99-87-6 | | |
| 11.334 | 11.334 (1.239) | 119 | 772744 | 51.6438 | 51.644 | 80.00- 120.00 | 100.00 |
| 11.334 | 11.334 (1.239) | 134 | 216240 | | | 0.00- 57.62 | 27.98 |
| 11.334 | 11.334 (1.239) | 91 | 171697 | | | 0.00- 53.03 | 22.22 |
| 195 1,3-Dichlorobenzene | | | | | CAS #: 541-73-1 | | |
| 11.341 | 11.341 (1.240) | 146 | 453169 | 50.8746 | 50.875 | 80.00- 120.00 | 100.00 |
| 11.341 | 11.341 (1.240) | 148 | 286437 | | | 34.18- 94.18 | 63.21 |
| 11.341 | 11.341 (1.240) | 111 | 171650 | | | 10.06- 70.06 | 37.88 |
| 196 1,4-Dichlorobenzene | | | | | CAS #: 106-46-7 | | |
| 11.441 | 11.442 (1.251) | 146 | 456951 | 50.6442 | 50.644 | 80.00- 120.00 | 100.00 |
| 11.441 | 11.442 (1.251) | 148 | 292550 | | | 33.55- 93.55 | 64.02 |
| 11.441 | 11.442 (1.251) | 111 | 169141 | | | 7.98- 67.98 | 37.02 |
| 199 alpha-Chlorotoluene | | | | | CAS #: 100-44-7 | | |
| 11.585 | 11.585 (1.266) | 91 | 551664 | 48.2824 | 48.282 | 80.00- 120.00 | 100.00 |
| 11.585 | 11.585 (1.266) | 126 | 130443 | | | 0.00- 52.77 | 23.65 |
| 201 Undecane | | | | | CAS #: 1120-21-4 | | |
| 11.778 | 11.778 (1.287) | 57 | 514770 | 41.8220 | 41.822 | 80.00- 120.00 | 100.00 |

| RT | EXP RT (REL RT) | MASS | RESPONSE | CONCENTRATIONS ON-COL ( PPBV) | CONCENTRATIONS FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|
| 201 Undecane (continued) | | | | | | | |
| 11.778 | 11.778 (1.287) | 43 | 477693 | | | 63.59- 123.59 | 92.80 |
| 202 Butylbenzene | | | | | CAS #: 104-51-8 | | |
| 11.735 | 11.742 (1.283) | 134 | 210140 | 50.9584 | 50.958 | 80.00- 120.00 | 100.00 |
| 11.735 | 11.735 (1.283) | 91 | 697636 | | | 310.82- 370.82 | 331.99 |
| 11.735 | 11.735 (1.283) | 92 | 368541 | | | 151.53- 211.53 | 175.38 |
| 204 1,2-Dichlorobenzene | | | | | CAS #: 95-50-1 | | |
| 11.814 | 11.814 (1.291) | 146 | 439967 | 50.8943 | 50.894 | 80.00- 120.00 | 100.00 |
| 11.814 | 11.814 (1.291) | 148 | 276226 | | | 33.00- 93.00 | 62.78 |
| 11.814 | 11.814 (1.291) | 111 | 173602 | | | 10.87- 70.87 | 39.46 |
| 206 1,2-Dibromo-3-chloropropane | | | | | CAS #: 96-12-8 | | |
| 12.616 | 12.609 (1.379) | 157 | 286627 | 56.0580 | 56.058 | 80.00- 120.00 | 100.00 |
| 12.609 | 12.609 (1.378) | 75 | 206498 | | | 48.09- 108.09 | 72.04 |
| 12.616 | 12.609 (1.379) | 155 | 221690 | | | 47.89- 107.89 | 77.34 |
| 207 Dodecane | | | | | CAS #: 112-40-3 | | |
| 12.860 | 12.853 (1.406) | 57 | 590565 | 47.6319 | 47.632 | 80.00- 120.00 | 100.00 |
| 12.860 | 12.853 (1.406) | 43 | 510133 | | | 58.52- 118.52 | 86.38 |
| 213 1,2,4-Trichlorobenzene | | | | | CAS #: 120-82-1 | | |
| 13.397 | 13.390 (1.464) | 180 | 454421 | 53.0434 | 53.043 | 80.00- 120.00 | 100.00 |
| 13.397 | 13.390 (1.464) | 182 | 434061 | | | 64.84- 124.84 | 95.52 |
| 215 Hexachlorobutadiene | | | | | CAS #: 87-68-3 | | |
| 13.511 | 13.504 (1.477) | 225 | 343966 | 55.0422 | 55.042 | 80.00- 120.00 | 100.00 |
| 13.511 | 13.504 (1.477) | 223 | 217186 | | | 32.80- 92.80 | 63.14 |
| 216 Naphthalene | | | | | CAS #: 91-20-3 | | |
| 13.648 | 13.641 (1.492) | 128 | 104998 | 5.87221 | 5.872 | 80.00- 120.00 | 100.00 |
| 13.648 | 13.641 (1.492) | 127 | 13882 | | | 0.00- 42.72 | 13.22 |
| 222 1,2,3-Trichlorobenzene | | | | | CAS #: 87-61-6 | | |
| 13.898 | 13.891 (1.519) | 180 | 446409 | 53.1769 | 53.177 | 80.00- 120.00 | 100.00 |
| 13.898 | 13.891 (1.519) | 182 | 425534 | | | 65.07- 125.07 | 95.32 |
| 13.898 | 13.884 (1.519) | 145 | 148692 | | | 4.48- 64.48 | 33.31 |

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

US32TAR1

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd3.i
Lab File ID: 3061905c.d
Lab Smp Id: LCSD
Analysis Type: VOA
Quant Type: ISTD
Operator: LD
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 50ppbv(200ppbv)

Calibration Date: 19-JUN-2024
Calibration Time: 09:34
Client Smp ID: LCSD
Level: LOW
Sample Type: AIR

| | | AREA LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 90010 | 54006 | 126014 | 91657 | 1.83 |
| 108 1,4-Difluorobenze | 327761 | 196657 | 458865 | 333499 | 1.75 |
| 153 Chlorobenzene-d5 | 325037 | 195022 | 455052 | 324852 | -0.06 |

| | | RT LIMIT | | | |
|---|---|---|---|---|---|
| COMPOUND | STANDARD | LOWER | UPPER | SAMPLE | %DIFF |
| 90 Bromochloromethan | 5.43 | 5.10 | 5.76 | 5.43 | -0.00 |
| 108 1,4-Difluorobenze | 6.42 | 6.09 | 6.75 | 6.42 | -0.00 |
| 153 Chlorobenzene-d5 | 9.15 | 8.82 | 9.48 | 9.15 | -0.00 |

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

US32TAR1

RECOVERY REPORT

Client Name: Client SDG: 19JUN24
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: LCSD Client Smp ID: LCSD
Level: LOW Operator: LD
Data Type: MS DATA SampleType: LCSD
SpikeList File: CntrlDODAT23.spk Quant Type: ISTD
Sublist File: AT23.sub
Method File: /chem/msd3.i/19JUN24.b/324q0423a.m
Misc Info: 50ppbv(200ppbv)

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 4 Freon 134a | 50.000 | 51.174 | 102.35 | 70-130 |
| 5 Propylene | 50.000 | 47.478 | 94.96 | 57-136 |
| 7 1,1-Difluoroethan | 50.000 | 49.466 | 98.93 | 70-130 |
| 8 Freon 12 | 50.000 | 49.584 | 99.17 | 59-128 |
| 9 Chlorodifluoromet | 50.000 | 46.143 | 92.29 | 59-145 |
| 10 Freon 114 | 50.000 | 51.617 | 103.23 | 63-121 |
| 12 Isobutane | 50.000 | 45.707 | 91.41 | 70-130 |
| 15 Chloromethane | 50.000 | 49.429 | 98.86 | 59-132 |
| 18 Butane | 50.000 | 44.888 | 89.78 | 64-129 |
| 19 Vinyl Chloride | 50.000 | 47.303 | 94.61 | 64-127 |
| 20 1,3-Butadiene | 50.000 | 43.966 | 87.93 | 66-134 |
| 24 Bromomethane | 50.000 | 56.822 | 113.64 | 63-134 |
| 30 Chloroethane | 50.000 | 47.802 | 95.60 | 63-127 |
| 31 Isopentane | 50.000 | 46.707 | 93.41 | 59-140 |
| 32 Vinyl Bromide | 50.000 | 51.671 | 103.34 | 71-126 |
| 33 Freon 11 | 50.000 | 49.790 | 99.58 | 62-126 |
| 34 Dichlorofluoromet | 50.000 | 46.028 | 92.06 | 70-130 |
| 35 Pentane | 50.000 | 45.586 | 91.17 | 63-131 |
| 39 Ethanol | 50.000 | 42.497 | 84.99 | 59-125 |
| 42 Acrolein | 57.000 | 45.694 | 80.17 | 62-126 |
| 43 Freon 113 | 50.000 | 49.097 | 98.19 | 66-126 |
| 44 1,1-Dichloroethen | 50.000 | 44.351 | 88.70 | 61-133 |
| 47 Acetone | 50.000 | 44.055 | 88.11 | 58-128 |
| 48 Carbon Disulfide | 50.000 | 45.246 | 90.49 | 57-134 |
| 52 2-Propanol | 50.000 | 43.330 | 86.66 | 52-125 |
| 54 3-Chloropropene | 50.000 | 43.335 | 86.67 | 71-131 |
| 57 Acetonitrile | 50.000 | 44.795 | 89.59 | 63-132 |
| 59 Methylene Chlorid | 50.000 | 43.630 | 87.26 | 62-115 |
| 62 tert-Butyl alcoho | 50.000 | 45.282 | 90.56 | 24-150 |
| 63 Methyl tert-butyl | 50.000 | 45.286 | 90.57 | 66-126 |
| 64 trans-1,2-Dichlor | 50.000 | 45.771 | 91.54 | 67-124 |
| 66 Acrylonitrile | 50.000 | 41.986 | 83.97 | 71-137 |
| 67 Hexane | 50.000 | 41.844 | 83.69 | 63-120 |

| SPIKE | COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|---|
| 71 | 1,1-Dichloroethan | 50.000 | 45.238 | 90.48 | 68-126 |
| 72 | Isopropyl ether | 50.000 | 45.264 | 90.53 | 70-117 |
| 73 | Vinyl Acetate | 50.000 | 69.010 | 138.02 | 56-139 |
| 79 | Ethyl-tert-butyl | 50.000 | 45.552 | 91.10 | 70-130 |
| 84 | 2,2-Dichloropropa | 50.000 | 44.333 | 88.67 | 70-130 |
| 85 | cis-1,2-Dichloroe | 50.000 | 45.329 | 90.66 | 70-121 |
| 86 | 2-Butanone | 50.000 | 44.702 | 89.40 | 67-130 |
| 87 | Ethyl Acetate | 50.000 | 42.853 | 85.71 | 65-128 |
| 89 | Tetrahydrofuran | 50.000 | 41.469 | 82.94 | 64-123 |
| 92 | Chloroform | 50.000 | 46.303 | 92.61 | 68-123 |
| 96 | 1,1,1-Trichloroet | 50.000 | 47.450 | 94.90 | 68-125 |
| 97 | Carbon Tetrachlor | 50.000 | 49.300 | 98.60 | 68-132 |
| 94 | Cyclohexane | 50.000 | 46.053 | 92.11 | 70-117 |
| 99 | 1,1-Dichloroprope | 50.000 | 47.858 | 95.72 | 70-130 |
| 101 | 2,2,4-Trimethylpe | 50.000 | 45.222 | 90.44 | 68-121 |
| 102 | Benzene | 50.000 | 46.932 | 93.86 | 69-119 |
| 106 | 1,2-Dichloroethan | 50.000 | 47.325 | 94.65 | 65-128 |
| 107 | Heptane | 50.000 | 44.899 | 89.80 | 69-123 |
| 110 | n-Butanol | 50.000 | 72.182 | 144.36* | 62-133 |
| 111 | Trichloroethene | 50.000 | 48.638 | 97.28 | 71-123 |
| 127 | Methylcyclohexane | 50.000 | 45.070 | 90.14 | 67-127 |
| 114 | 1,2-Dichloropropa | 50.000 | 43.859 | 87.72 | 69-123 |
| 116 | Methyl Methacryla | 50.000 | 44.854 | 89.71 | 70-128 |
| 117 | 1,4-Dioxane | 50.000 | 48.087 | 96.17 | 71-122 |
| 118 | Dibromomethane | 50.000 | 53.465 | 106.93 | 70-130 |
| 122 | Bromodichlorometh | 50.000 | 48.294 | 96.59 | 72-128 |
| 126 | cis-1,3-Dichlorop | 50.000 | 46.398 | 92.80 | 70-128 |
| 131 | 4-Methyl-2-pentan | 50.000 | 40.936 | 81.87 | 67-130 |
| 136 | Octane | 50.000 | 42.826 | 85.65 | 69-121 |
| 137 | Toluene | 50.000 | 45.551 | 91.10 | 66-119 |
| 139 | trans-1,3-Dichlor | 50.000 | 47.862 | 95.72 | 75-133 |
| 141 | 1,1,2-Trichloroet | 50.000 | 49.222 | 98.44 | 73-119 |
| 142 | Tetrachloroethene | 50.000 | 53.555 | 107.11 | 66-124 |
| 143 | 2-Hexanone | 50.000 | 46.347 | 92.69 | 62-128 |
| 144 | 1,3-Dichloropropa | 50.000 | 45.943 | 91.89 | 62-148 |
| 146 | Dibromochlorometh | 50.000 | 53.481 | 106.96 | 70-130 |
| 148 | 1,2-Dibromoethane | 50.000 | 50.330 | 100.66 | 74-122 |
| 151 | 1-Bromo-2-Chloroe | 50.000 | 46.759 | 93.52 | 70-130 |
| 154 | Chlorobenzene | 50.000 | 50.556 | 101.11 | 70-119 |
| 155 | Ethyl Benzene | 50.000 | 50.450 | 100.90 | 70-124 |
| 156 | Nonane | 50.000 | 47.084 | 94.17 | 63-128 |
| 157 | 1,1,1,2-Tetrachlo | 50.000 | 53.274 | 106.55 | 70-130 |
| 158 | m,p-Xylene | 50.000 | 49.918 | 99.84 | 61-134 |
| 164 | o-Xylene | 50.000 | 50.334 | 100.67 | 67-125 |
| 165 | Styrene | 50.000 | 49.214 | 98.43 | 73-127 |
| 167 | Bromoform | 50.000 | 54.932 | 109.86 | 66-139 |
| 168 | Cumene | 50.000 | 50.738 | 101.48 | 68-124 |

| SPIKE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| 175 1,1,2,2-Tetrachlo | 50.000 | 49.045 | 98.09 | 65-127 |
| 177 Bromobenzene | 50.000 | 51.618 | 103.24 | 70-130 |
| 178 Propylbenzene | 50.000 | 51.015 | 102.03 | 69-123 |
| 179 1,2,3-Trichloropr | 50.000 | 48.852 | 97.70 | 76-124 |
| 182 Decane | 50.000 | 42.348 | 84.70 | 70-118 |
| 183 4-Ethyltoluene | 50.000 | 50.017 | 100.03 | 67-129 |
| 184 2-Chlorotoluene | 50.000 | 51.210 | 102.42 | 74-130 |
| 185 1,3,5-Trimethylbe | 50.000 | 50.631 | 101.26 | 67-130 |
| 188 alpha Methyl Styr | 50.000 | 50.411 | 100.82 | 67-128 |
| 189 tert-Butylbenzene | 50.000 | 51.334 | 102.67 | 65-124 |
| 190 1,2,4-Trimethylbe | 50.000 | 49.798 | 99.60 | 66-132 |
| 192 sec-Butylbenzene | 50.000 | 51.318 | 102.64 | 68-125 |
| 194 p-Cymene | 50.000 | 51.644 | 103.29 | 67-130 |
| 195 1,3-Dichlorobenze | 50.000 | 50.875 | 101.75 | 65-130 |
| 196 1,4-Dichlorobenze | 50.000 | 50.644 | 101.29 | 60-131 |
| 199 alpha-Chlorotolue | 50.000 | 48.282 | 96.56 | 50-147 |
| 201 Undecane | 50.000 | 41.822 | 83.64 | 69-123 |
| 202 Butylbenzene | 50.000 | 50.958 | 101.92 | 66-130 |
| 204 1,2-Dichlorobenze | 50.000 | 50.894 | 101.79 | 63-129 |
| 206 1,2-Dibromo-3-chl | 50.000 | 56.058 | 112.12 | 70-130 |
| 207 Dodecane | 50.000 | 47.632 | 95.26 | 62-147 |
| 213 1,2,4-Trichlorobe | 50.000 | 53.043 | 106.09 | 55-142 |
| 215 Hexachlorobutadie | 50.000 | 55.042 | 110.08 | 56-138 |
| 216 Naphthalene | 5.700 | 5.872 | 103.02 | 57-138 |
| 222 1,2,3-Trichlorobe | 50.000 | 53.177 | 106.35 | 55-142 |

| SURROGATE COMPOUND | CONC ADDED PPBV | CONC RECOVERED PPBV | % RECOVERED | LIMITS |
|---|---|---|---|---|
| $ 104 1,2-Dichloroethan | 25.000 | 23.066 | 92.27 | 70-130 |
| $ 134 Toluene-d8 | 25.000 | 23.888 | 95.55 | 70-130 |
| $ 170 4-Bromofluorobenz | 25.000 | 25.386 | 101.54 | 70-130 |

Data File: /chem/msd3.i/19JUN24.b/3061905c.d

Page 1

Date : 19-JUN-2024 10:37

Client ID: LCSD

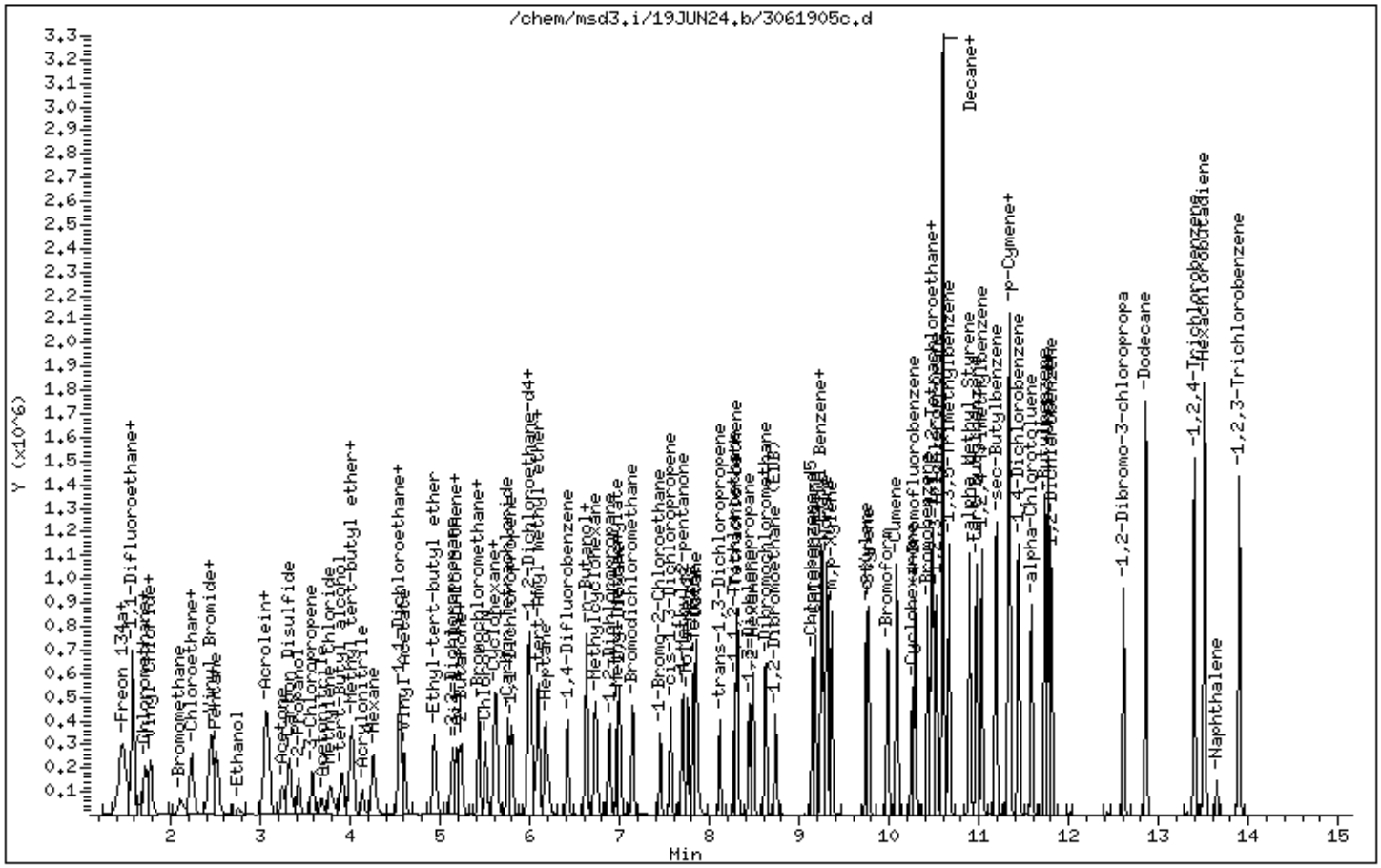
Instrument: msd3.i

Sample Info: 50mL 3018-4603

Operator: LD

Column phase: RTX-624

Column diameter: 0.25



# MSD-3

S:_Screeningseq\MSD3\20Jun2024-A.csv

| BFB Tune Verification: (176/174): | (131328/135872)*100%=96.65% | | |
|---|---|---|---|
| IS/S Std.#: | 3169-901 | Exp. Date: | 4/4/2025 |
| BCM | 90010 | | |
| 1,4-DFB | 327761 | | |
| CB-d5 | 325037 | | |
| | | | |
| Verified CCV vs. ICAL midpoint (-40%): | | LD | |
| Method: | 324Q0423a.m | | |

| Method TO-15 | | | |
|---|---|---|---|
| SOP# | 6 | | |
| | Load (mLs) | 200 | |
| Surrogate # | 3169-901 | Exp Date: | 4/4/2025 |
| CCV # | 3018-4465 | Exp Date: | 7/25/2024 |
| LCS # | 3018-4603 | Exp Date: | 7/31/2024 |
| CCV SP # | | Exp Date: | |
| LCS SP # | | Exp Date: | |
| | | | |

| Use | File # | Enter/Scan Sample IDs | Canister# | Cart Pos. | Pressure | Amount | DF | Verify Load By Initials | Loaded By Intials | Date Analyzed | Time | Review Init | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| √ | 3061901 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | LD | LD | 06/19/24 | 0832 | LD | |
| √ | 3061902 | BFB Tune Check | 3169-901 | 12 | 36ng | 50mL | 1.00 | LD | LD | 06/19/24 | 0903 | LD | Exp. 4/4/25. |
| √ | 3061903 | CCV | 3018-4465 | 13 | 50ppbv (200ppbv) | 50mL | 1.00 | LD | LD | 06/19/24 | 0934 | LD | Exp. 7/25/24. 2 out AT-23 |
| √ | 3061904 | LCS | 3018-4603 | 14 | 50ppbv (200ppbv) | 50mL | 1.00 | TO | LD | 06/19/24 | 1006 | TO | Exp. 7/31/24. 2 out AT-23 |
| √ | 3061905 | LCSD | 3018-4603 | 14 | 50ppbv (200ppbv) | 50mL | 1.00 | TO | LD | 06/19/24 | 1037 | TO | Exp. 7/31/24. 2 out AT-23, RPD ok |
| √ | 3061906 | Lab Blank | N1876 | 12 | Humid | 200mL | 1.00 | TO | TO | 06/19/24 | 1203 | TO | |
| √ | 3061907 | 2406162-01A | N1803 | 1 | 5.5 Hg->1.9 psi | 200mL | 1.38 | ACE | ACE | 06/19/24 | 1444 | ACE | |
| √ | 3061908 | 2406162-02A | N4994 | 2 | 5.7 Hg->1.9 psi | 200mL | 1.39 | ACE | ACE | 06/19/24 | 1519 | ACE | |
| √ | 3061909 | 2406162-03A | N5080 | 3 | 8.2 Hg->1.9 psi | 200mL | 1.55 | ACE | ACE | 06/19/24 | 1554 | ACE | |
| √ | 3061910 | 2406162-04A | N2757 | 4 | 8 Hg->1.9 psi | 200mL | 1.54 | ACE | ACE | 06/19/24 | 1629 | ACE | |
| √ | 3061911 | 2406162-05A | O0550 | 5 | 7.3 Hg->1.9 psi | 200mL | 1.49 | ACE | ACE | 06/19/24 | 1705 | ACE | |
| √ | 3061912 | 2406162-05AA | O0550 | 5 | 7.3 Hg->1.9 psi | 200mL | 1.49 | ACE | ACE | 06/19/24 | 1740 | ACE | DupAnB |
| √ | 3061913 | 2406264-01A | N6185 | 6 | 7.6 Hg->9.9 psi | 200mL | 2.24 | ACE | ACE | 06/19/24 | 1815 | ACE | |
| √ | 3061914 | 2406264-02A | N6191 | 7 | 4.5 Hg->9.8 psi | 200mL | 1.96 | ACE | ACE | 06/19/24 | 1850 | ACE | |
| √ | 3061915 | 2406264-03A | N7835 | 1 | 15.1 Hg->10 psi | 200mL | 3.38 | ACE | ACE | 06/19/24 | 2022 | ACE | |
| √ | 3061916 | 2406264-04A | O0726 | 2 | 6.5 Hg->10 psi | 200mL | 2.14 | ACE | ACE | 06/19/24 | 2057 | ACE | |
| √ | 3061917 | 2406264-05A | 1L4822 | 1 | 7.8 Hg->9.9 psi | 200mL | 2.26 | mjs | ACE | 06/19/24 | 2221 | mjs | |
| √ | 3061918 | 2406264-05AA | 1L4822 | 1 | 7.8 Hg->9.9 psi | 200mL | 2.26 | mjs | ACE | 06/19/24 | 2256 | mjs | DupAnB |
| √ | 3061919 | 2406264-06A | N6303 | 2 | 22.2 Hg->10 psi | 200mL | 6.46 | mjs | ACE | 06/19/24 | 2331 | mjs | "E" Propylene, Butane >400 |
| √ | 3061920 | 2406264-07A | 1L4702 | 3 | 5.7 Hg->10 psi | 200mL | 2.07 | mjs | ACE | 06/20/24 | 0006 | mjs | |
| √ | 3061921 | 2406264-08A | N7487 | 4 | 14.5 Hg->10 psi | 200mL | 3.25 | mjs | ACE | 06/20/24 | 0041 | mjs | "E" Propylene >400 |
| √ | 3061922 | 2406264-09A | N8065 | 5 | 8 Hg->10 psi | 200mL | 2.29 | mjs | ACE | 06/20/24 | 0116 | mjs | |
| √ | 3061923 | 2406264-10A | N7568 | 6 | 6.9 Hg->9.9 psi | 200mL | 2.17 | mjs | ACE | 06/20/24 | 0151 | mjs | |
| √ | 3061924 | 2406264-11A | N2057 | 7 | 8.8 Hg->9.9 psi | 100mL | 4.74 | mjs | ACE | 06/20/24 | 0224 | mjs | dil TC |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| √ | 3061925 | 2406264-12A | N7470 | 8 | 8.8 Hg->10 psi | 200mL | 2.38 | mjs | ACE | 06/20/24 | 0254 | mjs | "E" Propylene, Butane >400 |
| √ | 3061926 | 2406264-13A | N8280 | 9 | 6.1 Hg->9.9 psi | 200mL | 2.10 | mjs | ACE | 06/20/24 | 0334 | mjs | |
| √ | 3061927 | 2406264-14A | N6955 | 10 | 6.7 Hg->9.9 psi | 200mL | 2.15 | mjs | ACE | 06/20/24 | 0404 | mjs | |
| √ | 3061928 | 2406236-01A | N4464 | 11 | 7.6 Hg->1.9 psi | 200mL | 1.51 | mjs | ACE | 06/20/24 | 0444 | mjs | surr 2 out vs CL, ok for 70-130 |
| √ | 3061929 | 2406236-01AA | N4464 | 11 | 7.6 Hg->1.9 psi | 200mL | 1.51 | mjs | ACE | 06/20/24 | 0519 | mjs | DupAnB |
| √ | 3061930 | System Blank | N1876 | 12 | Humid | 200mL | 1.00 | TO | RT | 06/20/24 | 0801 | TO | |
| √ | 3061931 | CCV | 3018-4465 | 13 | 50ppbv (200ppbv) | 50mL | 1.00 | TO | RT | 06/20/24 | 0832 | TO | Exp. 7/25/24. 2 out AT-23 |

US32TAR1

Data file : /chem/msd3.i/23APR24.b/3042306.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 23-APR-2024 20:30
Operator : DF Inst ID: msd3.i
Smp Info : 50mL 3329-901;BFB Tune Check
Misc Info : 36ng
Comment :
Method : /chem/msd3.i/23APR24.b/bfb30.m
Meth Date : 17-Aug-2023 11:53 p5fl Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 12 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.00000 | Dilution Factor |
| Uf | 1.00000 | ng unit correction factor |
| Vf | 1.00000 | Volumetric correction factor |

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL ( ug/L) | FINAL ( PPBV) | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT | DLT RT | MASS | RESPONSE | | | TARGET RANGE | RATIO |
| 1 bfb | | | | | | | CAS #: 460-00-4 | |
| 10.295 | 10.331 | -0.036 | 95 | 199040 | | | 100.00- 100.00 | 100.00 |
| 10.295 | 9.729 | 0.566 | 50 | 45477 | | | 8.00- 40.00 | 22.85 |
| 10.295 | 9.729 | 0.566 | 75 | 90602 | | | 30.00- 66.00 | 45.52 |
| 10.295 | 9.729 | 0.566 | 96 | 13140 | | | 5.00- 9.00 | 6.60 |
| 10.295 | 9.729 | 0.566 | 173 | 1817 | | | 0.00- 1.99 | 1.07 |
| 10.295 | 9.729 | 0.566 | 174 | 169365 | | | 50.01- 120.00 | 85.09 |
| 10.295 | 9.729 | 0.566 | 175 | 12601 | | | 4.00- 9.00 | 7.44 |
| 10.295 | 9.729 | 0.566 | 176 | 164074 | | | 93.00- 101.00 | 96.88 |
| 10.295 | 9.729 | 0.566 | 177 | 10508 | | | 5.00- 9.00 | 6.40 |

Data File: /chem/msd3.i/23APR24.b/3042306.d



Date : 23-APR-2024 20:30

Client ID: BFB

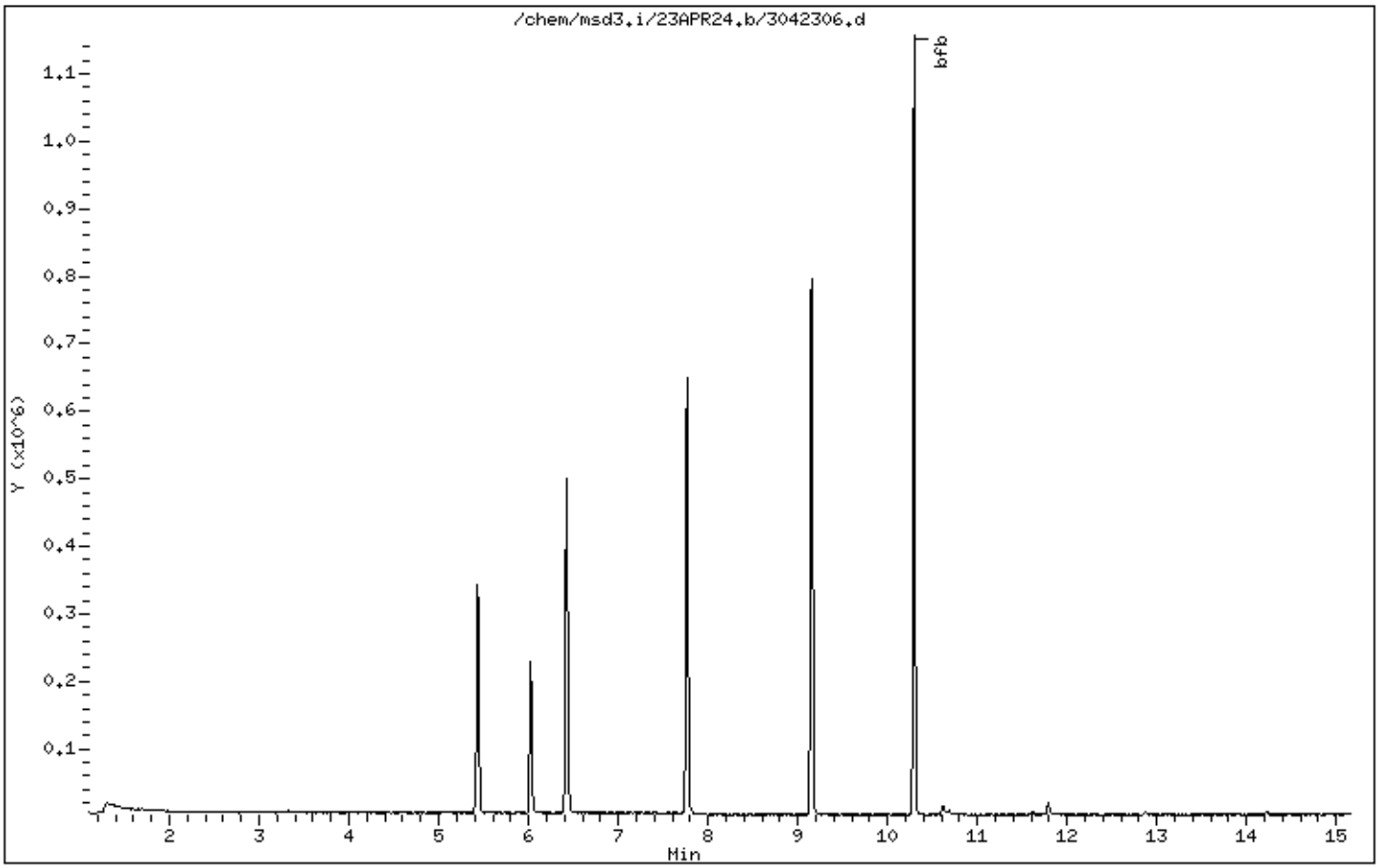
Instrument: msd3.i

Sample Info: 50mL 3329-901;BFB Tune Check

Operator: DF

Column phase:

Column diameter: 2.00



Data File: /chem/msd3.i/23APR24.b/3042306.d

Date : 23-APR-2024 20:30

Client ID: BFB

Instrument: msd3.i

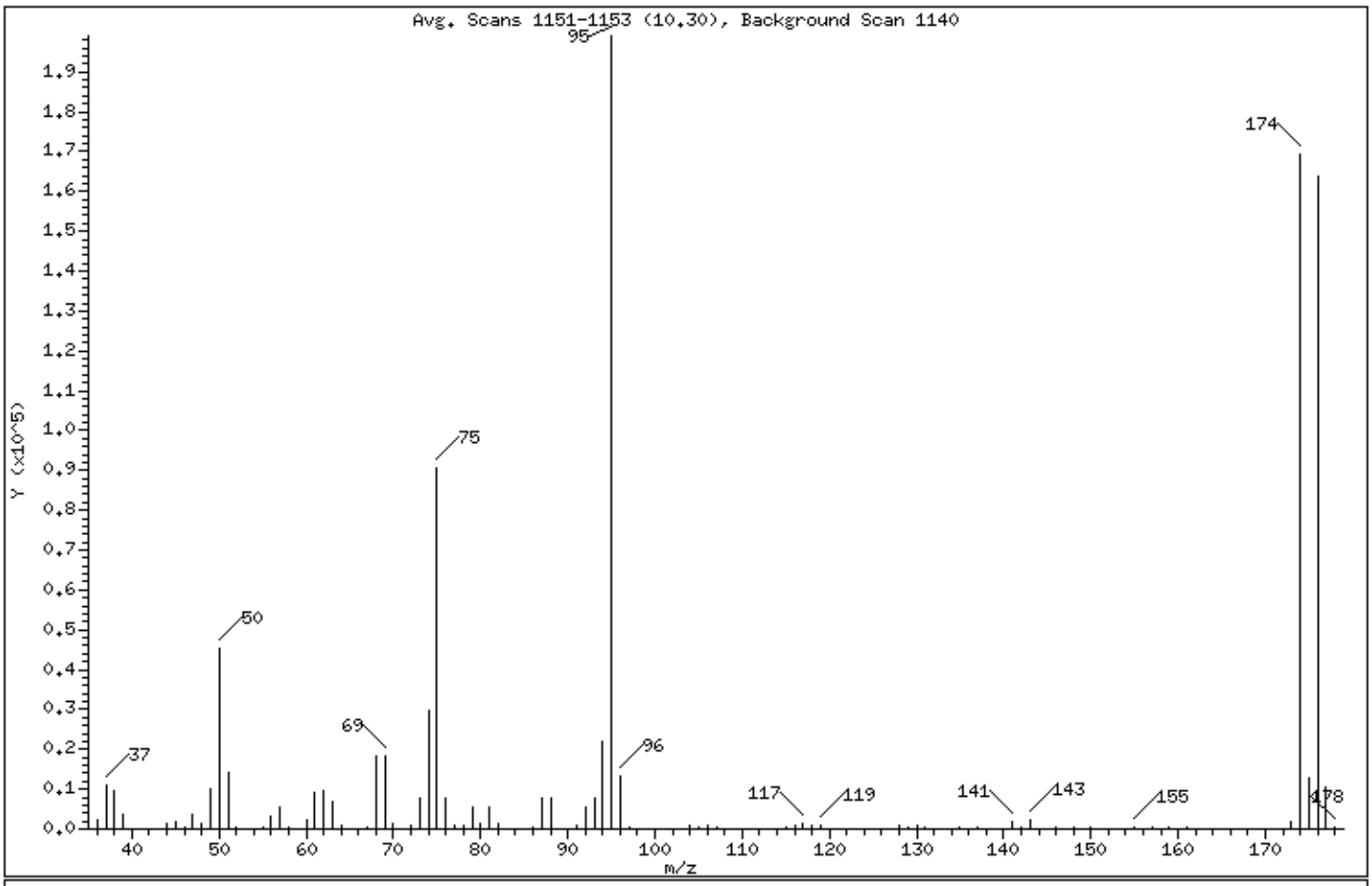
Sample Info: 50mL 3329-901;BFB Tune Check

Operator: DF

Column phase:

Column diameter: 2.00

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 8.00 - 40.00% of mass 95 | 22.85 |
| 75 | 30.00 - 66.00% of mass 95 | 45.52 |
| 96 | 5.00 - 9.00% of mass 95 | 6.60 |
| 173 | Less than 1.99% of mass 174 | 0.91 ( 1.07) |
| 174 | 50.01 - 120.00% of mass 95 | 85.09 |
| 175 | 4.00 - 9.00% of mass 174 | 6.33 ( 7.44) |
| 176 | 93.00 - 101.00% of mass 174 | 82.43 ( 96.88) |
| 177 | 5.00 - 9.00% of mass 176 | 5.28 ( 6.40) |

Date : 23-APR-2024 20:30

Client ID: BFB Instrument: msd3.i

Sample Info: 50mL 3329-901;BFB Tune Check

Operator: DF

Column phase: Column diameter: 2.00

Data File: 3042306.d
Spectrum: Avg. Scans 1151-1153 (10.30), Background Scan 1140
Location of Maximum: 95.00
Number of points: 97

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 2248 | 65.00 | 67 | 95.00 | 199040 | 141.00 | 1979 |
| 37.00 | 10947 | 67.00 | 593 | 96.00 | 13140 | 142.00 | 324 |
| 38.00 | 9761 | 68.00 | 18200 | 97.00 | 458 | 143.00 | 2184 |
| 39.00 | 3800 | 69.00 | 18520 | 103.00 | 69 | 144.00 | 69 |
| 40.00 | 143 | 70.00 | 1561 | 104.00 | 934 | 145.00 | 76 |
| 41.00 | 101 | 71.00 | 68 | 105.00 | 314 | 146.00 | 414 |
| 43.00 | 121 | 72.00 | 1014 | 106.00 | 915 | 147.00 | 90 |
| 44.00 | 1194 | 73.00 | 7795 | 107.00 | 252 | 148.00 | 578 |
| 45.00 | 1921 | 74.00 | 29848 | 111.00 | 164 | 149.00 | 81 |
| 46.00 | 275 | 75.00 | 90600 | 113.00 | 92 | 150.00 | 301 |
| 47.00 | 3755 | 76.00 | 7674 | 115.00 | 265 | 153.00 | 165 |
| 48.00 | 1582 | 77.00 | 1098 | 116.00 | 733 | 154.00 | 73 |
| 49.00 | 9904 | 78.00 | 832 | 117.00 | 1243 | 155.00 | 563 |
| 50.00 | 45472 | 79.00 | 5287 | 118.00 | 861 | 157.00 | 398 |
| 51.00 | 13981 | 80.00 | 1510 | 119.00 | 967 | 159.00 | 297 |
| 52.00 | 671 | 81.00 | 5463 | 124.00 | 142 | 161.00 | 280 |
| 55.00 | 542 | 82.00 | 1174 | 126.00 | 76 | 173.00 | 1817 |
| 56.00 | 3278 | 83.00 | 158 | 128.00 | 786 | 174.00 | 169344 |
| 57.00 | 5649 | 86.00 | 397 | 129.00 | 399 | 175.00 | 12601 |
| 58.00 | 303 | 87.00 | 7926 | 130.00 | 768 | 176.00 | 164032 |
| 60.00 | 2175 | 88.00 | 7557 | 131.00 | 348 | 177.00 | 10508 |
| 61.00 | 9261 | 91.00 | 746 | 135.00 | 439 | 178.00 | 333 |
| 62.00 | 9605 | 92.00 | 5416 | 137.00 | 390 | | |
| 63.00 | 7034 | 93.00 | 7925 | 139.00 | 70 | | |
| 64.00 | 755 | 94.00 | 21992 | 140.00 | 146 | | |

US32TAR1

Data file : /chem/msd3.i/24APR24.b/3042402.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 24-APR-2024 10:57
Operator : jrf Inst ID: msd3.i
Smp Info : 50mL 3329-901;BFB Tune Check
Misc Info : 36ng
Comment :
Method : /chem/msd3.i/24APR24.b/bfb30.m
Meth Date : 17-Aug-2023 11:53 p5fl Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 2 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: AIR

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.00000 | Dilution Factor |
| Uf | 1.00000 | ng unit correction factor |
| Vf | 1.00000 | Volumetric correction factor |

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL | FINAL | | |
|---|---|---|---|---|---|---|---|---|
| RT | EXP RT | DLT RT | MASS | RESPONSE | ( ug/L) | ( PPBV) | TARGET RANGE | RATIO |
| 1 bfb | | | | | | | CAS #: 460-00-4 | |
| 10.295 | 10.331 | -0.036 | 95 | 185237 | | | 100.00- 100.00 | 100.00 |
| 10.295 | 9.729 | 0.566 | 50 | 42533 | | | 8.00- 40.00 | 22.96 |
| 10.295 | 9.729 | 0.566 | 75 | 85218 | | | 30.00- 66.00 | 46.00 |
| 10.295 | 9.729 | 0.566 | 96 | 12370 | | | 5.00- 9.00 | 6.68 |
| 10.295 | 9.729 | 0.566 | 173 | 1500 | | | 0.00- 1.99 | 0.95 |
| 10.295 | 9.729 | 0.566 | 174 | 157717 | | | 50.01- 120.00 | 85.14 |
| 10.295 | 9.729 | 0.566 | 175 | 11725 | | | 4.00- 9.00 | 7.43 |
| 10.295 | 9.729 | 0.566 | 176 | 153250 | | | 93.00- 101.00 | 97.17 |
| 10.295 | 9.729 | 0.566 | 177 | 9906 | | | 5.00- 9.00 | 6.46 |

Data File: /chem/msd3.i/24APR24.b/3042402.d



Date : 24-APR-2024 10:57

Client ID: BFB

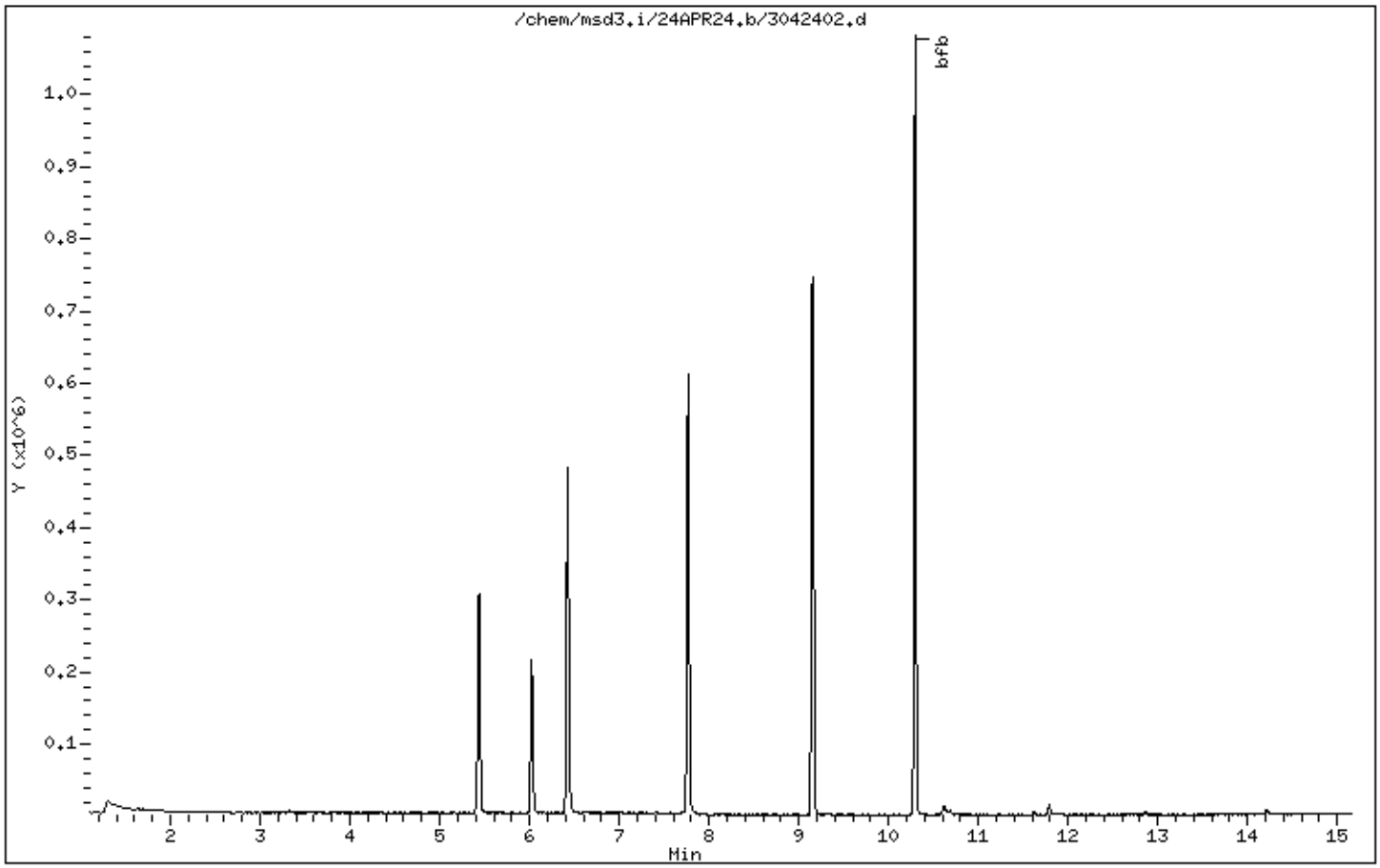
Instrument: msd3.i

Sample Info: 50mL 3329-901;BFB Tune Check

Operator: jrf

Column phase:

Column diameter: 2.00



Data File: /chem/msd3.i/24APR24.b/3042402.d

Date : 24-APR-2024 10:57

Client ID: BFB

Instrument: msd3.i

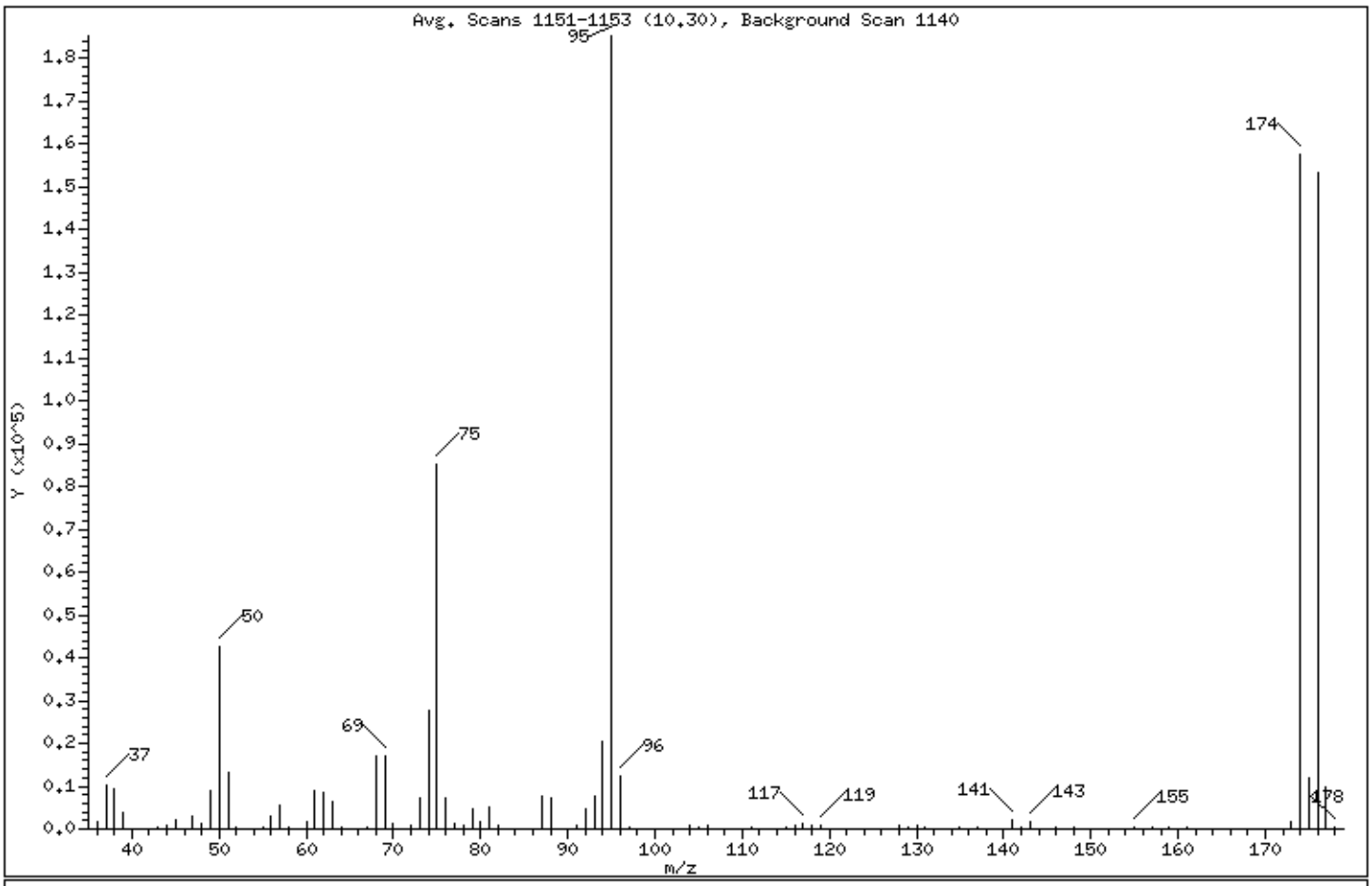
Sample Info: 50mL 3329-901;BFB Tune Check

Operator: jrf

Column phase:

Column diameter: 2.00

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 8.00 - 40.00% of mass 95 | 22.96 |
| 75 | 30.00 - 66.00% of mass 95 | 46.00 |
| 96 | 5.00 - 9.00% of mass 95 | 6.68 |
| 173 | Less than 1.99% of mass 174 | 0.81 ( 0.95) |
| 174 | 50.01 - 120.00% of mass 95 | 85.14 |
| 175 | 4.00 - 9.00% of mass 174 | 6.33 ( 7.43) |
| 176 | 93.00 - 101.00% of mass 174 | 82.73 ( 97.17) |
| 177 | 5.00 - 9.00% of mass 176 | 5.35 ( 6.46) |

Date : 24-APR-2024 10:57

Client ID: BFB Instrument: msd3.i

Sample Info: 50mL 3329-901;BFB Tune Check

Operator: jrf

Column phase: Column diameter: 2.00

Data File: 3042402.d
Spectrum: Avg. Scans 1151-1153 (10.30), Background Scan 1140
Location of Maximum: 95.00
Number of points: 92

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 1739 | 64.00 | 603 | 94.00 | 20528 | 141.00 | 1952 |
| 37.00 | 10411 | 65.00 | 80 | 95.00 | 185216 | 142.00 | 299 |
| 38.00 | 9447 | 67.00 | 596 | 96.00 | 12370 | 143.00 | 1905 |
| 39.00 | 3760 | 68.00 | 17040 | 97.00 | 437 | 145.00 | 84 |
| 40.00 | 190 | 69.00 | 17216 | 104.00 | 790 | 146.00 | 328 |
| 41.00 | 56 | 70.00 | 1376 | 105.00 | 316 | 147.00 | 77 |
| 43.00 | 238 | 72.00 | 957 | 106.00 | 729 | 148.00 | 478 |
| 44.00 | 1047 | 73.00 | 7221 | 107.00 | 173 | 150.00 | 204 |
| 45.00 | 2058 | 74.00 | 27528 | 110.00 | 72 | 153.00 | 71 |
| 46.00 | 161 | 75.00 | 85216 | 111.00 | 229 | 155.00 | 475 |
| 47.00 | 3104 | 76.00 | 7234 | 113.00 | 165 | 157.00 | 395 |
| 48.00 | 1422 | 77.00 | 1141 | 115.00 | 249 | 159.00 | 277 |
| 49.00 | 9041 | 78.00 | 808 | 116.00 | 755 | 161.00 | 282 |
| 50.00 | 42528 | 79.00 | 4799 | 117.00 | 1113 | 172.00 | 100 |
| 51.00 | 13274 | 80.00 | 1498 | 118.00 | 785 | 173.00 | 1500 |
| 52.00 | 609 | 81.00 | 5021 | 119.00 | 890 | 174.00 | 157696 |
| 55.00 | 549 | 82.00 | 1055 | 124.00 | 70 | 175.00 | 11725 |
| 56.00 | 3169 | 83.00 | 144 | 128.00 | 823 | 176.00 | 153216 |
| 57.00 | 5557 | 86.00 | 180 | 129.00 | 383 | 177.00 | 9906 |
| 58.00 | 319 | 87.00 | 7475 | 130.00 | 728 | 178.00 | 350 |
| 60.00 | 1906 | 88.00 | 7254 | 131.00 | 280 | | |
| 61.00 | 9093 | 91.00 | 816 | 135.00 | 366 | | |
| 62.00 | 8516 | 92.00 | 4857 | 137.00 | 352 | | |
| 63.00 | 6336 | 93.00 | 7615 | 140.00 | 70 | | |

US32TAR1

Data file : /chem/msd3.i/19JUN24.b/3061902.d
Lab Smp Id: BFB Client Smp ID: BFB
Inj Date : 19-JUN-2024 09:03
Operator : LD Inst ID: msd3.i
Smp Info : 50mL 3169-901;BFB Tune Check
Misc Info : 36ng
Comment :
Method : /chem/msd3.i/19JUN24.b/bfb30.m
Meth Date : 19-Jun-2024 10:15 lk8g Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 12 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: AIR
Processing Host: us32tar1

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.00000 | Dilution Factor |
| Uf | 1.00000 | ng unit correction factor |
| Vf | 1.00000 | Volumetric correction factor |

Cpnd Variable Local Compound Variable

| | | | | | CONCENTRATIONS ON-COL ( ug/L) | FINAL ( PPBV) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| 1 bfb | | | | | | | CAS #: 460-00-4 | |
| 10.288 | 10.331 | -0.043 | 95 | 151424 | | | 100.00- 100.00 | 100.00 |
| 10.288 | 10.331 | -0.043 | 50 | 32986 | | | 8.00- 40.00 | 21.78 |
| 10.288 | 10.331 | -0.043 | 75 | 69530 | | | 30.00- 66.00 | 45.92 |
| 10.288 | 10.331 | -0.043 | 96 | 9967 | | | 5.00- 9.00 | 6.58 |
| 10.288 | 10.331 | -0.043 | 173 | 1359 | | | 0.00- 1.99 | 1.00 |
| 10.288 | 10.331 | -0.043 | 174 | 135917 | | | 50.01- 120.00 | 89.76 |
| 10.288 | 10.331 | -0.043 | 175 | 9888 | | | 4.00- 9.00 | 7.28 |
| 10.288 | 10.331 | -0.043 | 176 | 131341 | | | 93.00- 101.00 | 96.63 |
| 10.288 | 10.331 | -0.043 | 177 | 8387 | | | 5.00- 9.00 | 6.39 |

Data File: /chem/msd3.i/19JUN24.b/3061902.d



Date : 19-JUN-2024 09:03

Client ID: BFB

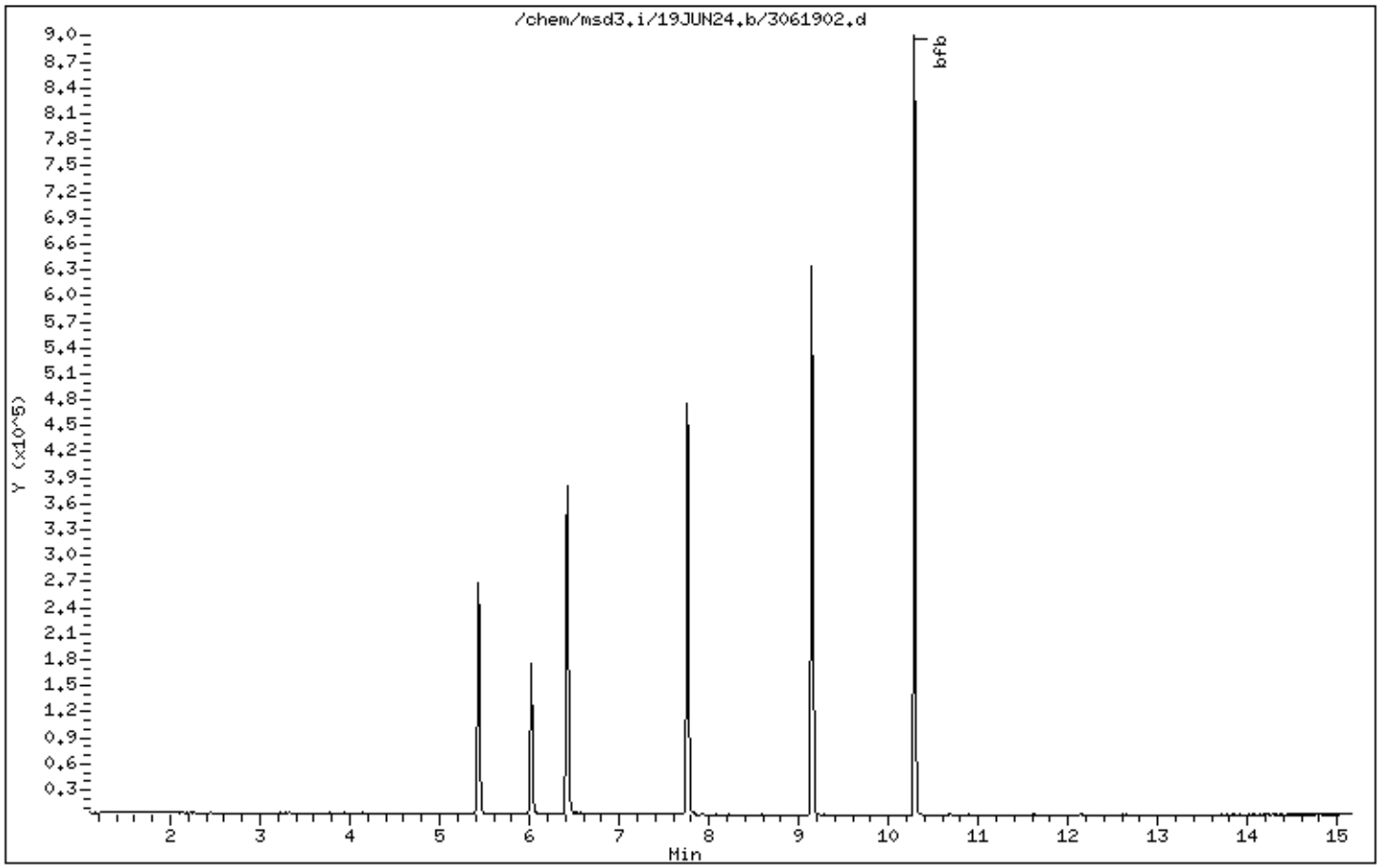
Instrument: msd3.i

Sample Info: 50mL 3169-901;BFB Tune Check

Operator: LD

Column phase:

Column diameter: 2.00



Data File: /chem/msd3.i/19JUN24.b/3061902.d

Date : 19-JUN-2024 09:03

Client ID: BFB

Instrument: msd3.i

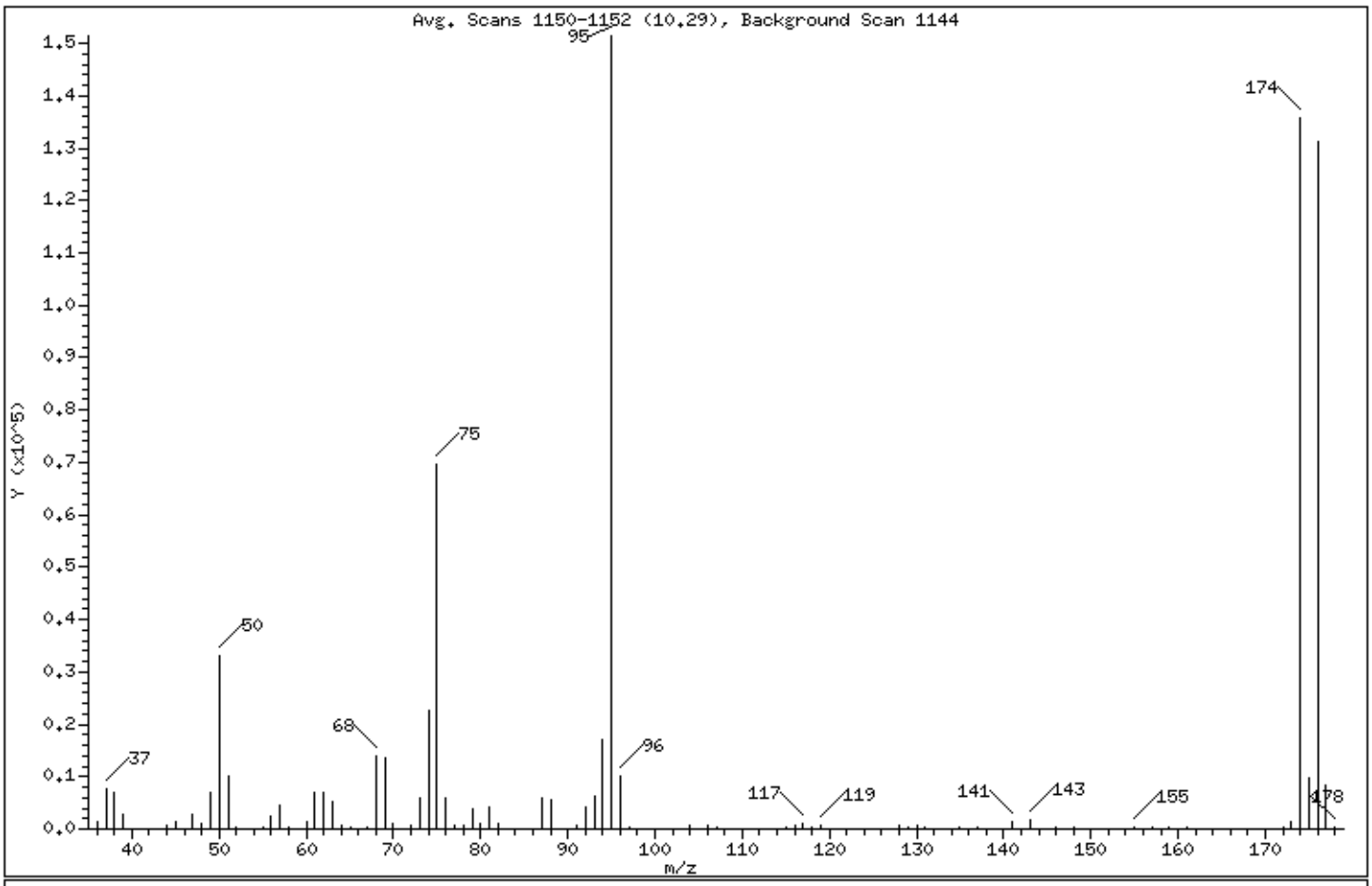
Sample Info: 50mL 3169-901;BFB Tune Check

Operator: LD

Column phase:

Column diameter: 2.00

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 8.00 - 40.00% of mass 95 | 21.78 |
| 75 | 30.00 - 66.00% of mass 95 | 45.92 |
| 96 | 5.00 - 9.00% of mass 95 | 6.58 |
| 173 | Less than 1.99% of mass 174 | 0.90 ( 1.00) |
| 174 | 50.01 - 120.00% of mass 95 | 89.76 |
| 175 | 4.00 - 9.00% of mass 174 | 6.53 ( 7.28) |
| 176 | 93.00 - 101.00% of mass 174 | 86.74 ( 96.63) |
| 177 | 5.00 - 9.00% of mass 176 | 5.54 ( 6.39) |

Date : 19-JUN-2024 09:03

Client ID: BFB Instrument: msd3.i

Sample Info: 50mL 3169-901;BFB Tune Check

Operator: LD

Column phase: Column diameter: 2.00

Data File: 3061902.d
Spectrum: Avg. Scans 1150-1152 (10.29), Background Scan 1144
Location of Maximum: 95.00
Number of points: 90

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 1291 | 65.00 | 315 | 94.00 | 17144 | 141.00 | 1495 |
| 37.00 | 7682 | 67.00 | 425 | 95.00 | 151424 | 142.00 | 113 |
| 38.00 | 7067 | 68.00 | 13864 | 96.00 | 9967 | 143.00 | 1778 |
| 39.00 | 2889 | 69.00 | 13705 | 97.00 | 413 | 145.00 | 173 |
| 40.00 | 137 | 70.00 | 1098 | 104.00 | 710 | 146.00 | 285 |
| 44.00 | 867 | 72.00 | 791 | 105.00 | 172 | 147.00 | 66 |
| 45.00 | 1525 | 73.00 | 5841 | 106.00 | 676 | 148.00 | 474 |
| 46.00 | 85 | 74.00 | 22648 | 107.00 | 235 | 150.00 | 95 |
| 47.00 | 2624 | 75.00 | 69528 | 111.00 | 91 | 153.00 | 154 |
| 48.00 | 1095 | 76.00 | 6000 | 113.00 | 80 | 155.00 | 407 |
| 49.00 | 6907 | 77.00 | 726 | 115.00 | 216 | 156.00 | 66 |
| 50.00 | 32984 | 78.00 | 607 | 116.00 | 541 | 157.00 | 309 |
| 51.00 | 10141 | 79.00 | 3841 | 117.00 | 986 | 159.00 | 276 |
| 52.00 | 522 | 80.00 | 1146 | 118.00 | 486 | 161.00 | 194 |
| 55.00 | 466 | 81.00 | 4158 | 119.00 | 747 | 172.00 | 467 |
| 56.00 | 2408 | 82.00 | 888 | 124.00 | 74 | 173.00 | 1359 |
| 57.00 | 4552 | 83.00 | 73 | 128.00 | 617 | 174.00 | 135872 |
| 58.00 | 328 | 86.00 | 94 | 129.00 | 325 | 175.00 | 9888 |
| 60.00 | 1494 | 87.00 | 5756 | 130.00 | 642 | 176.00 | 131328 |
| 61.00 | 6836 | 88.00 | 5640 | 131.00 | 287 | 177.00 | 8387 |
| 62.00 | 6861 | 91.00 | 617 | 135.00 | 340 | 178.00 | 324 |
| 63.00 | 5064 | 92.00 | 4281 | 137.00 | 293 | | |
| 64.00 | 575 | 93.00 | 6269 | 140.00 | 67 | | |

# Shipping/Receiving Documents

eurofins | Air Toxics

# Eurofins Air Toxics Sample Receipt Confirmation Cover Page

Thank you for choosing Eurofins Air Toxics (EATL). We have received your samples and have listed any Sample Receipt Descrepancies below.

In order to expedite analysis and reporting, please review the attached information for accuracy.

For corrections call: **Air Toxics, Ltd. at 916-985-1000**

EATL will proceed with the analysis as specified on the Chain of Custody (COC) and Sample Receipt Summary page.

**Please note** : The Sample Receipt Confirmation, including the total workorder charge, is subject to change upon secondary review. Our aim is to provide a confirmation to you in a timely manner. Sample Receipt Discrepancies, if any, may not include discrepancies regarding sample receipt pressure(s). Additionally, the COC will be provided with the final report.

**180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630**

**(916) 985-1000 .FAX (916) 985-1020**
**Hours 6:30 A.M to 5:30 P.M. PST**

eurofins | Air Toxics

# Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: 240626

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Click links below to view:
Canister Sampling Guide
Helium Shroud Video

Client: Parsons PID: J09CA1108-01
Project Name: Titan 1-A Semi Annual Groundwater and Soil Vapor Sampling
Project Manager: Carrie Ross P.O.# 0015539
Sampler: Ben DeHaenbacher
Site Name: Titan 1-A

Special Instructions/Notes:
Please email analytical results to:
Carrie.Ross@Parsons.us
Mark.Rigby@Parsons.com
Sandra.Delasfuentes@Parsons.us

Turnaround Time (Rush surcharges may apply)
Select TAT from drop down box

| Lab ID | Sample Identification | Can # | Flow Controller # | Start Sampling Information Date | Start Sampling Information Time | Stop Sampling Information Date | Stop Sampling Information Time | Canister Vacuum/Pressure Initial (in Hg) | Canister Vacuum/Pressure Final (in Hg) | Lab Use Only Receipt | Lab Use Only Final (psig) Gas: $N_2$ / He | Requested Analyses TO-15 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01A | TIAMF-SV003_JUN24 | 1L1968 | 25527 | 06/03/24 | 1226 | 06/03/24 | 1233 | -27 | -5 | | | X | | | |
| 02A | TIAMF-SV010_JUN24 | 1L2226 | 22393 | 06/03/24 | 1124 | 06/03/24 | 1130 | -26 | -5 | | | X | | | |
| 03A | TIAMF-SV027_JUN24 | 1L4028 | 22426 | | 1435 | | 1455 | -27 | -16 | | | X | | | Back Pressure |
| 04A | TIAMF-SV028_JUN24 | 1L2385 | 25457 | | 1337 | | 1343 | -29 | -5 | | | X | | | |
| 05A | TIAMF-SV028_JUN24_FD | 1L4822 | 25518 | | 1337 | | 1342 | -29 | -5 | | | X | | | |
| 06A | TIAMF-SV029_JUN24 | 1L3453 | 25587 | | 0855 | | 0915 | -29 | -23 | | | X | | | Back Pressure |
| 07A | TIAMF-SV030_JUN24 | 1L4702 | 24588 | | 0949 | | 0955 | -27 | -5 | | | X | | | |
| 08A | TIAMF-SV031_JUN24 | 1L4005 | 20690 | | 1537 | | 1601 | -27 | -13 | | | X | | | Back Pressure |
| 09A | TIAMF-SV098_JUN24 | 1L4263 | 25515 | 06/06/24 | 1213 | 06/06/24 | 1219 | -28.5 | -5 | | | X | | | |
| 10A | TIAMF-SV032b_JUN24 | 1L4059 | 24643 | | 1102 | | 1109 | -28 | -5 | | | X | | | |
| 11A | TIAMF-SV033_JUN24 | 1L2635 | 30707 | | 1012 | | 1019 | -26 | -5 | | | X | | | |
| 12A | TIAMF-SV034_JUN24 | 1L4012 | 25443 | | 0806 | | 0826 | -27 | -7 | | | X | | | Back Pressure |
| 13A | TIAMF-SV035_JUN24 | 1L4489 | 21476 | | 0915 | | 0926 | -25 | -5 | | | X | | | |
| 14A | TIAMF-SV035_JUN24-FD | 1L3657 | 25483 | | 0915 | | 0922 | -29 | -5 | | | X | | | |

| | | Date | Time | | Date | Time |
|---|---|---|---|---|---|---|
| Relinquished by: (Signature/Affiliation) | BTS | 06/06/24 | 1245 | Received by: (Signature/Affiliation) | | 6/6/24 1245 |
| Relinquished by: (Signature/Affiliation) | Parsons | 6/6/24 | 1633 | Received by: (Signature/Affiliation) | EATL | 6/6/24 1633 |
| Relinquished by: (Signature/Affiliation) | | | | Received by: (Signature/Affiliation) | | |

Lab Use Only

Shipper Name: FD Custody Seals Intact? Yes No None

**Sample Transportation Notice:** Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

## Brian Whittaker

**From:** Beth.Driskill@parsons.us
**Sent:** Wednesday, July 10, 2024 8:58 AM
**To:** Vera Belitsky; Brian Whittaker; Mark.Rigby@parsons.com
**Cc:** Pamela.Ford@parsons.us
**Subject:** RE: Proj. Name: Titan 1A Semi Annual Groundwater, Project ID: 28661, Project #: J09CA1108-01, Final Report: WO# 2406264R1, Eurofins Air Toxics, LLC

**Categories:** Done

**Unverified Sender:** The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hi Vera and Brian. Unfortunately, the ID will need to be fixed on your end. To conform with the sample ID naming in FUDSChem, the ID should be SV009B. Apologies that this was not caught by us and brought to your attention earlier.

Please include this email in the revised report as a record that the ID was requested to be changed by Parsons from what is documented on the COC.

Thank you,
Beth

**From:** Vera Belitsky <Vera.Belitsky@et.eurofinsus.com>
**Sent:** Tuesday, July 9, 2024 1:50 PM
**To:** Driskill, Beth [US-US] <Beth.Driskill@parsons.us>; Brian Whittaker <Brian.Whittaker@reports.et.eurofinsus.com>; Rigby, Mark [US-US] <Mark.Rigby@parsons.com>
**Cc:** Ford, Pamela [US-US] <Pamela.Ford@parsons.us>
**Subject:** [EXTERNAL] RE: Proj. Name: Titan 1A Semi Annual Groundwater, Project ID: 28661, Project #: J09CA1108-01, Final Report: WO# 2406264R1, Eurofins Air Toxics, LLC

Hi Beth,
Still not fixed.
Thank you,
Vera

| | | | | | | |
|---|---|---|---|---|---|---|
| 2406264 | SV-32 | AE/N1 | T1AMF-SV032B_JUN24 | 06/06/2024 11:09 | TO15/METHOD/NONE | A |
| 2406264 | SV-34 | AE/N1 | T1AMF-SV034_JUN24 | 06/06/2024 8:26 | TO15/METHOD/NONE | A |
| 2406264 | SV-35 | AE/N1 | T1AMF-SV035_JUN24 | 06/06/2024 9:26 | TO15/METHOD/NONE | A |
| 2406264 | SV-35 | AE/FD1 | T1AMF-SV035_JUN24_FD | 06/06/2024 9:22 | TO15/METHOD/NONE | A |
| 2406264 | SV-9B | AE/N1 | T1AMF-SV009B_JUN24 | 06/06/2024 12:19 | TO15/METHOD/NONE | A |
| 24F003 | FIELDQC | WQ/TB1 | TB-1_MAY24 | 05/28/2024 8:30 | SW8260C/SW5030C/NONE | A |

eurofins | Air Toxics

# SAMPLE RECEIPT SUMMARY

## WORKORDER 2406264

**Client**

Mr. Mark Rigby
PARSONS GOVERNMENT SERVICES INC.
10235 So. South Jordan Gateway
Suite 300
South Jordan, UT 84095
**Sales Rep:** KD

**Phone**

801-572-5999

**Fax**

801-572-9069

**Date Promised:** 06/20/24
**Date Completed:**
**Date Received:** 6/6/24
**PO#:** 0015539
**Project#:** J09CA1108-01 Titan 1A Semi Annual Groundwater
**Total $:** $ 3,713.00
**Logged By:** LL

| Fraction | Sample # | Analysis | Collected | Amount$ |
|---|---|---|---|---|
| 01A | T1AMF-SV003_JUN24 | TO-15 | 6/3/2024 | $145.00 |
| 02A | T1AMF-SV010_JUN24 | TO-15 | 6/3/2024 | $145.00 |
| 03A | T1AMF-SV027_JUN24 | TO-15 | 6/3/2024 | $145.00 |
| 04A | T1AMF-SV028_JUN24 | TO-15 | 6/3/2024 | $145.00 |
| 05A | T1AMF-SV028_JUN24_FD | TO-15 | 6/3/2024 | $145.00 |
| 06A | T1AMF-SV029_JUN24 | TO-15 | 6/3/2024 | $145.00 |
| 07A | T1AMF-SV030_JUN24 | TO-15 | 6/3/2024 | $145.00 |
| 08A | T1AMF-SV031_JUN24 | TO-15 | 6/3/2024 | $145.00 |
| 09A | T1AMF-SV098_JUN24 | TO-15 | 6/6/2024 | $145.00 |
| 10A | T1AMF-SV032B_JUN24 | TO-15 | 6/6/2024 | $145.00 |
| 11A | T1AMF-SV032A_JUN24 | TO-15 | 6/6/2024 | $145.00 |
| 12A | T1AMF-SV034_JUN24 | TO-15 | 6/6/2024 | $145.00 |
| 13A | T1AMF-SV035_JUN24 | TO-15 | 6/6/2024 | $145.00 |
| 14A | T1AMF-SV035_JUN24_FD | TO-15 | 6/6/2024 | $145.00 |

| | | |
|---|---|---|
| Misc. Charges | 1 Liter Summa Canister (16) @ $40.00 each., Shipment 162019 | $640.00 |
| | Soil Gas Manifold (17) @ $40.00 each., Shipment 162019 | $680.00 |
| | SERWM Fee (14) @ $2.50 each. | $35.00 |
| | Client Specific EDD (14) @ $10.00 each. | $140.00 |
| | eCVP (14) @ $10.00 each. | $140.00 |
| | Duplicate Sampling T (4) @ $12.00 each. | $48.00 |

**Note:** Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: Titan 1A Soil Vapor/28661

**BILL TO:** Mr. Mark Rigby
PARSONS GOVERNMENT SERVICES INC.
10235 So. South Jordan Gateway
Suite 300
South Jordan, UT 84095

Analysis Code: TO-14A

**REMARKS:** Full Project Name: Titan 1A Semi Annual Groundwater and Soil Vapor Sampling

**TERMS:**

Reporting Method: TO-15 (DoD) (Sh)-Parsons (Titan 1A)

eurofins | Air Toxics

# Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: 240624

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Click links below to view:
*Canister Sampling Guide*
*Helium Shroud Video*

Client: Parsons PID: J09CA1108-01
Project Name: Titan 1-A Semi Annual Groundwater and Soil Vapor Sampling
Project Manager: Carrie Ross P.O.# 0015539
Sampler: Ben DiStefanbacher
Site Name: Titan 1-A

Special Instructions/Notes:
Please email analytical results to:
Carrie.Ross@Parsons.us
Mark.Rigby@Parsons.com
Sandra.Delasfuentes@Parsons.us

Turnaround Time (Rush surcharges may apply)
Select TAT from drop down box

| Lab ID | Sample Identification | Can # | Flow Controller # | Start Sampling Information | | Stop Sampling Information | | Canister Vacuum/Pressure | | Lab Use Only | | Requested Analyses | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Date | Time | Date | Time | Initial (in Hg) | Final (in Hg) | Receipt | Final (psig) Gas: $N_2$ / He | TO-15 | | | |
| 01A | TIAMF-SV003_JUN24 | 1L1968 | 25507 | 06/03/24 | 1206 | 06/03/24 | 1233 | -27 | -5 | | | X | | | |
| 02A | TIAMF-SV010_JUN24 | 1L2226 | 22393 | 06/03/24 | 1124 | 06/03/24 | 1130 | -26 | -5 | | | X | | | |
| 03A | TIAMF-SV027_JUN24 | 1L4128 | 22426 | | 1435 | | 1455 | -27 | -16 | | | X | | Back Pressure | |
| 04A | TIAMF-SV028_JUN24 | 1L2385 | 25457 | | 1337 | | 1343 | -29 | -5 | | | X | | | |
| 05A | TIAMF-SV028_JUN24_FD | 1L4822 | 25518 | | 1337 | | 1342 | -29 | -5 | | | X | | | |
| 06A | TIAMF-SV029_JUN24 | 1L3453 | 25587 | | 0855 | | 0915 | -29 | -23 | | | X | | Back Pressure | |
| 07A | TIAMF-SV030_JUN24 | 1L4702 | 24588 | | 0949 | | 0955 | -27 | -5 | | | X | | | |
| 08A | TIAMF-SV031_JUN24 | 1L4005 | 20690 | | 1537 | | 1601 | -27 | -13 | | | X | | Back Pressure | |
| 09A | TIAMF-SV098_JUN24 | 1L4263 | 25515 | 06/06/24 | 1213 | 06/06/24 | 1219 | -28.5 | -5 | | | X | | | |
| 10A | TIAMF-SV036_JUN24 | 1L4059 | 24643 | | 1102 | | 1109 | -28 | -5 | | | X | | | |
| 11A | TIAMF-SV032_JUN24 | 1L2635 | 30707 | | 1012 | | 1019 | -26 | -5 | | | X | | | |
| 12A | TIAMF-SV034_JUN24 | 1L4042 | 25443 | | 0806 | | 0826 | -27 | -7 | | | X | | Back Pressure | |
| 13A | TIAMF-SV035_JUN24 | 1L4989 | 21476 | | 0915 | | 0926 | -25 | -5 | | | X | | | |
| 14A | TIAMF-SV035_JUN24-FD | 1L3657 | 25433 | | 0915 | | 0922 | -29 | -5 | | | X | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

| Relinquished by: (Signature/Affiliation) | Date | Time | Received by: (Signature/Affiliation) | Date | Time |
|---|---|---|---|---|---|
| BTS | 06/06/24 | 1245 | Parsons | 6/6/24 | 1245 |
| Parsons | 6/6/24 | 1633 | EATL | 6/6/24 | 1633 |
| | | | | | |

Lab Use Only

Shipper Name: FD Custody Seals Intact? Yes No None

**Sample Transportation Notice:** Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

# Sample Discrepancy Report

**Identification**

**Initiated By:** VS **Project ID:**28661 **PM**: BSW **Date:** 6/20/2024 **Discrepancy Type:** ☐ **1.** ☒ **2.** ☐ **3.**

**Workorder(s) affected:2406264** **Sample(s) affected:** 03A,06A

## 1. Sample Receipt Discrepancies

**Narration Not Required:**

1.1. ☐ Sample container (cartridge/tube) was received broken, however sample was intact.
1.2. ☐ No brass cap on canister.
1.3. ☐ Date of Collection noted on first sample, but no arrow down to indicate all samples.
1.4. ☐ Sampling year not documented on COC but noted on sample tag.
1.5. ☐ Sorbent Sample received outside method required temperature of 2°C to 6°C but less than 6°C.

**Notify Lab for further determination:**

1.6. ☐ Tedlar bag received with minimal volume.

**Narration Required in Lab Narrative and Sample Confirmation:**

1.7. ☐ COC was not filled out in ink.
1.8. ☐ COC improperly relinquished / received.
☐Signature missing ☐date missing ☐time missing.
1.9. ☐ Sample ID on tags do not match the COC.
1.10. ☐ Can numbers do not match the COC.
1.11. ☐ Sampling date discrepancy.
1.12. ☐ Custody Seal on the outside of the container was ☐ broken / ☐ improperly placed (check one).
1.13. ☐ ID-none on the sample Tag/Blank.
1.14. ☐ Other (describe below).

Initials: _____Date:_____

**Describe the Discrepancy:** _____

## 2. Sample Receipt/Screening Discrepancies requiring PM notification

*Document on Cover Page of Sample Receipt Confirmation and in Receiving Notes of Lab Narrative*

**If Section II. is filled out PM must be notified within 24 hrs of initiation**

2.1. ☐ COC was not received with samples.
2.2. ☐ Analysis method(s) is ☐ not specified / ☐ incorrectly specified (check one) on the COC.
2.3. ☐ Incorrect sampling media / container for analysis requested.
2.4. ☐ Number of samples on the COC does not match the number of samples that were received.
2.5. ☐ Samples were received expired.
2.6. ☐ Sampling date is not documented for ☐ *some* / ☐ *any* samples (check one).
2.7. ☐ Sample received with amount of $H_2O$ in the Tedlar Bag.
2.8. ☐ Sample cannot be analyzed. Container was ☐ received broken / ☐ leaking / ☐ flat / ☐ defective.
2.9. ☐ Tedlar bag / canister received emitting a strong odor; Sample ☐ can / ☐ cannot (check one) be analyzed.
2.10. ☐ Sorbent samples -sampling volume was not provided.
2.11. ☐ Flow controller used – canister samples received at ambient or under pressure.
2.12. ☐ Canister was at ambient pressure at time of pressurization and (check all that apply):
☐ Canister valve was open.
☐ Brass nut was loose/not present.
☐ Sample can be analyzed.
☐ Sample cannot be analyzed.
2.13. ☐ Canister sample received with a vacuum difference >5.0"Hg between the receipt vac. and the final recorded vac. on the COC.
☐ Canister passed leak check in lab <2psi, no evidence sample was compromised.
☐ Canister failed lab leak check, canister found to be leaking. Canister sample compromised.
2.14. ☒ Canister sample received at >15"Hg (*not* identified as a Trip/Field Blank).
2.15. ☐ Canister Trip Blank received at low vacuum (<25"Hg).
2.16. ☐ Sorbent Sample received outside method required temperature of 2°C to 6°C; ☐ ice / ☐ blue ice (check one) was present. A temp. Blank ☐ was / ☐ was not present (check one).
2.17. ☐ Other (describe below).

**Initials: vs** **Date: 6/20/2024** **Notify Receiving:** ☐ **Notify PM:** ☐

**Describe the Discrepancy:** 2.14: 03A,06A

## *3.* Lab Discrepancies requiring Team Leader/PM notification

*Document in Analytical Notes of Lab Narrative*

**If Section III. is filled out PM must be notified within 24 hrs of initiation**

3.1. ☐ Tedlar Bag found to be leaking at the time of analysis; sample ☐ can / ☐ cannot (check one) be analyzed.

3.2. ☐ Tedlar Bag found to be flat/low volume; sample cannot be analyzed.

3.3. ☐ Samples received with insufficient time to analyze prior to expiration.

3.4. ☐ Canister found to be leaking at the time of analysis.

3.5. ☐ Sample loss due to instrument malfunction / broken glassware.

3.6. ☐ Low/high surrogate recoveries noted in QC/sample(s) for extractable samples.

3.7. ☐ Reporting Limit was raised.

3.8. ☐ Post weight > Pre weight in field/lab Blank for PM10/TSP samples.

3.9. ☐ Sample Trip Blank has a reportable level(s) of target compound(s) present. Re-analysis confirmed the initial result.

3.10. ☐ Other (describe below).

**Initials:** _____ **Date:** _____ **Notify Receiving:** ☐ **Notify PM:** ☐ _____

**Team Lead Initials:** _____ **Date:** _____

**Describe the Discrepancy:** _____

_____

_____

**How Does this Affect Client:** _____

_____

_____

**Project Manager Use Only**

**Project Manager Notification** ☒ **Section 2 Complete** ☐ **Section 3 Complete**

**Action:**

☒ It is not necessary to notify the client. Narrate the discrepancy in Receiving Notes/Analytical Notes of Lab Narrative.

PM Initials:BSW Date: 6/20/2024

☐ Client notification required. See attached client contact / email, or comments below:

Client Notification:

PM Initials:_____ Person notified: _____ Date: _____

☐ Waiting for Client Reply

Comments: **Narrate and proceed** _____

_____

☐ Notify Lab Name: _____ Date: _____ **Notify Receiving:** ☐ _____

☐ **Additional notifications attached.**

**Additional Comments:**

_____

# Other Records

Dilution Factor = $\frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{\text{14.7psi + Final Pressure (psi)}}{\text{14.7psi –[Init. Pressure (“Hg))*(14.7psi/30”Hg)]}}$

Dilution Factor = $\frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{\text{14.7psi + Final Pressure (psi)}}{\text{14.7psi +Initial Pressure (psi)}}$

| Initial Vacuum (" of Hg) | 2 psi | 5 psi | 10 psi | 15 psi |
|---|---|---|---|---|
| 0.0 | **1.14** | 1.34 | **1.68** | 2.02 |
| 0.2 | **1.14** | 1.35 | **1.69** | 2.03 |
| 0.4 | **1.15** | 1.36 | **1.70** | 2.05 |
| 0.5 | **1.16** | 1.36 | **1.71** | 2.05 |
| 0.6 | **1.16** | 1.37 | **1.71** | 2.06 |
| 0.8 | **1.17** | 1.38 | **1.73** | 2.08 |
| 1.0 | **1.18** | 1.39 | **1.74** | 2.09 |
| 1.2 | **1.18** | 1.40 | **1.75** | 2.10 |
| 1.4 | **1.19** | 1.40 | **1.76** | 2.12 |
| 1.5 | **1.20** | 1.41 | **1.77** | 2.13 |
| 1.6 | **1.20** | 1.42 | **1.77** | 2.13 |
| 1.8 | **1.21** | 1.42 | **1.79** | 2.15 |
| 2.0 | **1.22** | 1.44 | **1.80** | 2.16 |
| 2.2 | **1.23** | 1.45 | **1.81** | 2.18 |
| 2.4 | **1.23** | 1.46 | **1.83** | 2.20 |
| 2.5 | **1.24** | 1.46 | **1.83** | 2.20 |
| 2.6 | **1.24** | 1.47 | **1.84** | 2.21 |
| 2.8 | **1.25** | 1.48 | **1.85** | 2.23 |
| 3.0 | **1.26** | 1.49 | **1.87** | 2.24 |
| 3.2 | **1.27** | 1.50 | **1.88** | 2.26 |
| 3.4 | **1.28** | 1.51 | **1.90** | 2.28 |
| 3.5 | **1.29** | 1.52 | **1.90** | 2.29 |
| 3.6 | **1.29** | 1.52 | **1.91** | 2.30 |
| 3.8 | **1.30** | 1.53 | **1.92** | 2.31 |
| 4.0 | **1.31** | 1.55 | **1.94** | 2.33 |
| 4.2 | **1.32** | 1.56 | **1.95** | 2.35 |
| 4.4 | **1.33** | 1.57 | **1.97** | 2.37 |
| 4.5 | **1.34** | 1.58 | **1.98** | 2.38 |
| 4.6 | **1.34** | 1.58 | **1.98** | 2.39 |
| 4.8 | **1.35** | 1.60 | **2.00** | 2.40 |
| 5.0 | **1.36** | 1.61 | **2.02** | 2.42 |
| 5.2 | **1.37** | 1.62 | **2.03** | 2.44 |
| 5.4 | **1.39** | 1.63 | **2.05** | 2.46 |
| 5.5 | **1.39** | 1.64 | **2.06** | 2.47 |
| 5.6 | **1.40** | 1.65 | **2.07** | 2.48 |
| 5.8 | **1.41** | 1.66 | **2.08** | 2.50 |
| 6.0 | **1.42** | 1.68 | **2.10** | 2.52 |
| 6.2 | **1.43** | 1.69 | **2.12** | 2.55 |
| 6.4 | **1.44** | 1.70 | **2.14** | 2.57 |
| 6.5 | **1.45** | 1.71 | **2.15** | 2.58 |
| 6.6 | **1.46** | 1.72 | **2.15** | 2.59 |
| 6.8 | **1.47** | 1.73 | **2.17** | 2.61 |
| 7.0 | **1.48** | 1.75 | **2.19** | 2.64 |
| 7.2 | **1.49** | 1.76 | **2.21** | 2.66 |
| 7.4 | **1.51** | 1.78 | **2.23** | 2.68 |
| 7.5 | **1.51** | 1.79 | **2.24** | 2.69 |
| 7.6 | **1.52** | 1.79 | **2.25** | 2.70 |

| Initial Vacuum (" of Hg) | 2 psi | 5 psi | 10 psi | 15 psi |
|---|---|---|---|---|
| 7.7 | **1.53** | 1.80 | **2.26** | 2.72 |
| 7.8 | **1.54** | 1.81 | **2.27** | 2.73 |
| 8.0 | **1.55** | 1.83 | **2.29** | 2.76 |
| 8.2 | **1.56** | 1.84 | **2.31** | 2.78 |
| 8.4 | **1.58** | 1.86 | **2.33** | 2.81 |
| 8.5 | **1.59** | 1.87 | **2.34** | 2.82 |
| 8.6 | **1.59** | 1.88 | **2.36** | 2.83 |
| 8.8 | **1.61** | 1.90 | **2.38** | 2.86 |
| 9.0 | **1.62** | 1.91 | **2.40** | 2.89 |
| 9.2 | **1.64** | 1.93 | **2.42** | 2.91 |
| 9.4 | **1.65** | 1.95 | **2.45** | 2.94 |
| 9.5 | **1.66** | 1.96 | **2.46** | 2.96 |
| 9.6 | **1.67** | 1.97 | **2.47** | 2.97 |
| 9.8 | **1.69** | 1.99 | **2.50** | 3.00 |
| 10.0 | **1.70** | 2.01 | **2.52** | 3.03 |
| 10.2 | **1.72** | 2.03 | **2.55** | 3.06 |
| 10.4 | **1.74** | 2.05 | **2.57** | 3.09 |
| 10.5 | **1.75** | 2.06 | **2.59** | 3.11 |
| 10.6 | **1.76** | 2.07 | **2.60** | 3.12 |
| 10.8 | **1.78** | 2.09 | **2.63** | 3.16 |
| 11.0 | **1.79** | 2.12 | **2.65** | 3.19 |
| 11.2 | **1.81** | 2.14 | **2.68** | 3.22 |
| 11.4 | **1.83** | 2.16 | **2.71** | 3.26 |
| 11.5 | **1.84** | 2.17 | **2.72** | 3.28 |
| 11.6 | **1.85** | 2.18 | **2.74** | 3.29 |
| 11.8 | **1.87** | 2.21 | **2.77** | 3.33 |
| 12.0 | **1.89** | 2.23 | **2.80** | 3.37 |
| 12.2 | **1.91** | 2.26 | **2.83** | 3.40 |
| 12.4 | **1.94** | 2.28 | **2.86** | 3.44 |
| 12.5 | **1.95** | 2.30 | **2.88** | 3.46 |
| 12.6 | **1.96** | 2.31 | **2.90** | 3.48 |
| 12.8 | **1.98** | 2.34 | **2.93** | 3.52 |
| 13.0 | **2.00** | 2.36 | **2.97** | 3.56 |
| 13.2 | **2.03** | 2.39 | **3.00** | 3.61 |
| 13.4 | **2.05** | 2.42 | **3.04** | 3.65 |
| 13.5 | **2.07** | 2.44 | **3.06** | 3.67 |
| 13.6 | **2.08** | 2.45 | **3.07** | 3.70 |
| 13.8 | **2.10** | 2.48 | **3.11** | 3.74 |
| 14.0 | **2.13** | 2.51 | **3.15** | 3.79 |
| 14.2 | **2.16** | 2.54 | **3.19** | 3.84 |
| 14.4 | **2.18** | 2.58 | **3.23** | 3.88 |
| 14.5 | **2.20** | 2.59 | **3.25** | 3.91 |
| 14.6 | **2.21** | 2.61 | **3.27** | 3.94 |
| 14.8 | **2.24** | 2.64 | **3.32** | 3.99 |
| 15.0 | **2.27** | 2.68 | **3.36** | 4.04 |
| 15.2 | **2.30** | 2.72 | **3.41** | 4.10 |
| 15.4 | **2.33** | 2.75 | **3.45** | 4.15 |

| Initial Vacuum (" of Hg) | 2 psi | 5 psi | 10 psi | 15 psi |
|---|---|---|---|---|
| 15.5 | **2.35** | 2.77 | **3.48** | 4.18 |
| 15.6 | **2.37** | 2.79 | **3.50** | 4.21 |
| 15.8 | **2.40** | 2.83 | **3.55** | 4.27 |
| 16.0 | **2.43** | 2.87 | **3.60** | 4.33 |
| 16.2 | **2.47** | 2.91 | **3.65** | 4.39 |
| 16.4 | **2.51** | 2.96 | **3.71** | 4.46 |
| 16.5 | **2.52** | 2.98 | **3.73** | 4.49 |
| 16.6 | **2.54** | 3.00 | **3.76** | 4.52 |
| 16.8 | **2.58** | 3.05 | **3.82** | 4.59 |
| 17.0 | **2.62** | 3.09 | **3.88** | 4.66 |
| 17.2 | **2.66** | 3.14 | **3.94** | 4.74 |
| 17.4 | **2.70** | 3.19 | **4.00** | 4.81 |
| 17.5 | **2.73** | 3.22 | **4.03** | 4.85 |
| 17.6 | **2.75** | 3.24 | **4.07** | 4.89 |
| 17.8 | **2.79** | 3.30 | **4.13** | 4.97 |
| 18.0 | **2.84** | 3.35 | **4.20** | 5.05 |
| 18.2 | **2.89** | 3.41 | **4.27** | 5.14 |
| 18.4 | **2.94** | 3.47 | **4.35** | 5.22 |
| 18.5 | **2.96** | 3.50 | **4.38** | 5.27 |
| 18.6 | **2.99** | 3.53 | **4.42** | 5.32 |
| 18.8 | **3.04** | 3.59 | **4.50** | 5.41 |
| 19.0 | **3.10** | 3.65 | **4.58** | 5.51 |
| 19.2 | **3.16** | 3.72 | **4.67** | 5.61 |
| 19.4 | **3.22** | 3.79 | **4.76** | 5.72 |
| 19.5 | **3.25** | 3.83 | **4.80** | 5.77 |
| 19.6 | **3.28** | 3.87 | **4.85** | 5.83 |
| 19.8 | **3.34** | 3.94 | **4.94** | 5.94 |
| 20.0 | **3.41** | 4.02 | **5.04** | 6.06 |
| 20.2 | **3.48** | 4.10 | **5.14** | 6.18 |
| 20.4 | **3.55** | 4.19 | **5.25** | 6.31 |
| 20.5 | **3.59** | 4.23 | **5.31** | 6.38 |
| 20.6 | **3.63** | 4.28 | **5.36** | 6.45 |
| 20.8 | **3.70** | 4.37 | **5.48** | 6.59 |
| 21.0 | **3.79** | 4.47 | **5.60** | 6.73 |
| 21.2 | **3.87** | 4.57 | **5.73** | 6.89 |
| 21.4 | **3.96** | 4.67 | **5.86** | 7.05 |
| 21.5 | **4.01** | 4.73 | **5.93** | 7.13 |
| 21.6 | **4.06** | 4.79 | **6.00** | 7.22 |
| 21.8 | **4.16** | 4.90 | **6.15** | 7.39 |
| 22.0 | **4.26** | 5.03 | **6.30** | 7.58 |
| 22.4 | **4.48** | 5.29 | **6.63** | 7.98 |

| Initial Vacuum (" of Hg) | 2 psi | 5 psi | 10 psi | 15 psi |
|---|---|---|---|---|
| 22.5 | **4.54** | 5.36 | **6.72** | 8.08 |
| 22.6 | **4.61** | 5.43 | **6.81** | 8.19 |
| 22.8 | **4.73** | 5.58 | **7.00** | 8.42 |
| 23.0 | **4.87** | 5.74 | **7.20** | 8.66 |
| 23.2 | **5.01** | 5.91 | **7.41** | 8.91 |
| 23.4 | **5.16** | 6.09 | **7.64** | 9.18 |
| 23.5 | **5.24** | 6.19 | **7.76** | 9.32 |
| 23.6 | **5.33** | 6.28 | **7.88** | 9.47 |
| 23.8 | **5.50** | 6.48 | **8.13** | 9.78 |
| 24.0 | **5.68** | 6.70 | **8.40** | 10.10 |
| 24.2 | **5.88** | 6.93 | **8.69** | 10.45 |
| 24.4 | **6.09** | 7.18 | **9.00** | 10.82 |
| 24.5 | **6.20** | 7.31 | **9.17** | 11.02 |
| 24.6 | **6.31** | 7.45 | **9.33** | 11.22 |
| 24.8 | **6.55** | 7.73 | **9.69** | 11.66 |
| 25.0 | **6.82** | 8.04 | **10.08** | 12.12 |
| 25.2 | **7.10** | 8.38 | **10.50** | 12.63 |
| 25.4 | **7.41** | 8.74 | **10.96** | 13.18 |
| 25.5 | **7.57** | 8.93 | **11.20** | 13.47 |
| 25.6 | **7.75** | 9.14 | **11.46** | 13.78 |
| 25.8 | **8.11** | 9.57 | **12.00** | 14.43 |
| 26.0 | **8.52** | 10.05 | **12.60** | 15.15 |
| 26.2 | **8.97** | 10.58 | **13.27** | 15.95 |
| 26.4 | **9.47** | 11.17 | **14.00** | 16.84 |
| 26.5 | **9.74** | 11.49 | **14.40** | 17.32 |
| 26.6 | **10.02** | 11.82 | **14.83** | 17.83 |
| 26.8 | **10.65** | 12.56 | **15.75** | 18.94 |
| 27.0 | **11.36** | 13.40 | **16.80** | 20.20 |
| 27.2 | **12.17** | 14.36 | **18.00** | 21.65 |
| 27.4 | **13.11** | 15.46 | **19.39** | 23.31 |
| 27.5 | **13.63** | 16.08 | **20.16** | 24.24 |
| 27.6 | **14.20** | 16.75 | **21.00** | 25.26 |
| 27.8 | **15.49** | 18.27 | **22.91** | 27.55 |
| 28.0 | **17.04** | 20.10 | **25.20** | 30.31 |
| 28.2 | **18.93** | 22.34 | **28.00** | 33.67 |
| 28.4 | **21.30** | 25.13 | **31.51** | 37.88 |
| 28.5 | **22.72** | 26.80 | **33.61** | 40.41 |
| 28.6 | **24.34** | 28.72 | **36.01** | 43.29 |
| 28.8 | **28.40** | 33.50 | **42.01** | 50.51 |
| 29.0 | **34.08** | 40.20 | **50.41** | 60.61 |

eurofins | Air Toxics

**Method:TO-15 (DoD) (Sh)-Parsons (Titan 1A)**

| CAS Number | Compound | Rpt. Limit(ppbv) |
|---|---|---|
| 75-35-4 | 1,1-Dichloroethene | 0.5 |
| 106-46-7 | 1,4-Dichlorobenzene | 0.5 |
| 71-43-2 | Benzene | 0.5 |
| 156-59-2 | cis-1,2-Dichloroethene | 0.5 |
| 100-41-4 | Ethyl Benzene | 0.5 |
| 108-38-3 | m,p-Xylene | 1.0 |
| 95-47-6 | o-Xylene | 0.5 |
| 108-88-3 | Toluene | 1.0 |
| 156-60-5 | trans-1,2-Dichloroethene | 0.5 |
| 79-01-6 | Trichloroethene | 0.5 |
| 75-01-4 | Vinyl Chloride | 0.5 |

| | Surrogate | Method Limits |
|---|---|---|
| 17060-07-0 | 1,2-Dichloroethane-d4 | 70-130 |
| 460-00-4 | 4-Bromofluorobenzene | 70-130 |
| 2037-26-5 | Toluene-d8 | 70-130 |

# 1Q 2024 TO-15 QUAD DoD Limit of Detections (LODs)
## Effective 04-01-2024

| CAS # | Analyte | Molecular Weight (MW) | LOD (ppbv) | LOQ (ppbv) | LOD (ug/m3) | LOQ (ug/m3) |
|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | 133.42 | 0.45 | 0.5 | 2.45558 | 2.72843 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 167.86 | 0.45 | 0.5 | 3.08945 | 3.43272 |
| 79-00-5 | 1,1,2-Trichloroethane | 133.42 | 0.45 | 0.5 | 2.45558 | 2.72843 |
| 75-34-3 | 1,1-Dichloroethane | 98.97 | 0.45 | 0.5 | 1.82153 | 2.02393 |
| 75-35-4 | 1,1-Dichloroethene | 96.95 | 0.45 | 0.5 | 1.78436 | 1.98262 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 181.46 | 1.5 | 2 | 11.13252 | 14.84335 |
| 95-63-6 | 1,2,4-Trimethylbenzene | 120.19 | 0.45 | 2 | 2.21209 | 9.83149 |
| 106-93-4 | 1,2-Dibromoethane (EDB) | 187.88 | 0.45 | 0.5 | 3.45791 | 3.84213 |
| 95-50-1 | 1,2-Dichlorobenzene | 147.01 | 0.45 | 0.5 | 2.70571 | 3.00634 |
| 107-06-2 | 1,2-Dichloroethane | 98.96 | 0.45 | 0.5 | 1.82135 | 2.02372 |
| 78-87-5 | 1,2-Dichloropropane | 112.99 | 0.45 | 0.5 | 2.07957 | 2.31063 |
| 108-67-8 | 1,3,5-Trimethylbenzene | 120.19 | 0.45 | 2 | 2.21209 | 9.83149 |
| 106-99-0 | 1,3-Butadiene | 54.09 | 0.45 | 0.5 | 0.99552 | 1.10613 |
| 541-73-1 | 1,3-Dichlorobenzene | 147.01 | 0.45 | 0.5 | 2.70571 | 3.00634 |
| 106-46-7 | 1,4-Dichlorobenzene | 147.01 | 0.45 | 0.5 | 2.70571 | 3.00634 |
| 123-91-1 | 1,4-Dioxane | 88.11 | 1.5 | 2 | 5.40552 | 7.20736 |
| 540-84-1 | 2,2,4-Trimethylpentane | 114.22 | 0.45 | 0.5 | 2.10221 | 2.33579 |
| 78-93-3 | 2-Butanone | 72.11 | 1.5 | 2 | 4.42393 | 5.89857 |
| 591-78-6 | 2-Hexanone | 100.16 | 1.5 | 2 | 6.14479 | 8.19305 |
| 67-63-0 | 2-Propanol | 60.09 | 1.5 | 2 | 3.68650 | 4.91534 |
| 107-05-1 | 3-Chloropropene | 76.53 | 1.5 | 2 | 4.69509 | 6.26012 |
| 622-96-8 | 4-Ethyltoluene | 120.19 | 0.45 | 0.5 | 2.21209 | 2.45787 |
| 108-10-1 | 4-Methyl-2-pentanone | 100.16 | 0.45 | 0.5 | 1.84344 | 2.04826 |
| 67-64-1 | Acetone | 58.08 | 4 | 5 | 9.50184 | 11.87730 |
| 100-44-7 | alpha-Chlorotoluene | 126.58 | 0.45 | 0.5 | 2.32969 | 2.58855 |
| 71-43-2 | Benzene | 78.11 | 0.45 | 0.5 | 1.43761 | 1.59734 |
| 75-27-4 | Bromodichloromethane | 163.83 | 0.45 | 0.5 | 3.01528 | 3.35031 |
| 75-25-2 | Bromoform | 252.77 | 0.45 | 0.5 | 4.65221 | 5.16912 |
| 74-83-9 | Bromomethane | 94.95 | 1.5 | 5 | 5.82515 | 19.41718 |
| 75-15-0 | Carbon Disulfide | 76.14 | 1.5 | 2 | 4.67117 | 6.22822 |
| 56-23-5 | Carbon Tetrachloride | 153.84 | 0.45 | 0.5 | 2.83141 | 3.14601 |
| 108-90-7 | Chlorobenzene | 112.56 | 0.45 | 0.5 | 2.07166 | 2.30184 |
| 75-00-3 | Chloroethane | 64.52 | 1.5 | 2 | 3.95828 | 5.27771 |
| 67-66-3 | Chloroform | 119.39 | 0.45 | 0.5 | 2.19736 | 2.44151 |
| 74-87-3 | Chloromethane | 50.49 | 1.5 | 5 | 3.09755 | 10.32515 |
| 156-59-2 | cis-1,2-Dichloroethene | 96.94 | 0.45 | 0.5 | 1.78417 | 1.98241 |
| 10061-01-5 | cis-1,3-Dichloropropene | 110.97 | 0.45 | 0.5 | 2.04239 | 2.26933 |
| 98-82-8 | Cumene | 120.19 | 0.45 | 0.5 | 2.21209 | 2.45787 |
| 110-82-7 | Cyclohexane | 84.16 | 0.45 | 0.5 | 1.54896 | 1.72106 |
| 124-48-1 | Dibromochloromethane | 208.28 | 0.45 | 0.5 | 3.83337 | 4.25930 |
| 64-17-5 | Ethanol | 46.07 | 4 | 5 | 7.53701 | 9.42127 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 100-41-4 | Ethyl Benzene | 106.16 | 0.45 | 0.5 | 1.95387 | 2.17096 |
| 75-69-4 | Freon 11 | 137.38 | 0.45 | 0.5 | 2.52847 | 2.80941 |
| 76-13-1 | Freon 113 | 187.39 | 0.45 | 0.5 | 3.44890 | 3.83211 |
| 76-14-2 | Freon 114 | 170.93 | 0.45 | 0.5 | 3.14595 | 3.49550 |
| 75-71-8 | Freon 12 | 120.92 | 0.45 | 0.5 | 2.22552 | 2.47280 |
| 142-82-5 | Heptane | 100.2 | 0.45 | 2 | 1.84417 | 8.19632 |
| 87-68-3 | Hexachlorobutadiene | 260.76 | 1.5 | 2 | 15.99755 | 21.33006 |
| 110-54-3 | Hexane | 86.17 | 0.45 | 0.5 | 1.58595 | 1.76217 |
| 108-38-3 | m,p-Xylene | 106.17 | 0.45 | 1 | 1.95405 | 4.34233 |
| 1634-04-4 | Methyl tert-butyl ether | 88.15 | 1.5 | 2 | 5.40798 | 7.21063 |
| 75-09-2 | Methylene Chloride | 84.94 | 1.5 | 5 | 5.21104 | 17.37014 |
| 91-20-3 | Naphthalene | 128.17 | 0.2 | 1 | 1.04843 | 5.24213 |
| 95-47-6 | o-Xylene | 106.17 | 0.45 | 0.5 | 1.95405 | 2.17117 |
| 103-65-1 | Propylbenzene | 120.19 | 0.45 | 0.5 | 2.21209 | 2.45787 |
| 115-07-1 | Propylene | 42.08 | 1.5 | 2 | 2.58160 | 3.44213 |
| 100-42-5 | Styrene | 104.14 | 0.45 | 0.5 | 1.91669 | 2.12965 |
| 127-18-4 | Tetrachloroethene | 165.85 | 0.45 | 0.5 | 3.05245 | 3.39162 |
| 109-99-9 | Tetrahydrofuran | 72.1 | 0.45 | 0.5 | 1.32699 | 1.47444 |
| 108-88-3 | Toluene | 92.13 | 0.45 | 1 | 1.69564 | 3.76810 |
| 156-60-5 | trans-1,2-Dichloroethene | 96.94 | 0.45 | 0.5 | 1.78417 | 1.98241 |
| 10061-02-6 | trans-1,3-Dichloropropene | 110.97 | 0.45 | 0.5 | 2.04239 | 2.26933 |
| 79-01-6 | Trichloroethene | 131.39 | 0.45 | 0.5 | 2.41822 | 2.68691 |
| 108-05-4 | Vinyl Acetate | 86.09 | 1.5 | 2 | 5.28160 | 7.04213 |
| 75-01-4 | Vinyl Chloride | 62.5 | 0.45 | 0.5 | 1.15031 | 1.27812 |

**Extra Compounds**

| CAS # | Analyte | Molecular Weight (MW) | LOD (ppbv) | LOQ (ppbv) | LOD (ug/m3) | LOQ (ug/m3) |
|---|---|---|---|---|---|---|
| 95-49-8 | 2-Chlorotoluene | 126.59 | 1.5 | 2 | 7.76626 | 10.35501 |
| 106-97-8 | Butane | 58.12 | 1.5 | 2 | 3.56564 | 4.75419 |
| 104-51-8 | Butyl Benzene | 134.22 | 0.45 | 0.5 | 2.47031 | 2.74479 |
| 111-84-2 | Nonane | 128.26 | 1.5 | 2 | 7.86871 | 10.49162 |
| 109-66-0 | n-Pentane | 72.15 | 1.5 | 2 | 4.42638 | 5.90184 |
| 111-65-9 | Octane | 114.22 | 1.5 | 2 | 7.00736 | 9.34315 |
| 135-98-8 | sec-Butylbenzene | 134.22 | 0.45 | 0.5 | 2.47031 | 2.74479 |
| 75-65-0 | tert-Butyl Alcohol | 74.12 | 1.5 | 2 | 4.54724 | 6.06299 |
| 98-06-6 | tert-Butyl Benzene | 134.22 | 1.5 | 2 | 8.23436 | 10.97914 |

ppbv - part per billion by volume
Concentration (ug/m3) = Concentration (ppbv)*MW/24.45
Instrument IDs - msd3, msd91, msda, msdj, msdp

## Table 42. Method RSK-175 Water Matrix

| CAS ID | Analyte | N Records | Mean | Standard Deviation | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|---|
| 74-86-2 | Acetylene | 719 | 99.6 | 9.8 | 70 | 129 |
| 106-97-8 | Butane | 262 | 97.3 | 7.3 | 75 | 119 |
| 124-38-9 | Carbon dioxide | 441 | 100.8 | 6.9 | 80 | 122 |
| 74-84-0 | Ethane | 2240 | 102.6 | 9.6 | 74 | 131 |
| 74-85-1 | Ethylene | 2284 | 102.5 | 10.2 | 72 | 133 |
| 75-28-5 | Isobutane | 267 | 97.6 | 6.6 | 78 | 117 |
| 74-82-8 | Methane | 2459 | 99.2 | 8.7 | 73 | 125 |
| 74-98-6 | Propane | 900 | 98.1 | 8.2 | 74 | 123 |

## Table 43. Method TO-15 Gas Matrix

| CAS ID | Analyte | N Records | Mean | Standard Deviation | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1344 | 97.9 | 10.5 | 67 | 129 |
| 71-55-6 | 1,1,1-Trichloroethane | 5436 | 96.7 | 9.5 | 68 | 125 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5273 | 95.9 | 10.4 | 65 | 127 |
| 79-00-5 | 1,1,2-Trichloroethane | 5332 | 95.9 | 7.7 | 73 | 119 |
| 76-13-1 | 1,1,2-Trifluoro-1,2,2-trichloroethane [Freon-113] | 5351 | 96.1 | 10 | 66 | 126 |
| 75-34-3 | 1,1-Dichloroethane | 5422 | 97 | 9.7 | 68 | 126 |
| 75-35-4 | 1,1-Dichloroethene | 3503 | 97.3 | 11.9 | 61 | 133 |
| 96-18-4 | 1,2,3-Trichloropropane | 465 | 99.6 | 8 | 76 | 124 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 4545 | 98.5 | 14.5 | 55 | 142 |
| 95-63-6 | 1,2,4-Trimethylbenzene | 4699 | 99.2 | 11.1 | 66 | 132 |

## Table 43. Method TO-15 Gas Matrix

| CAS ID | Analyte | N Records | Mean | Standard Deviation | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|---|
| 106-93-4 | 1,2-Dibromoethane | 4655 | 98.2 | 7.9 | 74 | 122 |
| 76-14-2 | 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 4572 | 92.4 | 9.7 | 63 | 121 |
| 95-50-1 | 1,2-Dichlorobenzene | 4739 | 95.7 | 11 | 63 | 129 |
| 107-06-2 | 1,2-Dichloroethane | 5467 | 96.8 | 10.5 | 65 | 128 |
| 78-87-5 | 1,2-Dichloropropane | 4729 | 95.7 | 8.9 | 69 | 123 |
| 108-67-8 | 1,3,5-Trimethylbenzene | 4679 | 98.3 | 10.4 | 67 | 130 |
| 106-99-0 | 1,3-Butadiene | 3167 | 99.8 | 11.4 | 66 | 134 |
| 541-73-1 | 1,3-Dichlorobenzene | 4737 | 97.1 | 10.9 | 65 | 130 |
| 142-28-9 | 1,3-Dichloropropane | 165 | 105.2 | 14.4 | 62 | 148 |
| 542-75-6 | 1,3-Dichloropropene | 560 | 100.7 | 8.1 | 77 | 125 |
| 106-46-7 | 1,4-Dichlorobenzene | 4719 | 95.8 | 11.8 | 60 | 131 |
| 123-91-1 | 1,4-Dioxane | 2656 | 96.5 | 8.6 | 71 | 122 |
| 540-84-1 | 2,2,4-Trimethylpentane [Isooctane] | 3008 | 94.3 | 8.8 | 68 | 121 |
| 78-93-3 | 2-Butanone [MEK] | 4635 | 98.4 | 10.4 | 67 | 130 |
| 95-49-8 | 2-Chlorotoluene | 1092 | 101.9 | 9.2 | 74 | 130 |
| 591-78-6 | 2-Hexanone | 4600 | 95.4 | 11 | 62 | 128 |
| 67-63-0 | 2-Propanol [Isopropyl alcohol] | 3069 | 88.4 | 12.3 | 52 | 125 |
| 622-96-8 | 4-Ethyltoluene | 4673 | 97.9 | 10.3 | 67 | 129 |
| 108-10-1 | 4-Methyl-2-pentanone [MIBK] | 4646 | 98.5 | 10.5 | 67 | 130 |
| 67-64-1 | Acetone | 4600 | 92.7 | 11.6 | 58 | 128 |
| 75-05-8 | Acetonitrile | 1999 | 97.3 | 11.6 | 63 | 132 |
| 107-02-8 | Acrolein [Propenal] | 2469 | 93.8 | 10.6 | 62 | 126 |
| 107-13-1 | Acrylonitrile | 2105 | 103.7 | 10.9 | 71 | 137 |
| 107-05-1 | Allyl chloride | 2980 | 101.1 | 10.1 | 71 | 131 |

## Table 43. Method TO-15 Gas Matrix

| CAS ID | Analyte | N Records | Mean | Standard Deviation | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|---|
| 98-83-9 | alpha-Methylstyrene | 1976 | 97.3 | 10.2 | 67 | 128 |
| 71-43-2 | Benzene | 5436 | 93.8 | 8.4 | 69 | 119 |
| 100-44-7 | Benzyl chloride | 4419 | 98.7 | 16.2 | 50 | 147 |
| 75-27-4 | Bromodichloromethane | 4682 | 99.9 | 9.3 | 72 | 128 |
| 75-25-2 | Bromoform | 4638 | 102.3 | 12.1 | 66 | 139 |
| 74-83-9 | Bromomethane | 2657 | 98.6 | 11.8 | 63 | 134 |
| 106-97-8 | Butane | 587 | 96.2 | 10.9 | 64 | 129 |
| 75-15-0 | Carbon disulfide | 4756 | 95.6 | 12.7 | 57 | 134 |
| 56-23-5 | Carbon tetrachloride | 4202 | 99.6 | 10.7 | 68 | 132 |
| 108-90-7 | Chlorobenzene | 4652 | 94.5 | 8 | 70 | 119 |
| 124-48-1 | Chlorodibromomethane | 4628 | 99.9 | 10 | 70 | 130 |
| 75-45-6 | Chlorodifluoromethane | 559 | 102.1 | 14.3 | 59 | 145 |
| 75-00-3 | Chloroethane | 5370 | 94.7 | 10.6 | 63 | 127 |
| 67-66-3 | Chloroform | 5481 | 95.3 | 9.3 | 68 | 123 |
| 74-87-3 | Chloromethane | 4540 | 95.2 | 12.2 | 59 | 132 |
| 156-59-2 | cis-1,2-Dichloroethene | 5320 | 95.6 | 8.4 | 70 | 121 |
| 10061-01-5 | cis-1,3-Dichloropropene | 4691 | 98.8 | 9.7 | 70 | 128 |
| 110-82-7 | Cyclohexane | 3178 | 93.5 | 7.7 | 70 | 117 |
| 124-18-5 | Decane | 1982 | 93.8 | 7.9 | 70 | 118 |
| 75-71-8 | Dichlorodifluoromethane [Freon-12] | 5307 | 93.6 | 11.5 | 59 | 128 |
| 108-20-3 | Diisopropyl ether | 2309 | 93.5 | 8 | 70 | 117 |
| 64-17-5 | Ethanol | 2981 | 91.8 | 11.1 | 59 | 125 |
| 141-78-6 | Ethyl acetate | 2835 | 96.4 | 10.5 | 65 | 128 |
| 100-41-4 | Ethylbenzene | 5420 | 96.8 | 9 | 70 | 124 |
| 142-82-5 | Heptane | 3163 | 95.7 | 8.9 | 69 | 123 |

## Table 43. Method TO-15 Gas Matrix

| CAS ID | Analyte | N Records | Mean | Standard Deviation | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|---|
| 87-68-3 | Hexachlorobutadiene | 4551 | 96.7 | 13.7 | 56 | 138 |
| 110-54-3 | Hexane | 3150 | 91.6 | 9.5 | 63 | 120 |
| 98-82-8 | Isopropylbenzene | 3022 | 95.6 | 9.3 | 68 | 124 |
| 179601-23-1 | m/p-Xylene [3/4-Xylene] | 5019 | 97.3 | 12.3 | 61 | 134 |
| 80-62-6 | Methyl methacrylate | 3037 | 98.9 | 9.7 | 70 | 128 |
| 1634-04-4 | Methyl tert-butyl ether [MTBE] | 4681 | 95.5 | 10 | 66 | 126 |
| 75-09-2 | Methylene chloride | 5314 | 88.8 | 8.9 | 62 | 115 |
| 71-36-3 | n-Butyl alcohol | 1981 | 97.5 | 11.7 | 62 | 133 |
| 104-51-8 | n-Butylbenzene | 2656 | 97.7 | 10.6 | 66 | 130 |
| 112-40-3 | n-DoDecane | 1932 | 104.4 | 14.1 | 62 | 147 |
| 103-65-1 | n-Propylbenzene | 2570 | 95.7 | 9 | 69 | 123 |
| 91-20-3 | Naphthalene | 2439 | 97.5 | 13.4 | 57 | 138 |
| 111-84-2 | Nonane | 2617 | 95.4 | 10.8 | 63 | 128 |
| 95-47-6 | o-Xylene | 5334 | 96.3 | 9.7 | 67 | 125 |
| 111-65-9 | Octane | 2514 | 95 | 8.7 | 69 | 121 |
| 99-87-6 | p-Isopropyltoluene [p-Cymene] | 2694 | 98.1 | 10.5 | 67 | 130 |
| 109-66-0 | Pentane | 712 | 96.7 | 11.3 | 63 | 131 |
| 115-07-1 | Propene | 3193 | 96.6 | 13.3 | 57 | 136 |
| 135-98-8 | sec-Butylbenzene | 2665 | 96.4 | 9.6 | 68 | 125 |
| 100-42-5 | Styrene | 4735 | 100.1 | 9 | 73 | 127 |
| 75-65-0 | tert-Butyl alcohol | 2997 | 86.8 | 20.9 | 24 | 150 |
| 98-06-6 | tert-Butylbenzene | 2710 | 94.3 | 9.8 | 65 | 124 |
| 127-18-4 | Tetrachloroethene | 5432 | 95.2 | 9.7 | 66 | 124 |
| 109-99-9 | Tetrahydrofuran | 3192 | 93.7 | 9.8 | 64 | 123 |
| 108-88-3 | Toluene | 5406 | 92.7 | 8.8 | 66 | 119 |
| 156-60-5 | trans-1,2-Dichloroethene | 5411 | 95.5 | 9.5 | 67 | 124 |

## Table 43. Method TO-15 Gas Matrix

| CAS ID | Analyte | N Records | Mean | Standard Deviation | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|---|
| 10061-02-6 | trans-1,3-Dichloropropene | 4621 | 104 | 9.6 | 75 | 133 |
| 79-01-6 | Trichloroethene | 5478 | 96.7 | 8.7 | 71 | 123 |
| 75-69-4 | Trichlorofluoromethane [Freon-11] | 5376 | 93.7 | 10.6 | 62 | 126 |
| 1120-21-4 | Undecane | 1976 | 96.1 | 9 | 69 | 123 |
| 108-05-4 | Vinyl acetate | 4599 | 97.4 | 13.7 | 56 | 139 |
| 593-60-2 | Vinyl bromide | 1054 | 98.4 | 9.2 | 71 | 126 |
| 75-01-4 | Vinyl chloride | 5445 | 95.1 | 10.4 | 64 | 127 |

# Eurofins AirToxics

## TO-14A_TO-15 QUAD SURR CLs valid to 11-12-2024 (msd3, msd16, msd91, msda, msdj, msdp) - SURR

**Effective Dates 05/12/24 - 11/12/24**
**Data Point Analysis Dates 11/12/23 - 05/12/24**

| Compound Name | Upper Control Limit(%) | Lower Control Limit(%) | Upper Warning Limit(%) | Lower Warning Limit(%) | Upper ME Limit(%) | Lower Me Limit(%) |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 132 | 68 | 121 | 79 | 142 | 58 |
| 4-Bromofluorobenzene | 125 | 77 | 117 | 85 | 133 | 69 |
| Toluene-d8 | 110 | 91 | 107 | 94 | 113 | 88 |

**Default control limits of 20% or 180% are used for generated limits which fall outside this criteria.**

| Eurofins Environment Testing Northern California, LLC<br>**Workorder #** 2406264 | **Data Review Checklist** | | | |
|---|---|---|---|---|
| | Form F1.27 | Revision #21 | Revision Date: 05/01/23 | Page 1 of 2 |

| S1 | S2 | S3 | S4 | D | ***Section 1* – Spec Out** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Initials/Instrument/Date** | **S1:** MSD3 TO 6/19/24 | **S2:** | **S3:** | **S4:** |
| ✓ | | | | | Project Identification (PID), Project Requirements Table (PRT), Daily QC and ICAL met Criteria | | | | |
| ✓ | | | | ✓ | Method Name: 324Q0423A | | | | |
| ✓ | | | | | Lumen QC and ICAL evaluation (ref. SOP/Method) report initialed and in folder | | | | |
| N | | | | | Manual Integrations included and approved | | | | |
| ✓ | | | | ✓ | Chain of Custody verified for special comments/notes and analyses requested (add comments below) | | | | |
| ✓ | | | | | Non-standard Target sublist verified (MDL, LOD, RL, control limits, etc.) | | | | |
| ✓ | | | | | Verified standard expiration dates | | | | |

**Profile, analyses, reporting, special notes and unusual circumstances:** S1: QC ∅ out LB "d"

| A1 | A2 | A3 | A4 | D | ***Section 2* – Sample Analysis** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Initials/Date** | **A1:** AE 6/19/24 | **A2:** TO 6/20/24 | **A3:** | **A4:** |
| ✓ | ✓ | | | ✓ | IS/Surr Recoveries, Dilution Factors, Load Volumes, leg(s) of instrument, Initial/Final Pressures, Canister #s Verified and dilution ranges are met per SOP (ex. Over-ranged/overdiluted). Method Transfer Dilutions Verified. | | | | |
| NA | N | | | N | a) Tedlar Bag IDs verified against COC b) Tedlar Bag ID confirmed with loading sequence/leg(s) of instrument | | | | |
| NA | N | | | N | Manual Integrations/Bag or Can Dilution Forms/Re-pressurization Forms/Bag-Can Transfer Forms present (circle all that apply) | | | | |
| ✓ | ✓ | | | | 12/24 Hr clock time & Hold Time met for all samples | | | | |
| NA | ✓ | | | ✓ | Re-analysis of sample(s) has been evaluated for comparability and/or sample(s) has/have been checked for trends (Inf/Eff), field dups/trip blanks, samples following bad loads on auto samplers have been verified (system blks, confirmation runs) | | | | |
| ✓ | ✓ | | | ✓ | All runs have been evaluated for potential carry-over (TPHg/non-Target/over-range compounds/ etc.) | | | | |
| ✓ | ✓ | | | ✓ | All runs have been evaluated using method default parent sublists prior to any client specific sublists. | | | | |

**Analytical and special notes:** A1: 01A-04A full loads A2: 05A-10A, 12A-14A full load 11A dilTC 04A/05A FD OK 13A/14A FD OK ~~[illegible]~~ 05A/AA dup An BOK cer end ok

| D1 | D2 | D3 | D4 | T | 3T | ***Section 3* – Target Data Reduction** | **Technical Review Needed?** Circle one: Yes/No | | **T:** | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **Initials/Instrument/Date** | **D1:** MSD3 VD 6/20/24 | **D2:** | **D3:** | **D4:** |
| N | | | | | | CAR # *(if applicable)* | | | | |
| ✓ | | | | | | Spectra Verified *(documentation of spectral defense included if applicable)* | | | | |
| ✓ | | | | | ✓ | Calibration history evaluated. Verify QC files. | | | | |
| N | | | | | | TICs resemble reference spectra/ TICs between sample dups. are consistent *(if applicable)* | | | | |
| ✓ | | | | | ✓ | Lab Narrative is correct | | | | |
| N | | | | | | TPH/NMOC calculations complete and included in folder | | | | |

**Special notes:**

| | A | 3T | ***Section 4*- Atlas Data Entry** | **Lumen verified and included in folder** | **Circle one:** Yes/No |
|---|---|---|---|---|---|
| | | | **Initials/Date:** VD 6/20/24 | **3rd Tier:** *(needed only for DOD or per client request)* | ES 6/20/24 |
| | ✓ | ✓ | Sample Discrepancy Report (SDR) complete and approved *(if applicable)* | | |
| | N | NA | Manually entered results are checked | | |
| | ✓ | ✓ | At least one result per sample is verified against Target quant sheets | | |
| | ✓ | ✓ | Appropriate data qualifier flags are applied | | |
| | ✓ | ✓ | Final Invoice is correct/ Final PDF report, COC and EDD reviewed and correct | | |

**Special Notes:**

Note (1) *Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply*
*Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects*

| **Workorder # :** | | | | **Reason for Reissue:** |
|---|---|---|---|---|
| | | | | |
| **W** | **T** | **3T** | **Q** | |
| | | | | Reissue Request form Present |
| | | | | Client or QA or Lab contact present with reason for reissue |
| | | | | Review all affected data |
| | | | | Report header has correct R1, R2 etc |
| | | | | The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested) |
| | | | | Date for Reissue in Report Header matches date in Lab Narrative |
| | | | | Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc) |
| | | | | Corrective Action issued - # |
| | | | | The reissued workorder has been approved by a Group Lead, QA Manager or a Technical Director |
| ***Additional Comments:*** | | | | |
| | | | | |
| | | | | |
| | | | | |

| **Write Up** (Initials/Date) | **Tech Review** (Initials/Date) | ***3rd Tier Review** ** 3rd Tier Report Review is for DoD & Client Specific projects only* (Initials/Date) | **QA Review** (Initials/Date) |
|---|---|---|---|
| | | | |

| **Workorder # :** | | | | **Reason for Reissue:** |
|---|---|---|---|---|
| | | | | |
| **W** | **T** | **3T** | **Q** | |
| | | | | Reissue Request form Present |
| | | | | Client or QA or Lab contact present with reason for reissue |
| | | | | Review all affected data |
| | | | | Report header has correct R1, R2 etc |
| | | | | The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested) |
| | | | | Date for Reissue in Report Header matches date in Lab Narrative |
| | | | | Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc) |
| | | | | Corrective Action issued - # |
| | | | | The reissued workorder has been approved by a Group Lead, QA Manager or a Technical Director |
| ***Additional Comments:*** | | | | |
| | | | | |
| | | | | |
| | | | | |

| **Write Up** (Initials/Date) | **Tech Review** (Initials/Date) | ***3rd Tier Review** ** 3rd Tier Report Review is for DoD & Client Specific projects only* (Initials/Date) | **QA Review** (Initials/Date) |
|---|---|---|---|
| | | | |

Note (1) *Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply*
*Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects*

Not Applicable

# Appendix I – Data Validation Reports

**Data Validation Report for 24F003**

| | |
|---|---|
| Facility: | J09CA1108-01, Titan 1A Missile Facility, RI |
| Event: | Spring 2024 |
| SDG: | 24F003 |
| Guidance Document: | Titan 1A Missile Facility, Lincoln CA |
| Prime Contractor: | Parsons Corporation, Austin, TX |
| Project Manager: | Tim Crummett |
| Contract Laboratory(ies): | EMAX Laboratories, Inc., Torrance, CA |
| Data Review Contractor: | Parsons Corporation |
| Data Review Level: | 100% Stage 2B and 10% Stage 4 |
| Primary Data Reviewer: | Beth Driskill, Senior Scientist |
| Date Submitted: | July 15, 2024 |

| Field Sample ID | Lab Sample ID | Matrix | Type/Type Code | SW8260C |
|---|---|---|---|---|
| T1AMF-MW011-MAY24 | 24F003-10N | Water | Field Sample/N | X |
| T1AMF-MW016-MAY24 | 24F003-11 | Water | Field Sample/N | X |
| T1AMF-MW016-MAY24_FD | 24F003-12 | Water | Field Duplicate/FD | X |
| T1AMF-MW017-MAY24 | 24F003-09N | Water | Field Sample/N | X |
| T1AMF-MW029-MAY24 | 24F003-14 | Water | Field Sample/N | X |
| T1AMF-MW030-MAY24 | 24F003-15 | Water | Field Sample/N | X |
| T1AMF-MW030-MAY24_FD | 24F003-16 | Water | Field Duplicate/FD | X |
| T1AMF-MW044-MAY24 | 24F003-02N | Water | Field Sample/N | X |
| T1AMF-MW046-MAY24 | 24F003-04N | Water | Field Sample/N | X |
| T1AMF-MW047-MAY24 | 24F003-03N | Water | Field Sample/N | X |
| T1AMF-MW049-MAY24 | 24F003-13 | Water | Field Sample/N | X |
| T1AMF-MW050-MAY24 | 24F003-05N | Water | Field Sample/N | X |
| T1AMF-MW052-MAY24 | 24F003-06N | Water | Field Sample/N | X |
| T1AMF-MW052-MAY24_FD | 24F003-07N | Water | Field Duplicate/FD | X |
| T1AMF-MW057-MAY24 | 24F003-17 | Water | Field Sample/N | X |
| T1AMF-MW059-MAY24 | 24F003-01N | Water | Field Sample/N | X |
| T1AMF-MW060-MAY24 | 24F003-08N | Water | Field Sample/N | X |
| TB-1_MAY24 | 24F003-18 | Water | Trip Blank/TB | X |
| TB-2_MAY24 | 24F003-19 | Water | Trip Blank/TB | X |

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at Stage 2B validation level and 10% of the data validated at a Stage 4. The following samples were validated at a Stage 4: TIAMF·MW059·MAY24, TIAMF·MW044·MAY24, TIAMF·MW047·MAY24, TIAMF·MW046·MAY24, and TIAMF·MW050·MAY24, Validation was performed following the guidelines outlined in the project-specific UFP QAPP, DoD General Data Validation Guidelines, Rev 1 (Nov 2019) and Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Titan 1A Missile Facility, Lincoln CA and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Parsons Corporation, Austin, TX; analyses were performed by EMAX Laboratories, Inc., Torrance, CA and were reported under sample delivery group (SDG) 24F003. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

Field Duplicate RPD

Lab Blank

LCS Recovery

LCS RPD

Prep Hold Time

Surrogate

Test Hold Time

Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 0 results (0.00%) out of the 209 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency (X qualifier). Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

| Analytical Method | Data Reviewer Comment |
|---|---|
| SW8260C | No additional comments; see Checklist for detail. |

Beth Driskill

July 15, 2024

Reviewed by Beth Driskill, Senior Scientist, Parsons Corporation

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of the reported sample results and method quality control data between the two deliverables.

**Quality Control Outliers for test method SW8260C, Trip Blank**

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

| Sample ID/ Lab Sample ID | Analyte | Result | Warning Limits | Control Limits | Units | Qualifier | Reason Code | Comment |
|---|---|---|---|---|---|---|---|---|
| TB-1_MAY24 (TB) 24F003-18 | Toluene | 0.330 | < 0.1 | < 1 | ug/l | U/None* | T | |
| TB-2_MAY24 (TB) 24F003-19 | Toluene | 0.290 | < 0.1 | < 1 | ug/l | U/None* | T | |

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

*Blank flags displayed in the above table identify qualification of the sample result when it is less than or equal to the LOQ/RL. Sample results above the LOD or LOQ will be qualified based on the validation guidance assigned in the project setup.

No results associated with this QC element required qualification.

Qualified Results

No results associated with this sample delivery group required qualification.

Results with Modified Qualifiers

No qualifiers associated with this sample delivery group were modified manually.

**Reason Code Definitions**

| Code | Definition |
|---|---|
| T | Trip Blank |
| TR | Trace Level Detect |

**Flag Code and Definitions**

| Flag | Definition |
|---|---|
| J | Estimated Value |
| N | The analysis indicates the presence of an analyte for which there was presumptive evidence to make a tentative identification. |
| NJ | The analyte has been tentatively identified or presumptively as present and the associated numerical value was the estimated concentration in the sample. |
| R | The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making. |
| U | Undetected: The analyte was analyzed for, but not detected. |
| UJ | The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria. |
| X | Result may require rejection; PDT attention required |

**Bias**

| | |
|---|---|
| - | The result may be biased low |
| + | The result may be biased high |

Note - The bias field is a separate field; however, it is an integral part of the final flag (qualifier) on the sample result

**Review Questions**

Method: SW8260C (Volatile Organic Compounds by GC/MS)

| Review Questions | Yes | No | NA | Comment |
|---|---|---|---|---|
| Were there discrepancies between the COC and the samples received? | | • | | |
| Were there discrepancies between the COC and the sample labels? | • | | | The following discrepancies were noted:<br>1. The analysis was not marked on the COC for samples -01 through -10.<br>2. The analysis was not included on the container label for any of the samples.<br>3. The sample ID on the COC was missing the leading "0".<br>An email was sent to the laboratory by Parsons instructing them of the analysis to be performed for all samples and the correct sample ID. |
| Were samples relinquished properly on the COC? | • | | | |
| Were all samples properly preserved? | • | | | |
| Were sampling dates/times, date and time of laboratory receipt of samples, and sample conditions upon receipt at the laboratory (including preservation, pH, and temperature) documented? | • | | | |
| Were sample results reported with percent moisture correction if required? | | | • | |
| Were analytical methods performed and analysis dates present? | • | | | |
| Were all requested target analytes reported? | • | | | |
| Were QAPP specified Project Quantitation Limit Goals achieved? (The laboratory LOQ is compared to the QAPP Project Quantitation Goal) | | • | | The LOQ value for the following analytes are greater than the Project Quantitation Limit Goal: 1,4-Dichlorobenzene, Benzene, Ethylbenzene, Trichloroethene, and Vinyl Chloride. |
| Were holding times met? | • | | | |
| Were trip blanks analyzed at the proper frequency and in control? | • | | | Both trip blank samples had detections of toluene below the LOQ. All the field samples were non-detect for toluene; therefore, data quality was not impacted and results were not qualified. |
| Were field blanks analyzed at the proper frequency and in control? | | | • | Field blanks were not planned to be collected for this sampling event. |
| Were equipment blanks analyzed at the proper frequency and in control? | • | | | One equipment blank and one source blank were associated with the samples in this SDG. Both blanks were non-detect for all target analytes. |
| Was a method blank prepared and analyzed with each batch? | • | | | |
| Were target analytes in the method blank less than DL? | • | | | |
| Was an LCS/LCSD pair prepared and analyzed with each batch? | • | | | |
| Were LCS/LCSD recoveries within project acceptance limits? | • | | | |
| Was the LCS/LCSD RPD within project acceptance limits? | • | | | |
| Was a MS/MSD pair prepared with each batch? | | • | | A project MS/MSD was not collected with the samples in this SDG and the laboratory did not select a project sample form this SDG for MS/MSD analysis. |
| Were MS/MSD recoveries within project acceptance limits? | | | • | |
| Was the MS/MSD RPD within project acceptance limits? | | | • | |
| If ISM was used for sample collection, were laboratory triplicates analyzed and within project acceptance limits? | | | • | |

**Review Questions**

Method: SW8260C (Volatile Organic Compounds by GC/MS)

| Review Questions | Yes | No | NA | Comment |
|---|---|---|---|---|
| Were surrogate recoveries within project acceptance limits? | • | | | |
| Were field replicates (duplicates, triplicates, etc.) analyzed at the proper frequency and in control? | • | | | |
| Were reported sample concentrations within calibration range? | • | | | |
| Was the GC/MS system properly tuned based on method criteria? | • | | | |
| Was instrument tuning completed every 12 hours during sample analysis? | • | | | |
| Was the Calibration within project acceptance criteria? | • | | | |
| Was a ICV performed after each ICAL prior to sample analysis and within project acceptance criteria? | • | | | |
| Were CCVs run at the required frequency and within project acceptance criteria? | • | | | |
| Were internal standard retention times and area criteria within project acceptance criteria? | • | | | |
| Were internal standards spiked for every sample, standard, and QC sample? | • | | | |
| Were instrument run logs present and filled out appropriately? | • | | | |
| Were sample preparation sheets present and filled out appropriately? | • | | | |
| Were certificates of standard traceability and documentation of standard solution preparation provided? | • | | | |
| Were recalculation of QC Elements and Sample Results performed? | • | | | |
| Were Relative Retention Times (RRTs) within ± 0.06 RRT units (may be updated based on daily CCV)? | • | | | |
| Were chromatograms checked for peak integration? (10% of automated integration and 100% of manual integrations) | • | | | |
| Were chromatograms checked for correct baseline/peak integration and possible interferences? | • | | | |
| Were qualitative ion mass present? | • | | | |
| Have all Laboratory Case Narrative comments/findings been addressed in the data review process? | • | | | |
| Were DoD QSM corrective actions followed if deviations were noted? | • | | | |
| Were any data recommended for exclusion in the data validation process? | | • | | |

## Module 1: Analysis by GC/MS

**Lab/SDG:** **EMAX / 24F003**

| RECALCULATION TYPE | TAB Reference |
|---|---|
| Tune: Ion Abundance | TUNE |
| Tailing Factor | not applicable for 8260 |
| Calibration RF | ICAL RF |
| Calibration RRT | Rel RT |
| ICV/CCV %D | ICAL RF |
| Sample Conc. Raw Values | ICAL RF |
| Sample Conc. Linear Regression | not applicable |
| Quadratic Regression | not applicable |
| LCS % Recovery | ICAL RF |
| Surrogate % Recovery | ICAL RF |
| MS/MSD % Recovery | ICAL RF |
| MS/MSD RPD | ICAL RF |
| Sample Amounts | ICAL RF |
| Sample Conc. by Volume (Aqueous Only) | ICAL RF |
| Sample Conc. by Weight (Non-aqueous only) | not applicable |

| 6.1 SAMPLES AND QC | COMMENT |
|---|---|
| Sample recalculations should include the raw instrument result, re-quantified from the instrument response against the calibration function, and the final reported sample result, including any dilution, preparation factor, or percent moisture (if applicable). The equations in Appendix B can be used to calculate a sample result from the corresponding reported calibration or regression function, as appropriate | Provided in ICAL RF tab |
| Verify that one or more of the laboratory's reporting limits (such as limit of quantitation) are calculated correctly for the non-detects and reported accordingly. If a detection limit study was identified by the QAPP, recalculate one or more analyte detection limits. | Provided in LOQ Recalc tab |
| Re-quantitate **all detected target analytes in the 10% sample data chosen**. For some samples, all results may be non-detects, therefore recalculation would not be necessary. Verify that sample-specific results have been adjusted correctly to reflect percent solids, original sample mass/volume, and any applicable dilutions. | Provided in ICAL RF tab |

## Module 1: Analysis by GC/MS

**Lab/SDG: EMAX / 24F003**

| | |
|---|---|
| Re-quantitate **all detects found in the field QC blanks** (such as trip blanks, field blanks, or equipment blanks). Field QC sample duplicate recalculations should include re-quantification of the same detected analyte sample/duplicate pair and verification of the percent difference (%D), or relative percent difference (RPD), as reported | Provided in Blank Detections tab |
| **6.2 Method QC** | |
| Re-quantification of batch QC sample results should use raw instrument response in tandem with the reported calibration factor, response factor, or slope; the preparation information; and percent moisture for solid samples to recreate the reported result. | Provided in ICAL RF tab |
| **6.2.1 Surrogate Spikes** | |
| Verify the concentrations of surrogates from the raw data. Verify that the surrogate result and percent recovery were calculated and reported correctly by re-calculating all surrogates in the 10% of chosen sample data and method QC that were originally selected. | Provided in ICAL RF tab |
| **6.2.2 LCS/LCSD** | |
| To check that the spike percent recovery was calculated and reported correctly, using the equation in Appendix B, re-quantitate and then recalculate all contaminants of concern as outlined in the UFP-QAPP Worksheet #12 or #15. Use a random 10% of the analytes in the LCS/LCSD if contaminants of concern (target analytes) have not been specifically identified. Recalculate RPDs (if applicable) from LCS/LCSD pairs that would result in the qualification of a sample. | Provided in ICAL RF tab |
| **6.2.3 MS/MSD** | |
| Re-quantitate 10% of the target analytes as listed in the UFP-QAPP Worksheet #12 or #15 for both the MS and the MSD. Use a random 10% of the analytes in the MS and MSD if contaminates of concern have not been identified. The RPDs of the recalculated MS/MSD pairs should be calculated from the MS/MSD concentrations, not from the recoveries. | Provided in ICAL RF tab |
| **6.2.4 Method Blanks** | |
| Re-quantitate one or more detects found in the method blank (if applicable) from the reported average RF (or higher order regression, if used) per each batch of samples. | No method blank detections were found; no recalcs needed |
| **6.3 Insturment QC** | |
| **6.3.1 Tune Check** | |
| Verify by re-calculating from the quantitation reports, that the mass assignment is correct and that the mass listing is normalized to the specified m/z for at least 10% of the abundance ratios in every tune. Verify by recalculation that the reported DDT degradation and tailing factor are accurate for SVOC performance checks. | Provided in TUNE tab |

## Module 1: Analysis by GC/MS

**Lab/SDG: EMAX / 24F003**

**6.3.2 Initial (Response Factors and Regressions) and Continuing Calibration Verifications**

| | |
|---|---|
| Initial calibration (ICAL) recalculations should use the raw instrument response for the target analytes and associated internal standards to recreate the calibration curve from the individual calibration standards. If multiple types of calibration curves are employed in an analytical suite, then one analyte per curve type should be recalculated. | Provided in ICAL RF tab |
| Re-quantitate and recalculate the individual and average RFs, %RSDs, and regression function (if used) and r values reported for at least 10% of the target analytes per each internal standard, (preferably analytes of concern which were identified in the QAPP), per initial calibration curve type. | Provided in ICAL RF tab |
| Re-quantitate and recalculate the Initial and Continuing Calibration Verification RF result and %D for at least 10% of the target analytes, proportionally per each internal standard and proportionally selecting analytes based on each calibration curve type. | Provided in ICAL RF tab |
| The laboratory may employ a linear or weighted linear least squares regression. The low standard should be recalculated using the calibration curve and evaluated. RFs should not be evaluated for analytes with linear or higher order regression curves. If the ICAL included refitting of the data back to the model (RSE), the recalculate 10% of the target analytes for the RSE in each ICAL. | Linear regression was not used for any target analytes in this SDG |

**6.3.3 Internal Standards**

| | |
|---|---|
| Verify all internal standards reported from the raw data for at least one sample per batch of samples, and verify internal standard areas for samples that were qualified due to out-of-control internal standard areas. | No calculations were performed; internal stds were verified as required. Recalculations of all analyte concentrations further confirm IS quantitation. |

**6.4 Standards Traceability**

| | |
|---|---|
| Check that the stock standards were diluted properly into working standards by recalculating the dilutions of one or more **calibration standards**. Recalculate one or more **surrogate** dilutions. Recalculate one or more method QC sample dilutions (such as **LCS or MS/MSD**) from the stock to the working standard. | Provided in Standards tab |

## Module 1: Analysis by GC/MS
## Lab/SDG: EMAX / 24F003

**TUNE**

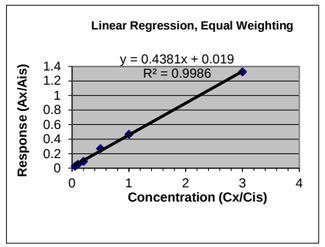
Data file: REG116.D
Acq On: 5/17/2024 11:23
Sample ID: BFBE2E09

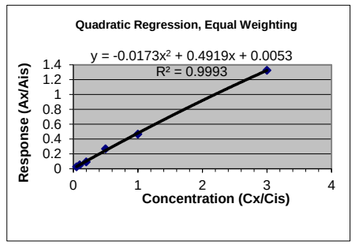
| Target Mass | RAW Abundance | Rel to Mass | Rel Abn% | Lower limit | Upper Limit |
|---|---|---|---|---|---|
| 50 | 11125 | 95 | 20.27630 | 15 | 40 |
| 75 | 27461 | 95 | 50.05012 | 30 | 60 |
| 95 | 54867 | 95 | 100 | 100 | 100 |
| 96 | 3687 | 95 | 6.71989 | 5 | 9 |
| 173 | 441 | 174 | 0.96450 | 0 | 2 |
| 174 | 45723 | 95 | 83.33424 | 50 | 100 |
| 175 | 3423 | 174 | 7.48639 | 5 | 9 |
| 176 | 44603 | 174 | 97.55047 | 95 | 101 |
| 177 | 2888 | 174 | 6.31630 | 5 | 9 |

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F003**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: EMAX
Method: 8260C
SDG: 24F003
Instrument: E2
Curve Date: 5/17/2024
Compound: **trans-1,2-Dichloroethene**
Internal Standard: 1,4-Difluorobenzene
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**TIAMF-MW059-MAY24**
**TIAMF-MW044-MAY24**
**TIAMF-MW047-MAY24**
**TIAMF-MW046-MAY24**
**TIAMF-MW050-MAY24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 14728 | 549104 | 0.5 | 10 | 0.026821877 | 0.05 | 0.0025 | 0.536 |
| 28258 | 528810 | 1 | 10 | 0.053436962 | 0.1 | 0.01 | 0.534 |
| 47642 | 504172 | 2 | 10 | 0.094495529 | 0.2 | 0.04 | 0.472 |
| 131904 | 487048 | 5 | 10 | 0.27082341 | 0.5 | 0.25 | 0.542 |
| 226218 | 483746 | 10 | 10 | 0.467637975 | 1 | 1 | 0.468 |
| 612820 | 462286 | 30 | 10 | 1.325629589 | 3 | 9 | 0.442 |
| 1147795 | 519193 | 50 | 10 | 2.210728958 | 5 | 25 | 0.442 |
| 2262018 | 530663 | 100 | 10 | 4.262626186 | 10 | 100 | 0.426 |
| 4873441 | 568040 | 200 | 10 | 8.579397578 | 20 | 400 | 0.429 |
| **SUM OF EACH COLUMN :** | | | | **2.2388** | **4.85** | **10.3025** | **2.9944** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.477 | **AVERAGE(RF)** |
| **RSD** | 10.07% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.43807 | 0.45262 | 0.47663 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.01904 | 0.00727 | 0.003513 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99932 | 0.99776 | 0.99600 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99863 | 0.99552 | 0.99202 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

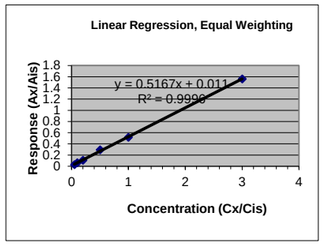
### Sample Concentration Calculations

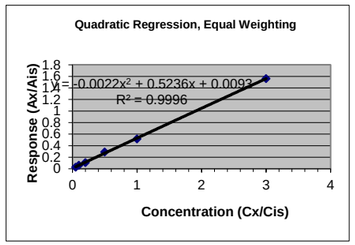
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Final Volume (mL) | Initial Volume (mL) | Final Concentration (ug/L) | Spike Amt (ug/L) | % Recovery | %D | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | Final Conc = (On column * Final Vol / Initial Vol) | | | %R = (final conc / spike amt.)x100 | | %D = ABS((final conc-spike amt)/spike amt)*100 | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| TIAMF-MW059-MAY24 | RFG075.D | 0 | 517077 | 10 | 0.00 | -0.435 | -0.161 | -0.074 | 10.000 | 10.000 | 0.0 | NA | NA | NA | NA |
| TIAMF-MW044-MAY24 | RFG076.D | 5465 | 505402 | 10 | 0.23 | -0.188 | 0.078 | 0.153 | 10.000 | 10.000 | 0.23 | NA | NA | NA | NA |
| TIAMF-MW047-MAY24 | RFG077.D | 7101 | 493646 | 10 | 0.30 | -0.106 | 0.157 | 0.228 | 10.000 | 10.000 | 0.30 | NA | NA | NA | NA |
| TIAMF-MW046-MAY24 | RFG078.D | 4123 | 484255 | 10 | 0.18 | -0.240 | 0.027 | 0.105 | 10.000 | 10.000 | 0.18 | NA | NA | NA | NA |
| TIAMF-MW050-MAY24 | RFG079.D | 3231 | 468785 | 10 | 0.14 | -0.277 | -0.008 | 0.071 | 10.000 | 10.000 | 0.14 | NA | NA | NA | NA |
| MB (VOE2F03B) | RFG067.D | 0 | 727124 | 10 | 0.0 | -0.435 | -0.161 | -0.074 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F03L) | RFG063.D | 381609 | 792750 | 10 | 10.09 | 10.554 | 10.475 | 10.026 | 10.000 | 10.000 | 10.09 | 10.000 | 101 | NA | 1.5 |
| LCSD (VOE2F03C) | RFG064.D | 401525 | 821664 | 10 | 10.25 | 10.721 | 10.636 | 10.179 | 10.000 | 10.000 | 10.25 | 10.000 | 102 | NA | |
| MB (VOE2F04B) | RFG096.D | 0 | 600187 | 10 | 0.00 | -0.435 | -0.161 | -0.074 | 10.000 | 10.000 | 0.00 | NA | NA | NA | NA |
| LCS (VOE2F04L) | RFG093.D | 313496 | 700127 | 10 | 9.39 | 9.787 | 9.732 | 9.321 | 10.000 | 10.000 | 9.39 | 10.000 | 94 | NA | 3.5 |
| LCSD (VOE2F04C) | RFG094.D | 304388 | 703905 | 10 | 9.07 | 9.437 | 9.393 | 8.999 | 10.000 | 10.000 | 9.07 | 10.000 | 90.7 | NA | |
| ICV (5/18/24 @ 09:57) | REG131.D | 314802 | 647637 | 10 | 10.19 | 10.661 | 10.578 | 10.124 | 10.000 | 10.000 | 10.19 | 10.000 | 102 | 1.93 | NA |
| CCV (6/10/24 @ 16:35) | RFG062.D | 375609 | 754319 | 10 | 10.44 | 10.932 | 10.841 | 10.373 | 10.000 | 10.000 | 10.44 | 10.000 | 104 | 4.4 | NA |
| CCV (6/11/24 @ 2:43) | RFG088.D | 238047 | 493624 | 10 | 10.11 | 10.574 | 10.494 | 10.044 | 10.000 | 10.000 | 10.11 | 10.000 | 101 | 1.1 | NA |
| CCV (6/11/24 @ 13:35) | RFG092.D | 277671 | 670311 | 10 | 8.69 | 9.022 | 8.991 | 8.617 | 10.000 | 10.000 | 8.69 | 10.000 | 86.9 | 13.1 | NA |
| CCV (6/12/24 @ 00:30) | RFG119.D | 247820 | 558649 | 10 | 9.30 | 9.692 | 9.640 | 9.233 | 10.000 | 10.000 | 9.30 | 10.000 | 93 | 7.0 | NA |

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F003**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: EMAX
Method: 8260C
SDG: 24F003
Instrument: E2
Curve Date: 5/17/2024
Compound: **cis-1,2-Dichloroethene**
Internal Standard: 1,4-Difluorobenzene
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**TIAMF-MW059-MAY24**
**TIAMF-MW044-MAY24**
**TIAMF-MW047-MAY24**
**TIAMF-MW046-MAY24**
**TIAMF-MW050-MAY24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 16247 | 549104 | 0.5 | 10 | 0.029588202 | 0.05 | 0.0025 | 0.592 |
| 32895 | 528810 | 1 | 10 | 0.062205707 | 0.1 | 0.01 | 0.622 |
| 54578 | 504172 | 2 | 10 | 0.108252739 | 0.2 | 0.04 | 0.541 |
| 142504 | 487048 | 5 | 10 | 0.292587178 | 0.5 | 0.25 | 0.585 |
| 250974 | 483746 | 10 | 10 | 0.518813592 | 1 | 1 | 0.519 |
| 721585 | 462286 | 30 | 10 | 1.560906019 | 3 | 9 | 0.520 |
| 1319898 | 519193 | 50 | 10 | 2.5422107 | 5 | 25 | 0.508 |
| 2606989 | 530663 | 100 | 10 | 4.912701658 | 10 | 100 | 0.491 |
| 5762701 | 568040 | 200 | 10 | 10.14488592 | 20 | 400 | 0.507 |
| **SUM OF EACH COLUMN :** | | | | **2.5724** | **4.85** | **10.3025** | **3.3794** |

**CALIBRATION MODELS:**

**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.543 | **AVERAGE(RF)** |
| **RSD** | 8.40% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.51674 | 0.52249 | 0.54006 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.01103 | 0.00638 | 0.003627 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99979 | 0.99919 | 0.99720 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99958 | 0.99838 | 0.99440 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

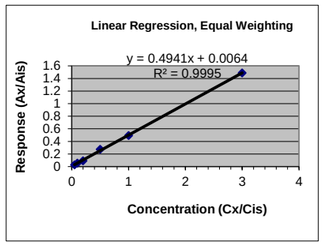
### Sample Concentration Calculations

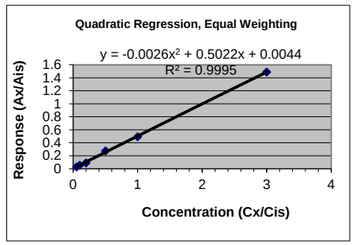
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Final Volume (mL) | Initial Volume (mL) | Final Concentration (ug/L) | Spike Amt (ug/L) | % Recovery | %D | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | Final Conc = (On column * Final Vol / Initial Vol) | | | %R = (final conc / spike amt.)x100 | | %D = ABS((final conc-spike amt)/spike amt)*100 | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| TIAMF-MW059-MAY24 | RFG075.D | 8185 | 517077 | 10 | 0.29 | 0.093 | 0.181 | 0.226 | 10.000 | 10.000 | 0.29 | NA | NA | NA | NA |
| TIAMF-MW044-MAY24 | RFG076.D | 57822 | 505402 | 10 | 2.11 | 2.001 | 2.068 | 2.051 | 10.000 | 10.000 | 2.1 | NA | NA | NA | NA |
| TIAMF-MW047-MAY24 | RFG077.D | 27723 | 493646 | 10 | 1.03 | 0.873 | 0.953 | 0.973 | 10.000 | 10.000 | 1.0 | NA | NA | NA | NA |
| TIAMF-MW046-MAY24 | RFG078.D | 68791 | 484255 | 10 | 2.62 | 2.536 | 2.597 | 2.563 | 10.000 | 10.000 | 2.6 | NA | NA | NA | NA |
| TIAMF-MW050-MAY24 | RFG079.D | 14281 | 468785 | 10 | 0.56 | 0.376 | 0.461 | 0.497 | 10.000 | 10.000 | 0.56 | NA | NA | NA | NA |
| MB (VOE2F03B) | RFG067.D | 0 | 727124 | 10 | 0.0 | -0.213 | -0.122 | -0.067 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F03L) | RFG063.D | 438573 | 792750 | 10 | 10.19 | 10.493 | 10.466 | 10.177 | 10.000 | 10.000 | 10.19 | 10.000 | 102 | NA | 3.7 |
| LCSD (VOE2F03C) | RFG064.D | 471856 | 821664 | 10 | 10.58 | 10.900 | 10.869 | 10.566 | 10.000 | 10.000 | 10.58 | 10.000 | 106 | NA | |
| MB (VOE2F04B) | RFG096.D | 0 | 600187 | 10 | 0.00 | -0.213 | -0.122 | -0.067 | 10.000 | 10.000 | 0.00 | NA | NA | NA | NA |
| LCS (VOE2F04L) | RFG093.D | 376607 | 700127 | 10 | 9.91 | 10.196 | 10.173 | 9.893 | 10.000 | 10.000 | 9.91 | 10.000 | 99 | NA | 4.3 |
| LCSD (VOE2F04C) | RFG094.D | 362567 | 703905 | 10 | 9.49 | 9.754 | 9.736 | 9.470 | 10.000 | 10.000 | 9.49 | 10.000 | 94.9 | NA | |
| ICV (5/18/24 @ 09:57) | REG131.D | 358317 | 647637 | 10 | 10.19 | 10.494 | 10.467 | 10.177 | 10.000 | 10.000 | 10.19 | 10.000 | 102 | 1.90 | NA |
| CCV (6/10/24 @ 16:35) | RFG062.D | 442114 | 754319 | 10 | 10.80 | 11.129 | 11.096 | 10.786 | 10.000 | 10.000 | 10.80 | 10.000 | 108 | 8.0 | NA |
| CCV (6/11/24 @ 2:43) | RFG088.D | 279078 | 493624 | 10 | 10.41 | 10.728 | 10.698 | 10.401 | 10.000 | 10.000 | 10.41 | 10.000 | 104 | 4.1 | NA |
| CCV (6/11/24 @ 13:35) | RFG092.D | 328565 | 670311 | 10 | 9.03 | 9.272 | 9.259 | 9.009 | 10.000 | 10.000 | 9.03 | 10.000 | 90.3 | 9.7 | NA |
| CCV (6/12/24 @ 00:30) | RFG119.D | 297945 | 558649 | 10 | 9.82 | 10.108 | 10.085 | 9.808 | 10.000 | 10.000 | 9.82 | 10.000 | 98 | 1.8 | NA |

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F003**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: EMAX
Method: 8260C
SDG: 24F003
Instrument: E2
Curve Date: 5/17/2024
Compound: **Trichloroethene**
Internal Standard: 1,4-Difluorobenzene
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**TIAMF-MW059-MAY24**
**TIAMF-MW044-MAY24**
**TIAMF-MW047-MAY24**
**TIAMF-MW046-MAY24**
**TIAMF-MW050-MAY24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 15745 | 549104 | 0.5 | 10 | 0.028673985 | 0.05 | 0.0025 | 0.573 |
| 29804 | 528810 | 1 | 10 | 0.056360508 | 0.1 | 0.01 | 0.564 |
| 46157 | 504172 | 2 | 10 | 0.091550106 | 0.2 | 0.04 | 0.458 |
| 134582 | 487048 | 5 | 10 | 0.276321841 | 0.5 | 0.25 | 0.553 |
| 238953 | 483746 | 10 | 10 | 0.493963774 | 1 | 1 | 0.494 |
| 687887 | 462286 | 30 | 10 | 1.48801175 | 3 | 9 | 0.496 |
| 1248919 | 519193 | 50 | 10 | 2.405500459 | 5 | 25 | 0.481 |
| 2438563 | 530663 | 100 | 10 | 4.595313787 | 10 | 100 | 0.460 |
| 5312995 | 568040 | 200 | 10 | 9.35320576 | 20 | 400 | 0.468 |
| **SUM OF EACH COLUMN :** | | | | **2.4349** | **4.85** | **10.3025** | **3.1374** |

**CALIBRATION MODELS:**

**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.505 | **AVERAGE(RF)** |
| **RSD** | 9.09% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.49409 | 0.49703 | 0.49795 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00642 | 0.00405 | 0.003907 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99976 | 0.99898 | 0.99593 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99951 | 0.99796 | 0.99188 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

### Sample Concentration Calculations

| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Final Volume (mL) | Initial Volume (mL) | Final Concentration (ug/L) | Spike Amt (ug/L) | % Recovery | %D | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | Final Conc = (On column * Final Vol / Initial Vol) | | | %R = (final conc / spike amt.)x100 | | %D = ABS((final conc-spike amt)/spike amt)*100 | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| TIAMF-MW059-MAY24 | RFG075.D | 182490 | 517077 | 10 | 6.99 | 7.013 | 7.019 | 7.009 | 10.000 | 10.000 | 7.0 | NA | NA | NA | NA |
| TIAMF-MW044-MAY24 | RFG076.D | 1182752 | 505402 | 10 | 46.33 | 47.234 | 47.003 | 46.919 | 10.000 | 10.000 | 46 | NA | NA | NA | NA |
| TIAMF-MW047-MAY24 | RFG077.D | 504223 | 493646 | 10 | 20.22 | 20.543 | 20.469 | 20.434 | 10.000 | 10.000 | 20 | NA | NA | NA | NA |
| TIAMF-MW046-MAY24 | RFG078.D | 2824910 | 484255 | 10 | 115.50 | 117.935 | 117.287 | 117.073 | 10.000 | 10.000 | 115 | NA | NA | NA | NA |
| TIAMF-MW050-MAY24 | RFG079.D | 342747 | 468785 | 10 | 14.48 | 14.668 | 14.629 | 14.605 | 10.000 | 10.000 | 14 | NA | NA | NA | NA |
| MB (VOE2F03B) | RFG067.D | 0 | 727124 | 10 | 0.0 | -0.130 | -0.082 | -0.078 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F03L) | RFG063.D | 372826 | 792750 | 10 | 9.31 | 9.388 | 9.381 | 9.366 | 10.000 | 10.000 | 9.31 | 10.000 | 93 | NA | 4.5 |
| LCSD (VOE2F03C) | RFG064.D | 404017 | 821664 | 10 | 9.74 | 9.822 | 9.811 | 9.796 | 10.000 | 10.000 | 9.74 | 10.000 | 97 | NA | |
| MB (VOE2F04B) | RFG096.D | 0 | 600187 | 10 | 0.00 | -0.130 | -0.082 | -0.078 | 10.000 | 10.000 | 0.00 | NA | NA | NA | NA |
| LCS (VOE2F04L) | RFG093.D | 318340 | 700127 | 10 | 9.00 | 9.073 | 9.067 | 9.053 | 10.000 | 10.000 | 9.00 | 10.000 | 90 | NA | 4.0 |
| LCSD (VOE2F04C) | RFG094.D | 307489 | 703905 | 10 | 8.65 | 8.711 | 8.707 | 8.694 | 10.000 | 10.000 | 8.65 | 10.000 | 86.5 | NA | |
| ICV (5/18/24 @ 09:57) | REG131.D | 324173 | 647637 | 10 | 9.91 | 10.001 | 9.989 | 9.974 | 10.000 | 10.000 | 9.91 | 10.000 | 99 | 0.90 | NA |
| CCV (6/10/24 @ 16:35) | RFG062.D | 373994 | 754319 | 10 | 9.82 | 9.905 | 9.894 | 9.878 | 10.000 | 10.000 | 9.82 | 10.000 | 98 | 1.8 | NA |
| CCV (6/11/24 @ 2:43) | RFG088.D | 241877 | 493624 | 10 | 9.70 | 9.787 | 9.777 | 9.762 | 10.000 | 10.000 | 9.70 | 10.000 | 97 | 3.0 | NA |
| CCV (6/11/24 @ 13:35) | RFG092.D | 279167 | 670311 | 10 | 8.25 | 8.299 | 8.298 | 8.285 | 10.000 | 10.000 | 8.25 | 10.000 | 82.5 | 17.5 | NA |
| CCV (6/12/24 @ 00:30) | RFG119.D | 263323 | 558649 | 10 | 9.33 | 9.410 | 9.402 | 9.388 | 10.000 | 10.000 | 9.33 | 10.000 | 93 | 6.7 | NA |

## Module 1: Analysis by GC/MS
## Lab/SDG: EMAX / 24F003

Lab: EMAX
Method: 8260C
Instrument: E2
Curve Date: 5/17/2024
Compound: **Trichloroethene**
Internal Standard: 1,4-Difluorobenzene

| ICAL PT | Analyte RT | INT STD RD | RRT |
|---|---|---|---|
| 0.5 | 6.362 | 5.987 | 0.941 |
| 1 | 6.373 | 5.987 | 0.939 |
| 2 | 6.373 | 5.987 | 0.939 |
| 5 | 6.373 | 5.987 | 0.939 |
| 10 | 6.373 | 5.987 | 0.939 |
| 30 | 6.372 | 5.987 | 0.940 |
| 50 | 6.372 | 5.987 | 0.940 |
| 100 | 6.373 | 5.987 | 0.939 |
| 200 | 6.373 | 5.987 | 0.939 |

## Module 1: Analysis by GC/MS

## Lab/SDG: EMAX / 24F003

**Compound** Benzene

**Sample ID** TIAMF-MW059-MAY24

| QAPP LOQ (ug/L) | Initial Vol (mL) | Final Vol (mL) | DF | Final LOQ |
|---|---|---|---|---|
| 1.0 | 10.000 | 10.000 | 1.0 | 1.0 |

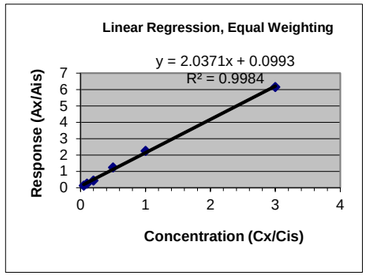
**REPORTED LOQ (ug/L)**

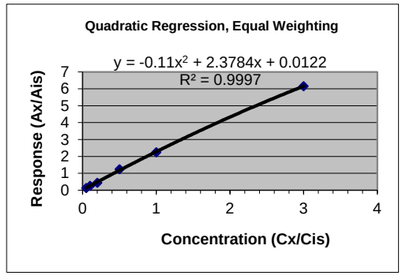
1.0

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F003**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: EMAX
Method: 8260C
SDG: 24F003
Instrument: E2
Curve Date: 5/17/2024
Compound: **Toluene**
Internal Standard: Chlorobenzene-d5
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 58579 | 464476 | 0.5 | 10 | 0.126118465 | 0.05 | 0.0025 | 2.522 |
| 112834 | 434355 | 1 | 10 | 0.259773687 | 0.1 | 0.01 | 2.598 |
| 187086 | 426041 | 2 | 10 | 0.439126751 | 0.2 | 0.04 | 2.196 |
| 511175 | 411703 | 5 | 10 | 1.241611064 | 0.5 | 0.25 | 2.483 |
| 921140 | 409470 | 10 | 10 | 2.249590935 | 1 | 1 | 2.250 |
| 2303744 | 374024 | 30 | 10 | 6.159348063 | 3 | 9 | 2.053 |
| 4751397 | 435004 | 50 | 10 | 10.92265129 | 5 | 25 | 2.185 |
| 9406948 | 467581 | 100 | 10 | 20.11832816 | 10 | 100 | 2.012 |
| 19948069 | 471885 | 200 | 10 | 42.27315765 | 20 | 400 | 2.114 |
| **SUM OF EACH COLUMN :** | | | | **10.4756** | **4.85** | **10.3025** | **14.1017** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 2.268 | **AVERAGE(RF)** |
| **RSD** | 9.46% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 2.03708 | 2.11420 | 2.23358 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.09929 | 0.03695 | 0.018265 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99919 | 0.99777 | 0.99581 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99839 | 0.99554 | 0.99164 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

### Sample Concentration Calculations

| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Final Volume (mL) | Initial Volume (mL) | Final Concentration (ug/L) | Spike Amt (ug/L) | % Recovery | %D | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | Final Conc = (On column * Final Vol / Initial Vol) | | | %R = (final conc / spike amt.)x100 | | %D = ABS((final conc-spike amt)/spike amt)*100 | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| TB-1_MAY24 | RFG073.D | 31439 | 422620 | 10 | 0.33 | -0.122 | 0.177 | 0.251 | 10.000 | 10.000 | 0.33 | NA | NA | NA | NA |
| TB-2_MAY24 | RFG074.D | 27694 | 414099 | 10 | 0.29 | -0.159 | 0.142 | 0.218 | 10.000 | 10.000 | 0.29 | NA | NA | NA | NA |

**Module 1: Analysis by GC/MS**

**Lab/SDG: EMAX / 24F003**

| | TIAMF-MW059-MAY24 | | | | TIAMF-MW044-MAY24 | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 517077 | 404842 | 199904 | 517077 | 505402 | 390333 | 183981 | 505402 |
| **Surrogate Response** | 462329 | 854770 | 317721 | 314094 | 447050 | 830167 | 310815 | 313557 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 11.05 | 10.63 | 10.01 | 9.93 | 10.93 | 10.70 | 10.65 | 10.14 |
| **Surr %R** | 111 | 106 | 100 | 99 | 109 | 107 | 106 | 101 |

| | TIAMF-MW047-MAY24 | | | | TIAMF-MW046-MAY24 | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 493646 | 384955 | 184007 | 493646 | 484255 | 379562 | 181666 | 484255 |
| **Surrogate Response** | 444707 | 819010 | 299731 | 297685 | 452657 | 802434 | 295956 | 294518 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 11.14 | 10.71 | 10.26 | 9.85 | 11.55 | 10.64 | 10.27 | 9.94 |
| **Surr %R** | 111 | 107 | 103 | 99 | 116 | 106 | 103 | 99 |

| | TIAMF-MW050-MAY24 | | | |
|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 468785 | 377159 | 180466 | 468785 |
| **Surrogate Response** | 439528 | 788990 | 292307 | 299434 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 11.59 | 10.53 | 10.21 | 10.44 |
| **Surr %R** | 116 | 105 | 102 | 104 |

| | MB (VOE2F03B) | | | |
|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 727124 | 552730 | 266282 | 727124 |
| **Surrogate Response** | 605141 | 1181499 | 441902 | 427619 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.29 | 10.76 | 10.46 | 9.61 |
| **Surr %R** | 103 | 108 | 105 | 96 |

| | LCS (VOE2F03L) | | | | LCSD (VOE2F03C) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 792750 | 646227 | 321378 | 792750 | 821664 | 645570 | 324769 | 821664 |
| **Surrogate Response** | 638295 | 1343222 | 531007 | 477546 | 656812 | 1349262 | 556714 | 472839 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 9.95 | 10.46 | 10.41 | 9.84 | 9.88 | 10.52 | 10.80 | 9.40 |
| **Surr %R** | 100 | 105 | 104 | 98 | 99 | 105 | 108 | 94 |

**Module 1: Analysis by GC/MS**

**Lab/SDG:** **EMAX / 24F003**

| | MB (VOE2F04B) | | | |
|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 600187 | 469288 | 222326 | 600187 |
| **Surrogate Response** | 524716 | 987879 | 374680 | 365937 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.81 | 10.59 | 10.62 | 9.96 |
| **Surr %R** | 108 | 106 | 106 | 100 |

| | LCS (VOE2F04L) | | | | LCSD (VOE2F04C) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 700127 | 552821 | 279028 | 700127 | 703905 | 550837 | 285241 | 703905 |
| **Surrogate Response** | 600152 | 1166618 | 489887 | 421921 | 576775 | 1162432 | 480962 | 412093 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.60 | 10.62 | 11.06 | 9.85 | 10.13 | 10.62 | 10.62 | 9.57 |
| **Surr %R** | 106 | 106 | 111 | 98 | 101 | 106 | 106 | 96 |

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F003**

**CALCULATION OF WORKING STANDARD FROM STOCK**

**CALIBRATION STANDARD**

| | |
|---|---|
| **Name of Stock Standard:** | CPI International "Custom Volatiles Mix" |
| **Conc of Stock Std** | 2000 ug/mL (ppm) |
| **Aliquot of Stock Std used:** | 0.250 mL |
| **Final Conc of Working standard** | 250 ug/mL (ppm) |

C2 = C1*V1)/V2

| **C1** | **V1** | **V2** | **C2** |
|---|---|---|---|
| 2000 | 0.250 | 2.0 | 250 |

where
C1 = concentration of Stock standard
V1 = Volume of stock standard used
C2 = Concentration of working standard
V2 = Final volume of working standard

Calibration pt at 1ug/L

| | *From analytical log* spike amt | concentration | purge volume (see analysis run log) | **spike amt in L** | **amount spiked** | **concentration of amount spiked = (amount spiked/ purge volue)** |
|---|---|---|---|---|---|---|
| Filename REG119: – 1ug/L point | 0.04 uL | 250 mg/L | 10 ml | 0.00000004 L | 0.00001 mg | 0.001 mg/L 1 ug/L |

**SURROGATE STANDARD**

| | |
|---|---|
| **Name of Stock Standard:** | RESTEK "8260A Surrogate Mix" |
| **Conc of Stock Std** | 2500 ug/mL (ppm) |
| **Aliquot of Stock Std used:** | 0.200 mL |
| **Final Conc of Working standard** | 50 ug/mL (ppm) |

C2 = C1*V1)/V2

| **C1** | **V1** | **V2** | **C2** |
|---|---|---|---|
| 2500 | 0.200 | 10 | 50 |

where
C1 = concentration of Stock standard
V1 = Volume of stock standard used
C2 = Concentration of working standard
V2 = Final volume of working standard

| | *From analytical log* spike amt | concentration | purge volume (see analysis run log) | **spike amt in L** | **amount spiked** | **concentration of amount spiked = (amount spiked/ purge volue)** |
|---|---|---|---|---|---|---|
| IS/ Surr | 5 uL | 20 mg/L | 10 ml | 0.000005 L | 0.0001 mg | 0.01 mg/L 10 ug/L |

**Module 1: Analysis by GC/MS**

**Lab/SDG: EMAX / 24F003**

**ICV/LCS STANDARD (second source)**

| | |
|---|---|
| **Name of Stock Standard:** | RESTEK "Custom Revised 2060 Megamix" |
| **Conc of Stock Std** | 2000 ug/mL (ppm) |
| **Aliquot of Stock Std used:** | 0.250 mL |
| **Final Conc of Working standard** | 50 ug/mL |

C2 = C1*V1)/V2

| **C1** | **V1** | **V2** | **C2** |
|---|---|---|---|
| 2000 | 0.250 | 10 | 50 |

where
C1 = concentration of Stock standard
V1 = Volume of stock standard used
C2 = Concentration of working standard
V2 = Final volume of working standard

| | *From analytical log* spike amt | concentration | purge volume (see analysis run log) | **spike amt in L** | **amount spiked** | **concentration of amount spiked = (amount spiked/ purge volue)** | |
|---|---|---|---|---|---|---|---|
| ICV/LCS | 0.4 uL | 250 mg/L | 10 ml | 0.0000004 L | 0.0001 mg | 0.01 mg/L | 10 ug/L |

**Data Validation Report for 24F004**

| | |
|---|---|
| Facility: | J09CA1108-01, Titan 1A Missile Facility, RI |
| Event: | Spring 2024 |
| SDG: | 24F004 |
| Guidance Document: | Titan 1A Missile Facility, Lincoln CA |
| Prime Contractor: | Parsons Corporation, Austin, TX |
| Project Manager: | Tim Crummett |
| Contract Laboratory(ies): | EMAX Laboratories, Inc., Torrance, CA |
| Data Review Contractor: | Parsons Corporation |
| Data Review Level: | S2BVEM |
| Primary Data Reviewer: | Beth Driskill, Senior Scientist |
| Date Submitted: | July 16, 2024 |

| Field Sample ID | Lab Sample ID | Matrix | Type/Type Code | SW 260C |
|---|---|---|---|---|
| T1AMF-EW001-MAY24 | 24F004-08 | Water | Field Sample/N | X |
| T1AMF-MW019-MAY24 | 24F004-01N | Water | Field Sample/N | X |
| T1AMF-MW022-MAY24 | 24F004-06N | Water | Field Sample/N | X |
| T1AMF-MW042-MAY24 | 24F004-03 | Water | Field Sample/N | X |
| T1AMF-MW043-MAY24 | 24F004-05N | Water | Field Sample/N | X |
| T1AMF-MW045-MAY24 | 24F004-07 | Water | Field Sample/N | X |
| T1AMF-MW048-MAY24 | 24F004-09N | Water | Field Sample/N | X |
| T1AMF-MW054-MAY24 | 24F004-02 | Water | Field Sample/N | X |
| T1AMF-MW055-MAY24 | 24F004-04 | Water | Field Sample/N | X |
| T1AMF-MW056-MAY24 | 24F004-10N | Water | Field Sample/N | X |

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2BVEM data validation level and 10% of the data validated at a Stage 4. Sample TIAMF·MW045·MAY24 was validated at a Stage 4. Validation was performed following the guidelines outlined in the project-specific UFP QAPP, DoD General Data Validation Guidelines, Rev 1 (Nov 2019) and Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Titan 1A Missile Facility, Lincoln CA and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Parsons Corporation, Austin, TX; analyses were performed by EMAX Laboratories, Inc., Torrance, CA and were reported under sample delivery group (SDG) 24F004. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Lab Blank
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 0 results (0.00%) out of the 110 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency (X qualifier). Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

| Analytical Method | Data Reviewer Comment |
|---|---|
| SW8260C | Samples AB-1-MAY24 and EB-1-MAY24 were collected by mistake and were cancelled. by Parsons. |

Beth Driskill

July 16, 2024

Reviewed by Beth Driskill, Senior Scientist, Parsons Corporation

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of the reported sample results and method quality control data between the two deliverables.

**Quality Control Outliers for test method SW8260C, Surrogate**

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

| Sample ID/ Lab Sample ID | Analyte | Result | Warning Limits | Control Limits | Units | Qualifier | Reason Code | Comment |
|---|---|---|---|---|---|---|---|---|
| T1AMF-MW055-MAY24 (N) 24F004-04 | 1,2-Dichloroethane-d4 | 119 | 81 - 118 | 10 - 118 | percent | J/None | I | |

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Qualified Results

No results associated with this sample delivery group required qualification.

Results with Modified Qualifiers

No qualifiers associated with this sample delivery group were modified manually.

**Reason Code Definitions**

| Code | Definition |
|---|---|
| I | Surrogate recovery outside project limits. |
| TR | Trace Level Detect |

**Flag Code and Definitions**

| Flag | Definition |
|---|---|
| J | Estimated Value |
| N | The analysis indicates the presence of an analyte for which there was presumptive evidence to make a tentative identification. |
| NJ | The analyte has been tentatively identified or presumptively as present and the associated numerical value was the estimated concentration in the sample. |
| R | The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making. |
| U | Undetected: The analyte was analyzed for, but not detected. |
| U | The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria. |
| X | Result may require rejection; PDT attention required |

**Bias**

| | |
|---|---|
| - | The result may be biased low |
| + | The result may be biased high |

Note - The bias field is a separate field; however, it is an integral part of the final flag (qualifier) on the sample result

**Review Questions**

Method: SW8260C (Volatile Organic Compounds by GC/MS)

| Review Questions | Yes | No | NA | Comment |
|---|---|---|---|---|
| Were there discrepancies between the COC and the samples received? | • | | | Samples AB-1-MAY24 and EB-1-MAY24 were collected by mistake and were cancelled. by Parsons. |
| Were there discrepancies between the COC and the sample labels? | • | | | The following discrepancies were noted:<br>1. The analysis was not included on the container label for any of the samples.<br>2. The sample ID on the COC was missing the leading "0".<br>3. Corrections made to the sample labels were not initialed and dated by field team.<br><br>An email was sent to the laboratory by Parsons instructing them of the analysis to be performed for all samples and the correct sample ID. |
| Were samples relinquished properly on the COC? | • | | | |
| Were all samples properly preserved? | • | | | |
| Were sampling dates/times, date and time of laboratory receipt of samples, and sample conditions upon receipt at the laboratory (including preservation, pH, and temperature) documented? | • | | | |
| Were sample results reported with percent moisture correction if required? | | | • | |
| Were analytical methods performed and analysis dates present? | • | | | |
| Were all requested target analytes reported? | • | | | |
| Were QAPP specified Project Quantitation Limit Goals achieved? (The laboratory LOQ is compared to the QAPP Project Quantitation Goal) | | • | | The LOQ value for the following analytes are greater than the Project Quantitation Limit Goal: 1,4-Dichlorobenzene, Benzene, Ethylbenzene, Trichloroethene, and Vinyl Chloride |
| Were holding times met? | • | | | |
| Were trip blanks analyzed at the proper frequency and in control? | | • | | Both trip blank samples were included in SDG 24F004 and had detections of toluene below the LOQ. All the field samples were non-detect for toluene; therefore, data quality was not impacted and results were not qualified. |
| Were field blanks analyzed at the proper frequency and in control? | | | • | Field blanks were not planned to be collected for this sampling event. |
| Were equipment blanks analyzed at the proper frequency and in control? | • | | | One equipment blank and one source blank included in SDG 24F019 were associated with the samples in this SDG. Both blanks were non-detect for all target analytes |
| Was a method blank prepared and analyzed with each batch? | • | | | |
| Were target analytes in the method blank less than DL? | • | | | |
| Was an LCS/LCSD pair prepared and analyzed with each batch? | • | | | |
| Were LCS/LCSD recoveries within project acceptance limits? | • | | | |
| Was the LCS/LCSD RPD within project acceptance limits? | • | | | |
| Was a MS/MSD pair prepared with each batch? | | • | | A project MS/MSD was not collected with the samples in this SDG and the laboratory did not select a project sample form this SDG for MS/MSD analysis. |
| Were MS/MSD recoveries within project acceptance limits? | | | • | |

**Review Questions**

Method: SW8260C (Volatile Organic Compounds by GC/MS)

| Review Questions | Yes | No | NA | Comment |
|---|---|---|---|---|
| Was the MS/MSD RPD within project acceptance limits? | | | • | |
| If ISM was used for sample collection, were laboratory triplicates analyzed and within project acceptance limits? | | | • | |
| Were surrogate recoveries within project acceptance limits? | | • | | Surrogate 1,2-dichloroethane-d4 recovered high and outside criteria in sample T1AMF-MW055-MAY24. The results were non-detect for all target analytes; therefore, data quality was not impacted and results were not qualified. |
| Were field replicates (duplicates, triplicates, etc.) analyzed at the proper frequency and in control? | | | • | Field duplicates were collected and analyzed at the proper frequency required by the project but no field duplicates were included in this SDG. |
| Were reported sample concentrations within calibration range? | • | | | |
| Was the GC/MS system properly tuned based on method criteria? | • | | | |
| Was instrument tuning completed every 12 hours during sample analysis? | • | | | |
| Was the Calibration within project acceptance criteria? | • | | | |
| Was a ICV performed after each ICAL prior to sample analysis and within project acceptance criteria? | • | | | |
| Were CCVs run at the required frequency and within project acceptance criteria? | • | | | |
| Were internal standard retention times and area criteria within project acceptance criteria? | • | | | |
| Were internal standards spiked for every sample, standard, and QC sample? | • | | | |
| Were instrument run logs present and filled out appropriately? | • | | | |
| Were sample preparation sheets present and filled out appropriately? | • | | | |
| Have all Laboratory Case Narrative comments/findings been addressed in the data review process? | • | | | |
| Were DoD QSM corrective actions followed if deviations were noted? | • | | | |
| Were any data recommended for exclusion in the data validation process? | | • | | |

## Module 1: Analysis by GC/MS

**Lab/SDG:** **EMAX / 24F004**

| RECALCULATION TYPE | TAB Reference |
|---|---|
| Tune: Ion Abundance | TUNE |
| Tailing Factor | not applicable for 8260 |
| Calibration RF | ICAL RF |
| Calibration RRT | Rel RT |
| ICV/CCV %D | ICAL RF |
| Sample Conc. Raw Values | ICAL RF |
| Sample Conc. Linear Regression | not applicable |
| Quadratic Regression | not applicable |
| LCS % Recovery | ICAL RF |
| Surrogate % Recovery | ICAL RF |
| MS/MSD % Recovery | ICAL RF |
| MS/MSD RPD | ICAL RF |
| Sample Amounts | ICAL RF |
| Sample Conc. by Volume (Aqueous Only) | ICAL RF |
| Sample Conc. by Weight (Non-aqueous only) | not applicable |

| 6.1 SAMPLES AND QC | COMMENT |
|---|---|
| Sample recalculations should include the raw instrument result, re-quantified from the instrument response against the calibration function, and the final reported sample result, including any dilution, preparation factor, or percent moisture (if applicable). The equations in Appendix B can be used to calculate a sample result from the corresponding reported calibration or regression function, as appropriate | Provided in ICAL RF tab |
| Verify that one or more of the laboratory's reporting limits (such as limit of quantitation) are calculated correctly for the non-detects and reported accordingly. If a detection limit study was identified by the QAPP, recalculate one or more analyte detection limits. | Provided in LOQ Recalc tab |
| Re-quantitate **all detected target analytes in the 10% sample data chosen**. For some samples, all results may be non-detects, therefore recalculation would not be necessary. Verify that sample-specific results have been adjusted correctly to reflect percent solids, original sample mass/volume, and any applicable dilutions. | Provided in ICAL RF tab |

## Module 1: Analysis by GC/MS

**Lab/SDG: EMAX / 24F004**

| | |
|---|---|
| Re-quantitate **all detects found in the field QC blanks** (such as trip blanks, field blanks, or equipment blanks). Field QC sample duplicate recalculations should include re-quantification of the same detected analyte sample/duplicate pair and verification of the percent difference (%D), or relative percent difference (RPD), as reported | No field blanks were included in this SDG |
| **6.2 Method QC** | |
| Re-quantification of batch QC sample results should use raw instrument response in tandem with the reported calibration factor, response factor, or slope; the preparation information; and percent moisture for solid samples to recreate the reported result. | Provided in ICAL RF tab |
| **6.2.1 Surrogate Spikes** | |
| Verify the concentrations of surrogates from the raw data. Verify that the surrogate result and percent recovery were calculated and reported correctly by re-calculating all surrogates in the 10% of chosen sample data and method QC that were originally selected. | Provided in ICAL RF tab |
| **6.2.2 LCS/LCSD** | |
| To check that the spike percent recovery was calculated and reported correctly, using the equation in Appendix B, re-quantitate and then recalculate all contaminants of concern as outlined in the UFP-QAPP Worksheet #12 or #15. Use a random 10% of the analytes in the LCS/LCSD if contaminants of concern (target analytes) have not been specifically identified. Recalculate RPDs (if applicable) from LCS/LCSD pairs that would result in the qualification of a sample. | Provided in ICAL RF tab |
| **6.2.3 MS/MSD** | |
| Re-quantitate 10% of the target analytes as listed in the UFP-QAPP Worksheet #12 or #15 for both the MS and the MSD. Use a random 10% of the analytes in the MS and MSD if contaminates of concern have not been identified. The RPDs of the recalculated MS/MSD pairs should be calculated from the MS/MSD concentrations, not from the recoveries. | Provided in ICAL RF tab |
| **6.2.4 Method Blanks** | |
| Re-quantitate one or more detects found in the method blank (if applicable) from the reported average RF (or higher order regression, if used) per each batch of samples. | No method blank detections were found; no recalcs needed |
| **6.3 Insturment QC** | |
| **6.3.1 Tune Check** | |
| Verify by re-calculating from the quantitation reports, that the mass assignment is correct and that the mass listing is normalized to the specified m/z for at least 10% of the abundance ratios in every tune. Verify by recalculation that the reported DDT degradation and tailing factor are accurate for SVOC performance checks. | Provided in TUNE tab |

## Module 1: Analysis by GC/MS

**Lab/SDG:** **EMAX / 24F004**

**6.3.2 Initial (Response Factors and Regressions) and Continuing Calibration Verifications**

| | |
|---|---|
| Initial calibration (ICAL) recalculations should use the raw instrument response for the target analytes and associated internal standards to recreate the calibration curve from the individual calibration standards. If multiple types of calibration curves are employed in an analytical suite, then one analyte per curve type should be recalculated. | Provided in ICAL RF tab |
| Re-quantitate and recalculate the individual and average RFs, %RSDs, and regression function (if used) and r values reported for at least 10% of the target analytes per each internal standard, (preferably analytes of concern which were identified in the QAPP), per initial calibration curve type. | Provided in ICAL RF tab |
| Re-quantitate and recalculate the Initial and Continuing Calibration Verification RF result and %D for at least 10% of the target analytes, proportionally per each internal standard and proportionally selecting analytes based on each calibration curve type. | Provided in ICAL RF tab |
| The laboratory may employ a linear or weighted linear least squares regression. The low standard should be recalculated using the calibration curve and evaluated. RFs should not be evaluated for analytes with linear or higher order regression curves. If the ICAL included refitting of the data back to the model (RSE), the recalculate 10% of the target analytes for the RSE in each ICAL. | Linear regression was not used for any target analytes in this SDG |

**6.3.3 Internal Standards**

| | |
|---|---|
| Verify all internal standards reported from the raw data for at least one sample per batch of samples, and verify internal standard areas for samples that were qualified due to out-of-control internal standard areas. | No calculations were performed; internal stds were verified as required. Recalculations of all analyte concentrations further confirm IS quantitation. |

**6.4 Standards Traceability**

| | |
|---|---|
| Check that the stock standards were diluted properly into working standards by recalculating the dilutions of one or more **calibration standards**. Recalculate one or more **surrogate** dilutions. Recalculate one or more method QC sample dilutions (such as **LCS or MS/MSD**) from the stock to the working standard. | Provided in Standards tab |

## Module 1: Analysis by GC/MS
## Lab/SDG: EMAX / 24F004

**TUNE**

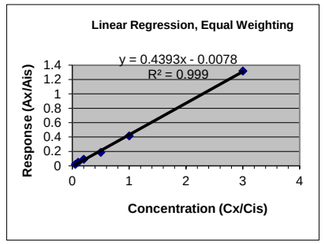
Data file: REG116.D
Acq On: 5/17/2024 11:23
Sample ID: BFBE2E09

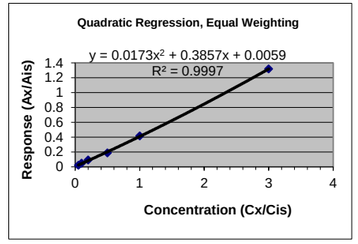
| Target Mass | RAW Abundance | Rel to Mass | Rel Abn% | Lower limit | Upper Limit |
|---|---|---|---|---|---|
| 50 | 11125 | 95 | 20.27630 | 15 | 40 |
| 75 | 27461 | 95 | 50.05012 | 30 | 60 |
| 95 | 54867 | 95 | 100 | 100 | 100 |
| 96 | 3687 | 95 | 6.71989 | 5 | 9 |
| 173 | 441 | 174 | 0.96450 | 0 | 2 |
| 174 | 45723 | 95 | 83.33424 | 50 | 100 |
| 175 | 3423 | 174 | 7.48639 | 5 | 9 |
| 176 | 44603 | 174 | 97.55047 | 95 | 101 |
| 177 | 2888 | 174 | 6.31630 | 5 | 9 |

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F004**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: EMAX
Method: 8260C
SDG: 24F004
Instrument: E2
Curve Date: 5/17/2024
Compound: Vinyl Chloride
Internal Standard: 1,4-Difluorobenzene




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**TIAMF-MW045-MAY24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 11508 | 549104 | 0.5 | 10 | 0.020957778 | 0.05 | 0.0025 | 0.419 |
| 25933 | 528810 | 1 | 10 | 0.049040298 | 0.1 | 0.01 | 0.490 |
| 46513 | 504172 | 2 | 10 | 0.092256214 | 0.2 | 0.04 | 0.461 |
| 91465 | 487048 | 5 | 10 | 0.187794632 | 0.5 | 0.25 | 0.376 |
| 201033 | 483746 | 10 | 10 | 0.415575529 | 1 | 1 | 0.416 |
| 609327 | 462286 | 30 | 10 | 1.31807366 | 3 | 9 | 0.439 |
| 1164938 | 519193 | 50 | 10 | 2.243747508 | 5 | 25 | 0.449 |
| 2380759 | 530663 | 100 | 10 | 4.486385898 | 10 | 100 | 0.449 |
| 4720259 | 568040 | 200 | 10 | 8.309729949 | 20 | 400 | 0.415 |
| **SUM OF EACH COLUMN :** | | | | **2.0837** | **4.85** | **10.3025** | **2.6014** |

**CALIBRATION MODELS:**

**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.435 | **AVERAGE(RF)** |
| **RSD** | 7.58% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.43932 | 0.42868 | 0.42713 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | -0.00783 | 0.00076 | 0.001006 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99949 | 0.99827 | 0.99358 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99898 | 0.99654 | 0.98720 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

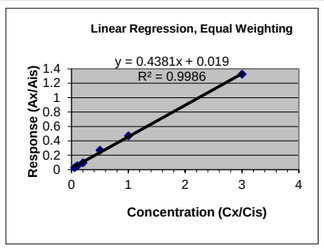
### Sample Concentration Calculations

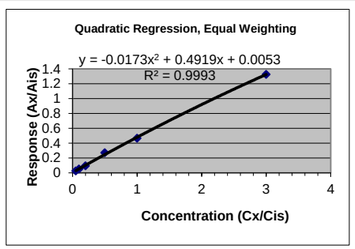
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Final Volume (mL) | Initial Volume (mL) | Final Concentration (ug/L) | Spike Amt (ug/L) | % Recovery | %D | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | Final Conc = (On column * Final Vol / Initial Vol) | | | %R = (final conc / spike amt.)x100 | | %D = ABS((final conc-spike amt)/spike amt)*100 | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| TIAMF-MW045-MAY24 | RFG044.D | 2595 | 505850 | 10 | 0.12 | 0.295 | 0.102 | 0.097 | 10.000 | 10.000 | 0.12 | NA | NA | NA | NA |
| MB (VOE2F02B) | RFG037.D | 0 | 702533 | 10 | 0.00 | 0.178 | -0.018 | -0.024 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F02L) | RFG034.D | 366433 | 804216 | 10 | 10.48 | 10.550 | 10.611 | 10.644 | 10.000 | 10.000 | 10.48 | 10.000 | 105 | NA | 10 |
| LCSD (VOE2F02C) | RFG035.D | 325969 | 788614 | 10 | 9.50 | 9.587 | 9.624 | 9.654 | 10.000 | 10.000 | 9.50 | 10.000 | 95 | NA | |
| MB (VOE2F03B) | RFG067.D | 0 | 727124 | 10 | 0.00 | 0.178 | -0.018 | -0.024 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F03L) | RFG063.D | 348108 | 792750 | 10 | 10.10 | 10.174 | 10.226 | 10.257 | 10.000 | 10.000 | 10.10 | 10.000 | 101 | NA | 10 |
| LCSD (VOE2F03C) | RFG064.D | 326070 | 821664 | 10 | 9.12 | 9.211 | 9.239 | 9.267 | 10.000 | 10.000 | 9.12 | 10.000 | 91 | NA | |
| MB (VOE2F04B) | RFG096.D | 0 | 600187 | 10 | 0.00 | 0.178 | -0.018 | -0.024 | 10.000 | 10.000 | 0.00 | NA | NA | NA | NA |
| LCS (VOE2F04L) | RFG093.D | 333714 | 700127 | 10 | 10.96 | 11.028 | 11.101 | 11.136 | 10.000 | 10.000 | 10.96 | 10.000 | 110 | NA | 4.9 |
| LCSD (VOE2F04C) | RFG094.D | 319492 | 703905 | 10 | 10.44 | 10.510 | 10.570 | 10.603 | 10.000 | 10.000 | 10.44 | 10.000 | 104 | NA | |
| ICV (5/18/24 @ 09:57) | REG131.D | 294360 | 647637 | 10 | 10.45 | 10.524 | 10.585 | 10.617 | 10.000 | 10.000 | 10.45 | 10.000 | 105 | 4.51 | NA |
| CCV (6/08/24 @ 14:28) | RFG033.D | 359289 | 759396 | 10 | 10.88 | 10.948 | 11.019 | 11.053 | 10.000 | 10.000 | 10.88 | 10.000 | 109 | 8.8 | NA |
| CCV (6/09/24 @ 00:35) | RFG058.D | 240197 | 446913 | 10 | 12.36 | 12.412 | 12.520 | 12.559 | 10.000 | 10.000 | 12.36 | 10.000 | 124 | 23.6 | NA |
| CCV (6/10/24 @ 16:35) | RFG062.D | 343187 | 754319 | 10 | 10.46 | 10.534 | 10.595 | 10.628 | 10.000 | 10.000 | 10.46 | 10.000 | 105 | 4.6 | NA |
| CCV (6/11/24 @ 2:43) | RFG088.D | 253169 | 493624 | 10 | 11.79 | 11.853 | 11.946 | 11.984 | 10.000 | 10.000 | 11.79 | 10.000 | 118 | 17.9 | NA |
| CCV (6/11/24 @ 13:35) | RFG092.D | 315166 | 670311 | 10 | 10.81 | 10.881 | 10.950 | 10.984 | 10.000 | 10.000 | 10.81 | 10.000 | 108 | 8.1 | NA |

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F004**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: EMAX
Method: 8260C
SDG: 24F004
Instrument: E2
Curve Date: 5/17/2024
Compound: **trans-1,2-Dichloroethene**
Internal Standard: 1,4-Difluorobenzene
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**TIAMF·MW045·MAY24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 14728 | 549104 | 0.5 | 10 | 0.026821877 | 0.05 | 0.0025 | 0.536 |
| 28258 | 528810 | 1 | 10 | 0.053436962 | 0.1 | 0.01 | 0.534 |
| 47642 | 504172 | 2 | 10 | 0.094495529 | 0.2 | 0.04 | 0.472 |
| 131904 | 487048 | 5 | 10 | 0.27082341 | 0.5 | 0.25 | 0.542 |
| 226218 | 483746 | 10 | 10 | 0.467637975 | 1 | 1 | 0.468 |
| 612820 | 462286 | 30 | 10 | 1.325629589 | 3 | 9 | 0.442 |
| 1147795 | 519193 | 50 | 10 | 2.210728958 | 5 | 25 | 0.442 |
| 2262018 | 530663 | 100 | 10 | 4.262626186 | 10 | 100 | 0.426 |
| 4873441 | 568040 | 200 | 10 | 8.579397578 | 20 | 400 | 0.429 |
| **SUM OF EACH COLUMN :** | | | | **2.2388** | **4.85** | **10.3025** | **2.9944** |

**CALIBRATION MODELS:**

**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.477 | **AVERAGE(RF)** |
| **RSD** | 10.07% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.43807 | 0.45262 | 0.47663 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.01904 | 0.00727 | 0.003513 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99932 | 0.99776 | 0.99600 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99863 | 0.99552 | 0.99202 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

### Sample Concentration Calculations

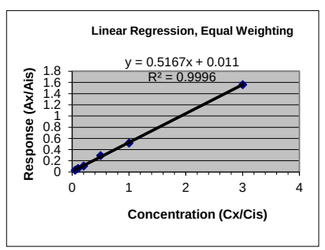
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Final Volume (mL) | Initial Volume (mL) | Final Concentration (ug/L) | Spike Amt (ug/L) | % Recovery | %D | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | Final Conc = (On column * Final Vol / Initial Vol) | | | %R = (final conc / spike amt.)x100 | | %D = ABS((final conc-spike amt)/spike amt)*100 | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| TIAMF·MW045·MAY24 | RFG044.D | 8150 | 505850 | 10 | 0.34 | -0.067 | 0.195 | 0.264 | 10.000 | 10.000 | 0.34 | NA | NA | NA | NA |
| MB (VOE2F02B) | RFG037.D | 0 | 702533 | 10 | 0.00 | -0.435 | -0.161 | -0.074 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F02L) | RFG034.D | 379003 | 804216 | 10 | 9.88 | 10.323 | 10.251 | 9.814 | 10.000 | 10.000 | 9.88 | 10.000 | 99 | NA | 0 |
| LCSD (VOE2F02C) | RFG035.D | 371808 | 788614 | 10 | 9.89 | 10.328 | 10.256 | 9.818 | 10.000 | 10.000 | 9.89 | 10.000 | 99 | NA | |
| MB (VOE2F03B) | RFG067.D | 0 | 727124 | 10 | 0.00 | -0.435 | -0.161 | -0.074 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F03L) | RFG063.D | 381609 | 792750 | 10 | 10.09 | 10.554 | 10.475 | 10.026 | 10.000 | 10.000 | 10.09 | 10.000 | 101 | NA | 1 |
| LCSD (VOE2F03C) | RFG064.D | 401252 | 821664 | 10 | 10.24 | 10.713 | 10.628 | 10.172 | 10.000 | 10.000 | 10.24 | 10.000 | 102 | NA | |
| MB (VOE2F04B) | RFG096.D | 0 | 600187 | 10 | 0.00 | -0.435 | -0.161 | -0.074 | 10.000 | 10.000 | 0.00 | NA | NA | NA | NA |
| LCS (VOE2F04L) | RFG093.D | 313496 | 700127 | 10 | 9.39 | 9.787 | 9.732 | 9.321 | 10.000 | 10.000 | 9.39 | 10.000 | 94 | NA | 3 |
| LCSD (VOE2F04C) | RFG094.D | 304388 | 703905 | 10 | 9.07 | 9.437 | 9.393 | 8.999 | 10.000 | 10.000 | 9.07 | 10.000 | 91 | NA | |
| ICV (5/18/24 @ 09:57) | REG131.D | 314802 | 647637 | 10 | 10.19 | 10.661 | 10.578 | 10.124 | 10.000 | 10.000 | 10.19 | 10.000 | 102 | 1.93 | NA |
| CCV (6/08/24 @ 14:28) | RFG033.D | 343392 | 759396 | 10 | 9.48 | 9.888 | 9.830 | 9.414 | 10.000 | 10.000 | 9.48 | 10.000 | 95 | 5.2 | NA |
| CCV (6/09/24 @ 00:35) | RFG058.D | 216797 | 446913 | 10 | 10.17 | 10.639 | 10.557 | 10.104 | 10.000 | 10.000 | 10.17 | 10.000 | 102 | 1.7 | NA |
| CCV (6/10/24 @ 16:35) | RFG062.D | 375609 | 754319 | 10 | 10.44 | 10.932 | 10.841 | 10.373 | 10.000 | 10.000 | 10.44 | 10.000 | 104 | 4.4 | NA |
| CCV (6/11/24 @ 2:43) | RFG088.D | 238047 | 493624 | 10 | 10.11 | 10.574 | 10.494 | 10.044 | 10.000 | 10.000 | 10.11 | 10.000 | 101 | 1.1 | NA |
| CCV (6/11/24 @ 13:35) | RFG092.D | 277671 | 670311 | 10 | 8.69 | 9.022 | 8.991 | 8.617 | 10.000 | 10.000 | 8.69 | 10.000 | 87 | 13.1 | NA |

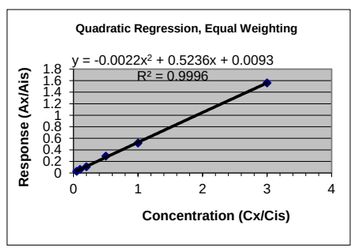
**Module 1: Analysis by GC/MS**

**Lab/SDG: EMAX / 24F004**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: EMAX
Method: 8260C
SDG: 24F004
Instrument: E2
Curve Date: 5/17/2024
Compound: **cis-1,2-Dichloroethene**
Internal Standard: 1,4-Difluorobenzene
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**TIAMF·MW045·MAY24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 16247 | 549104 | 0.5 | 10 | 0.029588202 | 0.05 | 0.0025 | 0.592 |
| 32895 | 528810 | 1 | 10 | 0.062205707 | 0.1 | 0.01 | 0.622 |
| 54578 | 504172 | 2 | 10 | 0.108252739 | 0.2 | 0.04 | 0.541 |
| 142504 | 487048 | 5 | 10 | 0.292587178 | 0.5 | 0.25 | 0.585 |
| 250974 | 483746 | 10 | 10 | 0.518813592 | 1 | 1 | 0.519 |
| 721585 | 462286 | 30 | 10 | 1.560906019 | 3 | 9 | 0.520 |
| 1319898 | 519193 | 50 | 10 | 2.5422107 | 5 | 25 | 0.508 |
| 2606989 | 530663 | 100 | 10 | 4.912701658 | 10 | 100 | 0.491 |
| 5762701 | 568040 | 200 | 10 | 10.14488592 | 20 | 400 | 0.507 |
| **SUM OF EACH COLUMN :** | | | | **2.5724** | **4.85** | **10.3025** | **3.3794** |

**CALIBRATION MODELS:**

**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.543 | **AVERAGE(RF)** |
| **RSD** | 8.40% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.51674 | 0.52249 | 0.54006 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.01103 | 0.00638 | 0.003627 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99979 | 0.99919 | 0.99720 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99958 | 0.99838 | 0.99440 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

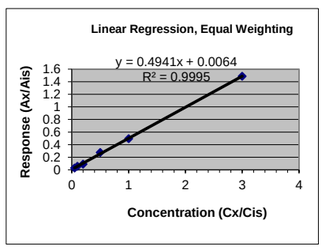
### Sample Concentration Calculations

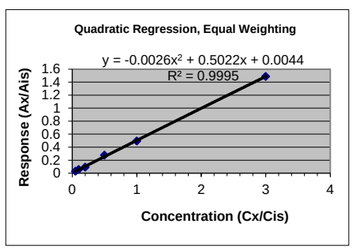
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Final Volume (mL) | Initial Volume (mL) | Final Concentration (ug/L) | Spike Amt (ug/L) | % Recovery | %D | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | Final Conc = (On column * Final Vol / Initial Vol) | | | %R = (final conc / spike amt.)x100 | | %D = ABS((final conc-spike amt)/spike amt)*100 | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| TIAMF·MW045·MAY24 | RFG044.D | 156282 | 505850 | 10 | 5.69 | 5.765 | 5.791 | 5.654 | 10.000 | 10.000 | 5.69 | NA | NA | NA | NA |
| MB (VOE2F02B) | RFG037.D | 0 | 702533 | 10 | 0.00 | -0.213 | -0.122 | -0.067 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F02L) | RFG034.D | 449428 | 804216 | 10 | 10.29 | 10.601 | 10.574 | 10.281 | 10.000 | 10.000 | 10.29 | 10.000 | 103 | NA | 1 |
| LCSD (VOE2F02C) | RFG035.D | 435601 | 788614 | 10 | 10.17 | 10.476 | 10.450 | 10.161 | 10.000 | 10.000 | 10.17 | 10.000 | 102 | NA | |
| MB (VOE2F03B) | RFG067.D | 0 | 727124 | 10 | 0.00 | -0.213 | -0.122 | -0.067 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F03L) | RFG063.D | 438573 | 792750 | 10 | 10.19 | 10.493 | 10.466 | 10.177 | 10.000 | 10.000 | 10.19 | 10.000 | 102 | NA | 4 |
| LCSD (VOE2F03C) | RFG064.D | 471856 | 821664 | 10 | 10.58 | 10.900 | 10.869 | 10.566 | 10.000 | 10.000 | 10.58 | 10.000 | 106 | NA | |
| MB (VOE2F04B) | RFG096.D | 0 | 600187 | 10 | 0.00 | -0.213 | -0.122 | -0.067 | 10.000 | 10.000 | 0.00 | NA | NA | NA | NA |
| LCS (VOE2F04L) | RFG093.D | 376607 | 700127 | 10 | 9.91 | 10.196 | 10.173 | 9.893 | 10.000 | 10.000 | 9.91 | 10.000 | 99 | NA | 4 |
| LCSD (VOE2F04C) | RFG094.D | 362567 | 703905 | 10 | 9.49 | 9.754 | 9.736 | 9.470 | 10.000 | 10.000 | 9.49 | 10.000 | 95 | NA | |
| ICV (5/18/24 @ 09:57) | REG131.D | 358317 | 647637 | 10 | 10.19 | 10.494 | 10.467 | 10.177 | 10.000 | 10.000 | 10.19 | 10.000 | 102 | 1.90 | NA |
| CCV (6/08/24 @ 14:28) | RFG033.D | 398224 | 759396 | 10 | 9.66 | 9.935 | 9.914 | 9.643 | 10.000 | 10.000 | 9.66 | 10.000 | 97 | 3.4 | NA |
| CCV (6/09/24 @ 00:35) | RFG058.D | 256451 | 446913 | 10 | 10.57 | 10.891 | 10.860 | 10.558 | 10.000 | 10.000 | 10.57 | 10.000 | 106 | 5.7 | NA |
| CCV (6/10/24 @ 16:35) | RFG062.D | 442114 | 754319 | 10 | 10.80 | 11.129 | 11.096 | 10.786 | 10.000 | 10.000 | 10.80 | 10.000 | 108 | 8.0 | NA |
| CCV (6/11/24 @ 2:43) | RFG088.D | 279078 | 493624 | 10 | 10.41 | 10.728 | 10.698 | 10.401 | 10.000 | 10.000 | 10.41 | 10.000 | 104 | 4.1 | NA |
| CCV (6/11/24 @ 13:35) | RFG092.D | 328565 | 670311 | 10 | 9.03 | 9.272 | 9.259 | 9.009 | 10.000 | 10.000 | 9.03 | 10.000 | 90 | 9.7 | NA |

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F004**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: EMAX
Method: 8260C
SDG: 24F004
Instrument: E2
Curve Date: 5/17/2024
Compound: **cis-1,2-Dichloroethene**
Internal Standard: 1,4-Difluorobenzene
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**TIAMF·MW045·MAY24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 15745 | 549104 | 0.5 | 10 | 0.028673985 | 0.05 | 0.0025 | 0.573 |
| 29804 | 528810 | 1 | 10 | 0.056360508 | 0.1 | 0.01 | 0.564 |
| 46157 | 504172 | 2 | 10 | 0.091550106 | 0.2 | 0.04 | 0.458 |
| 134582 | 487048 | 5 | 10 | 0.276321841 | 0.5 | 0.25 | 0.553 |
| 238953 | 483746 | 10 | 10 | 0.493963774 | 1 | 1 | 0.494 |
| 687887 | 462286 | 30 | 10 | 1.48801175 | 3 | 9 | 0.496 |
| 1248919 | 519193 | 50 | 10 | 2.405500459 | 5 | 25 | 0.481 |
| 2438563 | 530663 | 100 | 10 | 4.595313787 | 10 | 100 | 0.460 |
| 5312995 | 568040 | 200 | 10 | 9.35320576 | 20 | 400 | 0.468 |
| **SUM OF EACH COLUMN :** | | | | **2.4349** | **4.85** | **10.3025** | **3.1374** |

**CALIBRATION MODELS:**

**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.505 | **AVERAGE(RF)** |
| **RSD** | 9.09% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.49409 | 0.49703 | 0.49795 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00642 | 0.00405 | 0.003907 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99976 | 0.99898 | 0.99593 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99951 | 0.99796 | 0.99188 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

### Sample Concentration Calculations

| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Final Volume (mL) | Initial Volume (mL) | Final Concentration (ug/L) | Spike Amt (ug/L) | % Recovery | %D | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | Final Conc = (On column * Final Vol / Initial Vol) | | | %R = (final conc / spike amt.)x100 | | %D = ABS((final conc-spike amt)/spike amt)*100 | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| TIAMF·MW045·MAY24 | RFG070.D | 663529 | 598016 | 10 | 21.97 | 22.326 | 22.242 | 22.204 | 10.000 | 1.000 | 219.7 | NA | NA | NA | NA |
| MB (VOE2F02B) | RFG037.D | 0 | 702533 | 10 | 0.00 | -0.130 | -0.082 | -0.078 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F02L) | RFG034.D | 413995 | 804216 | 10 | 10.19 | 10.289 | 10.276 | 10.260 | 10.000 | 10.000 | 10.19 | 10.000 | 102 | NA | 1 |
| LCSD (VOE2F02C) | RFG035.D | 408856 | 788614 | 10 | 10.26 | 10.363 | 10.350 | 10.333 | 10.000 | 10.000 | 10.26 | 10.000 | 103 | NA | |
| MB (VOE2F03B) | RFG067.D | 0 | 727124 | 10 | 0.00 | -0.130 | -0.082 | -0.078 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F03L) | RFG063.D | 372826 | 792750 | 10 | 9.31 | 9.388 | 9.381 | 9.366 | 10.000 | 10.000 | 9.31 | 10.000 | 93 | NA | 4.5 |
| LCSD (VOE2F03C) | RFG064.D | 404017 | 821664 | 10 | 9.74 | 9.822 | 9.811 | 9.796 | 10.000 | 10.000 | 9.74 | 10.000 | 97 | NA | |
| MB (VOE2F04B) | RFG096.D | 0 | 600187 | 10 | 0.00 | -0.130 | -0.082 | -0.078 | 10.000 | 10.000 | 0.00 | NA | NA | NA | NA |
| LCS (VOE2F04L) | RFG093.D | 318340 | 700127 | 10 | 9.00 | 9.073 | 9.067 | 9.053 | 10.000 | 10.000 | 9.00 | 10.000 | 90 | NA | 4 |
| LCSD (VOE2F04C) | RFG094.D | 307489 | 703905 | 10 | 8.65 | 8.711 | 8.707 | 8.694 | 10.000 | 10.000 | 8.65 | 10.000 | 86 | NA | |
| ICV (5/18/24 @ 09:57) | REG131.D | 324173 | 647637 | 10 | 9.91 | 10.001 | 9.989 | 9.974 | 10.000 | 10.000 | 9.91 | 10.000 | 99 | 0.90 | NA |
| CCV (6/08/24 @ 14:28) | RFG033.D | 375886 | 759396 | 10 | 9.80 | 9.888 | 9.877 | 9.862 | 10.000 | 10.000 | 9.80 | 10.000 | 98 | 2.0 | NA |
| CCV (6/09/24 @ 00:35) | RFG058.D | 235307 | 446913 | 10 | 10.42 | 10.526 | 10.512 | 10.495 | 10.000 | 10.000 | 10.42 | 10.000 | 104 | 4.2 | NA |
| CCV (6/10/24 @ 16:35) | RFG062.D | 373994 | 754319 | 10 | 9.82 | 9.905 | 9.894 | 9.878 | 10.000 | 10.000 | 9.82 | 10.000 | 98 | 1.8 | NA |
| CCV (6/11/24 @ 2:43) | RFG088.D | 241877 | 493624 | 10 | 9.70 | 9.787 | 9.777 | 9.762 | 10.000 | 10.000 | 9.70 | 10.000 | 97 | 3.0 | NA |
| CCV (6/11/24 @ 13:35) | RFG092.D | 279167 | 670311 | 10 | 8.25 | 8.299 | 8.298 | 8.285 | 10.000 | 10.000 | 8.25 | 10.000 | 82 | 17.5 | NA |

## Module 1: Analysis by GC/MS
## Lab/SDG: EMAX / 24F004

Lab: EMAX
Method: 8260C
Instrument: E2
Curve Date: 5/17/2024
Compound: **Trichloroethene**
Internal Standard: 1,4-Difluorobenzene

| ICAL PT | Analyte RT | INT STD RD | RRT |
|---|---|---|---|
| 0.5 | 6.362 | 5.987 | 0.941 |
| 1 | 6.373 | 5.987 | 0.939 |
| 2 | 6.373 | 5.987 | 0.939 |
| 5 | 6.373 | 5.987 | 0.939 |
| 10 | 6.373 | 5.987 | 0.939 |
| 30 | 6.372 | 5.987 | 0.940 |
| 50 | 6.372 | 5.987 | 0.940 |
| 100 | 6.373 | 5.987 | 0.939 |
| 200 | 6.373 | 5.987 | 0.939 |

## Module 1: Analysis by GC/MS

## Lab/SDG: EMAX / 24F004

| Compound | Sample ID |
|---|---|
| Trichloroethene | TIAMF-MW045-MAY24 |

| QAPP LOQ (ug/L) | Initial Vol (mL) | Final Vol (mL) | DF | Final LOQ |
|---|---|---|---|---|
| 1.0 | 10.000 | 10.000 | 10.0 | 10.0 |

**REPORTED LOQ (ug/L)**

10.0

## Module 1: Analysis by GC/MS
## Lab/SDG: EMAX / 24F004

No field blanks were included in this SDG.

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F004**

| | TIAMF-MW045-MAY24 | | | | MB (VOE2F02B) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 505850 | 420589 | 206594 | 505850 | 702533 | 598134 | 288194 | 702533 |
| **Surrogate Response** | 480283 | 855043 | 318697 | 343133 | 605458 | 1215479 | 456219 | 461894 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 11.74 | 10.23 | 9.72 | 11.08 | 10.65 | 10.23 | 9.97 | 10.74 |
| **Surr %R** | 117 | 102 | 97 | 111 | 107 | 102 | 100 | 107 |

| | LCS (VOE2F02L) | | | | LCSD (VOE2F02C) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 804216 | 688163 | 361553 | 804216 | 788614 | 686122 | 360055 | 788614 |
| **Surrogate Response** | 682818 | 1399192 | 574077 | 517441 | 669303 | 1400819 | 570302 | 515443 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.50 | 10.23 | 10.01 | 10.51 | 10.49 | 10.28 | 9.98 | 10.68 |
| **Surr %R** | 105 | 102 | 100 | 105 | 105 | 103 | 100 | 107 |

| | MB (VOE2F03B) | | | | LCS (VOE2F03L) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 727124 | 552730 | 266282 | 727124 | 792750 | 646227 | 321378 | 792750 |
| **Surrogate Response** | 605141 | 1181499 | 441902 | 427619 | 638295 | 1343222 | 531007 | 477546 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.29 | 10.76 | 10.46 | 9.61 | 9.95 | 10.46 | 10.41 | 9.84 |
| **Surr %R** | 103 | 108 | 105 | 96 | 100 | 105 | 104 | 98 |

| | LCSD (VOE2F03C) | | | | MB (VOE2F04B) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 821664 | 645570 | 324769 | 821664 | 600187 | 469288 | 222326 | 600187 |
| **Surrogate Response** | 656812 | 1349262 | 556714 | 472839 | 524716 | 987879 | 374680 | 365937 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 9.88 | 10.52 | 10.80 | 9.40 | 10.81 | 10.59 | 10.62 | 9.96 |
| **Surr %R** | 99 | 105 | 108 | 94 | 108 | 106 | 106 | 100 |

| | LCS (VOE2F04L) | | | | LCSD (VOE2F04C) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 700127 | 552821 | 279028 | 700127 | 703905 | 550837 | 285241 | 703905 |
| **Surrogate Response** | 600152 | 1166618 | 489887 | 421921 | 576775 | 1162432 | 480962 | 412093 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.60 | 10.62 | 11.06 | 9.85 | 10.13 | 10.62 | 10.62 | 9.57 |
| **Surr %R** | 106 | 106 | 111 | 98 | 101 | 106 | 106 | 96 |

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F004**

**CALCULATION OF WORKING STANDARD FROM STOCK**

**CALIBRATION STANDARD**

| | |
|---|---|
| **Name of Stock Standard:** | CPI International "Custom Volatiles Mix" |
| **Conc of Stock Std** | 2000 ug/mL (ppm) |
| **Aliquot of Stock Std used:** | 0.250 mL |
| **Final Conc of Working standard** | 250 ug/mL (ppm) |

C2 = C1*V1)/V2

| **C1** | **V1** | **V2** | **C2** |
|---|---|---|---|
| 2000 | 0.250 | 2.0 | 250 |

where
C1 = concentration of Stock standard
V1 = Volume of stock standard used
C2 = Concentration of working standard
V2 = Final volume of working standard

Calibration pt at 1ug/L

| | *From analytical log* spike amt | concentration | purge volume (see analysis run log) | **spike amt in L** | **amount spiked** | **concentration of amount spiked = (amount spiked/ purge volue)** |
|---|---|---|---|---|---|---|
| Filename REG119 (page 291) – 1ug/L point | 0.04 uL | 250 mg/L | 10 ml | 0.00000004 L | 0.00001 mg | 0.001 mg/L = 1 ug/L |

**SURROGATE STANDARD**

| | |
|---|---|
| **Name of Stock Standard:** | RESTEK "8260A Surrogate Mix" |
| **Conc of Stock Std** | 2500 ug/mL (ppm) |
| **Aliquot of Stock Std used:** | 0.200 mL |
| **Final Conc of Working standard** | 50 ug/mL (ppm) |

C2 = C1*V1)/V2

| **C1** | **V1** | **V2** | **C2** |
|---|---|---|---|
| 2500 | 0.200 | 10 | 50 |

where
C1 = concentration of Stock standard
V1 = Volume of stock standard used
C2 = Concentration of working standard
V2 = Final volume of working standard

| Surrogate | *From analytical log* spike amt | concentration | purge volume (see analysis run log) | **spike amt in L** | **amount spiked** | **concentration of amount spiked = (amount spiked/ purge volue)** |
|---|---|---|---|---|---|---|
| IS/ Surr | 5 uL | 20 mg/L | 10 ml | 0.000005 L | 0.0001 mg | 0.01 mg/L = 10 ug/L |

## Module 1: Analysis by GC/MS

**Lab/SDG:** **EMAX / 24F004**

**ICV/LCS STANDARD (second source)**

| | |
|---|---|
| **Name of Stock Standard:** | RESTEK "Custom Revised 2060 Megamix" |
| **Data pkg std Certificate on page:** | 312 |
| **Data pkg working std calc on page:** | 311 |
| **Conc of Stock Std** | 2000 ug/mL (ppm) |
| **Aliquot of Stock Std used:** | 0.250 mL |
| **Final Conc of Working standard** | 50 ug/mL |

C2 = C1*V1)/V2

| **C1** | **V1** | **V2** | **C2** |
|---|---|---|---|
| 2000 | 0.250 | 10 | 50 |

where
C1 = concentration of Stock standard
V1 = Volume of stock standard used
C2 = Concentration of working standard
V2 = Final volume of working standard

| | *From analytical log* | | | | | |
|---|---|---|---|---|---|---|
| LCS | spike amt | concentration | purge volume (see analysis run log) | **spike amt in L** | **amount spiked** | **concentration of amount spiked = (amount spiked/ purge volue)** |
| ICV/LCS | 0.4 uL | 250 mg/L | 10 ml | 0.0000004 L | 0.0001 mg | 0.01 mg/L 10 ug/L |

**Data Validation Report for 24F019**

| | |
|---|---|
| Facility: | J09CA1108-01, Titan 1A Missile Facility, RI |
| Event: | Spring 2024 |
| SDG: | 24F019 |
| Guidance Document: | Titan 1A Missile Facility, Lincoln CA |
| Prime Contractor: | Parsons Corporation, Austin, TX |
| Project Manager: | Tim Crummett |
| Contract Laboratory(ies): | EMAX Laboratories, Inc., Torrance, CA |
| Data Review Contractor: | Parsons Corporation |
| Data Review Level: | S2BVEM |
| Primary Data Reviewer: | Beth Driskill, Senior Scientist |
| Date Submitted: | July 16, 2024 |

| Field Sample ID | Lab Sample ID | Matrix | Type/Type Code | SW 260C |
|---|---|---|---|---|
| EB-1_JUN24 | 24F019-11 | Water | Equipment Blank/EB | X |
| RB-1_JUN24 | 24F019-12 | Water | Equipment Blank/EB | X |
| T1AMF-MW035_MAY24 | 24F019-04 | Water | Field Sample/N | X |
| T1AMF-MW035_MAY24_FD | 24F019-05 | Water | Field Duplicate/FD | X |
| T1AMF-MW051_MAY24 | 24F019-03 | Water | Field Sample/N | X |
| T1AMF-MW053_MAY24 | 24F019-02N | Water | Field Sample/N | X |
| T1AMF-MW058_MAY24 | 24F019-01 | Water | Field Sample/N | X |
| T1AMF-MW061_JUN24 | 24F019-09 | Water | Field Sample/N | X |
| T1AMF-MW062_JUN24 | 24F019-08 | Water | Field Sample/N | X |
| T1AMF-MW063_JUN24 | 24F019-07 | Water | Field Sample/N | X |
| T1AMF-MW064_JUN24 | 24F019-06 | Water | Field Sample/N | X |
| T1AMF-MW066_JUN24 | 24F019-10 | Water | Field Sample/N | X |
| TB-3_MAY24 | 24F019-13 | Water | Trip Blank/TB | X |
| TB-4_JUN24 | 24F019-14N | Water | Trip Blank/TB | X |

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2BVEM data validation level and 10% of the data validated at a Stage 4. The following samples were validated at a Stage 4: T1AMF·MW051_MAY24 and T1AMF·MW035_MAY24. Validation was performed following the guidelines outlined in the project-specific UFP QAPP, DoD General Data Validation Guidelines, Rev 1 (Nov 2019) and Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Titan 1A Missile Facility, Lincoln CA and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Parsons Corporation, Austin, TX; analyses were performed by EMAX Laboratories, Inc., Torrance, CA and were reported under sample delivery group (SDG) 24F019. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Equipment Blank
- Field Duplicate RPD
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 0 results (0.00%) out of the 154 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency (X qualifier). Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

| Analytical Method | Data Reviewer Comment |
|---|---|
| SW8260C | Sample T1AMF-MW058_MAY24 had a brown sediment at the bottom of the sample containers. |

Beth Driskill

July 16, 2024

Reviewed by Beth Driskill, Senior Scientist, Parsons Corporation

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of the reported sample results and method quality control data between the two deliverables.

**Quality Control Outliers for test method SW8260C, Trip Blank**

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

| Sample ID/ Lab Sample ID | Analyte | Result | Warning Limits | Control Limits | Units | Qualifier | Reason Code | Comment |
|---|---|---|---|---|---|---|---|---|
| TB-3_MAY24 (TB) 24F019-13 | Toluene | 0.330 | < 0.1 | < 1 | ug/l | U/None* | T | |
| TB-4_JUN24 (TB) 24F019-14N | Toluene | 0.300 | < 0.1 | < 1 | ug/l | U/None* | T | |

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

*Blank flags displayed in the above table identify qualification of the sample result when it is less than or equal to the LOQ/RL. Sample results above the LOD or LOQ will be qualified based on the validation guidance assigned in the project setup.

No results associated with this QC element required qualification.

**Quality Control Outliers for test method SW8260C, LCS Recovery**

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

| Sample ID/ Lab Sample ID | Analyte | Result | Warning Limits | Control Limits | Units | Qualifier | Reason Code | Comment |
|---|---|---|---|---|---|---|---|---|
| 24VOE2F05C (BD) 24VOE2F05C | 1,4-Dichlorobenzene | 120 | 79 - 118 | 79 - 118 | percent | J/None | C | |
| 24VOE2F06C (BD) 24VOE2F06C | 1,4-Dichlorobenzene | 120 | 79 - 118 | 79 - 118 | percent | J/None | C | |

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Qualified Results

No results associated with this sample delivery group required qualification.

Results with Modified Qualifiers

No qualifiers associated with this sample delivery group were modified manually.

**Reason Code Definitions**

| Code | Definition |
|---|---|
| C | LCS Recovery |
| T | Trip Blank |
| TR | Trace Level Detect |

**Flag Code and Definitions**

| Flag | Definition |
|---|---|
| J | Estimated Value |
| N | The analysis indicates the presence of an analyte for which there was presumptive evidence to make a tentative identification. |
| NJ | The analyte has been tentatively identified or presumptively as present and the associated numerical value was the estimated concentration in the sample. |
| R | The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making. |
| U | Undetected: The analyte was analyzed for, but not detected. |
| U | The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria. |
| X | Result may require rejection; PDT attention required |

**Bias**

| | |
|---|---|
| - | The result may be biased low |
| + | The result may be biased high |

Note - The bias field is a separate field; however, it is an integral part of the final flag (qualifier) on the sample result

**Review Questions**

| Method: SW8260C (Volatile Organic Compounds by GC/MS) | | | | |
|---|---|---|---|---|
| Review Questions | Yes | No | NA | Comment |
| Were there discrepancies between the COC and the samples received? | | • | | |
| Were there discrepancies between the COC and the sample labels? | • | | | The following discrepancies were noted:<br>1. The analysis was not included on the container label for any of the samples.<br>2. Sample ID and collection time discrepancies between the COC and label. The lab was instructed to follow the sample ID and collection time documented on the COC. |
| Were samples relinquished properly on the COC? | • | | | |
| Were all samples properly preserved? | • | | | |
| Were sampling dates/times, date and time of laboratory receipt of samples, and sample conditions upon receipt at the laboratory (including preservation, pH, and temperature) documented? | • | | | |
| Were sample results reported with percent moisture correction if required? | | | • | |
| Were analytical methods performed and analysis dates present? | • | | | |
| Were all requested target analytes reported? | • | | | |
| Were QAPP specified Project Quantitation Limit Goals achieved? (The laboratory LOQ is compared to the QAPP Project Quantitation Goal) | | • | | The LOQ value for the following analytes are greater than the Project Quantitation Limit Goal: 1,4-Dichlorobenzene, Benzene, Ethylbenzene, Trichloroethene, and Vinyl Chloride. |
| Were holding times met? | • | | | |
| Were trip blanks analyzed at the proper frequency and in control? | | • | | Both trip blank samples had detections of toluene below the LOQ. All the field samples were non-detect for toluene; therefore, data quality was not impacted and results were not qualified. |
| Were field blanks analyzed at the proper frequency and in control? | | | • | Field blanks were not planned to be collected for this sampling event |
| Were equipment blanks analyzed at the proper frequency and in control? | • | | | One equipment blank and one source blank were associated with the samples in this SDG. Both blanks were non-detect for all target analytes. |
| Was a method blank prepared and analyzed with each batch? | • | | | |
| Were target analytes in the method blank less than DL? | • | | | |
| Was an LCS/LCSD pair prepared and analyzed with each batch? | • | | | |
| Were LCS/LCSD recoveries within project acceptance limits? | | • | | The recovery for 1,4-dichlorobenzene recovered high and outside criteria in the LCSDs included in batches V0E2F05 and V0E2F06. The associated samples were non-detect for 1,4-dichlorobenzene; therefore, data quality was not impacted and results were not qualified. |
| Was the LCS/LCSD RPD within project acceptance limits? | • | | | |
| Was a MS/MSD pair prepared with each batch? | • | | | Two project samples were requested for MS/MSD analysis on the COC. |
| Were MS/MSD recoveries within project acceptance limits? | • | | | |
| Was the MS/MSD RPD within project acceptance limits? | • | | | |
| If ISM was used for sample collection, were laboratory triplicates analyzed and within project acceptance limits? | | | • | |

**Review Questions**

| Method: SW8260C (Volatile Organic Compounds by GC/MS) | | | | |
|---|---|---|---|---|
| Review Questions | Yes | No | NA | Comment |
| Were surrogate recoveries within project acceptance limits? | • | | | |
| Were field replicates (duplicates, triplicates, etc.) analyzed at the proper frequency and in control? | • | | | |
| Were reported sample concentrations within calibration range? | • | | | |
| Was the GC/MS system properly tuned based on method criteria? | • | | | |
| Was instrument tuning completed every 12 hours during sample analysis? | • | | | |
| Was the Calibration within project acceptance criteria? | • | | | |
| Was a ICV performed after each ICAL prior to sample analysis and within project acceptance criteria? | • | | | |
| Were CCVs run at the required frequency and within project acceptance criteria? | • | | | |
| Were internal standard retention times and area criteria within project acceptance criteria? | • | | | |
| Were internal standards spiked for every sample, standard, and QC sample? | • | | | |
| Were instrument run logs present and filled out appropriately? | • | | | |
| Were sample preparation sheets present and filled out appropriately? | • | | | |
| Have all Laboratory Case Narrative comments/findings been addressed in the data review process? | • | | | |
| Were DoD QSM corrective actions followed if deviations were noted? | • | | | |
| Were any data recommended for exclusion in the data validation process? | | • | | |

## Module 1: Analysis by GC/MS

**Lab/SDG:** **EMAX / 24F019**

| RECALCULATION TYPE | TAB Reference |
|---|---|
| Tune: Ion Abundance | TUNE |
| Tailing Factor | not applicable for 8260 |
| Calibration RF | ICAL RF |
| Calibration RRT | Rel RT |
| ICV/CCV %D | ICAL RF |
| Sample Conc. Raw Values | ICAL RF |
| Sample Conc. Linear Regression | not applicable |
| Quadratic Regression | not applicable |
| LCS % Recovery | ICAL RF |
| Surrogate % Recovery | ICAL RF |
| MS/MSD % Recovery | ICAL RF |
| MS/MSD RPD | ICAL RF |
| Sample Amounts | ICAL RF |
| Sample Conc. by Volume (Aqueous Only) | ICAL RF |
| Sample Conc. by Weight (Non-aqueous only) | not applicable |

| 6.1 SAMPLES AND QC | COMMENT |
|---|---|
| Sample recalculations should include the raw instrument result, re-quantified from the instrument response against the calibration function, and the final reported sample result, including any dilution, preparation factor, or percent moisture (if applicable). The equations in Appendix B can be used to calculate a sample result from the corresponding reported calibration or regression function, as appropriate | Provided in ICAL RF tab |
| Verify that one or more of the laboratory's reporting limits (such as limit of quantitation) are calculated correctly for the non-detects and reported accordingly. If a detection limit study was identified by the QAPP, recalculate one or more analyte detection limits. | Provided in LOQ Recalc tab |
| Re-quantitate **all detected target analytes in the 10% sample data chosen**. For some samples, all results may be non-detects, therefore recalculation would not be necessary. Verify that sample-specific results have been adjusted correctly to reflect percent solids, original sample mass/volume, and any applicable dilutions. | Provided in ICAL RF tab |

## Module 1: Analysis by GC/MS
## Lab/SDG: EMAX / 24F019

| | |
|---|---|
| Re-quantitate **all detects found in the field QC blanks** (such as trip blanks, field blanks, or equipment blanks). Field QC sample duplicate recalculations should include re-quantification of the same detected analyte sample/duplicate pair and verification of the percent difference (%D), or relative percent difference (RPD), as reported | Provided in Blank Detections tab |
| **6.2 Method QC** | |
| Re-quantification of batch QC sample results should use raw instrument response in tandem with the reported calibration factor, response factor, or slope; the preparation information; and percent moisture for solid samples to recreate the reported result. | Provided in ICAL RF tab |
| **6.2.1 Surrogate Spikes** | |
| Verify the concentrations of surrogates from the raw data. Verify that the surrogate result and percent recovery were calculated and reported correctly by re-calculating all surrogates in the 10% of chosen sample data and method QC that were originally selected. | Provided in ICAL RF tab |
| **6.2.2 LCS/LCSD** | |
| To check that the spike percent recovery was calculated and reported correctly, using the equation in Appendix B, re-quantitate and then recalculate all contaminants of concern as outlined in the UFP-QAPP Worksheet #12 or #15. Use a random 10% of the analytes in the LCS/LCSD if contaminants of concern (target analytes) have not been specifically identified. Recalculate RPDs (if applicable) from LCS/LCSD pairs that would result in the qualification of a sample. | Provided in ICAL RF tab |
| **6.2.3 MS/MSD** | |
| Re-quantitate 10% of the target analytes as listed in the UFP-QAPP Worksheet #12 or #15 for both the MS and the MSD. Use a random 10% of the analytes in the MS and MSD if contaminates of concern have not been identified. The RPDs of the recalculated MS/MSD pairs should be calculated from the MS/MSD concentrations, not from the recoveries. | Provided in ICAL RF tab |
| **6.2.4 Method Blanks** | |
| Re-quantitate one or more detects found in the method blank (if applicable) from the reported average RF (or higher order regression, if used) per each batch of samples. | No method blank detections were found; no recalcs needed |
| **6.3 Insturment QC** | |
| **6.3.1 Tune Check** | |
| Verify by re-calculating from the quantitation reports, that the mass assignment is correct and that the mass listing is normalized to the specified m/z for at least 10% of the abundance ratios in every tune. Verify by recalculation that the reported DDT degradation and tailing factor are accurate for SVOC performance checks. | Provided in TUNE tab |

## Module 1: Analysis by GC/MS

**Lab/SDG:** **EMAX / 24F019**

**6.3.2 Initial (Response Factors and Regressions) and Continuing Calibration Verifications**

| | |
|---|---|
| Initial calibration (ICAL) recalculations should use the raw instrument response for the target analytes and associated internal standards to recreate the calibration curve from the individual calibration standards. If multiple types of calibration curves are employed in an analytical suite, then one analyte per curve type should be recalculated. | Provided in ICAL RF tab |
| Re-quantitate and recalculate the individual and average RFs, %RSDs, and regression function (if used) and r values reported for at least 10% of the target analytes per each internal standard, (preferably analytes of concern which were identified in the QAPP), per initial calibration curve type. | Provided in ICAL RF tab |
| Re-quantitate and recalculate the Initial and Continuing Calibration Verification RF result and %D for at least 10% of the target analytes, proportionally per each internal standard and proportionally selecting analytes based on each calibration curve type. | Provided in ICAL RF tab |
| The laboratory may employ a linear or weighted linear least squares regression. The low standard should be recalculated using the calibration curve and evaluated. RFs should not be evaluated for analytes with linear or higher order regression curves. If the ICAL included refitting of the data back to the model (RSE), the recalculate 10% of the target analytes for the RSE in each ICAL. | Linear regression was not used for any target analytes in this SDG |

**6.3.3 Internal Standards**

| | |
|---|---|
| Verify all internal standards reported from the raw data for at least one sample per batch of samples, and verify internal standard areas for samples that were qualified due to out-of-control internal standard areas. | No calculations were performed; internal stds were verified as required. Recalculations of all analyte concentrations further confirm IS quantitation. |

**6.4 Standards Traceability**

| | |
|---|---|
| Check that the stock standards were diluted properly into working standards by recalculating the dilutions of one or more **calibration standards**. Recalculate one or more **surrogate** dilutions. Recalculate one or more method QC sample dilutions (such as **LCS or MS/MSD**) from the stock to the working standard. | Provided in Standards tab |

## Module 1: Analysis by GC/MS
## Lab/SDG: EMAX / 24F019

**TUNE**

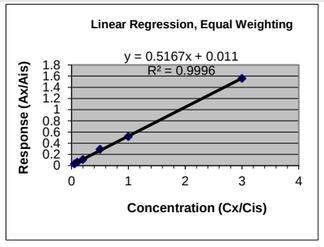
Data file: REG116.D
Acq On: 5/17/2024 11:23
Sample ID: BFBE2E09

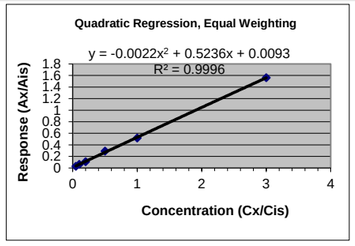
| Target Mass | RAW Abundance | Rel to Mass | Rel Abn% | Lower limit | Upper Limit |
|---|---|---|---|---|---|
| 50 | 11125 | 95 | 20.27630 | 15 | 40 |
| 75 | 27461 | 95 | 50.05012 | 30 | 60 |
| 95 | 54867 | 95 | 100 | 100 | 100 |
| 96 | 3687 | 95 | 6.71989 | 5 | 9 |
| 173 | 441 | 174 | 0.96450 | 0 | 2 |
| 174 | 45723 | 95 | 83.33424 | 50 | 100 |
| 175 | 3423 | 174 | 7.48639 | 5 | 9 |
| 176 | 44603 | 174 | 97.55047 | 95 | 101 |
| 177 | 2888 | 174 | 6.31630 | 5 | 9 |

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F019**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: EMAX
Method: 8260C
SDG: 24F019
Instrument: E2
Curve Date: 5/17/2024
Compound: cis-1,2-Dichloroethene
Internal Standard: Chlorobenzene-d5




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**T1AMF-MW051_MAY24**
**T1AMF-MW035_MAY24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 16247 | 549104 | 0.5 | 10 | 0.029588202 | 0.05 | 0.0025 | 0.592 |
| 32895 | 528810 | 1 | 10 | 0.062205707 | 0.1 | 0.01 | 0.622 |
| 54578 | 504172 | 2 | 10 | 0.108252739 | 0.2 | 0.04 | 0.541 |
| 142504 | 487048 | 5 | 10 | 0.292587178 | 0.5 | 0.25 | 0.585 |
| 250974 | 483746 | 10 | 10 | 0.518813592 | 1 | 1 | 0.519 |
| 721585 | 462286 | 30 | 10 | 1.560906019 | 3 | 9 | 0.520 |
| 1319898 | 519193 | 50 | 10 | 2.5422107 | 5 | 25 | 0.508 |
| 2606989 | 530663 | 100 | 10 | 4.912701658 | 10 | 100 | 0.491 |
| 5762701 | 568040 | 200 | 10 | 10.14488592 | 20 | 400 | 0.507 |
| **SUM OF EACH COLUMN :** | | | | **2.5724** | **4.85** | **10.3025** | **3.3794** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.543 | **AVERAGE(RF)** |
| **RSD** | 8.40% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.51674 | 0.52249 | 0.54006 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.01103 | 0.00638 | 0.003627 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99979 | 0.99919 | 0.99720 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99958 | 0.99838 | 0.99440 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

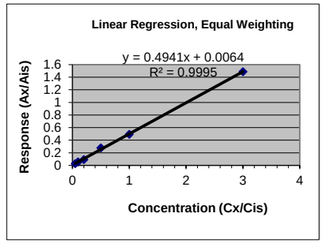
### Sample Concentration Calculations

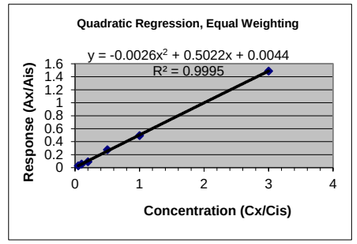
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Final Volume (mL) | Initial Volume (mL) | Final Concentration (ug/L) | Spike Amt (ug/L) | % Recovery | %D | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | Final Conc = (On column * Final Vol / Initial Vol) | | | %R = (final conc / spike amt.)x100 | | %D = ABS((final conc-spike amt)/spike | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| T1AMF-MW051_MAY24 | RFG132.D | 2905 | 467069 | 10 | 0.11 | -1.434 | -0.003 | 0.048 | 10.000 | 10.000 | 0.11 | NA | NA | NA | NA |
| T1AMF-MW035_MAY24 | RFG109.D | 34181 | 470734 | 10 | 1.34 | -0.211 | 1.268 | 1.277 | 10.000 | 10.000 | 1.3 | NA | NA | NA | NA |
| MS (T1AM-MW053_MAY24) | RFG133.D | 253746 | 482397 | 10 | 9.69 | 8.140 | 9.945 | 9.673 | 10.000 | 10.000 | 9.69 | 10.000 | 97 | NA | 2.9 |
| MSD (T1AM-MW053_MAY24) | RFG134.D | 246412 | 482381 | 10 | 9.41 | 7.861 | 9.655 | 9.392 | 10.000 | 10.000 | 9.41 | 10.000 | 94 | NA | |
| MS (T1AM-MW051_MAY24) | RFG135.D | 259486 | 491277 | 10 | 9.73 | 8.180 | 9.987 | 9.713 | 10.000 | 10.000 | 9.73 | 10.000 | 96 | NA | 0.7 |
| MSD (T1AM-MW051_MAY24) | RFG136.D | 261750 | 499209 | 10 | 9.66 | 8.109 | 9.913 | 9.642 | 10.000 | 10.000 | 9.66 | 10.000 | 95 | NA | |
| MB (VOE2F05B) | RFG127.D | 0 | 516821 | 10 | 0.00 | -1.548 | -0.122 | -0.067 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F05L) | RFG124.D | 321897 | 546903 | 10 | 10.84 | 9.293 | 11.143 | 10.831 | 10.000 | 10.000 | 10.84 | 10.000 | 108 | NA | 1.7 |
| LCSD (VOE2F05C) | RFG125.D | 323214 | 558714 | 10 | 10.66 | 9.107 | 10.950 | 10.645 | 10.000 | 10.000 | 10.66 | 10.000 | 107 | NA | |
| MB (VOE2F06B) | RFG157.D | 0 | 495022 | 10 | 0.00 | -1.548 | -0.122 | -0.067 | 10.000 | 10.000 | 0 | NA | NA | NA | NA |
| LCS (VOE2F06L) | RFG154.D | 286157 | 533808 | 10 | 9.87 | 8.326 | 10.138 | 9.859 | 10.000 | 10.000 | 9.87 | 10.000 | 99 | NA | 3.5 |
| LCSD (VOE2F06C) | RFG155.D | 293317 | 528358 | 10 | 10.23 | 8.677 | 10.503 | 10.212 | 10.000 | 10.000 | 10.23 | 10.000 | 102 | NA | |
| MB (VOE2F04B) | RFG096.D | 0 | 600187 | 10 | 0.00 | -1.548 | -0.122 | -0.067 | 10.000 | 10.000 | 0.00 | NA | NA | NA | NA |
| LCS (VOE2F04L) | RFG093.D | 376607 | 700127 | 10 | 9.91 | 8.360 | 10.173 | 9.893 | 10.000 | 10.000 | 9.91 | 10.000 | 99 | NA | 4.3 |
| LCSD (VOE2F04C) | RFG094.D | 362567 | 703905 | 10 | 9.49 | 7.939 | 9.736 | 9.470 | 10.000 | 10.000 | 9.49 | 10.000 | 95 | NA | |
| ICV (5/18/24 @ 09:57) | REG131.D | 358317 | 647637 | 10 | 10.19 | 8.642 | 10.467 | 10.177 | 10.000 | 10.000 | 10.19 | 10.000 | 102 | 1.90 | NA |
| CCV (6/13/24 @ 09:30) | RFG123.D | 310637 | 557288 | 10 | 10.27 | 8.719 | 10.546 | 10.254 | 10.000 | 10.000 | 10.27 | 10.000 | 103 | 2.7 | NA |
| CCV (6/13/24 @ 21:01) | RFG149.D | 224493 | 427914 | 10 | 9.66 | 8.115 | 9.919 | 9.647 | 10.000 | 10.000 | 9.66 | 10.000 | 97 | 3.4 | NA |
| CCV (6/14/24 @ 11:54) | RFG153.D | 271243 | 531899 | 10 | 9.39 | 7.845 | 9.638 | 9.375 | 10.000 | 10.000 | 9.39 | 10.000 | 94 | 6.1 | NA |
| CCV (6/14/24 @ 22:28) | RFG179.D | 249996 | 475094 | 10 | 9.69 | 8.144 | 9.949 | 9.676 | 10.000 | 10.000 | 9.69 | 10.000 | 97 | 3.1 | NA |
| CCV (6/11/24 @ 13:35) | RFG092.D | 328565 | 670311 | 10 | 9.03 | 7.480 | 9.259 | 9.009 | 10.000 | 10.000 | 9.03 | 10.000 | 90.3 | 9.7 | NA |
| CCV (6/12/24 @ 00:30) | RFG119.D | 297945 | 558649 | 10 | 9.82 | 8.275 | 10.085 | 9.808 | 10.000 | 10.000 | 9.82 | 10.000 | 98 | 1.8 | NA |

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F019**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: EMAX
Method: 8260C
SDG: 24F019
Instrument: E2
Curve Date: 5/17/2024
Compound: **Trichloroethene**
Internal Standard: 1,4-Difluorobenzene
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**T1AMF·MW051_MAY24**
**T1AMF·MW035_MAY24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 15745 | 549104 | 0.5 | 10 | 0.028673985 | 0.05 | 0.0025 | 0.573 |
| 29804 | 528810 | 1 | 10 | 0.056360508 | 0.1 | 0.01 | 0.564 |
| 46157 | 504172 | 2 | 10 | 0.091550106 | 0.2 | 0.04 | 0.458 |
| 134582 | 487048 | 5 | 10 | 0.276321841 | 0.5 | 0.25 | 0.553 |
| 238953 | 483746 | 10 | 10 | 0.493963774 | 1 | 1 | 0.494 |
| 687887 | 462286 | 30 | 10 | 1.48801175 | 3 | 9 | 0.496 |
| 1248919 | 519193 | 50 | 10 | 2.405500459 | 5 | 25 | 0.481 |
| 2438563 | 530663 | 100 | 10 | 4.595313787 | 10 | 100 | 0.460 |
| 5312995 | 568040 | 200 | 10 | 9.35320576 | 20 | 400 | 0.468 |
| **SUM OF EACH COLUMN :** | | | | **2.4349** | **4.85** | **10.3025** | **3.1374** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.505 | **AVERAGE(RF)** |
| **RSD** | 9.09% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.49409 | 0.49703 | 0.49795 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00642 | 0.00405 | 0.003907 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99976 | 0.99898 | 0.99593 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99951 | 0.99796 | 0.99188 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

### Sample Concentration Calculations

| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Final Volume (mL) | Initial Volume (mL) | Final Concentration (ug/L) | Spike Amt (ug/L) | % Recovery | %D | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | Final Conc = (On column * Final Vol / Initial Vol) | | | %R = (final conc / spike amt.)x100 | | %D = ABS((final conc-spike amt)/spike amt)*100 | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| T1AMF·MW051_MAY24 | RFG132.D | 218247 | 467069 | 10 | 9.25 | 9.327 | 9.320 | 9.305 | 10.000 | 10.000 | 9.3 | NA | NA | NA | NA |
| T1AMF·MW035_MAY24 | RFG109.D | 148400 | 470734 | 10 | 6.24 | 6.250 | 6.261 | 6.253 | 10.000 | 10.000 | 6.2 | NA | NA | NA | NA |
| MS (T1AM-MW053_MAY24) | RFG133.D | 229695 | 482397 | 10 | 9.43 | 9.507 | 9.499 | 9.484 | 10.000 | 10.000 | 9.4 | 10.000 | 94 | NA | 2.5 |
| MSD (T1AM-MW053_MAY24) | RFG134.D | 224040 | 482381 | 10 | 9.20 | 9.270 | 9.263 | 9.249 | 10.000 | 10.000 | 9.2 | 10.000 | 92 | NA | |
| MS (T1AM-MW051_MAY24) | RFG135.D | 475748 | 491277 | 10 | 19.17 | 19.469 | 19.402 | 19.369 | 10.000 | 10.000 | 19 | 10.000 | 191 | NA | 5.2 |
| MSD (T1AM-MW051_MAY24) | RFG136.D | 458940 | 499209 | 10 | 18.2 | 18.477 | 18.415 | 18.384 | 10.000 | 10.000 | 18 | 10.000 | 181 | NA | |
| MB (VOE2F05B) | RFG127.D | 0 | 516821 | 10 | 0.00 | -0.130 | -0.082 | -0.078 | 10.000 | 10.000 | 0.00 | NA | NA | NA | NA |
| LCS (VOE2F05L) | RFG124.D | 280577 | 546903 | 10 | 10.16 | 10.253 | 10.240 | 10.224 | 10.000 | 10.000 | 10.16 | 10.000 | 102 | NA | 2.0 |
| LCSD (VOE2F05C) | RFG125.D | 292466 | 558714 | 10 | 10.36 | 10.464 | 10.450 | 10.434 | 10.000 | 10.000 | 10.36 | 10.000 | 104 | NA | |
| MB (VOE2F06B) | RFG157.D | 0 | 495022 | 10 | 0.00 | -0.130 | -0.082 | -0.078 | 10.000 | 10.000 | 0.00 | NA | NA | NA | NA |
| LCS (VOE2F06L) | RFG154.D | 254185 | 533808 | 10 | 9.43 | 9.507 | 9.499 | 9.484 | 10.000 | 10.000 | 9.43 | 10.000 | 94.3 | NA | 6.6 |
| LCSD (VOE2F06C) | RFG155.D | 268657 | 528358 | 10 | 10.07 | 10.161 | 10.149 | 10.133 | 10.000 | 10.000 | 10.07 | 10.000 | 101 | NA | |
| MB (VOE2F04B) | RFG096.D | 0 | 600187 | 10 | 0.00 | -0.130 | -0.082 | -0.078 | 10.000 | 10.000 | 0.00 | NA | NA | NA | NA |
| LCS (VOE2F04L) | RFG093.D | 318340 | 700127 | 10 | 9.00 | 9.073 | 9.067 | 9.053 | 10.000 | 10.000 | 9.00 | 10.000 | 90 | NA | 4.0 |
| LCSD (VOE2F04C) | RFG094.D | 307489 | 703905 | 10 | 8.65 | 8.711 | 8.707 | 8.694 | 10.000 | 10.000 | 8.65 | 10.000 | 86.5 | NA | |
| ICV (5/18/24 @ 09:57) | REG131.D | 324173 | 647637 | 10 | 9.91 | 10.001 | 9.989 | 9.974 | 10.000 | 10.000 | 9.91 | 10.000 | 99 | 0.9 | NA |
| CCV (6/13/24 @ 09:30) | RFG123.D | 279158 | 557288 | 10 | 9.92 | 10.008 | 9.997 | 9.981 | 10.000 | 10.000 | 9.92 | 10.000 | 99 | 0.8 | NA |
| CCV (6/13/24 @ 21:01) | RFG149.D | 201690 | 427914 | 10 | 9.33 | 9.409 | 9.402 | 9.387 | 10.000 | 10.000 | 9.33 | 10.000 | 93 | 6.7 | NA |
| CCV (6/14/24 @ 11:54) | RFG153.D | 246035 | 531899 | 10 | 9.16 | 9.232 | 9.225 | 9.211 | 10.000 | 10.000 | 9.16 | 10.000 | 92 | 8.4 | NA |
| CCV (6/14/24 @ 22:28) | RFG179.D | 217184 | 475094 | 10 | 9.05 | 9.122 | 9.116 | 9.102 | 10.000 | 10.000 | 9.05 | 10.000 | 91 | 9.5 | NA |
| CCV (6/11/24 @ 13:35) | RFG092.D | 279167 | 670311 | 10 | 8.25 | 8.299 | 8.298 | 8.285 | 10.000 | 10.000 | 8.25 | 10.000 | 82 | 17.5 | NA |
| CCV (6/12/24 @ 00:30) | RFG119.D | 263323 | 558649 | 10 | 9.33 | 9.410 | 9.402 | 9.388 | 10.000 | 10.000 | 9.33 | 10.000 | 93 | 6.7 | NA |

## Module 1: Analysis by GC/MS
## Lab/SDG: EMAX / 24F019

Lab: EMAX
Method: 8260C
Instrument: E2
Curve Date: 5/17/2024
Compound: **Trichloroethene**
Internal Standard: 1,4-Difluorobenzene

| ICAL PT | Analyte RT | INT STD RD | RRT |
|---|---|---|---|
| 0.5 | 6.362 | 5.987 | 0.941 |
| 1 | 6.373 | 5.987 | 0.939 |
| 2 | 6.373 | 5.987 | 0.939 |
| 5 | 6.373 | 5.987 | 0.939 |
| 10 | 6.373 | 5.987 | 0.939 |
| 30 | 6.372 | 5.987 | 0.940 |
| 50 | 6.372 | 5.987 | 0.940 |
| 100 | 6.373 | 5.987 | 0.939 |
| 200 | 6.373 | 5.987 | 0.939 |

## Module 1: Analysis by GC/MS

## Lab/SDG: EMAX / 24F019

**Compound** Benzene

**Sample ID** T1AMF·MW051_MAY24

| QAPP LOQ (ug/L) | Initial Vol (mL) | Final Vol (mL) | DF | Final LOQ |
|---|---|---|---|---|
| 1.0 | 10.000 | 10.000 | 1.0 | 1.0 |

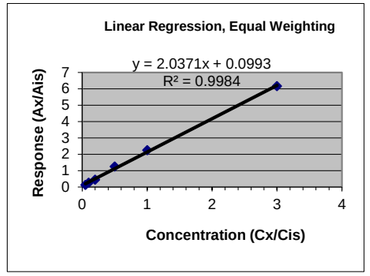
**REPORTED LOQ (ug/L)**

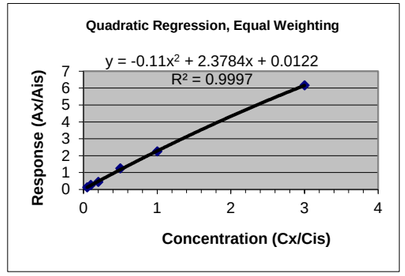
1.0

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F019**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: EMAX
Method: 8260C
SDG: 24F019
Instrument: E2
Curve Date: 5/17/2024
Compound: **Toluene**
Internal Standard: Chlorobenzene-d5
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 58579 | 464476 | 0.5 | 10 | 0.126118465 | 0.05 | 0.0025 | 2.522 |
| 112834 | 434355 | 1 | 10 | 0.259773687 | 0.1 | 0.01 | 2.598 |
| 187086 | 426041 | 2 | 10 | 0.439126751 | 0.2 | 0.04 | 2.196 |
| 511175 | 411703 | 5 | 10 | 1.241611064 | 0.5 | 0.25 | 2.483 |
| 921140 | 409470 | 10 | 10 | 2.249590935 | 1 | 1 | 2.250 |
| 2303744 | 374024 | 30 | 10 | 6.159348063 | 3 | 9 | 2.053 |
| 4751397 | 435004 | 50 | 10 | 10.92265129 | 5 | 25 | 2.185 |
| 9406948 | 467581 | 100 | 10 | 20.11832816 | 10 | 100 | 2.012 |
| 19948069 | 471885 | 200 | 10 | 42.27315765 | 20 | 400 | 2.114 |
| **SUM OF EACH COLUMN :** | | | | **10.4756** | **4.85** | **10.3025** | **14.1017** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 2.268 | **AVERAGE(RF)** |
| **RSD** | 9.46% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 2.03708 | 2.11420 | 2.23358 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.09929 | 0.03695 | 0.018265 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99919 | 0.99777 | 0.99581 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99839 | 0.99554 | 0.99164 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

### Sample Concentration Calculations

| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Final Volume (mL) | Initial Volume (mL) | Final Concentration (ug/L) | Spike Amt (ug/L) | % Recovery | %D | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | Final Conc = (On column * Final Vol / Initial Vol) | | | %R = (final conc / spike amt.)x100 | | %D = ABS((final conc-spike amt)/spike amt)*100 | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| TB-3_MAY24 | RFG129.D | 30221 | 405733 | 10 | 0.33 | -0.122 | 0.178 | 0.252 | 10.000 | 10.000 | 0.33 | NA | NA | NA | NA |
| TB-4_MAY24 | RFG158.D | 26633 | 386284 | 10 | 0.30 | -0.149 | 0.151 | 0.227 | 10.000 | 10.000 | 0.30 | NA | NA | NA | NA |

**Module 1: Analysis by GC/MS**

**Lab/SDG:** **EMAX / 24F019**

| | T1AMF-MW051_MAY24 | | | | T1AMF-MW035_MAY24 | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 467069 | 388902 | 169327 | 467069 | 470734 | 382077 | 183510 | 470734 |
| **Surrogate Response** | 412313 | 777934 | 300293 | 273889 | 433832 | 785972 | 303797 | 296076 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.91 | 10.07 | 11.17 | 9.58 | 11.39 | 10.35 | 10.43 | 10.28 |
| **Surr %R** | 109 | 101 | 112 | 96 | 114 | 104 | 104 | 103 |

| | MB (VOE2F05B) | | | | LCS (VOE2F05L) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 516821 | 418923 | 189458 | 516821 | 546903 | 471957 | 227711 | 546903 |
| **Surrogate Response** | 438986 | 866529 | 338643 | 296664 | 464776 | 927793 | 380040 | 320860 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.50 | 10.41 | 11.26 | 9.38 | 10.50 | 9.89 | 10.52 | 9.59 |
| **Surr %R** | 105 | 104 | 113 | 94 | 105 | 99 | 105 | 96 |

| | LCSD (VOE2F05C) | | | | MB (VOE2F06B) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 558714 | 480301 | 220875 | 558714 | 495022 | 408577 | 172895 | 495022 |
| **Surrogate Response** | 467509 | 938954 | 395119 | 326349 | 409452 | 772634 | 290334 | 269201 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.34 | 9.84 | 11.27 | 9.54 | 10.22 | 9.52 | 10.58 | 8.89 |
| **Surr %R** | 103 | 98 | 113 | 95 | 102 | 95 | 106 | 89 |

| | LCS (VOE2F06L) | | | | LCSD (VOE2F06C) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 533808 | 446338 | 205070 | 533808 | 528358 | 450867 | 206285 | 528358 |
| **Surrogate Response** | 440420 | 848303 | 348701 | 294326 | 438393 | 835268 | 343893 | 290055 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.20 | 9.57 | 10.71 | 9.01 | 10.26 | 9.32 | 10.50 | 8.97 |
| **Surr %R** | 102 | 96 | 107 | 90 | 103 | 93 | 105 | 90 |

| | MB (VOE2F04B) | | | | LCS (VOE2F04L) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 600187 | 469288 | 222326 | 600187 | 700127 | 552821 | 279028 | 700127 |
| **Surrogate Response** | 524716 | 987879 | 374680 | 365937 | 600152 | 1166618 | 489887 | 421921 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.81 | 10.59 | 10.62 | 9.96 | 10.60 | 10.62 | 11.06 | 9.85 |
| **Surr %R** | 108 | 106 | 106 | 100 | 106 | 106 | 111 | 98 |

**Module 1: Analysis by GC/MS**

**Lab/SDG:** **EMAX / 24F019**

| | LCSD (VOE2F04C) | | | | MS (T1AM-MW053_MAY24) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 703905 | 550837 | 285241 | 703905 | 482397 | 411288 | 190647 | 482397 |
| **Surrogate Response** | 576775 | 1162432 | 480962 | 412093 | 403801 | 792100 | 328847 | 274553 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.13 | 10.62 | 10.62 | 9.57 | 10.35 | 9.69 | 10.87 | 9.30 |
| **Surr %R** | 101 | 106 | 106 | 96 | 103 | 97 | 109 | 93 |

| | MSD (T1AM-MW053_MAY24) | | | | MS (T1AM-MW051_MAY24) | | | |
|---|---|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 482381 | 410664 | 197209 | 482381 | 491277 | 419964 | 199196 | 491277 |
| **Surrogate Response** | 412955 | 811059 | 336491 | 281547 | 429676 | 826200 | 348649 | 287729 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.58 | 9.94 | 10.75 | 9.54 | 10.81 | 9.90 | 11.03 | 9.57 |
| **Surr %R** | 106 | 99 | 108 | 95 | 108 | 99 | 110 | 96 |

| | MSD (T1AM-MW051_MAY24) | | | |
|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | Dibromofluoromethane |
| **IS Response** | 499209 | 430525 | 203072 | 499209 |
| **Surrogate Response** | 431287 | 826653 | 354785 | 294314 |
| **Calibration RF** | 0.809 | 1.987 | 1.587 | 0.612 |
| **IS spike concentration (ppb)** | 10 | 10 | 10 | 10 |
| **Surr Spike Conc. (ppb)** | 10 | 10 | 10 | 10 |
| **Surr Conc. (ppb)** | 10.68 | 9.66 | 11.01 | 9.63 |
| **Surr %R** | 107 | 97 | 110 | 96 |

**Module 1: Analysis by GC/MS**
**Lab/SDG: EMAX / 24F019**

**CALCULATION OF WORKING STANDARD FROM STOCK**

**CALIBRATION STANDARD**

| | |
|---|---|
| **Name of Stock Standard:** | CPI International "Custom Volatiles Mix" |
| **Conc of Stock Std** | 2000 ug/mL (ppm) |
| **Aliquot of Stock Std used:** | 0.250 mL |
| **Final Conc of Working standard** | 250 ug/mL (ppm) |

C2 = C1*V1)/V2

| **C1** | **V1** | **V2** | **C2** |
|---|---|---|---|
| 2000 | 0.250 | 2.0 | 250 |

where
C1 = concentration of Stock standard
V1 = Volume of stock standard used
C2 = Concentration of working standard
V2 = Final volume of working standard

Calibration pt at 1ug/L

| | *From analytical log* spike amt | concentration | purge volume (see analysis run log) | **spike amt in L** | **amount spiked** | **concentration of amount spiked = (amount spiked/ purge volue)** | |
|---|---|---|---|---|---|---|---|
| Filename REG119: 1ug/L point | 0.04 uL | 250 mg/L | 10 ml | 0.00000004 L | 0.00001 mg | 0.001 mg/L | 1 ug/L |

**SURROGATE STANDARD**

| | |
|---|---|
| **Name of Stock Standard:** | RESTEK "8260A Surrogate Mix" |
| **Conc of Stock Std** | 2500 ug/mL (ppm) |
| **Aliquot of Stock Std used:** | 0.200 mL |
| **Final Conc of Working standard** | 50 ug/mL (ppm) |

C2 = C1*V1)/V2

| **C1** | **V1** | **V2** | **C2** |
|---|---|---|---|
| 2500 | 0.200 | 10 | 50 |

where
C1 = concentration of Stock standard
V1 = Volume of stock standard used
C2 = Concentration of working standard
V2 = Final volume of working standard

| | *From analytical log* spike amt | concentration | purge volume (see analysis run log) | **spike amt in L** | **amount spiked** | **concentration of amount spiked = (amount spiked/ purge volue)** | |
|---|---|---|---|---|---|---|---|
| IS/ Surr | 5 uL | 20 mg/L | 10 ml | 0.000005 L | 0.0001 mg | 0.01 mg/L | 10 ug/L |

## Module 1: Analysis by GC/MS

**Lab/SDG:** **EMAX / 24F019**

**ICV/LCS STANDARD (second source)**

| | |
|---|---|
| **Name of Stock Standard:** | RESTEK "Custom Revised 2060 Megamix" |
| **Conc of Stock Std** | 2000 ug/mL (ppm) |
| **Aliquot of Stock Std used:** | 0.250 mL |
| **Final Conc of Working standard** | 50 ug/mL |

C2 = C1*V1)/V2

| **C1** | **V1** | **V2** | **C2** |
|---|---|---|---|
| 2000 | 0.250 | 10 | 50 |

where
C1 = concentration of Stock standard
V1 = Volume of stock standard used
C2 = Concentration of working standard
V2 = Final volume of working standard

| | *From analytical log* spike amt | concentration | purge volume (see analysis run log) | **spike amt in L** | **amount spiked** | **concentration of amount spiked = (amount spiked/ purge volue)** | |
|---|---|---|---|---|---|---|---|
| ICV/LCS | 0.4 uL | 250 mg/L | 10 ml | 0.0000004 L | 0.0001 mg | 0.01 mg/L | 10 ug/L |

**Data Validation Report for 2406133**

| | |
|---|---|
| Facility: | J09CA1108-01, Titan 1A Missile Facility, RI |
| Event: | Spring 2024 |
| SDG: | 2406133 |
| Guidance Document: | Titan 1A Missile Facility, Lincoln CA |
| Prime Contractor: | Parsons Corporation, Austin, TX |
| Project Manager: | Tim Crummett |
| Contract Laboratory(ies): | Eurofins Air Toxics, Inc., Folsom, CA |
| Data Review Contractor: | Parsons Corporation |
| Data Review Level: | S4VEM |
| Primary Data Reviewer: | Beth Driskill, Senior Scientist |
| Date Submitted: | July 10, 2024 |

| Field Sample ID | Lab Sample ID | Matrix | Type/Type Code | TO 5 |
|---|---|---|---|---|
| T1AMF-SV001_May24 | 2406133-03A | Air | Field Sample/N | X |
| T1AMF-SV002_May24 | 2406133-21A | Air | Field Sample/N | X |
| T1AMF-SV004_May24 | 2406133-18A | Air | Field Sample/N | X |
| T1AMF-SV005B_May24 | 2406133-17A | Air | Field Sample/N | X |
| T1AMF-SV006_May24 | 2406133-14A | Air | Field Sample/N | X |
| T1AMF-SV007_May24 | 2406133-13A | Air | Field Sample/N | X |
| T1AMF-SV008_May24 | 2406133-16A | Air | Field Sample/N | X |
| T1AMF-SV015B_May24 | 2406133-22A | Air | Field Sample/N | X |
| T1AMF-SV016_May24 | 2406133-15A | Air | Field Sample/N | X |
| T1AMF-SV017B_May24 | 2406133-12A | Air | Field Sample/N | X |
| T1AMF-SV018_May24 | 2406133-01A | Air | Field Sample/N | X |
| T1AMF-SV019_May24 | 2406133-20A | Air | Field Sample/N | X |
| T1AMF-SV020_May24 | 2406133-11A | Air | Field Sample/N | X |
| T1AMF-SV022_May24 | 2406133-10A | Air | Field Sample/N | X |
| T1AMF-SV023_May24 | 2406133-05A | Air | Field Sample/N | X |
| T1AMF-SV023_May24_FD | 2406133-06A | Air | Field Duplicate/FD | X |
| T1AMF-SV024_May24 | 2406133-07A | Air | Field Sample/N | X |
| T1AMF-SV025_May24 | 2406133-19A | Air | Field Sample/N | X |
| T1AMF-SV026_May24 | 2406133-08A | Air | Field Sample/N | X |
| T1AMF-SV026_May24_FD | 2406133-09A | Air | Field Duplicate/FD | X |
| T1AMF-SV033_May24 | 2406133-04A | Air | Field Sample/N | X |

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S4VEM data validation level. The following samples were validated at a Stage 4: T1AMF-SV001_May24, T1AMF-SV033_May24, T1AMF-SV024_May24, T1AMF-SV026_May24, and T1AMF-SV020_May24. Validation was performed following the guidelines outlined in the project-specific UFP QAPP, DoD General Data Validation Guidelines, Rev 1 (Nov 2019) and Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Titan 1A Missile Facility, Lincoln CA and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Parsons Corporation, Austin, TX; analyses were performed by Eurofins Air Toxics, Inc., Folsom, CA and were reported under sample delivery group (SDG) 2406133. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Field Duplicate RPD
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 0 results (0.00%) out of the 231 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency (X qualifier). Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

| Analytical Method | Data Reviewer Comment |
|---|---|
| TO15 | Sample T1AMF-SV021_May24 was cancelled on 6/13/24 per Parson's request because the sample was measured at full vacuum (29.8”Hg) indicating that no sample volume was collected. |

Beth Driskill

July 10, 2024

Reviewed by Beth Driskill, Senior Scientist, Parsons Corporation

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of the reported sample results and method quality control data between the two deliverables.

No Outliers were associated with this sample delivery group.

Qualified Results

No results associated with this sample delivery group required qualification.

Results with Modified Qualifiers

No qualifiers associated with this sample delivery group were modified manually.

**Reason Code Definitions**

| Code | Definition |
|---|---|
| TR | Trace Level Detect |

**Flag Code and Definitions**

| Flag | Definition |
|---|---|
| J | Estimated Value |
| N | The analysis indicates the presence of an analyte for which there was presumptive evidence to make a tentative identification. |
| NJ | The analyte has been tentatively identified or presumptively as present and the associated numerical value was the estimated concentration in the sample. |
| R | The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making. |

| | |
|---|---|
| U | Undetected: The analyte was analyzed for, but not detected. |
| U | The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria. |
| X | Result may require rejection; PDT attention required |

| **Bias** | |
|---|---|
| - | The result may be biased low |
| + | The result may be biased high |
| Note - The bias field is a separate field; however, it is an integral part of the final flag (qualifier) on the sample result | |

## Data Validation Report for 2406133

**Review Questions**

| Method: TO15 (Determination of Volatile Organic Compounds in Air Collected in Specially-Prepared Canisters and Analyzed by GC/MS) | | | | |
|---|---|---|---|---|
| Review Questions | Yes | No | NA | Comment |
| Were there discrepancies between the COC and the samples received? | | • | | |
| Were there discrepancies between the COC and the sample labels? | • | | | The COC information for sample T1AMF-SV019_May24 did not match the information on the canister with regard to canister barcode. The sample labeled 1L4781 on the COC is labeled as 1L4761 on the canister. Parsons project team was notified of the discrepancy and the information on the canister was used to process and report the sample. |
| Were samples relinquished properly on the COC? | • | | | |
| Were all samples properly preserved? | | | • | Preservation for summa canisters is not applicable. |
| Were sampling dates/times, date and time of laboratory receipt of samples, and sample conditions upon receipt at the laboratory (including preservation, pH, and temperature) documented? | • | | | Sample T1AMF-SV020_May24 was received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits. |
| Were sample results reported with percent moisture correction if required? | | | • | |
| Were analytical methods performed and analysis dates present? | • | | | |
| Were all requested target analytes reported? | • | | | |
| Were QAPP specified Project Quantitation Limit Goals achieved? (The laboratory LOQ is compared to the QAPP Project Quantitation Goal) | | • | | The laboratory LOQ exceeded the PQL goal for the following analytes in one or more samples; 1,4-dichlorobenzene, benzene, TCE, vinyl chloride, and ethylbenzene. |
| Were holding times met? | • | | | |
| Were trip blanks analyzed at the proper frequency and in control? | | | • | |
| Were field blanks analyzed at the proper frequency and in control? | | | • | |
| Were equipment blanks analyzed at the proper frequency and in control? | | | • | |
| Was a method blank prepared and analyzed with each batch? | • | | | |
| Were target analytes in the method blank less than DL? | • | | | |
| Was an LCS/LCSD pair prepared and analyzed with each batch? | • | | | |
| Were LCS/LCSD recoveries within project acceptance limits? | • | | | |
| Was the LCS/LCSD RPD within project acceptance limits? | • | | | |
| Was a MS/MSD pair prepared with each batch? | | | • | MS/MSD analysis is not applicable for method TO15 |
| Were MS/MSD recoveries within project acceptance limits? | | | • | MS/MSD analysis is not applicable for method TO15. |
| Was the MS/MSD RPD within project acceptance limits? | | | • | MS/MSD analysis is not applicable for method TO15 |
| Were Post Spike (PS) recoveries within project acceptance limits? | | | • | Post Spike is not applicable for method TO-15. |
| If ISM was used for sample collection, were laboratory triplicates analyzed and within project acceptance limits? | | | • | |
| Were surrogate recoveries within project acceptance limits? | • | | | |

**Review Questions**

| Method: TO15 (Determination of Volatile Organic Compounds in Air Collected in Specially-Prepared Canisters and Analyzed by GC/MS) | | | | |
|---|---|---|---|---|
| Review Questions | Yes | No | NA | Comment |
| Were field replicates (duplicates, triplicates, etc.) analyzed at the proper frequency and in control? | • | | | |
| Were reported sample concentrations within calibration range? | • | | | |
| Was the Calibration within project acceptance criteria? | • | | | |
| Was the GC/MS system properly tuned based on method criteria? | • | | | |
| Was a ICV performed after each ICAL prior to sample analysis and within project acceptance criteria? | • | | | |
| Was instrument tuning completed every 24 hours during sample analysis? | • | | | |
| Were CCVs run at the required frequency and within project acceptance criteria? | • | | | |
| Were ICB/CCBs run at the required frequency? | | | • | CCB/ICBs are not applicable for method TO15. |
| Were target analytes in the ICBs/CCBs non-detect? | | | • | CCB/ICBs are not applicable for method TO15. |
| Was a Low Level Calibration Check Verification (LLCCV) analyzed prior to sample and within acceptance criteria? | | | • | LLCCVs are not applicable for method TO15. |
| Were instrument run logs present and filled out appropriately? | • | | | |
| Were internal standard retention times and area criteria within project acceptance criteria? | • | | | |
| Were sample preparation sheets present and filled out appropriately? | • | | | |
| Were internal standards spiked for every sample, standard, and QC sample? | • | | | |
| Were certificates of standard traceability provided and documentation of standard solution preparation? | • | | | |
| Were recalculation of QC Elements and Sample Results performed? | • | | | |
| Have all Laboratory Case Narrative comments/findings been addressed in the data review process? | • | | | |
| Were certificates of standard traceability and documentation of standard solution preparation provided? | • | | | |
| Were DoD QSM corrective actions followed if deviations were noted? | • | | | |
| Were any data recommended for exclusion in the data validation process? | | • | | |
| Were Relative Retention Times (RRTs) within ± 0.06 RRT units (may be updated based on daily CCV)? | • | | | |
| Were chromatograms checked for peak integration? (10% of automated integration and 100% of manual integrations) | • | | | |
| Were chromatograms checked for correct baseline/peak integration and possible interferences? | • | | | |
| Were qualitative ion mass present? | • | | | |

## Module 1: Analysis by GC/MS

**Lab/SDG:** **Eurofins Air Toxics / 2406133**

| RECALCULATION TYPE | TAB Reference |
|---|---|
| Tune: Ion Abundance | TUNE |
| Tailing Factor | not applicable for TO15 |
| Calibration RF | ICAL RF |
| Calibration RRT | Rel RT |
| ICV/CCV %D | ICAL RF |
| Sample Conc. Raw Values | ICAL RF |
| Sample Conc. Linear Regression | not applicable |
| Quadratic Regression | not applicable |
| LCS % Recovery | ICAL RF |
| Surrogate % Recovery | ICAL RF |
| MS/MSD % Recovery | ICAL RF |
| MS/MSD RPD | ICAL RF |
| Sample Amounts | ICAL RF |
| Sample Conc. by Volume (Aqueous Only) | ICAL RF |
| Sample Conc. by Weight (Non-aqueous only) | not applicable |

| 6.1 SAMPLES AND QC | COMMENT |
|---|---|
| Sample recalculations should include the raw instrument result, re-quantified from the instrument response against the calibration function, and the final reported sample result, including any dilution, preparation factor, or percent moisture (if applicable). The equations in Appendix B can be used to calculate a sample result from the corresponding reported calibration or regression function, as appropriate | Provided in ICAL RF tab |
| Verify that one or more of the laboratory's reporting limits (such as limit of quantitation) are calculated correctly for the non-detects and reported accordingly. If a detection limit study was identified by the QAPP, recalculate one or more analyte detection limits. | Provided in LOQ Recalc tab |
| Re-quantitate **all detected target analytes in the 10% sample data chosen**. For some samples, all results may be non-detects, therefore recalculation would not be necessary. Verify that sample-specific results have been adjusted correctly to reflect percent solids, original sample mass/volume, and any applicable dilutions. | Provided in ICAL RF tab |

## Module 1: Analysis by GC/MS

**Lab/SDG: Eurofins Air Toxics / 2406133**

| | |
|---|---|
| Re-quantitate **all detects found in the field QC blanks** (such as trip blanks, field blanks, or equipment blanks). Field QC sample duplicate recalculations should include re-quantification of the same detected analyte sample/duplicate pair and verification of the percent difference (%D), or relative percent difference (RPD), as reported | No field QC included in SDG |
| **6.2 Method QC** | |
| Re-quantification of batch QC sample results should use raw instrument response in tandem with the reported calibration factor, response factor, or slope; the preparation information; and percent moisture for solid samples to recreate the reported result. | Provided in ICAL RF tab |
| **6.2.1 Surrogate Spikes** | |
| Verify the concentrations of surrogates from the raw data. Verify that the surrogate result and percent recovery were calculated and reported correctly by re-calculating all surrogates in the 10% of chosen sample data and method QC that were originally selected. | Provided in ICAL RF tab |
| **6.2.2 LCS/LCSD** | |
| To check that the spike percent recovery was calculated and reported correctly, using the equation in Appendix B, re-quantitate and then recalculate all contaminants of concern as outlined in the UFP-QAPP Worksheet #12 or #15. Use a random 10% of the analytes in the LCS/LCSD if contaminants of concern (target analytes) have not been specifically identified. Recalculate RPDs (if applicable) from LCS/LCSD pairs that would result in the qualification of a sample. | Provided in ICAL RF tab |
| **6.2.3 MS/MSD** | |
| Re-quantitate 10% of the target analytes as listed in the UFP-QAPP Worksheet #12 or #15 for both the MS and the MSD. Use a random 10% of the analytes in the MS and MSD if contaminates of concern have not been identified. The RPDs of the recalculated MS/MSD pairs should be calculated from the MS/MSD concentrations, not from the recoveries. | Provided in ICAL RF tab |
| **6.2.4 Method Blanks** | |
| Re-quantitate one or more detects found in the method blank (if applicable) from the reported average RF (or higher order regression, if used) per each batch of samples. | No method blank detections were found; no recalcs needed |

## Module 1: Analysis by GC/MS

**Lab/SDG:** **Eurofins Air Toxics / 2406133**

**6.3 Insturment QC**

**6.3.1 Tune Check**

| | |
|---|---|
| Verify by re-calculating from the quantitation reports, that the mass assignment is correct and that the mass listing is normalized to the specified m/z for at least 10% of the abundance ratios in every tune. Verify by recalculation that the reported DDT degradation and tailing factor are accurate for SVOC performance checks. | Provided in TUNE tab |

**6.3.2 Initial (Response Factors and Regressions) and Continuing Calibration Verifications**

| | |
|---|---|
| Initial calibration (ICAL) recalculations should use the raw instrument response for the target analytes and associated internal standards to recreate the calibration curve from the individual calibration standards. If multiple types of calibration curves are employed in an analytical suite, then one analyte per curve type should be recalculated. | Provided in ICAL RF tab |
| Re-quantitate and recalculate the individual and average RFs, %RSDs, and regression function (if used) and r values reported for at least 10% of the target analytes per each internal standard, (preferably analytes of concern which were identified in the QAPP), per initial calibration curve type. | Provided in ICAL RF tab |
| Re-quantitate and recalculate the Initial and Continuing Calibration Verification RF result and %D for at least 10% of the target analytes, proportionally per each internal standard and proportionally selecting analytes based on each calibration curve type. | Provided in ICAL RF tab |
| The laboratory may employ a linear or weighted linear least squares regression. The low standard should be recalculated using the calibration curve and evaluated. RFs should not be evaluated for analytes with linear or higher order regression curves. If the ICAL included refitting of the data back to the model (RSE), the recalculate 10% of the target analytes for the RSE in each ICAL. | Linear regression was not used for any target analytes in this SDG |

**6.3.3 Internal Standards**

| | |
|---|---|
| Verify all internal standards reported from the raw data for at least one sample per batch of samples, and verify internal standard areas for samples that were qualified due to out-of-control internal standard areas. | No calculations were performed; internal stds were verified as required. Recalculations of all analyte concentrations further confirm IS quantitation. |

**6.4 Standards Traceability**

| | |
|---|---|
| Check that the stock standards were diluted properly into working standards by recalculating the dilutions of one or more calibration standards. Recalculate one or more surrogate dilutions. Recalculate one or more method QC sample dilutions (such as LCS or MS/MSD) from the stock to the working standard. | Provided in Standards tab |

## Module 1: Analysis by GC/MS
## Lab/SDG: Eurofins Air Toxics / 2406133

**TUNE**

Data file: /chem/msd3.i/24APR24.b/3042402.d
Acq On: 4/24/2024 10:57
Sample ID: BFB
Page #: 606 OF 640

| Target Mass | RAW Abundance | Rel to Mass | Rel Abn% | Lower limit | Upper Limit |
|---|---|---|---|---|---|
| 95 | 185237 | -- | -- | 100 | 100 |
| 50 | 42533 | 95 | 22.96 | 8 | 40 |
| 75 | 85218 | 95 | 46.00 | 30 | 66 |
| 96 | 12370 | 95 | 6.68 | 5 | 9 |
| 173 | 1500 | 174 | 0.95 | 0 | 2 |
| 174 | 157717 | 95 | 85.14 | 50 | 120 |
| 175 | 11725 | 174 | 7.43 | 4 | 9 |
| 176 | 153250 | 174 | 97.17 | 93 | 101 |
| 177 | 9906 | 176 | 6.46 | 5 | 9 |

## Module 1: Analysis by GC/MS
## Lab/SDG: Eurofins Air Toxics / 2406133

**TUNE**

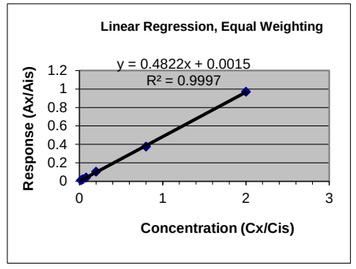
Data file: /chem/msd3.i/13JUN24.b/3061302.d
Acq On: 6/13/2024 10:48
Sample ID: BFB
Page #: 610 OF 640

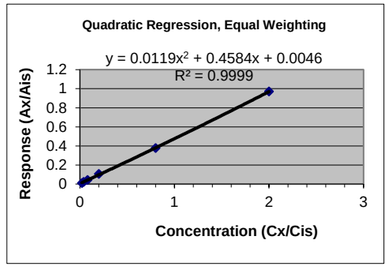
| Target Mass | RAW Abundance | Rel to Mass | Rel Abn% | Lower limit | Upper Limit |
|---|---|---|---|---|---|
| 95 | 164586 | -- | -- | 100 | 100 |
| 50 | 35992 | 95 | 21.87 | 8 | 40 |
| 75 | 74802 | 95 | 45.45 | 30 | 66 |
| 96 | 10787 | 95 | 6.55 | 5 | 9 |
| 173 | 1393 | 174 | 0.96 | 0 | 2 |
| 174 | 145432 | 95 | 88.36 | 50 | 120 |
| 175 | 10857 | 174 | 7.47 | 4 | 9 |
| 176 | 141946 | 174 | 97.60 | 93 | 101 |
| 177 | 9552 | 176 | 6.73 | 5 | 9 |

**Module 1: Analysis by GC/MS**
**Lab/SDG: Eurofins Air Toxics / 2406133**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406133
Instrument: MSD3
Curve Date: 4/23/2024
Compound: Benzene
Internal Standard: 1,4-Difluorobenzene
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**

| | |
|---|---|
| **T1AMF-SV001_May24** | 2406133-03A |
| **T1AMF-SV033_May24** | 2406133-04A |
| **T1AMF-SV024_May24** | 2406133-07A |
| **T1AMF-SV026_May24** | 2406133-08A |
| **T1AMF-SV020_May24** | 2406133-11A |

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 4016 | 393969 | 0.5 | 25 | 0.010193695 | 0.02 | 0.0004 | 0.510 |
| 8295 | 395193 | 1 | 25 | 0.020989744 | 0.04 | 0.0016 | 0.525 |
| 16634 | 402992 | 2 | 25 | 0.041276254 | 0.08 | 0.0064 | 0.516 |
| 45735 | 436367 | 5 | 25 | 0.104808567 | 0.2 | 0.04 | 0.524 |
| 145772 | 387341 | 20 | 25 | 0.376340227 | 0.8 | 0.64 | 0.470 |
| 379091 | 390964 | 50 | 25 | 0.969631475 | 2 | 4 | 0.485 |
| 785301 | 396522 | 100 | 25 | 1.98047271 | 4 | 16 | 0.495 |
| 1691616 | 421244 | 200 | 25 | 4.015762836 | 8 | 64 | 0.502 |
| **SUM OF EACH COLUMN :** | | | | **1.5232** | **3.14** | **4.6884** | **3.0297** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.503 | **AVERAGE(RF)** |
| **RSD** | 3.82% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| **Weighting** | **Equal** | **1/X** | **$1/X^2$** | **Equation** |
|---|---|---|---|---|
| **Slope (m)** | 0.48224 | 0.48236 | 0.49711 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00150 | 0.00144 | 0.000499 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99987 | 0.99965 | 0.99876 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99974 | 0.99929 | 0.99751 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

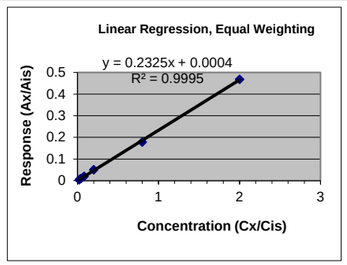
### Sample Concentration Calculations

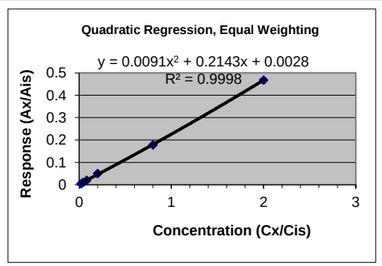
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Dilution Factor | Final Concentration (ppbv) | Final Concentration ($ug/m^3$) | Spike Amt (ppbv) | % Recovery | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | | | | %R = (final conc (ppbv) / spike amt.)x100 | | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| T1AMF-SV033_May24 | 3061409.d | 12602 | 370903 | 25 | 1.69 | 1.684 | 1.686 | 1.684 | 2.360 | 3.983 | 13 | NA | NA | NA |
| T1AMF-SV020_May24 | 3061415.d | 2466 | 363132 | 25 | 0.34 | 0.274 | 0.277 | 0.316 | 3.460 | 1.167 | 4 | NA | NA | NA |
| MB (2406133-23A) | 3061306c.d | 0 | 374972 | 25 | 0.00 | -0.078 | -0.075 | -0.025 | 1.000 | 0.000 | 0 | NA | NA | NA |
| MB (2406133-23B) | 3061406a.d | 0 | 368760 | 25 | 0.00 | -0.078 | -0.075 | -0.025 | 1.000 | 0.000 | 0 | NA | NA | NA |
| LCS (2406133-25A) | 3061304a.d | 321537 | 341342 | 25 | 46.79 | 48.756 | 48.747 | 47.348 | 1.000 | 46.786 | NA | 50.000 | 93.6 | 3.2 |
| LCSD (2406133-25AA) | 3061305a.d | 315751 | 345903 | 25 | 45.34 | 47.245 | 47.236 | 45.882 | 1.000 | 45.338 | NA | 50.000 | 90.7 | |
| LCS (2406133-25B) | 3061404a.d | 330020 | 353455 | 25 | 46.37 | 48.326 | 48.318 | 46.932 | 1.000 | 46.375 | NA | 50.000 | 92.7 | 1.1 |
| LCSD (2406133-25BB) | 3061405a.d | 326374 | 353186 | 25 | 45.90 | 47.828 | 47.819 | 46.448 | 1.000 | 45.897 | NA | 50.000 | 91.8 | |
| ICV | 3042404.d | 362504 | 376074 | 25 | 47.88 | 49.893 | 49.884 | 48.451 | 1.000 | 47.876 | NA | 50.000 | 95.8 | NA |
| CCV | 3061303a.d | 326248 | 348240 | 25 | 46.53 | 48.490 | 48.481 | 47.090 | 1.000 | 46.531 | NA | 50.000 | 93.1 | NA |
| CCV | 3061403a.d | 330022 | 356185 | 25 | 46.02 | 47.956 | 47.947 | 46.572 | 1.000 | 46.020 | NA | 50.000 | 92.0 | NA |
| CCV | 3061332.d | 337914 | 358909 | 25 | 46.76 | 48.731 | 48.722 | 47.324 | 1.000 | 46.762 | NA | 50.000 | 93.5 | NA |
| CCV | 3061430.d | 328943 | 341260 | 25 | 47.88 | 49.893 | 49.883 | 48.451 | 1.000 | 47.875 | NA | 50.000 | 95.8 | NA |

**Module 1: Analysis by GC/MS**
**Lab/SDG: Eurofins Air Toxics / 2406133**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406133
Instrument: MSD3
Curve Date: 4/23/2024
Compound: Trichloroethene
Internal Standard: 1,4-Difluorobenzene
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**T1AMF-SV001_May24**
**T1AMF-SV033_May24**
**T1AMF-SV024_May24**
**T1AMF-SV026_May24**
**T1AMF-SV020_May24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 1872 | 393969 | 0.5 | 25 | 0.004751643 | 0.02 | 0.0004 | 0.238 |
| 3951 | 395193 | 1 | 25 | 0.009997647 | 0.04 | 0.0016 | 0.250 |
| 8203 | 402992 | 2 | 25 | 0.020355243 | 0.08 | 0.0064 | 0.254 |
| 22164 | 436367 | 5 | 25 | 0.050792108 | 0.2 | 0.04 | 0.254 |
| 69118 | 387341 | 20 | 25 | 0.178442251 | 0.8 | 0.64 | 0.223 |
| 183021 | 390964 | 50 | 25 | 0.4681275 | 2 | 4 | 0.234 |
| 385359 | 396522 | 100 | 25 | 0.971847716 | 4 | 16 | 0.243 |
| 827420 | 421244 | 200 | 25 | 1.964229758 | 8 | 64 | 0.246 |
| **SUM OF EACH COLUMN :** | | | | **0.7325** | **3.14** | **4.6884** | **1.4530** |

**CALIBRATION MODELS:**

**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.243 | **AVERAGE(RF)** |
| **RSD** | 4.44% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.23249 | 0.23204 | 0.24089 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00041 | 0.00065 | 0.000081 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99973 | 0.99938 | 0.99795 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99947 | 0.99877 | 0.99591 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

### Sample Concentration Calculations

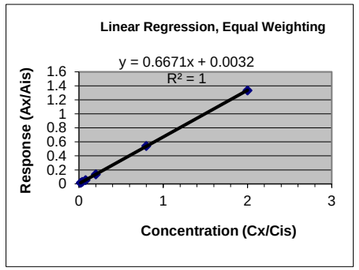
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Dilution Factor | Final Concentration (ppbv) | Final Concentration ($ug/m^3$) | Spike Amt (ppbv) | % Recovery | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | **Ax*Cis/Ais/RF** | **((Ax/Ais-b)/m)*Cis** | | | | | | **%R = (final conc (ppbv) / spike amt.)x100** | | **RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100** |
| T1AMF-SV001_May24 | 3061327.d | 408129 | 355668 | 25 | 118.21 | 123.348 | 123.564 | 119.080 | 9.410 | 1112.315 | 5978 | NA | NA | NA |
| T1AMF-SV033_May24 | 3061409.d | 19275 | 370903 | 25 | 5.35 | 5.544 | 5.530 | 5.385 | 2.360 | 12.634 | 68 | NA | NA | NA |
| T1AMF-SV024_May24 | 3061411.d | 397698 | 350388 | 25 | 116.92 | 122.006 | 122.220 | 117.785 | 10.000 | 1169.202 | 6284 | NA | NA | NA |
| T1AMF-SV020_May24 | 3061415.d | 74187 | 363132 | 25 | 21.04 | 21.925 | 21.942 | 21.194 | 3.460 | 72.816 | 391 | NA | NA | NA |
| T1AMF-SV026_May24 | 3061412.d | 333550 | 387485 | 25 | 88.67 | 92.520 | 92.675 | 89.326 | 2.250 | 199.514 | 1072 | NA | NA | NA |
| MB (2406133-23A) | 3061306c.d | 0 | 374972 | 25 | 0.00 | -0.044 | -0.070 | -0.008 | 1.000 | 0.000 | 0 | NA | NA | NA |
| MB (2406133-23B) | 3061406a.d | 0 | 368760 | 25 | 0.00 | -0.044 | -0.070 | -0.008 | 1.000 | 0.000 | 0 | NA | NA | NA |
| LCS (2406133-25A) | 3061304a.d | 158463 | 341342 | 25 | 47.82 | 49.876 | 49.948 | 48.170 | 1.000 | 47.822 | NA | 50.000 | 95.6 | 3.2 |
| LCSD (2406133-25AA) | 3061305a.d | 156621 | 345903 | 25 | 46.64 | 48.645 | 48.715 | 46.982 | 1.000 | 46.642 | NA | 50.000 | 93.3 | |
| LCS (2406133-25B) | 3061404a.d | 164106 | 353455 | 25 | 47.83 | 49.882 | 49.954 | 48.176 | 1.000 | 47.827 | NA | 50.000 | 95.7 | 2.1 |
| LCSD (2406133-25BB) | 3061405a.d | 161446 | 353186 | 25 | 47.09 | 49.110 | 49.181 | 47.431 | 1.000 | 47.088 | NA | 50.000 | 94.2 | |
| ICV | 3042404.d | 171664 | 376074 | 25 | 47.02 | 49.040 | 49.111 | 47.363 | 1.000 | 47.021 | NA | 50.000 | 94.0 | NA |
| CCV | 3061303a.d | 198389 | 348240 | 25 | 58.68 | 61.216 | 61.310 | 59.114 | 1.000 | 58.685 | NA | 50.000 | 117.4 | NA |
| CCV | 3061403a.d | 203441 | 356185 | 25 | 58.84 | 61.374 | 61.469 | 59.267 | 1.000 | 58.837 | NA | 50.000 | 117.7 | NA |
| CCV | 3061332.d | 206037 | 358909 | 25 | 59.14 | 61.686 | 61.781 | 59.568 | 1.000 | 59.135 | NA | 50.000 | 118.3 | NA |
| CCV | 3061430.d | 201306 | 341260 | 25 | 60.77 | 63.388 | 63.486 | 61.211 | 1.000 | 60.765 | NA | 50.000 | 121.5 | NA |

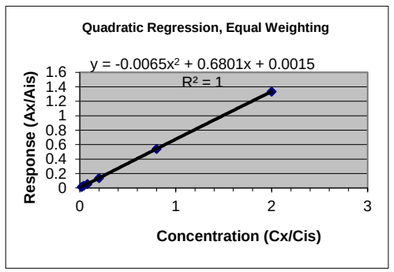
**Module 1: Analysis by GC/MS**

**Lab/SDG: Eurofins Air Toxics / 2406133**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406264
Instrument: MSD3
Curve Date: 4/23/2024
Compound: Toluene
Internal Standard: 1,4-Difluorobenzene
**CALIBRATION TYPE USED: RF**

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**The following samples were validated at a Stage 4:**
**T1AMF-SV001_May24**
**T1AMF-SV033_May24**
**T1AMF-SV024_May24**
**T1AMF-SV026_May24**
**T1AMF-SV020_May24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 6183 | 393969 | 0.5 | 25 | 0.015694128 | 0.02 | 0.0004 | 0.785 |
| 11722 | 395193 | 1 | 25 | 0.029661457 | 0.04 | 0.0016 | 0.742 |
| 22030 | 402992 | 2 | 25 | 0.054666098 | 0.08 | 0.0064 | 0.683 |
| 59602 | 436367 | 5 | 25 | 0.136586864 | 0.2 | 0.04 | 0.683 |
| 209847 | 387341 | 20 | 25 | 0.541762943 | 0.8 | 0.64 | 0.677 |
| 522189 | 390964 | 50 | 25 | 1.335644714 | 2 | 4 | 0.668 |
| 1060130 | 396522 | 100 | 25 | 2.673571706 | 4 | 16 | 0.668 |
| 2252473 | 421244 | 200 | 25 | 5.347193076 | 8 | 64 | 0.668 |
| **SUM OF EACH COLUMN :** | | | | **2.1140** | **3.14** | **4.6884** | **4.2375** |

**CALIBRATION MODELS:**

**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.697 | **AVERAGE(RF)** |
| **RSD** | 6.17% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.66715 | 0.66868 | 0.66890 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00320 | 0.00239 | 0.002378 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99999 | 0.99998 | 0.99985 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99998 | 0.99995 | 0.99969 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

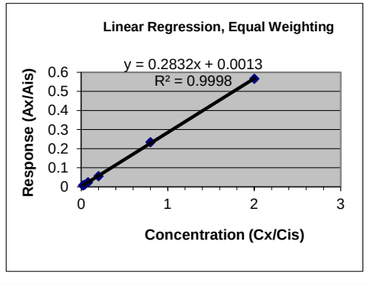
### Sample Concentration Calculations

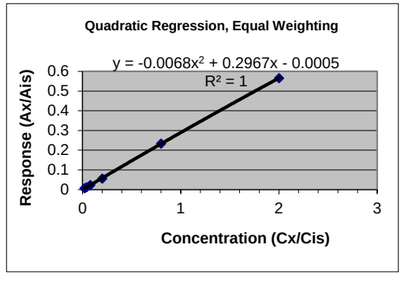
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Dilution Factor | Final Concentration (ppbv) | Final Concentration ($ug/m^3$) | Spike Amt (ppbv) | % Recovery | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | | | | %R = (final conc (ppbv) / spike amt.)x100 | | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| T1AMF-SV033_May24 | 3061409.d | 103797 | 370903 | 25 | 10.04 | 10.367 | 10.373 | 10.370 | 2.360 | 23.696 | 89 | NA | NA | NA |
| T1AMF-SV020_May24 | 3061415.d | 4557 | 363132 | 25 | 0.45 | 0.351 | 0.380 | 0.380 | 3.460 | 1.558 | 6 | NA | NA | NA |
| T1AMF-SV026_May24 | 3061412.d | 2190 | 387485 | 25 | 0.20 | 0.092 | 0.122 | 0.122 | 2.250 | 0.456 | 2 | NA | NA | NA |
| MB (2406133-23A) | 3061306c.d | 0 | 374972 | 25 | 0.00 | -0.120 | -0.089 | -0.089 | 1.000 | 0.000 | 0.000 | NA | NA | NA |
| MB (2406133-23B) | 3061406a.d | 0 | 368760 | 25 | 0.00 | -0.120 | -0.089 | -0.089 | 1.000 | 0.000 | 0.000 | NA | NA | NA |
| LCS (2406133-25A) | 3061304a.d | 440925 | 341342 | 25 | 46.35 | 48.286 | 48.205 | 48.190 | 1.000 | 46.346 | NA | 50.000 | 93 | 3.3 |
| LCSD (2406133-25AA) | 3061305a.d | 434240 | 345903 | 25 | 45.04 | 46.923 | 46.845 | 46.831 | 1.000 | 45.042 | NA | 50.000 | 90 | |
| LCS (2406133-25B) | 3061404a.d | 453033 | 353455 | 25 | 45.99 | 47.910 | 47.830 | 47.815 | 1.000 | 45.987 | NA | 50.000 | 92 | 1.1 |
| LCSD (2406133-25BB) | 3061405a.d | 447202 | 353186 | 25 | 45.43 | 47.328 | 47.250 | 47.235 | 1.000 | 45.430 | NA | 50.000 | 91 | |
| ICV | 3042404.d | 484854 | 376074 | 25 | 46.26 | 48.192 | 48.112 | 48.097 | 1.000 | 46.257 | NA | 50.000 | 93 | NA |
| CCV | 3061303a.d | 448938 | 348240 | 25 | 46.25 | 48.189 | 48.108 | 48.093 | 1.000 | 46.254 | NA | 50.000 | 93 | NA |
| CCV | 3061403a.d | 457963 | 356185 | 25 | 46.13 | 48.061 | 47.981 | 47.966 | 1.000 | 46.131 | NA | 50.000 | 92 | NA |
| CCV | 3061332.d | 467519 | 358909 | 25 | 46.74 | 48.693 | 48.611 | 48.596 | 1.000 | 46.736 | NA | 50.000 | 93 | NA |
| CCV | 3061430.d | 450132 | 341260 | 25 | 47.33 | 49.308 | 49.225 | 49.210 | 1.000 | 47.325 | NA | 50.000 | 95 | NA |

**Module 1: Analysis by GC/MS**
**Lab/SDG: Eurofins Air Toxics / 2406133**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406264
Instrument: MSD3
Curve Date: 4/23/2024
Compound: Ethylbenzene
Internal Standard: Chlorobenzene-d5
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**T1AMF-SV001_May24**
**T1AMF-SV033_May24**
**T1AMF-SV024_May24**
**T1AMF-SV026_May24**
**T1AMF-SV020_May24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 2755 | 399290 | 0.5 | 25 | 0.006899747 | 0.02 | 0.0004 | 0.345 |
| 4444 | 392113 | 1 | 25 | 0.011333468 | 0.04 | 0.0016 | 0.283 |
| 9422 | 399961 | 2 | 25 | 0.023557297 | 0.08 | 0.0064 | 0.294 |
| 25019 | 446883 | 5 | 25 | 0.055985571 | 0.2 | 0.04 | 0.280 |
| 90547 | 387994 | 20 | 25 | 0.233372166 | 0.8 | 0.64 | 0.292 |
| 221782 | 392003 | 50 | 25 | 0.565766078 | 2 | 4 | 0.283 |
| 444390 | 398422 | 100 | 25 | 1.115375155 | 4 | 16 | 0.279 |
| 943770 | 429525 | 200 | 25 | 2.197241138 | 8 | 64 | 0.275 |
| **SUM OF EACH COLUMN :** | | | | **0.8969** | **3.14** | **4.6884** | **1.7773** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.291 | **AVERAGE(RF)** |
| **RSD** | 7.77% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.28324 | 0.28418 | 0.27902 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00125 | 0.00077 | 0.001095 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99992 | 0.99982 | 0.99841 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99984 | 0.99964 | 0.99683 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

### Sample Concentration Calculations

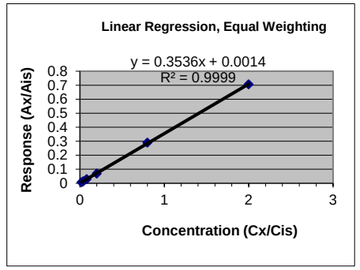
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Dilution Factor | Final Concentration (ppbv) | Final Concentration ($ug/m^3$) | Spike Amt (ppbv) | % Recovery | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | **Ax*Cis/Ais/RF** | **((Ax/Ais-b)/m)*Cis** | | | | | | **%R = (final conc (ppbv) / spike amt.)x100** | | **RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100** |
| T1AMF-SV033_May24 | 3061409.d | 4855 | 381883 | 25 | 1.09 | 1.011 | 1.051 | 1.041 | 2.360 | 2.575 | 11 | NA | NA | NA |
| T1AMF-SV020_May24 | 3061415.d | 600 | 373157 | 25 | 0.14 | 0.031 | 0.074 | 0.046 | 3.460 | 0.477 | 2 | NA | NA | NA |
| MB (2406133-23A) | 3061306c.d | 0 | 381816 | 25 | 0.00 | -0.111 | -0.067 | -0.098 | 1.000 | 0.000 | 0.000 | NA | NA | NA |
| MB (2406133-23B) | 3061406a.d | 0 | 371862 | 25 | 0.00 | -0.111 | -0.067 | -0.098 | 1.000 | 0.000 | 0.000 | NA | NA | NA |
| LCS (2406133-25A) | 3061304a.d | 199972 | 336630 | 25 | 50.97 | 52.321 | 52.192 | 53.127 | 1.000 | 50.973 | NA | 50.000 | 102 | 1.0 |
| LCSD (2406133-25AA) | 3061305a.d | 198477 | 338443 | 25 | 50.3 | 51.650 | 51.524 | 52.446 | 1.000 | 50.321 | NA | 50.000 | 101 | |
| LCS (2406133-25B) | 3061404a.d | 202826 | 348308 | 25 | 49.97 | 51.286 | 51.161 | 52.077 | 1.000 | 49.967 | NA | 50.000 | 100 | 0.0 |
| LCSD (2406133-25BB) | 3061405a.d | 201737 | 347473 | 25 | 49.82 | 51.133 | 51.008 | 51.921 | 1.000 | 49.818 | NA | 50.000 | 100 | |
| ICV | 3042404.d | 212260 | 364730 | 25 | 49.94 | 51.255 | 51.130 | 52.045 | 1.000 | 49.937 | NA | 50.000 | 100 | NA |
| CCV | 3061303a.d | 194010 | 341662 | 25 | 48.72 | 50.009 | 49.888 | 50.780 | 1.000 | 48.725 | NA | 50.000 | 97 | NA |
| CCV | 3061403a.d | 196683 | 352841 | 25 | 47.83 | 49.089 | 48.971 | 49.846 | 1.000 | 47.831 | NA | 50.000 | 96 | NA |
| CCV | 3061332.d | 197913 | 349704 | 25 | 48.56 | 49.841 | 49.721 | 50.610 | 1.000 | 48.562 | NA | 50.000 | 97 | NA |
| CCV | 3061430.d | 194108 | 337707 | 25 | 49.32 | 50.621 | 50.498 | 51.401 | 1.000 | 49.320 | NA | 50.000 | 99 | NA |

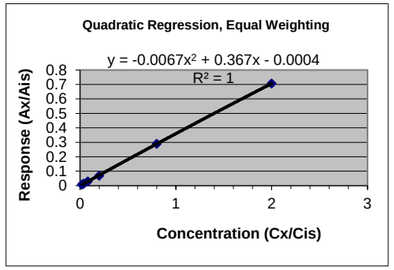
**Module 1: Analysis by GC/MS**

**Lab/SDG: Eurofins Air Toxics / 2406133**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406264
Instrument: MSD3
Curve Date: 4/23/2024
Compound: m,p-xylene
Internal Standard: Chlorobenzene-d5
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**T1AMF-SV001_May24**
**T1AMF-SV033_May24**
**T1AMF-SV024_May24**
**T1AMF-SV026_May24**
**T1AMF-SV020_May24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 3099 | 399290 | 0.5 | 25 | 0.007761276 | 0.02 | 0.0004 | 0.388 |
| 5834 | 392113 | 1 | 25 | 0.014878364 | 0.04 | 0.0016 | 0.372 |
| 11992 | 399961 | 2 | 25 | 0.029982923 | 0.08 | 0.0064 | 0.375 |
| 31010 | 446883 | 5 | 25 | 0.069391765 | 0.2 | 0.04 | 0.347 |
| 112481 | 387994 | 20 | 25 | 0.289903968 | 0.8 | 0.64 | 0.362 |
| 277013 | 392003 | 50 | 25 | 0.706660408 | 2 | 4 | 0.353 |
| 562748 | 398422 | 100 | 25 | 1.412442084 | 4 | 16 | 0.353 |
| 1218383 | 429525 | 200 | 25 | 2.836582271 | 8 | 64 | 0.355 |
| **SUM OF EACH COLUMN :** | | | | **1.1186** | **3.14** | **4.6884** | **2.1975** |

**CALIBRATION MODELS:**

**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.363 | **AVERAGE(RF)** |
| **RSD** | 3.85% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.35364 | 0.35485 | 0.35565 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00136 | 0.00073 | 0.000675 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99994 | 0.99989 | 0.99964 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99988 | 0.99977 | 0.99928 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

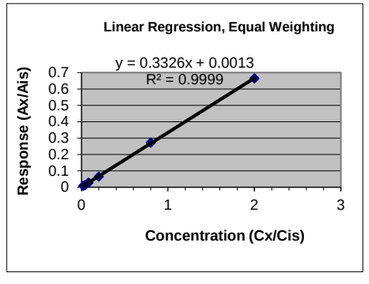
### Sample Concentration Calculations

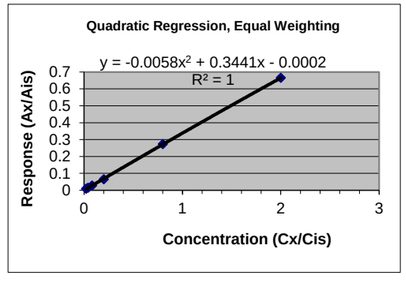
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Dilution Factor | Final Concentration (ppbv) | Final Concentration ($ug/m^3$) | Spike Amt (ppbv) | % Recovery | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | | | | %R = (final conc (ppbv) / spike amt.)x100 | | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| T1AMF-SV033_May24 | 3061409.d | 19540 | 381883 | 25 | 3.52 | 3.521 | 3.554 | 3.549 | 2.360 | 8.313 | 36.10 | NA | NA | NA |
| T1AMF-SV020_May24 | 3061415.d | 1251 | 373157 | 25 | 0.23 | 0.141 | 0.185 | 0.188 | 3.460 | 0.799 | 3.47 | NA | NA | NA |
| T1AMF-SV026_May24 | 3061412.d | 1820 | 403551 | 25 | 0.31 | 0.223 | 0.267 | 0.270 | 2.250 | 0.699 | 3.03 | NA | NA | NA |
| MB (2406133-23A) | 3061306c.d | 0 | 381816 | 25 | 0.00 | -0.096 | -0.051 | -0.047 | 1.000 | 0.000 | 0 | NA | NA | NA |
| MB (2406133-23B) | 3061406a.d | 0 | 371862 | 25 | 0.00 | -0.096 | -0.051 | -0.047 | 1.000 | 0.000 | 0 | 50.000 | NA | NA |
| LCS (2406133-25A) | 3061304a.d | 244176 | 336630 | 25 | 49.94 | 51.182 | 51.052 | 50.940 | 1.000 | 49.936 | NA | 50.000 | 100 | 2.0 |
| LCSD (2406133-25AA) | 3061305a.d | 241059 | 338443 | 25 | 49.0 | 50.256 | 50.129 | 50.020 | 1.000 | 49.034 | NA | 50.000 | 98 | |
| LCS (2406133-25B) | 3061404a.d | 250535 | 348308 | 25 | 49.52 | 50.753 | 50.625 | 50.514 | 1.000 | 49.518 | NA | 50.000 | 99 | 1.0 |
| LCSD (2406133-25BB) | 3061405a.d | 248200 | 347473 | 25 | 49.17 | 50.400 | 50.273 | 50.163 | 1.000 | 49.175 | NA | 50.000 | 98 | |
| ICV | 3042404.d | 260935 | 364730 | 25 | 49.25 | 50.479 | 50.352 | 50.242 | 1.000 | 49.252 | NA | 50.000 | 99 | NA |
| CCV | 3061303a.d | 243245 | 341662 | 25 | 49.01 | 50.234 | 50.107 | 49.998 | 1.000 | 49.013 | NA | 50.000 | 98 | NA |
| CCV | 3061403a.d | 245821 | 352841 | 25 | 47.96 | 49.155 | 49.033 | 48.926 | 1.000 | 47.962 | NA | 50.000 | 96 | NA |
| CCV | 3061332.d | 248371 | 349704 | 25 | 48.89 | 50.113 | 49.987 | 49.877 | 1.000 | 48.894 | NA | 50.000 | 98 | NA |
| CCV | 3061430.d | 242188 | 337707 | 25 | 49.37 | 50.602 | 50.474 | 50.364 | 1.000 | 49.371 | NA | 50.000 | 99 | NA |

**Module 1: Analysis by GC/MS**
**Lab/SDG: Eurofins Air Toxics / 2406133**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406264
Instrument: MSD3
Curve Date: 4/23/2024
Compound: o-xylene
Internal Standard: Chlorobenzene-d5
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**T1AMF-SV001_May24**
**T1AMF-SV033_May24**
**T1AMF-SV024_May24**
**T1AMF-SV026_May24**
**T1AMF-SV020_May24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 3211 | 399290 | 0.5 | 25 | 0.008041774 | 0.02 | 0.0004 | 0.402 |
| 5484 | 392113 | 1 | 25 | 0.013985764 | 0.04 | 0.0016 | 0.350 |
| 11134 | 399961 | 2 | 25 | 0.027837714 | 0.08 | 0.0064 | 0.348 |
| 29126 | 446883 | 5 | 25 | 0.065175896 | 0.2 | 0.04 | 0.326 |
| 105703 | 387994 | 20 | 25 | 0.272434625 | 0.8 | 0.64 | 0.341 |
| 260621 | 392003 | 50 | 25 | 0.664844402 | 2 | 4 | 0.332 |
| 531095 | 398422 | 100 | 25 | 1.33299617 | 4 | 16 | 0.333 |
| 1110220 | 429525 | 200 | 25 | 2.584762237 | 8 | 64 | 0.323 |
| **SUM OF EACH COLUMN :** | | | | **1.0523** | **3.14** | **4.6884** | **2.0985** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.344 | **AVERAGE(RF)** |
| **RSD** | 7.32% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.33263 | 0.33311 | 0.32868 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00131 | 0.00106 | 0.001342 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99995 | 0.99988 | 0.99943 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99989 | 0.99976 | 0.99886 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

### Sample Concentration Calculations

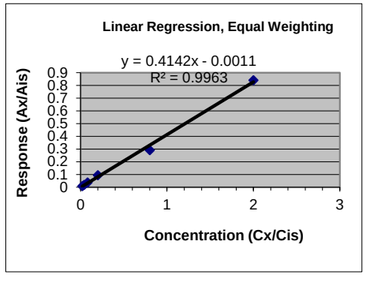
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Dilution Factor | Final Concentration (ppbv) | Final Concentration ($ug/m^3$) | Spike Amt (ppbv) | % Recovery | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | **Ax*Cis/Ais/RF** | **((Ax/Ais-b)/m)*Cis** | | | | | | **%R = (final conc (ppbv) / spike amt.)x100** | | **RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100** |
| T1AMF-SV033_May24 | 3061409.d | 6207 | 381883 | 25 | 1.18 | 1.123 | 1.140 | 1.134 | 2.360 | 2.785 | 12 | NA | NA | NA |
| T1AMF-SV026_May24 | 3061412.d | 679 | 403551 | 25 | 0.12 | 0.028 | 0.047 | 0.026 | 2.250 | 0.275 | 1 | NA | NA | NA |
| MB (2406133-23A) | 3061306c.d | 0 | 381816 | 25 | 0.00 | -0.098 | -0.080 | -0.102 | 1.000 | 0.000 | 0 | NA | NA | NA |
| MB (2406133-23B) | 3061406a.d | 0 | 371862 | 25 | 0.00 | -0.098 | -0.080 | -0.102 | 1.000 | 0.000 | 0 | NA | NA | NA |
| LCS (2406133-25A) | 3061304a.d | 232515 | 336630 | 25 | 50.14 | 51.815 | 51.759 | 52.434 | 1.000 | 50.145 | NA | 50.000 | 100 | 0.0 |
| LCSD (2406133-25AA) | 3061305a.d | 233580 | 338443 | 25 | 50.1 | 51.773 | 51.717 | 52.392 | 1.000 | 50.104 | NA | 50.000 | 100 | |
| LCS (2406133-25B) | 3061404a.d | 238780 | 348308 | 25 | 49.77 | 51.426 | 51.371 | 52.041 | 1.000 | 49.769 | NA | 50.000 | 100 | 2.0 |
| LCSD (2406133-25BB) | 3061405a.d | 234562 | 347473 | 25 | 49.01 | 50.637 | 50.583 | 51.243 | 1.000 | 49.007 | NA | 50.000 | 98 | |
| ICV | 3042404.d | 250263 | 364730 | 25 | 49.81 | 51.472 | 51.417 | 52.088 | 1.000 | 49.814 | NA | 50.000 | 100 | NA |
| CCV | 3061303a.d | 227361 | 341662 | 25 | 48.31 | 49.916 | 49.863 | 50.513 | 1.000 | 48.311 | NA | 50.000 | 97 | NA |
| CCV | 3061403a.d | 232231 | 352841 | 25 | 47.78 | 49.369 | 49.317 | 49.959 | 1.000 | 47.782 | NA | 50.000 | 96 | NA |
| CCV | 3061332.d | 235894 | 349704 | 25 | 48.97 | 50.600 | 50.546 | 51.205 | 1.000 | 48.971 | NA | 50.000 | 98 | NA |
| CCV | 3061430.d | 229632 | 337707 | 25 | 49.36 | 51.007 | 50.953 | 51.617 | 1.000 | 49.365 | NA | 50.000 | 99 | NA |

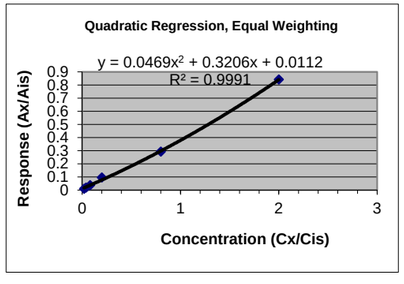
**Module 1: Analysis by GC/MS**

**Lab/SDG: Eurofins Air Toxics / 2406133**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406264
Instrument: MSD3
Curve Date: 4/23/2024
Compound: cis-1,2-dichloroethene
Internal Standard: Bromochloromethane
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
**T1AMF-SV001_May24**
**T1AMF-SV033_May24**
**T1AMF-SV024_May24**
**T1AMF-SV026_May24**
**T1AMF-SV020_May24**

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 968 | 104933 | 0.5 | 25 | 0.009224934 | 0.02 | 0.0004 | 0.461 |
| 2013 | 105555 | 1 | 25 | 0.019070627 | 0.04 | 0.0016 | 0.477 |
| 3951 | 104675 | 2 | 25 | 0.037745402 | 0.08 | 0.0064 | 0.472 |
| 10957 | 115073 | 5 | 25 | 0.095217818 | 0.2 | 0.04 | 0.476 |
| 30727 | 105372 | 20 | 25 | 0.29160498 | 0.8 | 0.64 | 0.365 |
| 89304 | 106185 | 50 | 25 | 0.841022743 | 2 | 4 | 0.421 |
| 187231 | 105842 | 100 | 25 | 1.768966951 | 4 | 16 | 0.442 |
| 402619 | 110600 | 200 | 25 | 3.640316456 | 8 | 64 | 0.455 |
| **SUM OF EACH COLUMN :** | | | | **1.2939** | **3.14** | **4.6884** | **2.6709** |

**CALIBRATION MODELS:**

**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.446 | **AVERAGE(RF)** |
| **RSD** | 8.53% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.41417 | 0.40748 | 0.42823 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | -0.00110 | 0.00240 | 0.001078 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99817 | 0.99696 | 0.99355 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99635 | 0.99393 | 0.98715 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

### Sample Concentration Calculations

| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Dilution Factor | Final Concentration (ppbv) | Final Concentration ($ug/m^3$) | Spike Amt (ppbv) | % Recovery | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | | | | %R = (final conc (ppbv) / spike amt.)x100 | | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| T1AMF-SV001_May24 | 3061327.d | 222 | 98440 | 25 | 0.13 | 0.203 | -0.009 | 0.069 | 9.410 | 1.189 | 4.7 | NA | NA | NA |
| MB (2406133-23A) | 3061306c.d | 0 | 102137 | 25 | 0.00 | 0.067 | -0.147 | -0.063 | 1.000 | 0.000 | NA | NA | NA | NA |
| MB (2406133-23B) | 3061406a.d | 0 | 98497 | 25 | 0.00 | 0.067 | -0.147 | -0.063 | 1.000 | 0.000 | NA | NA | NA | NA |
| LCS (2406133-25A) | 3061304a.d | 74339 | 94778 | 25 | 43.96 | 47.411 | 47.974 | 45.728 | 1.000 | 43.963 | NA | 50.000 | 88 | 0.0 |
| LCSD (2406133-25AA) | 3061305a.d | 74703 | 94751 | 25 | 44.19 | 47.656 | 48.224 | 45.965 | 1.000 | 44.191 | NA | 50.000 | 88 | |
| LCS (2406133-25B) | 3061404a.d | 78477 | 98163 | 25 | 44.8 | 48.323 | 48.901 | 46.610 | 1.000 | 44.810 | NA | 50.000 | 90 | 2.2 |
| LCSD (2406133-25BB) | 3061405a.d | 75950 | 96328 | 25 | 44.19 | 47.659 | 48.226 | 45.967 | 1.000 | 44.193 | NA | 50.000 | 88 | |
| ICV | 3042404.d | 83429 | 99038 | 25 | 47.22 | 50.915 | 51.536 | 49.116 | 1.000 | 47.217 | NA | 50.000 | 94 | NA |
| CCV | 3061303a.d | 78530 | 94691 | 25 | 46.48 | 50.126 | 50.734 | 48.354 | 1.000 | 46.484 | NA | 50.000 | 93 | NA |
| CCV | 3061403a.d | 80027 | 97298 | 25 | 46.10 | 49.713 | 50.315 | 47.954 | 1.000 | 46.101 | NA | 50.000 | 92 | NA |
| CCV | 3061332.d | 82967 | 99024 | 25 | 46.96 | 50.640 | 51.257 | 48.851 | 1.000 | 46.962 | NA | 50.000 | 94 | NA |
| CCV | 3061430.d | 79586 | 94062 | 25 | 47.42 | 51.138 | 51.763 | 49.333 | 1.000 | 47.424 | NA | 50.000 | 95 | NA |

## Module 1: Analysis by GC/MS
## Lab/SDG: Eurofins Air Toxics / 2406133

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406133
Instrument: MSD3
Curve Date: 4/23/2024
Compound: Benzene
Internal Standard: 1,4-Difluorobenzene

| ICAL PT | Analyte RT | INT STD RD | RRT |
|---|---|---|---|
| 0.5 | 5.998 | 6.427 | 0.933 |
| 1 | 5.998 | 6.427 | 0.933 |
| 2 | 5.998 | 6.427 | 0.933 |
| 5 | 5.997 | 6.427 | 0.933 |
| 20 | 5.997 | 6.427 | 0.933 |
| 50 | 5.998 | 6.427 | 0.933 |
| 100 | 5.997 | 6.427 | 0.933 |
| 200 | 5.997 | 6.427 | 0.933 |

## Module 1: Analysis by GC/MS

## Lab/SDG: Eurofins Air Toxics / 2406133

| Compound | Sample ID | QAPP LOQ (ug/m3) | DF | Final LOQ | REPORTED LOQ (ug/m3) |
|---|---|---|---|---|---|
| Benzene | T1AMF-SV001_May24 | 1.59 | 9.41 | 15.0 | 15.0 |
| | T1AMF-SV033_May24 | 1.59 | 2.36 | 3.8 | 3.8 |
| | T1AMF-SV024_May24 | 1.59 | 10.00 | 15.9 | 16 |
| | T1AMF-SV026_May24 | 1.59 | 2.25 | 3.6 | 3.6 |
| | T1AMF-SV020_May24 | 1.59 | 3.46 | 5.5 | 5.5 |

**Module 1: Analysis by GC/MS**

**Lab/SDG: Eurofins Air Toxics / 2406133**

| | T1AMF-SV001_May24 | | | T1AMF-SV033_May24 | | |
|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | 1,2-Dichloroethane-d5 | Toluene-d9 | 4-Bromofluorobenzene |
| **IS Response** | 98440 | 355668 | 367238 | 102169 | 370903 | 381883 |
| **Surrogate Response** | 114245 | 333903 | 277754 | 119319 | 350370 | 283991 |
| **Calibration RF** | 1.30215 | 0.97187 | 0.74296 | 1.30215 | 0.97187 | 0.74296 |
| **IS spike concentration (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Spike Conc. (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Conc. (ppbv)** | 22.28150852 | 24.14945647 | 25.44997058 | 22.42174741 | 24.29955942 | 25.02354458 |
| **Surr %R** | 89.12603407 | 96.59782587 | 101.7998823 | 89.68698962 | 97.19823767 | 100.0941783 |

| | T1AMF-SV020_May24 | | | T1AMF-SV024_May24 | | |
|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
| **IS Response** | 97924 | 363132 | 373157 | 96521 | 350388 | 352152 |
| **Surrogate Response** | 117878 | 340581 | 281866 | 113049 | 329343 | 265589 |
| **Calibration RF** | 1.30215 | 0.97187 | 0.74296 | 1.30215 | 0.97187 | 0.74296 |
| **IS spike concentration (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Spike Conc. (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Conc. (ppbv)** | 23.11120591 | 24.12613352 | 25.41708116 | 22.48660575 | 24.17859414 | 25.37783098 |
| **Surr %R** | 92.44482362 | 96.50453408 | 101.6683246 | 89.94642302 | 96.71437657 | 101.5113239 |

| | T1AMF-SV026_May24 | | | MB (2406133-23A) | | |
|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | 1,2-Dichloroethane-d5 | Toluene-d9 | 4-Bromofluorobenzene |
| **IS Response** | 108993 | 387485 | 403551 | 102137 | 374972 | 381816 |
| **Surrogate Response** | 128876 | 355016 | 310500 | 120018 | 356994 | 281635 |
| **Calibration RF** | 1.30215 | 0.97187 | 0.74296 | 1.30215 | 0.97187 | 0.74296 |
| **IS spike concentration (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Spike Conc. (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Conc. (ppbv)** | 22.70138923 | 23.56811581 | 25.89033994 | 22.5601655 | 24.490289 | 24.82030295 |
| **Surr %R** | 90.80555692 | 94.27246325 | 103.5613598 | 90.24066199 | 97.961156 | 99.2812118 |

yellow highlight indicates a row that includes a calculation.

**Module 1: Analysis by GC/MS**

**Lab/SDG: Eurofins Air Toxics / 2406133**

| | MB (2406133-23B) | | | LCS (2406133-25A) | | |
|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d5 | Toluene-d9 | 4-Bromofluorobenzene | 1,2-Dichloroethane-d5 | Toluene-d9 | 4-Bromofluorobenzene |
| **IS Response** | 98497 | 368760 | 371862 | 94778 | 341342 | 336630 |
| **Surrogate Response** | 115935 | 347065 | 277630 | 112743 | 321158 | 254935 |
| **Calibration RF** | 1.30215 | 0.97187 | 0.74296 | 1.30215 | 0.97187 | 0.74296 |
| **IS spike concentration (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Spike Conc. (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Conc. (ppbv)** | 22.59802874 | 24.21022609 | 25.12228675 | 22.83815627 | 24.20253452 | 25.48303923 |
| **Surr %R** | 90.39211497 | 96.84090435 | 100.489147 | 91.35262507 | 96.81013807 | 101.9321569 |

| | LCSD (2406133-25AA) | | | LCS (2406133-25B) | | |
|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d5 | Toluene-d9 | 4-Bromofluorobenzene | 1,2-Dichloroethane-d5 | Toluene-d9 | 4-Bromofluorobenzene |
| **IS Response** | 94751 | 345903 | 338443 | 98163 | 353455 | 348308 |
| **Surrogate Response** | 114006 | 323307 | 250435 | 115014 | 332007 | 260008 |
| **Calibration RF** | 1.30215 | 0.97187 | 0.74296 | 1.30215 | 0.97187 | 0.74296 |
| **IS spike concentration (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Spike Conc. (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Conc. (ppbv)** | 23.10058082 | 24.04321895 | 24.8991238 | 22.49478666 | 24.16267114 | 25.11873923 |
| **Surr %R** | 92.40232328 | 96.1728758 | 99.59649519 | 89.97914662 | 96.65068456 | 100.4749569 |

| | LCSD (2406133-25BB) | | |
|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d5 | Toluene-d9 | 4-Bromofluorobenzene |
| **IS Response** | 96328 | 353186 | 347473 |
| **Surrogate Response** | 116011 | 329011 | 260359 |
| **Calibration RF** | 1.30215 | 0.97187 | 0.74296 |
| **IS spike concentration (ppbv)** | 25 | 25 | 25 |
| **Surr Spike Conc. (ppbv)** | 25 | 25 | 25 |
| **Surr Conc. (ppbv)** | 23.1220119 | 23.96286661 | 25.21309192 |
| **Surr %R** | 92.4880476 | 95.85146645 | 100.8523677 |

yellow highlight indicates a row that includes a calculation.

**Module 1: Analysis by GC/MS**

**Lab/SDG: Eurofins Air Toxics / 2406133**

**CALCULATION OF WORKING STANDARD FROM STOCK**

**CALIBRATION STANDARD**

| | | |
|---|---|---|
| **Name of Stock Standard:** | ISO-17034 | |
| **Data pkg std Certificate on page:** | 265 | |
| **Data pkg working std calc on page:** | 264 | |
| **Initial Conc of Stock Std** | 1000 (ppb) | |
| **Dilution Factor** | 5 | |
| **Target Conc of Working Std** | 200 (ppb) | |
| **Final Conc of Working standard** | 199.89 (ppb) | Final Conc. = (1000 ppbv) * (5.94 psid))/(11.93 + 5.94 + 5.94 + 5.91 psid) |
| | | |
| **File ID: 3041806.d** | | |
| **Concentration** | 50 (ppbv) | |
| **Spike amount** | 50 (mL) | |
| **Dilution Factor** | 1 | DF = Concentration / Amount |

**SURROGATE STANDARD**

| | | |
|---|---|---|
| **Name of Stock Standard:** | ISO-17025 | |
| **Data pkg std Certificate on page:** | 260 | |
| **Data pkg working std calc on page:** | 262 | |
| **Initial Conc of Stock Std** | 200 (ppb) | |
| **Dilution Factor** | 40 | |
| **Target Conc of Working Std** | 5 (ppb) | |
| **Final Conc of Working standard** | 5.03 (ppb) | Final Conc. = (200 ppbv) * (.74 psid)/(11.93 + .74 + 16.77 psid) |
| | | |
| **File ID: 3061325.d** | | |
| **Dilution Factor on page 10** | 2.12 | |
| **Dilution Factor Calc** | 2.118316 | Diluition Factor = Final Pressure / Initial Vacuum |
| **Final Pressure** | 9.9 | Final Pressure = 14.7psi + final pressurepsi |
| **Initial Vaccum** | 6.3 | Initial Vacuum = 14.7psi - (initial pressureHg * (14.7psi/30Hg)) |

**Module 1: Analysis by GC/MS**

**Lab/SDG: Eurofins Air Toxics / 2406133**

**ICV/LCS STANDARD (second source)**

| | | |
|---|---|---|
| **Name of Stock Standard:** | Qualified | |
| **Data pkg std Certificate on page:** | 274 | |
| **Data pkg working std calc on page:** | 273 | |
| **Initial Conc of Stock Std** | 1000 (ppb) | |
| **Dilution Factor** | 5 | |
| **Target Conc of Working Std** | 200 (ppb) | |
| **Final Conc of Working standard** | 200.09 (ppb) | Final Conc. = (1000 ppbv) * (5.90 psid)/(11.67 + 5.9 + 11.92 psid) |
| | | |
| **File ID: 3061304a.d** | | |
| **Concentration** | 50 (ppbv) | |
| **Spike amount** | 50 (mL) | |
| **Dilution Factor** | 1 | DF = Concentration / Amount |

**Data Validation Report for 2406264R2**

| | |
|---|---|
| Facility: | J09CA1108-01, Titan 1A Missile Facility, RI |
| Event: | Spring 2024 |
| SDG: | 2406264R2 |
| Guidance Document: | Titan 1A Missile Facility, Lincoln CA |
| Prime Contractor: | Parsons Corporation, Austin, TX |
| Project Manager: | Tim Crummett |
| Contract Laboratory(ies): | Eurofins Air Toxics, Inc., Folsom, CA |
| Data Review Contractor: | Parsons Corporation |
| Data Review Level: | S2BVEM |
| Primary Data Reviewer: | Beth Driskill, Senior Scientist |
| Date Submitted: | July 14, 2024 |

| Field Sample ID | Lab Sample ID | Matrix | Type/Type Code | TO 5 |
|---|---|---|---|---|
| T1AMF-SV003_JUN24 | 2406264R2-01A | Air | Field Sample/N | X |
| T1AMF-SV009B_JUN24 | 2406264R2-09A | Air | Field Sample/N | X |
| T1AMF-SV010_JUN24 | 2406264R2-02A | Air | Field Sample/N | X |
| T1AMF-SV027_JUN24 | 2406264R2-03A | Air | Field Sample/N | X |
| T1AMF-SV028_JUN24 | 2406264R2-04A | Air | Field Sample/N | X |
| T1AMF-SV028_JUN24_FD | 2406264R2-05A | Air | Field Duplicate/FD | X |
| T1AMF-SV029_JUN24 | 2406264R2-06A | Air | Field Sample/N | X |
| T1AMF-SV030_JUN24 | 2406264R2-07A | Air | Field Sample/N | X |
| T1AMF-SV031_JUN24 | 2406264R2-08A | Air | Field Sample/N | X |
| T1AMF-SV032A_JUN24 | 2406264R2-11A | Air | Field Sample/N | X |
| T1AMF-SV032B_JUN24 | 2406264R2-10A | Air | Field Sample/N | X |
| T1AMF-SV034_JUN24 | 2406264R2-12A | Air | Field Sample/N | X |
| T1AMF-SV035_JUN24 | 2406264R2-13A | Air | Field Sample/N | X |
| T1AMF-SV035_JUN24_FD | 2406264R2-14A | Air | Field Duplicate/FD | X |

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2BVEM data validation level and 10% of the data validated at a Stage 4. Samples T1AMF-SV027_JUN24 and T1AMF-SV028_JUN24 were validated at a Stage 4. Validation was performed following the guidelines outlined in the project-specific UFP QAPP, DoD General Data Validation Guidelines, Rev 1 (Nov 2019) and Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Titan 1A Missile Facility, Lincoln CA and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Parsons Corporation, Austin, TX; analyses were performed by Eurofins Air Toxics, Inc., Folsom, CA and were reported under sample delivery group (SDG) 2406264R2. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Field Duplicate RPD
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 0 results (0.00%) out of the 154 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency (X qualifier). Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

| Analytical Method | Data Reviewer Comment |
|---|---|
| TO15 | No additional comments; see Checklist for detail. |

Beth Driskill

July 14, 2024

Reviewed by Beth Driskill, Senior Scientist, Parsons Corporation

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of the reported sample results and method quality control data between the two deliverables.

No Outliers were associated with this sample delivery group.

Qualified Results

No results associated with this sample delivery group required qualification.

Results with Modified Qualifiers

No qualifiers associated with this sample delivery group were modified manually.

**Reason Code Definitions**

| Code | Definition |
|---|---|
| TR | Trace Level Detect |

**Flag Code and Definitions**

| Flag | Definition |
|---|---|
| J | Estimated Value |
| N | The analysis indicates the presence of an analyte for which there was presumptive evidence to make a tentative identification. |
| NJ | The analyte has been tentatively identified or presumptively as present and the associated numerical value was the estimated concentration in the sample. |
| R | The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making. |

| | |
|---|---|
| U | Undetected: The analyte was analyzed for, but not detected. |
| U | The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria. |
| X | Result may require rejection; PDT attention required |

| **Bias** | |
|---|---|
| - | The result may be biased low |
| + | The result may be biased high |
| Note - The bias field is a separate field; however, it is an integral part of the final flag (qualifier) on the sample result | |

**Review Questions**

| Method: TO15 (Determination of Volatile Organic Compounds in Air Collected in Specially-Prepared Canisters and Analyzed by GC/MS) | | | | |
|---|---|---|---|---|
| Review Questions | Yes | No | NA | Comment |
| Were there discrepancies between the COC and the samples received? | • | | | The sample ID: T1AMF-SV009B_JUN24 was incorrectly documented on the COC. Parsons requested that the lab revise the sample ID accordingly. |
| Were there discrepancies between the COC and the sample labels? | | • | | |
| Were samples relinquished properly on the COC? | • | | | |
| Were all samples properly preserved? | | | • | Preservation for summa canisters is not applicable. |
| Were sampling dates/times, date and time of laboratory receipt of samples, and sample conditions upon receipt at the laboratory (including preservation, pH, and temperature) documented? | • | | | Samples T1AMF-SV027_JUN24 and T1AMF-SV029_JUN24 were received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits. |
| Were sample results reported with percent moisture correction if required? | | | • | |
| Were analytical methods performed and analysis dates present? | • | | | |
| Were all requested target analytes reported? | • | | | |
| Were QAPP specified Project Quantitation Limit Goals achieved? (The laboratory LOQ is compared to the QAPP Project Quantitation Goal) | | • | | The laboratory LOQ exceeded the PQL goal for the following analytes in one or more samples: 1,4-dichlorobenzene, TCE, and vinyl chloride. |
| Were holding times met? | • | | | |
| Were trip blanks analyzed at the proper frequency and in control? | | | • | |
| Were field blanks analyzed at the proper frequency and in control? | | | • | |
| Were equipment blanks analyzed at the proper frequency and in control? | | | | |
| Was a method blank prepared and analyzed with each batch? | • | | | |
| Were target analytes in the method blank less than DL? | • | | | |
| Was an LCS/LCSD pair prepared and analyzed with each batch? | • | | | |
| Were LCS/LCSD recoveries within project acceptance limits? | • | | | |
| Was the LCS/LCSD RPD within project acceptance limits? | • | | | |
| Was a MS/MSD pair prepared with each batch? | | | • | MS/MSD analysis is not applicable for method TO15 |
| Were MS/MSD recoveries within project acceptance limits? | | | • | |
| Was the MS/MSD RPD within project acceptance limits? | | | • | |
| Were Post Spike (PS) recoveries within project acceptance limits? | | | • | Post Spike is not applicable for method TO-15. |
| If ISM was used for sample collection, were laboratory triplicates analyzed and within project acceptance limits? | | | • | |
| Were surrogate recoveries within project acceptance limits? | • | | | |
| Were field replicates (duplicates, triplicates, etc.) analyzed at the proper frequency and in control? | • | | | |
| Were reported sample concentrations within calibration range? | • | | | |

**Review Questions**

| Method: TO15 (Determination of Volatile Organic Compounds in Air Collected in Specially-Prepared Canisters and Analyzed by GC/MS) | | | | |
|---|---|---|---|---|
| Review Questions | Yes | No | NA | Comment |
| Was the Calibration within project acceptance criteria? | • | | | |
| Was the GC/MS system properly tuned based on method criteria? | • | | | |
| Was a ICV performed after each ICAL prior to sample analysis and within project acceptance criteria? | • | | | |
| Was instrument tuning completed every 24 hours during sample analysis? | • | | | |
| Were CCVs run at the required frequency and within project acceptance criteria? | • | | | |
| Were ICB/CCBs run at the required frequency? | | | • | ICB/CCB are not applicable for method TO-15. |
| Were target analytes in the ICBs/CCBs non-detect? | | | • | |
| Was a Low Level Calibration Check Verification (LLCCV) analyzed prior to sample and within acceptance criteria? | | | • | LLCCVs are not applicable for method TO15 |
| Were internal standard recoveries within project acceptance limits? | • | | | |
| Were internal standard retention times and area criteria within project acceptance criteria? | • | | | |
| Were instrument run logs present and filled out appropriately? | • | | | |
| Were internal standards spiked for every sample, standard, and QC sample? | • | | | |
| Were sample preparation sheets present and filled out appropriately? | • | | | |
| Have all Laboratory Case Narrative comments/findings been addressed in the data review process? | • | | | |
| Were DoD QSM corrective actions followed if deviations were noted? | • | | | |
| Were any data recommended for exclusion in the data validation process? | | • | | |

## Module 1: Analysis by GC/MS

**Lab/SDG:** **Eurofins Air Toxics / 2406264**

| RECALCULATION TYPE | TAB Reference |
|---|---|
| Tune: Ion Abundance | TUNE |
| Tailing Factor | not applicable for TO15 |
| Calibration RF | ICAL RF |
| Calibration RRT | Rel RT |
| ICV/CCV %D | ICAL RF |
| Sample Conc. Raw Values | ICAL RF |
| Sample Conc. Linear Regression | not applicable |
| Quadratic Regression | not applicable |
| LCS % Recovery | ICAL RF |
| Surrogate % Recovery | ICAL RF |
| MS/MSD % Recovery | ICAL RF |
| MS/MSD RPD | ICAL RF |
| Sample Amounts | ICAL RF |
| Sample Conc. by Volume (Aqueous Only) | ICAL RF |
| Sample Conc. by Weight (Non-aqueous only) | not applicable |

| 6.1 SAMPLES AND QC | COMMENT |
|---|---|
| Sample recalculations should include the raw instrument result, re-quantified from the instrument response against the calibration function, and the final reported sample result, including any dilution, preparation factor, or percent moisture (if applicable). The equations in Appendix B can be used to calculate a sample result from the corresponding reported calibration or regression function, as appropriate | Provided in ICAL RF tab |
| Verify that one or more of the laboratory's reporting limits (such as limit of quantitation) are calculated correctly for the non-detects and reported accordingly. If a detection limit study was identified by the QAPP, recalculate one or more analyte detection limits. | Provided in LOQ Recalc tab |
| Re-quantitate **all detected target analytes in the 10% sample data chosen**. For some samples, all results may be non-detects, therefore recalculation would not be necessary. Verify that sample-specific results have been adjusted correctly to reflect percent solids, original sample mass/volume, and any applicable dilutions. | Provided in ICAL RF tab |

## Module 1: Analysis by GC/MS

## Lab/SDG: Eurofins Air Toxics / 2406264

| | |
|---|---|
| Re-quantitate **all detects found in the field QC blanks** (such as trip blanks, field blanks, or equipment blanks). Field QC sample duplicate recalculations should include re-quantification of the same detected analyte sample/duplicate pair and verification of the percent difference (%D), or relative percent difference (RPD), as reported | No field QC included in SDG |
| **6.2 Method QC** | |
| Re-quantification of batch QC sample results should use raw instrument response in tandem with the reported calibration factor, response factor, or slope; the preparation information; and percent moisture for solid samples to recreate the reported result. | Provided in ICAL RF tab |
| **6.2.1 Surrogate Spikes** | |
| Verify the concentrations of surrogates from the raw data. Verify that the surrogate result and percent recovery were calculated and reported correctly by re-calculating all surrogates in the 10% of chosen sample data and method QC that were originally selected. | Provided in ICAL RF tab |
| **6.2.2 LCS/LCSD** | |
| To check that the spike percent recovery was calculated and reported correctly, using the equation in Appendix B, re-quantitate and then recalculate all contaminants of concern as outlined in the UFP-QAPP Worksheet #12 or #15. Use a random 10% of the analytes in the LCS/LCSD if contaminants of concern (target analytes) have not been specifically identified. Recalculate RPDs (if applicable) from LCS/LCSD pairs that would result in the qualification of a sample. | Provided in ICAL RF tab |
| **6.2.3 MS/MSD** | |
| Re-quantitate 10% of the target analytes as listed in the UFP-QAPP Worksheet #12 or #15 for both the MS and the MSD. Use a random 10% of the analytes in the MS and MSD if contaminates of concern have not been identified. The RPDs of the recalculated MS/MSD pairs should be calculated from the MS/MSD concentrations, not from the recoveries. | Provided in ICAL RF tab |
| **6.2.4 Method Blanks** | |
| Re-quantitate one or more detects found in the method blank (if applicable) from the reported average RF (or higher order regression, if used) per each batch of samples. | No method blank detections were found; no recalcs needed |
| **6.3 Insturment QC** | |
| **6.3.1 Tune Check** | |
| Verify by re-calculating from the quantitation reports, that the mass assignment is correct and that the mass listing is normalized to the specified m/z for at least 10% of the abundance ratios in every tune. Verify by recalculation that the reported DDT degradation and tailing factor are accurate for SVOC performance checks. | Provided in TUNE tab |

## Module 1: Analysis by GC/MS

## Lab/SDG: Eurofins Air Toxics / 2406264

**6.3.2 Initial (Response Factors and Regressions) and Continuing Calibration Verifications**

| | |
|---|---|
| Initial calibration (ICAL) recalculations should use the raw instrument response for the target analytes and associated internal standards to recreate the calibration curve from the individual calibration standards. If multiple types of calibration curves are employed in an analytical suite, then one analyte per curve type should be recalculated. | Provided in ICAL RF tab |
| Re-quantitate and recalculate the individual and average RFs, %RSDs, and regression function (if used) and r values reported for at least 10% of the target analytes per each internal standard, (preferably analytes of concern which were identified in the QAPP), per initial calibration curve type. | Provided in ICAL RF tab |
| Re-quantitate and recalculate the Initial and Continuing Calibration Verification RF result and %D for at least 10% of the target analytes, proportionally per each internal standard and proportionally selecting analytes based on each calibration curve type. | Provided in ICAL RF tab |
| The laboratory may employ a linear or weighted linear least squares regression. The low standard should be recalculated using the calibration curve and evaluated. RFs should not be evaluated for analytes with linear or higher order regression curves. If the ICAL included refitting of the data back to the model (RSE), the recalculate 10% of the target analytes for the RSE in each ICAL. | Linear regression was not used for any target analytes in this SDG |

**6.3.3 Internal Standards**

| | |
|---|---|
| Verify all internal standards reported from the raw data for at least one sample per batch of samples, and verify internal standard areas for samples that were qualified due to out-of-control internal standard areas. | No calculations were performed; internal stds were verified as required. Recalculations of all analyte concentrations further confirm IS quantitation. |

**6.4 Standards Traceability**

| | |
|---|---|
| Check that the stock standards were diluted properly into working standards by recalculating the dilutions of one or more calibration standards. Recalculate one or more surrogate dilutions. Recalculate one or more method QC sample dilutions (such as LCS or MS/MSD) from the stock to the working standard. | Provided in Standards tab |

## Module 1: Analysis by GC/MS
## Lab/SDG: Eurofins Air Toxics / 2406264

**TUNE**

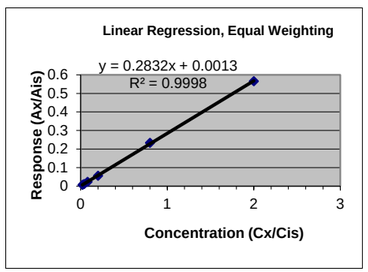
Data file: /chem/msd3.i/23APR24.b/3042306.d
Acq On: 4/23/2024 20:30
Sample ID: BFB
Page #: 492 OF 516

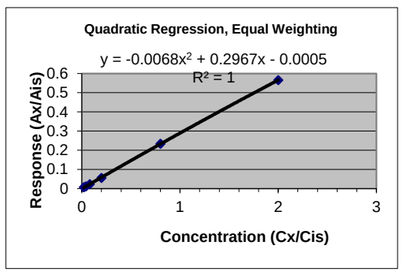
| Target Mass | RAW Abundance | Rel to Mass | Rel Abn% | Lower limit | Upper Limit |
|---|---|---|---|---|---|
| 95 | 151424 | -- | -- | 100 | 100 |
| 50 | 32986 | 95 | 21.78 | 8 | 40 |
| 75 | 69530 | 95 | 45.92 | 30 | 66 |
| 96 | 9967 | 95 | 6.58 | 5 | 9 |
| 173 | 1359 | 174 | 1.00 | 0 | 2 |
| 174 | 135917 | 95 | 89.76 | 50 | 120 |
| 175 | 9888 | 174 | 7.28 | 4 | 9 |
| 176 | 131341 | 174 | 96.63 | 93 | 101 |
| 177 | 8387 | 176 | 6.39 | 5 | 9 |

**Module 1: Analysis by GC/MS**
**Lab/SDG: Eurofins Air Toxics / 2406264**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406264
Instrument: MSD3
Curve Date: 4/23/2024
Compound: Ethylbenzene
Internal Standard: Chlorobenzene-d5
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
T1AMF-SV027_JUN24
T1AMF-SV028_JUN24

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 2755 | 399290 | 0.5 | 25 | 0.006899747 | 0.02 | 0.0004 | 0.345 |
| 4444 | 392113 | 1 | 25 | 0.011333468 | 0.04 | 0.0016 | 0.283 |
| 9422 | 399961 | 2 | 25 | 0.023557297 | 0.08 | 0.0064 | 0.294 |
| 25019 | 446883 | 5 | 25 | 0.055985571 | 0.2 | 0.04 | 0.280 |
| 90547 | 387994 | 20 | 25 | 0.233372166 | 0.8 | 0.64 | 0.292 |
| 221782 | 392003 | 50 | 25 | 0.565766078 | 2 | 4 | 0.283 |
| 444390 | 398422 | 100 | 25 | 1.115375155 | 4 | 16 | 0.279 |
| 943770 | 429525 | 200 | 25 | 2.197241138 | 8 | 64 | 0.275 |
| **SUM OF EACH COLUMN :** | | | | **0.8969** | **3.14** | **4.6884** | **1.7773** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.291 | **AVERAGE(RF)** |
| **RSD** | 7.77% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.28324 | 0.28418 | 0.27902 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00125 | 0.00077 | 0.001095 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99992 | 0.99982 | 0.99841 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99984 | 0.99964 | 0.99683 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

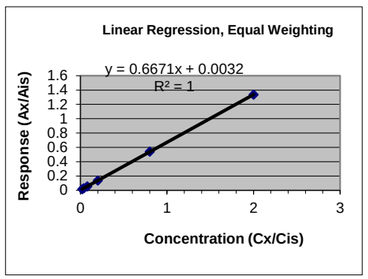
### Sample Concentration Calculations

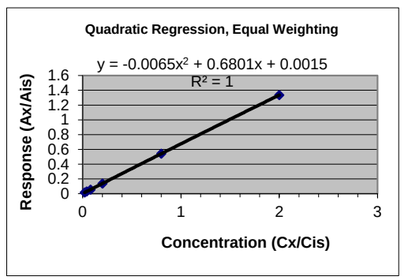
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Dilution Factor | Final Concentration (ppbv) | Final Concentration ($ug/m^3$) | Spike Amt (ppbv) | % Recovery | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | | | | %R = (final conc (ppbv) / spike amt.)x100 | | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| T1AMF-SV027_JUN24 | 3061915.d | 865 | 361154 | 25 | 0.21 | 0.101 | 0.143 | 0.117 | 3.380 | 0.695 | 3 | NA | NA | NA |
| T1AMF-SV028_JUN24 | 3061916.d | 4947 | 340997 | 25 | 1.24 | 1.170 | 1.209 | 1.202 | 2.140 | 2.664 | 12 | NA | NA | NA |
| MB (2406264R2-15A) | 3061906d.d | 0 | 371455 | 25 | 0.00 | -0.111 | -0.067 | -0.098 | 1.000 | 0.000 | 0 | NA | NA | NA |
| LCS (2406264R2-17A) | 3061904c.d | 190754 | 326352 | 25 | 50.15 | 51.479 | 51.353 | 52.272 | 1.000 | 50.154 | NA | 50.000 | 100.3 | -1.0 |
| LCSD (2406264R2-17AA) | 3061905c.d | 190996 | 324852 | 25 | 50.45 | 51.783 | 51.656 | 52.581 | 1.000 | 50.450 | NA | 50.000 | 100.9 | |
| ICV | 3042404.d | 212260 | 364730 | 25 | 49.9 | 51.255 | 51.130 | 52.045 | 1.000 | 49.937 | NA | 50.000 | 99.9 | NA |
| CCV | 3061903.d | 183989 | 325037 | 25 | 48.57 | 49.851 | 49.730 | 50.620 | 1.000 | 48.571 | NA | 50.000 | 97.1 | NA |
| CCV | 3061931.d | 178548 | 314384 | 25 | 48.73 | 50.016 | 49.895 | 50.787 | 1.000 | 48.732 | NA | 50.000 | 97.5 | NA |

**Module 1: Analysis by GC/MS**
**Lab/SDG: Eurofins Air Toxics / 2406264**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406264
Instrument: MSD3
Curve Date: 4/23/2024
Compound: Toluene
Internal Standard: 1,4-Difluorobenzene
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
T1AMF-SV027_JUN24
T1AMF-SV028_JUN24

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 6183 | 393969 | 0.5 | 25 | 0.015694128 | 0.02 | 0.0004 | 0.785 |
| 11722 | 395193 | 1 | 25 | 0.029661457 | 0.04 | 0.0016 | 0.742 |
| 22030 | 402992 | 2 | 25 | 0.054666098 | 0.08 | 0.0064 | 0.683 |
| 59602 | 436367 | 5 | 25 | 0.136586864 | 0.2 | 0.04 | 0.683 |
| 209847 | 387341 | 20 | 25 | 0.541762943 | 0.8 | 0.64 | 0.677 |
| 522189 | 390964 | 50 | 25 | 1.335644714 | 2 | 4 | 0.668 |
| 1060130 | 396522 | 100 | 25 | 2.673571706 | 4 | 16 | 0.668 |
| 2252473 | 421244 | 200 | 25 | 5.347193076 | 8 | 64 | 0.668 |
| **SUM OF EACH COLUMN :** | | | | **2.1140** | **3.14** | **4.6884** | **4.2375** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.697 | **AVERAGE(RF)** |
| **RSD** | 6.17% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.66715 | 0.66868 | 0.66890 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00320 | 0.00239 | 0.002378 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99999 | 0.99998 | 0.99985 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99998 | 0.99995 | 0.99969 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

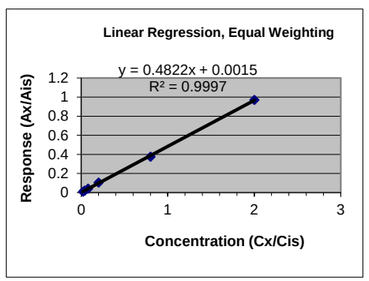
### Sample Concentration Calculations

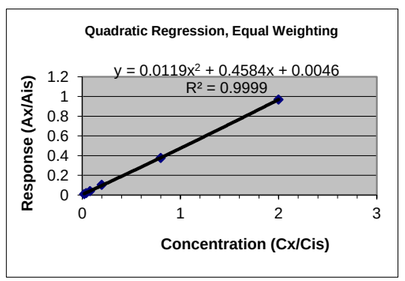
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Dilution Factor | Final Concentration (ppbv) | Final Concentration ($ug/m^3$) | Spike Amt (ppbv) | % Recovery | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | | | | %R = (final conc (ppbv) / spike amt.)x100 | | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| T1AMF-SV027_JUN24 | 3061915.d | 17850 | 349107 | 25 | 1.83 | 1.796 | 1.822 | 1.822 | 3.380 | 6.201 | 23 | NA | NA | NA |
| T1AMF-SV028_JUN24 | 3061916.d | 30607 | 328234 | 25 | 3.35 | 3.375 | 3.397 | 3.396 | 2.140 | 7.160 | 27 | NA | NA | NA |
| MB (2406264R2-15A) | 3061906d.d | 0 | 370217 | 25 | 0.00 | -0.120 | -0.089 | -0.089 | 1.000 | 0.000 | 0 | NA | NA | NA |
| LCS (2406264R2-17A) | 3061904c.d | 426051 | 330162 | 25 | 46.30 | 48.236 | 48.156 | 48.141 | 1.000 | 46.299 | NA | 50.000 | 92.6 | 2.2 |
| LCSD (2406264R2-17AA) | 3061905c.d | 423401 | 333499 | 25 | 45.55 | 47.455 | 47.376 | 47.361 | 1.000 | 45.551 | NA | 50.000 | 91.1 | |
| ICV | 3042404.d | 484854 | 376074 | 25 | 46.3 | 48.192 | 48.112 | 48.097 | 1.000 | 46.257 | NA | 50.000 | 92.5 | NA |
| CCV | 3061903.d | 430005 | 327761 | 25 | 47.07 | 49.043 | 48.960 | 48.945 | 1.000 | 47.071 | NA | 50.000 | 94.1 | NA |
| CCV | 3061931a.d | 418832 | 319557 | 25 | 47.03 | 48.995 | 48.912 | 48.897 | 1.000 | 47.025 | NA | 50.000 | 94.1 | NA |

**Module 1: Analysis by GC/MS**
**Lab/SDG: Eurofins Air Toxics / 2406264**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406264
Instrument: MSD3
Curve Date: 4/23/2024
Compound: Benzene
Internal Standard: 1,4-Difluorobenzene
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
T1AMF-SV027_JUN24
T1AMF-SV028_JUN24

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 4016 | 393969 | 0.5 | 25 | 0.010193695 | 0.02 | 0.0004 | 0.510 |
| 8295 | 395193 | 1 | 25 | 0.020989744 | 0.04 | 0.0016 | 0.525 |
| 16634 | 402992 | 2 | 25 | 0.041276254 | 0.08 | 0.0064 | 0.516 |
| 45735 | 436367 | 5 | 25 | 0.104808567 | 0.2 | 0.04 | 0.524 |
| 145772 | 387341 | 20 | 25 | 0.376340227 | 0.8 | 0.64 | 0.470 |
| 379091 | 390964 | 50 | 25 | 0.969631475 | 2 | 4 | 0.485 |
| 785301 | 396522 | 100 | 25 | 1.98047271 | 4 | 16 | 0.495 |
| 1691616 | 421244 | 200 | 25 | 4.015762836 | 8 | 64 | 0.502 |
| **SUM OF EACH COLUMN :** | | | | **1.5232** | **3.14** | **4.6884** | **3.0297** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.503 | **AVERAGE(RF)** |
| **RSD** | 3.82% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.48224 | 0.48236 | 0.49711 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00150 | 0.00144 | 0.000499 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99987 | 0.99965 | 0.99876 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99974 | 0.99929 | 0.99751 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

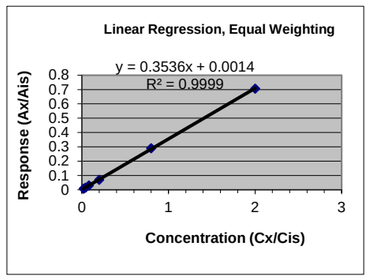
### Sample Concentration Calculations

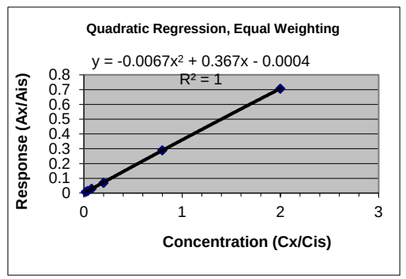
| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Dilution Factor | Final Concentration (ppbv) | Final Concentration ($ug/m^3$) | Spike Amt (ppbv) | % Recovery | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | | | | %R = (final conc (ppbv) / spike amt.)x100 | | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| T1AMF-SV027_JUN24 | 3061915.d | 4851 | 349107 | 25 | 0.69 | 0.643 | 0.646 | 0.674 | 3.380 | 2.333 | 7 | NA | NA | NA |
| T1AMF-SV028_JUN24 | 3061916.d | 82690 | 328234 | 25 | 12.51 | 12.982 | 12.982 | 12.644 | 2.140 | 26.777 | 86 | NA | NA | NA |
| MB (2406264R2-15A) | 3061906d.d | 0 | 370217 | 25 | 0.00 | -0.078 | -0.075 | -0.025 | 1.000 | 0.000 | 0 | NA | NA | NA |
| LCS (2406264R2-17A) | 3061904c.d | 314817 | 330162 | 25 | 47.36 | 49.354 | 49.345 | 47.929 | 1.000 | 47.359 | NA | 50.000 | 95 | 1.1 |
| LCSD (2406264R2-17AA) | 3061905c.d | 315126 | 333499 | 25 | 46.93 | 48.908 | 48.899 | 47.495 | 1.000 | 46.932 | NA | 50.000 | 94 | |
| ICV | 3042404.d | 362504 | 376074 | 25 | 47.9 | 49.893 | 49.884 | 48.451 | 1.000 | 47.876 | NA | 50.000 | 96 | NA |
| CCV | 3061903.d | 313524 | 327761 | 25 | 47.51 | 49.512 | 49.503 | 48.081 | 1.000 | 47.510 | NA | 50.000 | 95 | NA |
| CCV | 3061931.d | 303843 | 319557 | 25 | 47.23 | 49.214 | 49.205 | 47.793 | 1.000 | 47.225 | NA | 50.000 | 94 | NA |

**Module 1: Analysis by GC/MS**
**Lab/SDG: Eurofins Air Toxics / 2406264**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406264
Instrument: MSD3
Curve Date: 4/23/2024
Compound: m,p-xylene
Internal Standard: Chlorobenzene-d5
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
T1AMF-SV027_JUN24
T1AMF-SV028_JUN24

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 3099 | 399290 | 0.5 | 25 | 0.007761276 | 0.02 | 0.0004 | 0.388 |
| 5834 | 392113 | 1 | 25 | 0.014878364 | 0.04 | 0.0016 | 0.372 |
| 11992 | 399961 | 2 | 25 | 0.029982923 | 0.08 | 0.0064 | 0.375 |
| 31010 | 446883 | 5 | 25 | 0.069391765 | 0.2 | 0.04 | 0.347 |
| 112481 | 387994 | 20 | 25 | 0.289903968 | 0.8 | 0.64 | 0.362 |
| 277013 | 392003 | 50 | 25 | 0.706660408 | 2 | 4 | 0.353 |
| 562748 | 398422 | 100 | 25 | 1.412442084 | 4 | 16 | 0.353 |
| 1218383 | 429525 | 200 | 25 | 2.836582271 | 8 | 64 | 0.355 |
| **SUM OF EACH COLUMN :** | | | | **1.1186** | **3.14** | **4.6884** | **2.1975** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.363 | **AVERAGE(RF)** |
| **RSD** | 3.85% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.35364 | 0.35485 | 0.35565 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00136 | 0.00073 | 0.000675 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99994 | 0.99989 | 0.99964 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99988 | 0.99977 | 0.99928 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

### Sample Concentration Calculations

| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Dilution Factor | Final Concentration (ppbv) | Final Concentration ($ug/m^3$) | Spike Amt (ppbv) | % Recovery | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | | | | %R = (final conc (ppbv) / spike amt.)x100 | | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| T1AMF-SV027_JUN24 | 3061915.d | 2824 | 361154 | 25 | 0.54 | 0.457 | 0.500 | 0.502 | 3.380 | 1.819 | 8 | NA | NA | NA |
| T1AMF-SV028_JUN24 | 3061916.d | 10279 | 340997 | 25 | 2.08 | 2.035 | 2.073 | 2.072 | 2.140 | 4.441 | 19 | NA | NA | NA |
| MB (2406264R2-15A) | 3061906d.d | 0 | 371455 | 25 | 0.00 | -0.096 | -0.051 | -0.047 | 1.000 | 0.000 | 0 | NA | NA | NA |
| LCS (2406264R2-17A) | 3061904c.d | 234010 | 326352 | 25 | 49.36 | 50.594 | 50.467 | 50.356 | 1.000 | 49.364 | NA | 50.000 | 99 | -1.0 |
| LCSD (2406264R2-17AA) | 3061905c.d | 235549 | 324852 | 25 | 49.92 | 51.163 | 51.034 | 50.922 | 1.000 | 49.918 | NA | 50.000 | 100 | |
| ICV | 3042404.d | 260935 | 364730 | 25 | 49.3 | 50.479 | 50.352 | 50.242 | 1.000 | 49.252 | NA | 50.000 | 99 | NA |
| CCV | 3061903.d | 230916 | 325037 | 25 | 48.91 | 50.127 | 50.000 | 49.891 | 1.000 | 48.908 | NA | 50.000 | 98 | NA |
| CCV | 3061931.d | 224338 | 314384 | 25 | 49.12 | 50.349 | 50.222 | 50.113 | 1.000 | 49.125 | NA | 50.000 | 98 | NA |

**Module 1: Analysis by GC/MS**

**Lab/SDG: Eurofins Air Toxics / 2406264**

| | T1AMF-SV027_JUN24 | | | T1AMF-SV028_JUN24 | | |
|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | 1,2-Dichloroethane-d5 | Toluene-d9 | 4-Bromofluorobenzene |
| **IS Response** | 96314 | 349107 | 361154 | 89798 | 328234 | 340997 |
| **Surrogate Response** | 115403 | 328601 | 271836 | 108333 | 314436 | 258714 |
| **Calibration RF** | 1.30215 | 0.97187 | 0.74296 | 1.30215 | 0.97187 | 0.74296 |
| **IS spike concentration (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Spike Conc. (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Conc. (ppbv)** | 23.00417551 | 24.21264062 | 25.32731302 | 23.16184224 | 24.64225968 | 25.52959637 |
| **Surr %R** | 92.01670204 | 96.85056249 | 101.3092521 | 92.64736897 | 98.56903873 | 102.1183855 |

| | MB (2406264R2-15A) | | | LCS (2406264R2-17A) | | |
|---|---|---|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
| **IS Response** | 105127 | 370217 | 371455 | 91935 | 330162 | 326352 |
| **Surrogate Response** | 123397 | 335897 | 279653 | 109692 | 308571 | 247548 |
| **Calibration RF** | 1.30215 | 0.97187 | 0.74296 | 1.30215 | 0.97187 | 0.74296 |
| **IS spike concentration (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Spike Conc. (ppbv)** | 25 | 25 | 25 | 25 | 25 | 25 |
| **Surr Conc. (ppbv)** | 22.53561028 | 23.3389654 | 25.33307158 | 22.90725593 | 24.0414055 | 25.52394026 |
| **Surr %R** | 90.14244112 | 93.35586158 | 101.3322863 | 91.62902372 | 96.16562198 | 102.095761 |

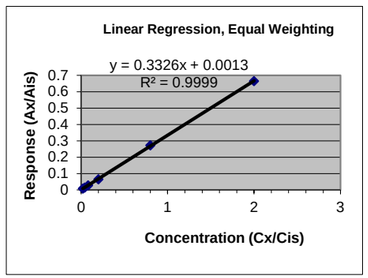
| | LCSD (2406264R2-17AA) | | |
|---|---|---|---|
| **Surrogate** | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
| **IS Response** | 91657 | 333499 | 324852 |
| **Surrogate Response** | 110120 | 309700 | 245080 |
| **Calibration RF** | 1.30215 | 0.97187 | 0.74296 |
| **IS spike concentration (ppbv)** | 25 | 25 | 25 |
| **Surr Spike Conc. (ppbv)** | 25 | 25 | 25 |
| **Surr Conc. (ppbv)** | 23.06638613 | 23.88792911 | 25.38615357 |
| **Surr %R** | 92.26554451 | 95.55171645 | 101.5446143 |

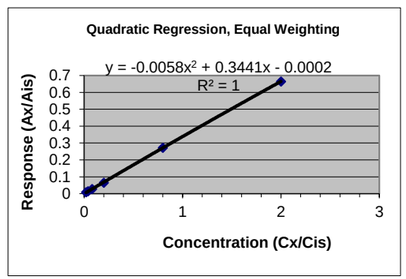
yellow highlight indicates a row that includes a calculation.

**Module 1: Analysis by GC/MS**
**Lab/SDG: Eurofins Air Toxics / 2406264**

## Internal Standard Initial Calibration and Calculation Worksheet

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406264
Instrument: MSD3
Curve Date: 4/23/2024
Compound: o-xylene
Internal Standard: Chlorobenzene-d5
**CALIBRATION TYPE USED: RF**




red text = manually input values from lab report

**The following samples were validated at a Stage 4:**
T1AMF-SV027_JUN24
T1AMF-SV028_JUN24

### Initial Calibration Model Worksheet

| Compound Area Ax | ISTD Area Ais | Compound Conc Cx | ISTD Conc Cis | Y-Values Ax/Ais | X-Values Cx/Cis | $X^2$ $(Cx/Cis)^2$ | RF (Ax*Cis)/(Ais*Cx) |
|---|---|---|---|---|---|---|---|
| 3211 | 399290 | 0.5 | 25 | 0.008041774 | 0.02 | 0.0004 | 0.402 |
| 5484 | 392113 | 1 | 25 | 0.013985764 | 0.04 | 0.0016 | 0.350 |
| 11134 | 399961 | 2 | 25 | 0.027837714 | 0.08 | 0.0064 | 0.348 |
| 29126 | 446883 | 5 | 25 | 0.065175896 | 0.2 | 0.04 | 0.326 |
| 105703 | 387994 | 20 | 25 | 0.272434625 | 0.8 | 0.64 | 0.341 |
| 260621 | 392003 | 50 | 25 | 0.664844402 | 2 | 4 | 0.332 |
| 531095 | 398422 | 100 | 25 | 1.33299617 | 4 | 16 | 0.333 |
| 1110220 | 429525 | 200 | 25 | 2.584762237 | 8 | 64 | 0.323 |
| **SUM OF EACH COLUMN :** | | | | **1.0523** | **3.14** | **4.6884** | **2.0985** |

**CALIBRATION MODELS:**
**Average Response Factor:**
Cx = Ax*Cis/Ais/RF

| | | |
|---|---|---|
| **Average RF** | 0.344 | **AVERAGE(RF)** |
| **RSD** | 7.32% | **STDEV(RF)/(AveRF)** |

**Linear Regression:**

y = mx + b
Cx = (((Ax/Ais)-b)/m)*Cis

| Weighting | Equal | 1/X | $1/X^2$ | Equation |
|---|---|---|---|---|
| **Slope (m)** | 0.33263 | 0.33311 | 0.32868 | **SLOPE(RatioY,RatioX)** |
| **Intercept (b)** | 0.00131 | 0.00106 | 0.001342 | **INTERCEPT(RatioY,RatioX)** |
| **CC (R)** | 0.99995 | 0.99988 | 0.99943 | **CORREL(RatioY,RatioX)** |
| **COD ($R^2$)** | 0.99989 | 0.99976 | 0.99886 | **POWER(R,2)** |

Cs= concentration, sample
Cd= concentration, duplicate

### Sample Concentration Calculations

| Sample ID | File ID | Compound Area Ax | ISTD Area Ais | ISTD Conc Cis | Ave RF On-column Conc | Linear Cal On-column Conc Equal Weighting | Linear Cal On-column Conc 1/X Weighting | Linear Cal On-column Conc $1/X^2$ Weighting | Dilution Factor | Final Concentration (ppbv) | Final Concentration ($ug/m^3$) | Spike Amt (ppbv) | % Recovery | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equations:** | | | | | Ax*Cis/Ais/RF | ((Ax/Ais-b)/m)*Cis | | | | | | %R = (final conc (ppbv) / spike amt.)x100 | | RPD= [(Cs-Cd)]/[(Cs+Cd)/2]*100 |
| T1AMF-SV027_JUN24 | 3061915.d | 1071 | 361154 | 25 | 0.22 | 0.124 | 0.143 | 0.124 | 3.380 | 0.728 | 3 | NA | NA | NA |
| T1AMF-SV028_JUN24 | 3061916.d | 2749 | 340997 | 25 | 0.59 | 0.507 | 0.525 | 0.511 | 2.140 | 1.252 | 5 | NA | NA | NA |
| MB (2406264R2-15A) | 3061906d.d | 0 | 371455 | 25 | 0.00 | -0.098 | -0.080 | -0.102 | 1.000 | 0.000 | 0 | NA | NA | NA |
| LCS (2406264R2-17A) | 3061904c.d | 222939 | 326352 | 25 | 49.59 | 51.244 | 51.189 | 51.857 | 1.000 | 49.594 | NA | 50.000 | 99 | -2.0 |
| LCSD (2406264R2-17AA) | 3061905c.d | 225228 | 324852 | 25 | 50.33 | 52.011 | 51.955 | 52.633 | 1.000 | 50.334 | NA | 50.000 | 101 | |
| ICV | 3042404.d | 250263 | 364730 | 25 | 49.8 | 51.472 | 51.417 | 52.088 | 1.000 | 49.814 | NA | 50.000 | 100 | NA |
| CCV | 3061903.d | 216759 | 325037 | 25 | 48.41 | 50.023 | 49.970 | 50.621 | 1.000 | 48.414 | NA | 50.000 | 97 | NA |
| CCV | 3061931.d | 208648 | 314384 | 25 | 48.18 | 49.782 | 49.729 | 50.377 | 1.000 | 48.181 | NA | 50.000 | 96 | NA |

## Module 1: Analysis by GC/MS
## Lab/SDG: Eurofins Air Toxics / 2406264

Lab: Eurofins Air Toxics
Method: TO15
SDG: 2406264
Instrument: MSD3
Curve Date: 4/23/2024
Compound: Ethylbenzene
Internal Standard: Chlorobenzene-d5

| ICAL PT | Analyte RT | INT STD RD | RRT |
|---|---|---|---|
| 0.5 | 9.250 | 9.156 | 1.010 |
| 1 | 9.250 | 9.156 | 1.010 |
| 2 | 9.250 | 9.156 | 1.010 |
| 5 | 9.249 | 9.149 | 1.011 |
| 20 | 9.249 | 9.156 | 1.010 |
| 50 | 9.250 | 9.157 | 1.010 |
| 100 | 9.249 | 9.156 | 1.010 |
| 200 | 9.257 | 9.156 | 1.011 |

## Module 1: Analysis by GC/MS

## Lab/SDG: Eurofins Air Toxics / 2406264

| Compound | Sample ID | QAPP LOQ (ug/m3) | DF | Final LOQ | REPORTED LOQ (ug/m3) |
|---|---|---|---|---|---|
| Benzene | T1AMF-SV027_JUN24 | 1.59 | 3.38 | 5.4 | 5.4 |
| | T1AMF-SV028_JUN24 | 1.59 | 2.14 | 3.4 | 3.4 |

## Module 1: Analysis by GC/MS

**Lab/SDG:** **Eurofins Air Toxics / 2406264**

### CALCULATION OF WORKING STANDARD FROM STOCK

**CALIBRATION STANDARD**

| | | |
|---|---|---|
| **Name of Stock Standard:** | ISO-17034 | |
| **Data pkg std Certificate on page:** | 265 | |
| **Data pkg working std calc on page:** | 264 | |
| **Initial Conc of Stock Std** | 1000 (ppb) | |
| **Dilution Factor** | 5 | |
| **Target Conc of Working Std** | 200 (ppb) | |
| **Final Conc of Working standard** | 199.89 (ppb) | Final Conc. = (1000 ppbv) * (5.94 psid))/(11.93 + 5.94 + 5.94 + 5.91 psid) |
| | | |
| **File ID: 3041806.d** | | |
| **Concentration** | 50 (ppbv) | |
| **Spike amount** | 50 (mL) | |
| **Dilution Factor** | 1 | DF = Concentration / Amount |

**SURROGATE STANDARD**

| | | |
|---|---|---|
| **Name of Stock Standard:** | ISO-17025 | |
| **Data pkg std Certificate on page:** | 260 | |
| **Data pkg working std calc on page:** | 262 | |
| **Initial Conc of Stock Std** | 200 (ppb) | |
| **Dilution Factor** | 40 | |
| **Target Conc of Working Std** | 5 (ppb) | |
| **Final Conc of Working standard** | 5.03 (ppb) | Final Conc. = (200 ppbv) * (.74 psid)/(11.93 + .74 + 16.77 psid) |

**SURROGATE STANDARD (Continued)**

| | | |
|---|---|---|
| **File ID: 3061913.d** | | |
| **Dilution Factor on page 9** | 2.24 | |
| **Dilution Factor Calc** | 2.241254 | Diluition Factor = Final Pressure / Initial Vacuum |
| **Final Pressure** | 9.9 | Final Pressure = 14.7psi + final pressurepsi |
| **Initial Vaccum** | 7.6 | Initial Vacuum = 14.7psi - (initial pressureHg * (14.7psi/30Hg)) |

**ICV/LCS STANDARD (second source)**

| | | |
|---|---|---|
| **Name of Stock Standard:** | Qualified | |
| **Data pkg std Certificate on page:** | 274 | |
| **Data pkg working std calc on page:** | 273 | |
| **Initial Conc of Stock Std** | 1000 (ppb) | |
| **Dilution Factor** | 5 | |
| **Target Conc of Working Std** | 200 (ppb) | |
| **Final Conc of Working standard** | 200.09 (ppb) | Final Conc. = (1000 ppbv) * (5.90 psid)/(11.67 + 5.9 + 11.92 psid) |
| | | |
| **File ID: 3061304a.d** | | |
| **Concentration** | 50 (ppbv) | |
| **Spike amount** | 50 (mL) | |
| **Dilution Factor** | 1 | DF = Concentration / Amount |

**DATA VALIDATION SUMMARY REPORT**

**for Investigation Derived Waste from**

**FORMER TITAN 1-A MISSLE FACILITY**

**LINCOLN, CALIFORNIA**

Data Review by: Beth Driskill

Project Manager: Carrie Ross

Report Date: July 30, 2024

Parsons - Austin

## INTRODUCTION

The following data verification summary report covers one (1) solid Investigation Derived Waste (IDW) sample and one (1) aqueous IDW sample collected from the Former Titan 1-A Missile Facility in Lincoln, California on June 6, 2024. The samples were sent to EMAX laboratories and logged into sample delivery group (SDG) 24F034.

## EVALUATION CRITERIA

The data packages including IDW were reviewed and verified at Stage 1 following the guidelines outlined in the project specific Uniform Federal Policy - Quality Assurance Project Plan (project QAPP) and DoD General Data Validation Guidelines, November 2019. Information reviewed in the data packages included field sample IDs, target analytes, sample conditions upon laboratory receipt, sample preservation, holding times, concentrations for limits of detection and quantitation, reported units, case narratives; sample receipt forms, and chain-of-custody (COC) forms.

The analyses and findings presented in this report are based on the reviewed information, and whether guidelines in the associated analytical method, DoD QSM and QAPP were met.

## SAMPLE RECEIPT

The samples were collected by Parsons and were shipped to EMAX laboratories located in Torrance, California. The samples were received by the laboratory within the acceptable temperature range. All samples were received in good condition. Sufficient volume was received to complete all requested parameters. Samples were received in the appropriate containers and correctly preserved, in accordance with the project QAPP. However, the COC did require revisions and discrepancies were noted by the laboratory as follows:

- TCLP analysis for VOCs and metals was marked on the COC by mistake for the aqueous analysis. The COC was revised to remove that analysis for the aqueous sample.
- The COC was revised to note the soil sample for VOCs and metals analysis was on hold pending results for the totals analysis.

- The laboratory noted that the analyses were not indicated on the container label.
- The laboratory noted that the sample label was adhered to the VOA vial for the soil samples submitted for VOC analysis.
- The laboratory noted that it appeared the soil absorbed some of the sodium bisulfate preservative for the sample submitted for VOC analysis. The laboratory did not indicate in the extraction or analytical logs that there was an issue analyzing the sample.

None of the revisions or discrepancies noted above impacted data quality or usability.

## SAMPLE ANALYSIS

All samples were prepared and analyzed following the procedures outlined in the project QAPP and the Department of Defense (DoD) Quality Systems Manual (QSM) Version 5.4. The following tables detail the sample IDs submitted to each laboratory and the parameters requested for each sample.

### EMAX SAMPLE IDS AND REQUESTED PARAMETERS

| SAMPLE ID | LAB ID | Matrix | VOCs | Metals | Mercury | COMMENTS |
|---|---|---|---|---|---|---|
| IDW-Water_JUN24 | 24F034-01 | IDW Water | X | X | X | |
| IDW-Soil_JUN24 | 24F034--02 | IDW Solid | X | X | X | STLC and TCLP analysis for VOCs and metals put on hold |

The following table details the preparation and analytical methods, and reported units of measure, for each parameter requested.

**EXTRACTION, ANALYTICAL, AND REPORTING DETAILS**

| Parameter | Matrix | Prep Method | Analytical Method | Units |
|---|---|---|---|---|
| VOCs (Total) | Solid | SW5035A | SW8260C | µg/Kg |
| VOCs (Total) | Aqueous | SW5030C | SW8260C | µg/L |
| Metals (Total) | Solid | SW3050B | SW6010C | mg/Kg |
| Metals (Total) | Aqueous | SW3010A | SW6010C | mg/L |
| Mercury (Total) | Solid | SW7471B | SW7471B | mg/Kg |
| Mercury (Total) | Aqueous | SW7470A | SW7470A | µg/L |

## GENERAL

The samples in this SDG were analyzed following the COC and the analytical procedures described in the DoD QSM and project QAPP. All samples were extracted and analyzed in accordance with the standard analytical methods requested, as documented above.

## HOLDING TIMES

All samples were prepared and analyzed within the holding time required by the methods.

## BATCH QC

A cursory review of relevant batch QC was reviewed to ensure data quality was sufficient to support disposal decisions. Batch QC reviewed included method blanks, laboratory control spikes, and surrogates (as applicable). The laboratory case narratives were also reviewed for documented non-compliant QC. Some minor exceedances were found and/or documented in the case narrative, but no exceedances were significant enough to impact data quality or usability and no data qualifiers were necessary.

## SENSITIVITY

The LOD and LOQ values reported for the samples were compared to those listed in the project QAPP to ensure that sensitivity requirements were met. Reported sample LOD and LOQ values were adjusted based on dilution and/or initial/final volumes; therefore, in some instances the lab limits reported did not match those in the QAPP.

The LOD and LOQ values for all analytes in this data set meet sensitivity requirements and are below the project screening limits (PSL) included in Appendix C, Worksheet 15 of the project QAPP.

## COMPLETENESS

Completeness was evaluated by comparing the total number of samples collected with the total number of samples with valid analytical data. The laboratories analyzed the samples

for all parameters requested and no data was rejected for this data set. Therefore, the completeness for the IDW samples referenced in this report is 100%.

## COMPARABILITY

All data was generated using standard methods and reported with known data quality, type of analysis, units, etc.

## DATA USABILITY

All IDW data was determined to be usable to support disposal decisions for the project.

## DATA QUALIFIER CHANGES

There were not data qualifiers applied or changed as a result of the data validation performed on this data set.

# Appendix J – Data Usability Reports

**Data Usability Summary**

US Army Corps of Engineers ®

| | |
|---|---|
| Facility: | J09CA1108-01, Titan 1A Missile Facility, RI |
| Event: | Spring 2024 |
| Guidance Document: | Titan 1A Missile Facility, Lincoln CA |
| Prime Contractor: | Parsons Corporation, Austin, TX |
| Organization Preparing DUA: | USACE, Sacramento District |
| DUA Release Date: | 2024-10-22 |
| Project Manager: | Timothy Crummett |
| Contract Laboratory(ies): | Eurofins Air Toxics, Inc., Folsom, CA \| EMAX Laboratories, Inc., Torrance, CA |
| Data Review Contractor: | Parsons Corporation \| USACE |
| Data Review Level: | S2BVEM \| S4VEM |
| Sample Collection Date Range: | 2024-05-28 to 2024-06-06 |

| SDG | SW8260C | TO15 |
|---|---|---|
| 2406133 | | X |
| 2406264R2 | | X |
| 24F003 | X | |
| 24F004 | X | |
| 24F019 | X | |

QA objectives for measuring data are expressed in terms of precision, accuracy, representativeness, comparability, completeness, and sensitivity (PARCCS). The QA objectives provide a mechanism for ongoing control and evaluating and measuring data quality throughout the project.

A review of the collected data is necessary in order to identify if data measurement objectives established in the seven-step data quality objective (DQO) process have been met. In general, the following data measurement objectives were considered:

•Specification of particular analytical method and reporting detection limit requirements
•Identification of the appropriate laboratory analytical QC requirements
•Verify if appropriate levels of other PARCCS criteria for the data has been met
•Delineation of specific sample-handling issues or other project-specific issues

The data validation review of the QA objectives verifies if the collected data are of sufficient quality to support their intended use.

A total of 0 results (0.00 %) out of the 858 results (sample and field QC samples) reported have had qualifiers modified during this Data Usability Assessment and 0 results (0.00 %) have been rejected or deemed a serious deficiency. 0 results were qualified during the data review process. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count.

2024-10-22

Reviewed by Kyle Bayliff, USACE, Sacramento District

## Data Usability Summary

No qualifiers were applied during the DUA review.

No qualification led to the rejection of the data set during the DUA review.

**Reason Code Definitions**

| Code | Definition |
|---|---|
| TR | Trace Level Detect |

**Flag Code and Definitions**

| Flag | Definition |
|---|---|
| J | Estimated Value |
| U | Undetected: The analyte was analyzed for, but not detected. |

**Sample Type Code and Definitions**

| Type | Definition |
|---|---|
| BD | Blank Spike Duplicate |
| BS | Blank Spike |
| EB | Equipment Blank |
| FD | Field Duplicate |
| LB | Laboratory Blank |
| LR | Laboratory Replicate |
| MS | Matrix Spike |
| N | Normal |
| SD | Matrix Spike Duplicate |
| TB | Trip Blank |

## Data Usability Summary

**Narrative Comments**

PDT review of DUA was conducted on 10/22/2024. Data is determined to be usable as qualified.

| Review Questions | Yes | No | NA | Comment |
|---|---|---|---|---|
| **Review Objective/Sampling Design** | | | | |
| Is the Final UFP QAPP associated with the event present in the Planning folder of the FUDSChem library for the project? | • | | | |
| Were key outputs defined during systematic planning (e.g.,PQOs or DQOs and MPCs) reviewed to make sure they are still applicable? Refer to the UFP QAPP for the projects, and to the worksheets found in REPORTS \| UFP QAPP Worksheets. | • | | | |
| Refer to summary reports found in REPORTS \| Event Tracking Reports \| Event Status: All Data Types, Event Status: Chemistry Detail, and Unplanned Samples to review planned and unplanned samples and test methods. | • | | | |
| Was the sampling design reviewed for consistency with stated objectives? Refer to MAPS \| Export to Google Earth to review sampling locations. | • | | | Soil vapor plume around SV-1 has not yet been fully delineated (additional round of step outs needed), and benzene plume on western edge of project site has also not been fully delineated. |
| Were data quality indicators (DQIs) from the DoD QSM used for this event? Review and discuss any DQIs that deviated from the DoD QSM. Refer to the UFP QAPP and to REPORTS \| Environmental Setup Reports \| Analyte Criteria, which highlights items that were modified from the original templates based on the DoD QSM. | • | | | The criteria for all QC elements matches the final UFP QAPP. |
| **Review Data** | | | | |
| If Event Planning was performed in FUDSChem, were all samples and measurements identified in REPORTS \| Event Tracking Reports \| Event Status: All Data Types completed and approved (all checked cells are green)? | • | | | |
| If Event Planning was performed in FUDSChem, were all samples identified in REPORTS \| Event Tracking Reports \| Event Status: Chemistry Detail collected and approved (all checked cells are green), or notated to explain discrepancies? | • | | | Note: SV-11 and SV-12 were not able to be sampled during this event (flooded). SV-21 is not able to be sampled and is recommended for abandonment. |
| If Event Planning was performed in FUDSChem, were all samples identified in REPORTS \| Event Tracking Reports \| Unplanned Samples reviewed to ensure correct completeness calculations? | | | • | Not applicable. No unplanned samples were collected. |
| Were deviations from planned activities (e.g., number and locations of samples, holding time exceedances, damaged samples, non-compliant PT sample results, and SOP deviations) reviewed to determine their impacts on the data usability? If Event Planning was performed in FUDSChem, refer to REPORTS \| Data Usability Assessment Reports \| Project Completeness. | • | | | Analytical completeness is 100%. Sampling completeness is complete except for exceptions noted for SV-11, -12, and -21. |
| Have all Location related placeholders, such as centroid coordinates, been resolved? Review REPORTS \| Data Assessment Reports \| Location Discrepancy - Review. | • | | | |
| Were laboratory and data review reports for each Sample Delivery Group (SDG) associated with the event present in the FUDSChem library for the project? Refer to the list of SDGs listed on the cover page of the Data Usability Assessment Summary Report found under REPORTS \| Data Usability Assessment Reports. | • | | | |

## Data Usability Summary

| Review Questions | Yes | No | NA | Comment |
|---|---|---|---|---|
| **Review Data** | | | | |
| Were all data review reports reviewed? Look for patterns, trends, and anomalies (e.g., unexpected results). Refer to the Data Review Reports in the project library as well as the event summary reports located in REPORTS \| Data Usability Assessment Reports. | • | | | |
| Were all data review reports associated with an approved eQAPP? Review the footer of the Data Review report in the Library to identify the version of the eQAPP that was used. | • | | | |
| Were there any implications of unacceptable QC sample results and does this impact sample results? If so, did any qualifiers require revision using the Sample Qualification tab of this interface? | | • | | There were no qualifiers applied during validation. |
| Were sensitivity requirements met, as compared to regulatory Project Action or Screening Limits? Review REPORTS \| Data Usability Assessment Reports \| Sensitivity Summary. | | • | | As noted in the data validation report, the following analytes in one or more sample did not meet sensitivity requirements: Benzene and Vinyl Chloride. |
| Were any sample results recommended for rejection during validation (X qualified)? If so, have all X qualifiers been revised to R or J using the Sample Qualification tab of this interface? | | • | | No data were qualified "X". |
| Were all LTM related parameters required for the project, such as groundwater measurements, environmental parameters, and well screen intervals found to be complete and correctly reported? | • | | | |
| Have all sections of the Dashboard linked Project Tracking Report been documented as complete? | • | | | |
| **Document Usability/Draw Conclusions** | | | | |
| Based on the previous 'Review Data' documentation, are there any limitations on the use of the data associated with this event? | | • | | |
| Describe the conclusions reached during this Data Usability Assessment. | • | | | All data is usable as qualified. |
| **Lessons Learned/Recommendations** | | | | |
| Were any Program level Lessons Learned identified? (e.g., SW8330 was not the best fit for this site and MS/MS should be considered) | | • | | |
| Were any Project level Lessons Learned identified? (e.g., ISM sampling resulted in anomalies to be resolved in the future, or current locations not comparable to historical data) | | • | | |
| Are there any additional items associated with this sampling event that need clarification? | | • | | |
| Were any Sample level Lessons Learned identified? (e.g., a particular well may be expected to be dry in the future) | • | | | SV-21 is not sample-able and should be abandoned.<br>SV-11 and SV-12 could not be sampled as they were flooded – frequently happens in these probes.<br>SV-20, -21, -22, -27, -29, and -31 are difficult to obtain a full sample from.<br>MW-58 may run dry. |

# Appendix K – Investigation Derived Waste

# WASTE TRACKING LOG
## Former Titan 1-A Missile Facility, Lincoln, CA

| Number of Containers | Container Location | Temporary Container Number | Permanent Container Number | Accumulation Start Date | Close Date | Waste Description | Initial Waste Characterization | | | | Sample Date | Sample ID | Waste Code(s) | Final Waste Characterization | | | | Waste Profile Number | 90 Days from accumulation closure |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Nonhaz | Haz | Unknown | TSCA | | | | Nonhaz | Haz | Unknown | TSCA | | |
| **Solid Waste** | | | | | | | | | | | | | | | | | | | |
| 1 | Placer County Corporation Yard | WS-001 | | 2024.05.20 | 2024.05.21 | Soil cuttings | X | | | | 2024.06.06 | IDW-Soil_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | WS-002 | | 2024.05.21 | 2024.05.21 | Soil cuttings | X | | | | 2024.06.06 | IDW-Soil_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | WS-003 | | 2024.05.22 | 2024.05.22 | Soil cuttings | X | | | | 2024.06.06 | IDW-Soil_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | WS-004 | | 2024.05.22 | 2024.05.22 | Soil cuttings | X | | | | 2024.06.06 | IDW-Soil_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | WS-005 | | 2024.05.23 | 2024.05.23 | Soil cuttings | X | | | | 2024.06.06 | IDW-Soil_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | WS-006 | | 2024.05.23 | 2024.05.23 | Soil cuttings | X | | | | 2024.06.06 | IDW-Soil_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | WS-007 | | 2024.05.28 | 2024.05.28 | Soil cuttings | X | | | | 2024.06.06 | IDW-Soil_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | WS-008 | | 2024.05.28 | 2024.05.28 | Soil cuttings | X | | | | 2024.06.06 | IDW-Soil_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | WS-009 | | 2024.05.29 | 2024.05.31 | Soil cuttings | X | | | | 2024.06.06 | IDW-Soil_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | WS-010 | | 2024.05.29 | 2024.06.03 | Soil cuttings | X | | | | 2024.06.06 | IDW-Soil_JUN24 | | X | | | | | |
| **Liquid Waste** | | | | | | | | | | | | | | | | | | | |
| 1 | Placer County Corporation Yard | H2OPurge/Decon-001 | | 2024.05.22 | 2024.05.28 | Purge and decon water | X | | | | 2024.06.06 | IDW-Water_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | H2OPurge/Decon-002 | | 2024.05.28 | 2024.05.29 | Purge and decon water | X | | | | 2024.06.06 | IDW-Water_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | H2OPurge/Decon-003 | | 2024.05.29 | 2024.05.30 | Purge and decon water | X | | | | 2024.06.06 | IDW-Water_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | H2OPurge/Decon-004 | | 2024.05.30 | 2024.05.30 | Purge and decon water | X | | | | 2024.06.06 | IDW-Water_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | H2OPurge/Decon-005 | | 2024.05.31 | 2024.06.03 | Purge and decon water | X | | | | 2024.06.06 | IDW-Water_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | H2OPurge/Decon-006 | | 2024.05.31 | 2024.06.03 | Purge and decon water | X | | | | 2024.06.06 | IDW-Water_JUN24 | | X | | | | | |
| 1 | Placer County Corporation Yard | H2OPurge/Decon-007 | | 2024.06.03 | 2024.06.03 | Purge and decon water | X | | | | 2024.06.06 | IDW-Water_JUN24 | | X | | | | | |